File number 90046903

Today, the fifth April two thousand and nineteen (5-4-2019), at the request of:

(1) **Vereniging Milieudefensie**, an association with its registered office in (1017 VA) Amsterdam at Nieuwe Looiersstraat 31, both for itself and in its capacity of representative ad litem and representative of the persons mentioned in **annex A**, which annex is attached to this summons and forms part thereof, hereinafter jointly referred to as: "**Milieudefensie**";

(2) **Stichting Greenpeace Nederland**, a foundation with its registered office in (1033 WB) Amsterdam at NDSM-plein 32, hereinafter referred to as: "**Greenpeace Nederland**";

(3) **Stichting ter bevordering van de Fossielvrij-beweging**, a foundation with its registered office in (1094 RS) Amsterdam at Minahassastraat 1, hereinafter referred to as: "**Fossielvrij NL**";

(4) **Landelijke Vereniging tot Behoud van de Waddenzee**, an association with full legal capacity with its registered office in (8861 SR) Harlingen at Droogstraat 3, hereinafter referred to as: "**Waddenvereniging**";

(5) **Stichting Both ENDS**, a foundation with its registered office in (1018 VC) Amsterdam at Nieuwe Keizersgracht 45, hereinafter referred to as: "**Both ENDS**";

(6) **Jongeren Milieu Actief**, an association with full legal capacity with its registered office in (1017 VA) Amsterdam at Nieuwe Looiersstraat 31, hereinafter referred to as: "**JMA**";

(7) **Stichting ActionAid**, a foundation with its registered office in (1072 AC) Amsterdam at Stadhouderskade 60, hereinafter referred to as: "**ActionAid**";

hereinafter jointly referred to as "**claimants**" or "**Milieudefensie et al.**",

(all) legally represented in this matter by R.H.J. Cox LLM of
Paulussen Advocaten N.V. in Maastricht,

(all) electing as their address for service in this matter the office of Paulussen Advocaten N.V., at Sint Pieterskade 26B in (6212 AD) Maastricht, of which office R.H.J. Cox LLM is appointed as the procedural lawyer and will act as such,

I,

SUMMONED:

1. **Royal Dutch Shell plc**, a company under foreign law with its registered office in London (England) and its principal place of business in (2596 HR) The Hague at Carel van Bylandtlaan 30, serving my writ and a copy of this document and of the exhibits referred to below at this office to:

TO:

appear at the public hearing of the District Court of The Hague, location The Hague, not in person but represented by an attorney-at-law, at 10:00 a.m. on Wednesday 17 April 2019 (seventeen April two thousand and nineteen), to be held in one of the court rooms in the Palace of Justice at Prins Clauslaan 60 in (2595 AJ) The Hague;

WITH NOTICE:

a) that if a defendant fails to be duly represented or does not timely pay the court registry fee and the prescribed periods and formalities have been observed, the Court will declare the defendant to be in default and will award the claim described below unless it considers this claim to be unlawful or unfounded;

b) that on appearance the defendant will be charged with a court registry fee, to be paid within four weeks after appearance;

c) that the amount of the court registry fee is mentioned in the most recent appendix to the Court Fees (Civil Cases) Act [*Wet griffierecht burgerlijke zaken*], which can be found at the website: www.kbvg.nl/griffierechtentabel.

d) that an impecunious defendant will be charged with a court registry fee for impecunious people, laid down by law, if, at the time when the court registry fee is charged, it submitted:

1) a copy of the legal aid award, within the meaning of Article 29 of the Legal Aid Act [*Wet op de Rechtsbijstand*], or, if this is not possible due to circumstances which, in fairness, cannot be attributed to it, a copy of the application within the meaning of Article 24, paragraph 2 of the Legal Aid Act, or

2) a statement of the board of the Legal Aid Council within the meaning of Article 7 paragraph 3, under e, Legal Aid Act from which it appears that his income is lower than the amounts meant in the governmental decree pursuant to Article 35 paragraph 2 of that Act;

IN ORDER TO:

hear the below formulated claim against it on the grounds set out in this summons.

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I. INTRODUCTION

1. Since the industrial revolution, we have been producing and combusting fossil fuels such as oil, coal and natural gas on a grand scale because this releases energy we can use to generate electricity, heat our homes and drive machines and means of transport. Apart from energy, the combustion and production of fossil fuels also release a residual product, namely greenhouse gases, the main one being CO_2 (carbon dioxide).

2. These man-made greenhouse gas emissions - also referred to as anthropogenic emissions - increase natural concentrations of greenhouse gases in the atmosphere, resulting in global warming. The characteristic of greenhouse gases such as CO_2 is that they retain solar heat in the atmosphere and that they gradually issue this absorbed heat in all directions. If CO_2 concentrations in the atmosphere increase, the atmosphere, land and the oceans gradually warm and the average temperature on earth also rises.

3. As early as more than 100 years ago, at the end of the 19th century, it was demonstrated that the combustion of fossil fuels releases CO_2 and that CO_2 is a greenhouse gas.[1]

4. Royal Dutch Shell (hereinafter referred to as "Shell") was incorporated under the name of N.V. Koninklijke Nederlandsche Petroleum Maatschappij (Koninklijke Olie) at the end of the 19th century. After merging with the British Shell Transport and Trading Company plc in 1907, the Royal Dutch Shell Group was incorporated. Since then, Shell has been primarily engaged in the exploration, production, refining, marketing and sales of fossil fuels (hereinafter also referred to as "operating activities" or "production and sale").

5. Since its incorporation, Shell has been one of the biggest individual polluters and producers of CO_2 emissions linked to the production and sale of fossil fuels. Scientific research demonstrates that of total global emissions of anthropogenic emissions since 1880, a staggering 1.8% can be traced back to the operating activities of Shell.[2]

6. Today, Shell's contribution to global emissions is about 1%. This means that the annual emissions linked to Shell are more than twice as big as those of Dutch society. The CO_2 emissions linked to Shell are, therefore, substantial, measurable and determinable and they matter on a global scale.[3]

7. Once they have been emitted into the atmosphere, CO_2 molecules will not break down there. In the main, CO_2 can only disappear from the atmosphere by dissolving it in ocean waters and by the photosynthetic absorption by plants and trees (the biosphere). This natural CO_2 absorption forms a part of the normal carbon cycle. As natural absorption is already more or less balanced with natural CO_2 emissions caused by, for instance, wildfires and rotting and

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1 See also Chapter IV.4
2 See also Chapter VIII.2.1.2.C
3 See also Chapter VIII.2.1.2.C

decomposition processes, natural absorption cannot also fully compensate the additional anthropogenic CO_2 emissions.

8. As a result, anthropogenic CO_2 emissions - that is, whatever cannot be absorbed by the biosphere and the oceans - cumulate in the atmosphere.[4] This cumulative effect causes atmospheric CO_2 concentrations to rise.

9. As a result of the cumulating anthropogenic emissions, current CO_2 concentrations in the atmosphere amount to an average 410 ppm, which is more than 40% higher than at the start of the industrial revolution, when concentrations were approximately 280 ppm.[5]

10. This considerable increase of CO_2 concentrations means that mankind has drastically changed the physical and chemical composition of the atmosphere in a short period of time. A significant fact in that respect is that measurements show that during the past 800,000 years, CO_2 concentrations have never exceeded 300 ppm.[6]

11. As a result of increased CO_2 concentrations in the atmosphere since the industrial revolution, the average temperature of the earth - which has been about 14˚C since the end of the last ice age - has already risen by about 1˚C.[7] The consequences of that warming by 1˚C are already felt around the world.[8]

12. Global warming leads to changes to the climate and living environment around the world and as such, according to scientists, it constitutes a danger to people, their health, their property and family life, and to the ecosystems which mankind depends on.[9] Sea levels are rising, ice sheets are melting and oceans are acidifying. The risk that a substantial share of animal and plant species becomes extinct also increases, as does the frequency and intensity of storms, deluges, flooding, periods of heat and forest fires that are disruptive to society.[10] These and other consequences of climate change, such as water and food shortages, will become more severe as the production and consumption of fossil fuels continue and earth warms further as a result of that.[11]

13. A big risk of continued warming in excess of the warming of 1˚C that has already been reached, is that the climatic system will reach so-called tipping points, which may result in abrupt and

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4 This cumulative effect is the result of the fact that CO_2 molecules remain in the atmosphere for many hundreds and, sometimes, thousands of years, meanwhile retaining their warming properties. Historical emissions from the industrial revolution onwards, therefore, now still have an impact on the climate. Similarly, today's emissions will cause climate change for millenniums to come.

5 Ppm stands for parts per million: 410 ppm means that out of every million particles in the atmosphere, 410 consist of CO_2. See chapter IV.3

6 See chapter IV.3

7 See IPCC 2018 Special Report (SR)15: *Global Warming of 1.5˚C*, Chapter 1, p.51 (exhibit 136)

8 IPCC, AR5, SYR SPM, page 6 (exhibit 020)

9 IPCC, AR5, WGII, H.8, p.538 (exhibit 021): "*Urban climate change-related risks are increasing (including rising sea levels and storm surges, heat stress, extreme precipitation, inland and coastal flooding, landslides, drought, increased aridity, water scarcity and air pollution) with widespread negative impacts on people (and their health, livelihoods and assets) and on local and national economies and ecosystems (very high confidence, based on robust evidence, high agreement*)"

10 IPCC 2014, AR5, SYR, SPM, p 2-16 (exhibit 020)

11 IPCC 2014, AR5, SYR, SPM, p 2-16 (exhibit 020)

accelerated climatic changes for which neither people nor nature is properly equipped. If such tipping points are reached, for instance, the drying out of the Amazon forest, the release of frozen methane reserves, the start of an irrevocable melting process in Greenland or Antarctica, or the potential standstill of the linked system of ocean currents, which the Atlantic Gulf Stream (which also affects the climate in the Netherlands) forms a part of, it may start a chain reaction of natural processes that will reinforce each other and that will continue to warm the earth in a way that we cannot control, with catastrophic consequences for mankind. The higher the warming above 1˚C, the bigger the risks that these tipping points we cannot control will be reached.[12]

14. In this context, it is necessary to know that due to our historical use of fossil fuels, further global warming will take place. The fact is that we do not yet experience the full warming effect of the current CO_2 concentrations of 410 ppm. This is partly due to the fact that (due to thermal climate inertia) it will take 30 to 50 years for an increased CO_2 concentration to have a warming effect on the atmosphere, the land masses and the oceans. This means there is a delay of some decades (a delayed effect) between the emission of CO_2 and the resulting global warming.[13]

15. However, after this 30 to 50-year period, the increased CO_2 concentrations will cause further warming. The warming of the oceans is a very slow process. Due to the warming of the atmosphere, initially, only the ocean's surface, the top layer of the ocean water, is warmed. This warmed-up top layer then gives off its heat to the deeper ocean, very slowly. Centuries will have passed before the warming effects have fully extended to the oceans. The earth's ice masses respond even slower to a change in temperature in the atmosphere than the oceans. A lot of climatic effects will, therefore, continue to increase for centuries, also once increased CO_2 concentrations no longer rise but stabilise.

16. The above means that the full warming effect of the emissions of the past 30 to 50 years still (and before) still has to manifest itself. The additional global warming linked to current CO_2 concentrations will be considerable, as more than half of all anthropogenic emissions since the industrial revolution took place after 1986. As a result, CO_2 concentrations have increased at a higher pace during the past few decades. The additional warming associated with the CO_2 concentrations already reached is expected to rise to a value of about 0.6˚C and this value will, therefore, come on top of the warming of 1˚C that has already been reached.[14] This means that when atmospheric CO_2 concentrations were to stabilise at the current value of an average 410 ppm, the global average warming this century is expected to reach a value of approximately 1.6˚C.

17. Without a fast u-turn in the use of fossil fuels and the associated global CO_2 emissions, CO_2 concentrations are unlikely to stabilise, let alone fall in the short term. If no action is taken in order to turn the tide, fossil CO_2 emissions will cause a further increase of atmospheric CO_2

[12] See also Chapter VII.1.2
[13] See also Chapter IV.5
[14] See also Chapter IV.5

concentrations from today, and as such, also a further rise of the average global warming on top of the aforementioned 1.6°C.

18. As a result of the aforementioned cumulative effect of CO_2 emissions, the general damage associated with climate change is that of latent damage, which means damage does not fully manifest itself from one moment to the next but worsens gradually. You could compare it to the situation in which employees are constantly exposed to a hazardous substance and gradually but to a worsening extent develop black lungs. The health of their lungs is insidiously affected.

19. Furthermore, due to the aforementioned delayed effect of 30 to 50 years, climate damage is also latent, that is, the damage is already there because the damage to the chemical composition of the atmosphere in the form of excessive CO_2 concentrations has already been caused but it is not fully visible or perceivable yet because the warming that it causes will manifest itself with great delay.

20. This type of latent damage creates a particular risk. When damage is visible, it is possible to take immediate curtailing measures but latent damage can continue to fester underground for a long time before its harmful effects are clearly perceivable. When the damage is 'discovered', it is often already irreversible.

21. A good example of latent damage is the asbestos disease mesothelioma, a lethal occupational disease that will not manifest itself until 30 years after being exposed to asbestos crystals. When the first mesothelioma victims emerged, measures *were* taken but at that time, it was clear there were going to be many more victims because a lot of people had been exposed to asbestos in the previous 30 years. For them, the measures came 30 years too late and their fate - death within two years - had been sealed.

22. Climate damage constitutes similar latent damage due to the delay in the climate system, which means that climate damage is already much more extensive than we can see.

23. Shell and the international community of countries have been aware of the notion of climate change as a sneaking and latent global catastrophe in the making since the 1980s.

24. According to internal Shell reports, as early as 1986, Shell foresaw the climate change we see today and which the general public has only recently been aware of. In the same year, Shell also foresaw that increasing climate change as a result of the continued use of fossil fuels would have major consequences in the long term for the living environment of man, our future standard of living and for food reserves around the world. Shell also foresaw that this could potentially have major social, economic and political consequences. And at that time, Shell also realised that the environment could be affected by global warming to such an extent that parts of the world could, in time, become uninhabitable.[15]

[15] See Chapter VIII.2.1.2.b

25. This picture which Shell painted in 1986 was confirmed two years later by more than 300 scientists and politicians and policymakers from 48 countries. In a joint final statement at the Climate Conference in Toronto of 1988, they announced that the consequences of climate change can be so serious that only a global nuclear war could cause more damage. They collectively emphasised the fact that immediate action is essential and they urged both countries and large energy companies to (i) immediately shift their investments to forms of energy that emit no or less CO_2, (ii) to invest in energy efficiency and labelling (energy) products with a CO_2 footprint and (iii) to make sure that global emissions are reduced fast. According to the collective statement, these measures are necessary in order to avert a major climate danger in the future and to secure a sustainable future.[16]

26. This call and statement from 1988, like other climate conferences such as the Noordwijk Conference (1989) and the scientific insights from the first report of the IPCC (1990) led to the 1992 Rio de Janeiro UN Climate Convention (during the UN conference in Rio de Janeiro), which was ratified and signed by 196 countries in the years thereafter.[17] The central objective of the Climate Convention is to prevent anthropogenic climate change that is dangerous to people and the environment (or, dangerous climate change). This can be achieved by reducing emissions.

27. Nevertheless, since Shell's findings in 1986, the statement from the scientists and countries in 1988 and the signed UN Climate Convention from 1992 (and the associated annually returning UN climate conferences), the production and sale of fossil fuels and the associated CO_2 emissions have increased strongly to date.

28. As we will explain in this summons, Shell, even though since the 1980s, it knew of the catastrophic danger that was likely to manifest itself in the future if the use of fossil fuels was continued, has done everything since to produce and sell as many fossil fuels as possible and it did also do anything possible (through lobbying and other practices) to oppose legislation to protect the climate and to reduce the use of fossil fuels. That attitude has changed little to date. The same applies to other businesses in that sector, such as BP and Exxon Mobil who, together with Shell, are among the biggest and richest multinationals in the world and who, for many reasons (which will be discussed in this summons) form a large obstacle in the approach to the climate issue. So Shell is not only a substantial co-perpetrator of the climate issue but also a formidable obstacle to the solution thereof.

29. The result of a lack of progress in tackling the climate issue and the growing use of fossil fuels is that annual global CO_2 emissions are still rising and a warming of 1.6°C and more will be unavoidable if we do not reduce emissions considerably and fast. How much more this warming will be, therefore, depends on the speed and the drastic nature of the climate measures currently being taken.

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16 See Chapter V.4

17 UNFCCC *Status of Ratification* (printout website) (exhibit 022)

30. In the Paris Climate Agreement from December 2015, 196 countries, therefore, again urged themselves and society to take urgent climate measures because, otherwise, climate change that is dangerous to people and the environment can hardly be prevented. Within that context and on the basis of the latest scientific insights of the IPCC, the 196 countries have stipulated in the Agreement that in order to prevent dangerous climate change, warming has, in any case, to be reduced to far below 2°C and preferably 1.5°C.

31. Previously, in 2007, and in the context of the elaboration of the UN Climate Convention from 1992, those same 196 countries collectively decided that global warming should be kept below 2°C in order to avoid the catastrophic damage of dangerous climate change and that greenhouse gas concentrations in the atmosphere would, therefore, have to be stabilised below 450 ppm CO_2 equivalents (450 CO_2 equivalents refers to the concentration of CO_2 and other greenhouse gases together).[18]

32. The Paris Agreement, as such, tightened this (previous) 2°C target with the objective of reducing global warming to far below 2°C and, preferably, 1.5°C (this target is hereinafter also referred to as the "Paris climate target").

33. In order to be able to achieve the Paris climate target, global concentrations of greenhouse gases have to be stabilised at a maximum of 430 ppm of CO_2 eq, taking the relevant scientific insights into account. In that case, there is a 50% chance that global warming can, indeed, be reduced to 1.5°C and there is an 85% chance that global warming will not exceed the 2°C limit.[19]

34. To date, however - despite the UN Climate Convention and the Paris Agreement - effective climate action is not forthcoming. The result is that global CO_2 emissions continue to rise. So the 196 countries urge themselves and society to take urgent action but national and international political relations and the lobbying power of the big multinationals around the world are important reasons why real climate action is not forthcoming. The result is that, on the basis of the joint national emission goals (Nationally Determined Contributions, NDCs) made within the context of the Paris Agreement, global warming is likely to increase by 3°C or more this century alone, unless far-reaching global emission reductions take place with great urgency.[20]

35. In order to be able to achieve the level of 430 ppm of CO_2 equivalents, the UN Climate Panel, the Intergovernmental Panel on Climate Change (IPCC), indicates that by 2030, global CO_2 emissions have to be 45% lower compared to 2010 levels. Then, according to the IPCC, CO_2 emissions will have to be reduced to net zero by 2050. In other words, after 2050, no more

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[18] Explanation: along with the other greenhouse gases, CO_2 is also referred to as CO_2 equivalents, or CO_2 eq". In that case, the other greenhouse gases such as methane gas and nitrous oxide have been converted into CO_2 values. As the 450 ppm of CO_2 eq also includes greenhouse gases such as methane in addition to CO_2, the ultimate limit of (only) the cumulative quantity of CO_2 in the atmosphere is lower than 450 ppm.

[19] See Chapter XI.2.2.

[20] See Chapter VI.2.4.

anthropogenic emissions can be added to the atmosphere. That means that the production and use of fossil fuels have to be phased out urgently from today. [21]

36. The world has 30 years to make a full energy transition and we will need that time, which is why we should immediately change course towards zero by 2050 (and towards the interim point of a 45% reduction by 2030).

37. This necessary energy transition will succeed in time only when, among other things, substance is given to the conclusions of scientists and policymakers in Toronto in 1988, namely that countries and large energy companies immediately have to shift their investments to forms of energy that do not emit any CO_2 and that drastic emission reductions must be made. This will have to be done now against the background of the global consensus about dangerous climate change as set out in the Paris Climate Agreement.

38. The claimants are of the opinion that the adopted Paris climate target, which aims to prevent dangerous climate change, also has a legal meaning for Shell. Under Dutch law (to which Shell is subject), Shell has a duty of care towards the claimants to contribute to preventing this all-encompassing danger and to act in line with the Paris climate target.

39. The claimants will extensively substantiate this in this summons, but the essence is that if all countries in the world, based on the best available knowledge, agree that global warming of 2°C is a very big and all-encompassing danger for mankind and that this danger is imminent because the parties that have a substantial influence on that danger knowingly and deliberately refuse to make a proportional contribution to preventing that danger, those parties - mindful of, among other things, the Kelderluik ruling and the Kalimijnen ruling of the Supreme Court - are guilty of unlawful endangerment and as such, they violate the unwritten standard of care of Article 6:612 of the Dutch Civil Code.

40. Thanks to the rulings of this court and the court of appeal of The Hague in the case of the Urgenda foundation versus the State of the Netherlands, the claimants are confirmed in that reasoning in advance.[22] [23] Among other things, these rulings show that (when it concerns the fight against the climate issue) the open standard of care of Article 6:162 of the Dutch Civil Code is, among other things, further coloured in and specified by the contents of the climate conventions, as well as by the European Convention for Human Rights (ECHR).

41. Also given the fact that, at its core, the Urgenda ruling seems to concern unlawful endangerment pursuant to Article 6:162 of the Dutch Civil Code (see court, paragraph 4.53 in conjunction with 4.63) and that, apart from the State, private parties such as Shell are also guilty of unlawful endangerment, the claimants are of the opinion that from this court's ruling in the Urgenda case, it follows that a public or a private party can be expected to exercise a great deal of care in relation to (resolving) the climate issue (court paragraphs 4.66, 4.67 and 4.77) if:

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[21] See Chapter. XI.2
[22] Court of The Hague, 24 June 2015, ECLI:NL:RBDHA:2015:71454
[23] Court of Appeal of The Hague, 09 October 2018, ECLI:NL:GHDHA:2018:2591

(i) that party has for a long time been well aware of the great dangers and risks of climate change;
(ii) that party plays a sufficiently substantial part in global emissions, that is, has a certain responsibility for that part;
(iii) that party is able to exert control over the emissions in question;
(iv) that party plays an important role in the transition to a sustainable society;
(v) that party is able to take effective mitigating and precautionary measures without having to do the impossible;

42. This should be seen against the background of the following actual conclusion of the court (court, paragraphs 4.18, 4.32, 4.65, 4.71, 4.75 and 4.83):
(i) that climate change is caused by anthropogenic greenhouse gases;
(ii) that a temperature rise of more than 2°C causes a very dangerous situation for people and the environment;
(iii) that it is, therefore, necessary to stabilise the concentrations of greenhouse gases in the atmosphere;
(iv) that the stabilisation of all concentrations of greenhouse gases at a level of 450 ppm of CO_2-eq. is the minimum requirement in order to be able to reduce global warming to 2°C;
(v) that stabilisation requires a reduction (mitigation) of current anthropogenic greenhouse gas emissions;
(vi) that without drastic reduction measures, global greenhouse gas emissions will rise to such an extent that, in just a few years, namely around 2030, it becomes unlikely that the 2°C can be achieved;
(vii) that if the current approach is not changed, dangerous climate change is likely to occur within a number of decades, with irreversible consequences for people and the environment;
(viii) that urgent reduction measures are, therefore, required because the faster we can reduce emissions, the bigger the chance that the danger can be averted;
(ix) that it will be more cost-effective to intervene with appropriate mitigation measures now than to postpone the reduction measures.

43. With a view to these findings by the court, which, afterwards, were fully included in the ruling of the court of appeal of The Hague of 09 October 2018 (and which, for that matter, are entirely in line with the facts set out above by the claimants), there can be no misunderstanding about the nature, scope and gravity of the danger of dangerous climate change or about the extent of the risk that dangerous climate change will happen this century if the issue is not sufficiently addressed.

44. Mindful of these facts established by the court and the court of appeal and also with a view to the fact that Shell has been well aware of the problem for decades, that it provides a major contribution to the emissions that cause this danger and that it has control over those emissions, can take effective precautionary measures without having to do the impossible and

that it also is an important party (and, for now, a major obstacle[24]) in the energy transition to a sustainable emission-free power supply, Shell, in the opinion of the claimants is also guilty of unlawful endangerment and Shell, like the State of the Netherlands, has to adjust its policy in line with the global climate target.

45. The following should also be taken into account.

46. The first addition is that the court's ruling dates back to 24 June 2015 and, therefore, it dates back to before the adoption of the Paris Climate Agreement (December 2015), which means Urgenda and with it, the court, still assumed the two-degrees scenario and stabilisation at 450 ppm of CO_2 eq. However, in its ruling, the court of appeal also considered the following (court of appeal, paragraph 44):

> *"If we want to achieve global warming of less than 1.5°C (the target of the Paris Agreement), global concentrations of greenhouse gases have to be reduced considerably (less than 430 ppm)".*

47. The claimants are of the opinion that, due to the adoption of the Paris Agreement (supplemented with the latest scientific insights), we currently have to assume 430 ppm CO_2-eq. as the upper limit, not the 450 ppm CO_2-eq. given *before* Paris. As Urgenda did not adjust its pre-Paris reduction claim on appeal, the court of appeal was forced to disregard the consequences of the stricter Paris target in that case (court of appeal, paragraph 73 in conjunction with paragraph 33).

48. However, in this case against Shell, the claimants do invoke this stricter target of the Paris Agreement. In this case, therefore, the claimants will assume a necessary stabilisation of greenhouse gases in the atmosphere at a maximum of 430 ppm of CO_2-eq.

49. Secondly, in addition to the court's ruling in the Urgenda case, the court of appeal considered and ruled that due to the real threat of dangerous climate change, there is a serious risk of people of the Netherlands being faced with the loss of life and/or a disruption of family life and, as such, failing to (sufficiently) contribute to achieving the global climate target results in a violation of the duty of care stipulated in Articles 2 and 8 of the ECHR (court of appeal, paragraphs 45, 73 and 76). According to the court of appeal, it is also unreservedly likely that the current generation of Dutch people, particularly but not exclusively the younger generation, will during their lives be faced with the negative consequences of climate change if global emissions of greenhouse gases are not properly reduced (court of appeal, paragraph 37).

50. Thirdly, the court of appeal also made it clear that interest groups, like individuals, can invoke Articles 2 and 8 of the ECHR, that these convention provisions have a direct effect and form a part of Dutch jurisdiction and these ECHR provisions prevail over national legislation and

[24] See Chapters VIII.2.1.3 and VIII.2.1.4

should, therefore, be applied to the assessment of this climate issue, according to the court of appeal (court of appeal, paragraphs 36 and 69).

51. Fourthly, the court of appeal also points out that the precautionary principle under ECtHR case law forms a part of the ECHR and, therefore, it should be observed during the duty of care to protect the right to life and the right to an undisturbed family life (court of appeal, paragraph 63). According to the court of appeal, the precautionary principle implies that if existing emission reduction measures are insufficient to prevent dangerous climate change, it will be necessary to take measures that *are* safe or, at least, as safe as possible and that those measures should not be postponed if there is no absolute scientific certainty about the effectiveness of those measures (court of appeal, paragraphs 63 and 73). According to the court of appeal, the application of the precautionary principle is all the more appropriate with a view to the risk of reaching tipping points in the climate system. These tipping points may result in abrupt and irreversible climate change, something which neither people nor nature can properly prepare for and the risk of which increases at a steepening rate with rises in temperature between 1 and 2˚C (court of appeal, paragraph 63 in conjunction with paragraph 44).

52. The view of the court of appeal that insufficient emission reductions by the State are a violation of the duty of care of the State to protect the right to life and an undisturbed family life, in the course of which the State is also bound by the precautionary principle as part of the ECHR, will, according to the claimants, also affect the duty of care vested in Shell.

53. After all, under Dutch case law, indirect horizontal effect has been allocated to the ECHR on a grand scale via open standards of private law such as the social standard of care of Article 6:162 of the Dutch Civil Code. This way, the ECHR also colours the duty of care which private individuals and legal entities have towards each other. This certainly applies if private legal entities are able to exert such actual power over (the fate of) individuals that the need for protection against such power can be compared to the need for protection against the power of the State.

54. It is all the more obvious that Shell has to exercise that duty of care correctly because Shell is well aware of that duty and, therefore, it publicly endorses that it has an obligation to respect human rights in the pursuit of its business. In this context, Shell also committed itself to the relevant customary international guidelines, such as the UN Guiding Principles on Business and Human Rights.

55. Based on everything that will be elaborated in this summons, the claimants come to the conclusion that Shell, with its current inadequate climate policy, like the State of the Netherlands, violates the right to life and the right to an undisturbed family life as stipulated in Articles 2 and 8 of the ECHR. Shell has to end this unlawful situation by following the global climate target of the Paris Agreement, with due observance of the precautionary principle. According to the claimants, this means that when it comes to reducing its emissions, Shell, as an internationally operating company, will have to follow the emission reduction scenario shown above, needed in order to stabilise greenhouse gas concentrations in the atmosphere

at 430 ppm. This means achieving the net zero CO_2 emissions by 2050 with an interim emission reduction of 45% by 2030.

56. What should be taken into account in all of this, is that it is vital for Shell to start reducing its emissions immediately because - as the court of appeal determined following on from the court in the Urgenda case - if this is postponed, the risk of no longer being able to avoid the danger will increase and so will the (social) costs of the process of reducing emissions.

57. Milieudefensie is aware of the fact that any reduction obligation to be imposed on Shell means that Shell has to undergo an increasingly drastic, phased transformation and that Shell will have to make choices that will not always be easy and this may also require Shell to make sacrifices. Given the scope of the global reduction task and the associated energy transition, ultimately, everyone will be asked to make sacrifices, however. Making such sacrifices is the only way to avoid the all-encompassing global danger of dangerous climate change. The court of appeal also seems to follow that line in paragraph 67:

> *"The court of appeal, for that matter, acknowledges that measures to reduce CO_2 emissions, especially in our industrialised society, are drastic and that they require (financial) sacrifices but on the other hand, there is a lot at stake such as the risk of irreversible damage to global ecosystems and the habitability of our planet."*

58. Precisely because there is so much at stake, as the court of appeal rightfully considers, the claimants are also of the opinion that it is possible to sue and demand that Shell, like the State of the Netherlands, changes its policy. With its operating activities, Shell makes one of the biggest individual contributions to the climate issue and that involves a special and large responsibility for Shell, which according to the claimants should also have legal consequences. According to the claimants, this applies all the more because as will be explained in this summons, a few years ago, Shell clearly, publicly and formally announced it would base its business model on the assumption that the Paris climate target will *not* be achieved. Shell has also said that, among other things, it assumes that the fossil industry will not and cannot be regulated properly on a national and international level and that curbing the fossil industry will, therefore, have little to no success.[25] According to Shell, the Paris climate target will, therefore, not be achieved.

59. As clarified in this summons, Shell intends to produce and trade more fossil fuels than is appropriate for pursuing a policy that justifies achieving the global climate target. [26] In Shell's vision of the future, after 2050, more than 50% of all energy will still originate from fossil fuels - which is in conflict with the need identified by the IPCC to reduce all global emissions of greenhouse gases to zero around 2050 in order to stay below the limit to prevent dangerous climate change. In that alternative view of the world, in which the future use of fossil fuels is not drastically reduced both before and after 2050, Shell also has a big financial interest

[25] See chapter VIII.2.1.3.c
[26] See chapter VIII.2.1.3.

because every year, it makes dozens of billions of Euros of profits through the production and selling of fossil fuels.

60. The financial incentive for Shell to continue its fossil business model it developed since 1890 is big. This is why Shell actively continues to encourage demand for fossil fuels, in the meantime it opposes government initiatives that aim to regulate Shell's activities, it hampers the energy transition for other reasons as well and every year, it continues to invest dozens of billions in in-depth investments so as to secure the future of the fossil industry for much of this century.

61. The fact that this approach is rooted deeply in Shell's corporate culture is evidenced by comments from Shell's CEO, among other things: In interviews, he has made comments such as:

"*I will pump up everything there is to pump up in order to meet demand*."

and

"*Shell is not going to go soft over the future of oil and gas."*[27]

62. The claimants are of the opinion that this approach by Shell is unacceptable and unlawful under Dutch law. According to the claimants, Shell cannot pursue a policy from The Hague, where it has its head office and where the group policy is drafted and managed, which policy evidently contributes to creating dangerous climate change that results in the global destruction of the human living environment.

63. That is why in a letter dated 4 April 2018[28], Milieudefensie held Shell liable for its current policy and it demanded conformity with the climate target of the Paris Agreement. Failing that, Milieudefensie has announced it will sue Shell. In a letter dated 28 May 2018[29], Shell announced that the claims brought by Milieudefensie are unfounded, that courts are not the right forum when it comes to energy transition-related questions and that the approach of Milieudefensie is not constructive.

64. Following the claim for liability brought by Milieudefensie, the other claimants in this summons sided with Milieudefensie. It concerns the non-governmental organisations Stichting Greenpeace Nederland, Stichting Fossielvrij, Waddenvereniging, Stichting Both ENDS, Vereniging Jongeren Milieu Actief, Stichting Action Aid and 17.379 citizens who appointed Milieudefensie representative ad litem for each of them to demand that Shell reduces its emissions in line with the target of the Paris Agreement (all claimants jointly are hereinafter referred to as "Milieudefensie et al." or "claimants").

65. By letter of 12 February 2019[30], Milieudefensie et al. jointly gave Shell another opportunity to comply with their previous claim. Shell answered in the negative[31]. This is why Milieudefensie

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27 See Chapter VIII.2.1.3.c and VII.2.1.3.d
28 Letter of Milieudefensie to Shell, 4 April 2018 (exhibit 017)
29 Letter of Shell to Milieudefensie, 28 May 2018 (exhibit 018)
30 Letter of Milieudefensie to Shell, 12 February 2019 (exhibit 019)
31 Letter of Shell to Milieudefensie, 28 March 2019 (exhibit 040)

et al. decided to summon Shell and they ask the court to allow the claims of Milieudefensie et al. against Shell in accordance with all the arguments and motivations in this summons.

II. JURISDICTION OF THE COURT AND APPLICABLE DUTCH LAW

66. Shell is a company under English law (public limited company) with its registered office in London, England, and its principal place of business in The Hague, the Netherlands. From its principal place of business in The Hague, Shell, in its capacity of the parent company, manages the Shell group of companies and its subsidiaries (see below).[32]

67. Milieudefensie is an association under Dutch law with its registered office and its place of business in Amsterdam, the Netherlands. According to **Bijlage A**, all natural persons who represent Milieudefensie pursuant to a document appointing a representative ad litem reside in the Netherlands.[33]

68. Greenpeace Nederland is a foundation under Dutch law with its registered office and its place of business in Amsterdam, the Netherlands.[34]

69. Fossielvrij NL is a foundation under Dutch law with its registered office and its place of business in Amsterdam, the Netherlands).[35]

70. De Waddenvereniging is an association under Dutch law with its registered office and its place of business in Harlingen, the Netherlands.[36]

71. BothENDS is a foundation under Dutch law with its registered office and its place of business in Amsterdam, the Netherlands.[37]

72. JMA is an association under Dutch law with its registered office and its place of business in Amsterdam, the Netherlands.[38]

73. ActionAid is a foundation under Dutch law with its registered office and its place of business in Amsterdam, the Netherlands.[39]

74. Both the claimants and the defendant, therefore, have their place of residence/business, their principal place of business or their business location in the Netherlands.

75. The claimants accuse Shell of pursuing an unlawful (environmental) policy from The Hague that will cause great harm to people and the environment, both in the Netherlands and abroad. These unlawful actions of Shell harm the interests of the claimants. The claimants' claims against Shell are, therefore, based on liability pursuant to an unlawful act committed in the Netherlands which (also) causes damage and impairment of interests in the Netherlands.

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32 Trade Registry Certificate Royal Dutch Shell plc (exhibit 002)
33 Trade Registry Certificate Milieudefensie (exhibit 001)
34 Trade Registry Certificate Greenpeace (exhibit 003)
35 Trade Registry Certificate Stichting Fossielvrij (exhibit 004)
36 Trade Registry Certificate Waddenvereniging (exhibit 005)
37 Trade Registry Certificate Stichting Both ENDS (exhibit 006)
38 Trade Registry Certificate Jongeren Milieu Actief (JMA) (exhibit 007)
39 Trade Registry Certificate ActionAid (exhibit 008)

76. Given these circumstances, the Dutch court in The Hague has (international) jurisdiction to take cognisance of the dispute and, furthermore, Dutch law must be applied to the assessment of the dispute. This will be detailed below.

II.1 JURISDICTION OF THE DUTCH COURT

77. The question whether the Dutch court has (international) jurisdiction has to be answered on the basis of the law that applies at the time the proceedings in first instance are brought, i.e. the moment at which the summons is served. If the Dutch court has jurisdiction at that time, this cannot be changed during the proceedings, for instance, when the facts and circumstances that determine jurisdiction were to change after the proceedings are brought. To substantiate this, reference is made to the ruling of the Supreme Court of 19 March 2004, ECLI:SC:2004:AO2785, Dutch Law Reports 2004/295[40] and also the ruling of the court in Amsterdam of 10 September 2014, ECLI:NL:RBAMS:2014:5660.[41]

II.1.1 The applicability of the Brussels I bis Regulation

78. In this particular relationship, the Brussels I bis Regulation is applicable in order to determine the competent court.[42]

79. Article 1.1 of the Brussels I bis Regulation stipulates that the regulation must be applied to civil and commercial matters.[43] This includes regulations pursuant to an unlawful act (under private law), as also becomes evident from the provisions of, among other provisions, Article 7.2 of the regulation.[44] As the actions and liability of Shell are not connected to a contractual

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[40] Supreme Court of 19 March 2004 (ECLI:NL:SC:2004:AO2785, Dutch Law Reports 2004/295): paragraph 3.2: "*The question whether the Dutch court has international jurisdiction has to be answered on the basis of the law that applies at the time the proceedings in first instance are brought; if the court has such jurisdiction at that time, this cannot be changed during the proceedings (the so-called perpetuatio fori principle). A different interpretation would lead to impracticable results and would be incompatible with legal certainty.*"

[41] The court of Amsterdam of 10 September 2014 (ECLI:NL:RBAMS:2014:660): paragraph 4.3: *"In this case, the court has to assess its jurisdiction on the basis of EC Regulation 44/2001 of the Council of 22 December 2000 pertaining to jurisdiction, the acknowledgement and enforcement of decisions in civil and commercial matters (Brussels I Regulation). Article 2 of the Brussels I Regulation stipulates that parties that have their place of residence/business in a Member State can be summoned to appear in courts in the Member State where they have their place of residence/business. According to the court, the use of the word "summon" implies that the moment of summoning has to be verified. After all, a different interpretation could (also) imply that a defendant, by moving home after receiving a summons, could deprive the court that had jurisdiction up to that point of that jurisdiction."*

[42] Brussels I bis Regulation: EU Regulation 1215/2012 of the European Parliament and the Council of 12 December 2012 pertaining to jurisdiction, the acknowledgement and enforcement of decisions in civil and commercial matters

[43] Article 1.1 of the Brussels I bis Regulation: This regulation is applied to civil and commercial matters, regardless of the nature of the court. It particularly does not relate to fiscal matters, customs matters and administrative law matters, nor to the State's liability on account of an act or omission in the exercising of public authority (*acta jure imperii*).

[44] Article 7.2 of the Brussels I bis Regulation: A person who has his place of residence in the territory of a Member State, can be summoned to appear at the following courts in another Member State: 2. with regard to obligations arising from an unlawful act, the court of the location where the harmful fact occurred or could occur.

obligation between Shell and Milieudefensie or the other co-claimants, the actions of Shell can be qualified as an unlawful act within the meaning of the Brussels I bis Regulation.[45]

80. Furthermore, it follows from Article 4 of the Brussels I bis Regulation[46] that the regulation applies to a defendant who (at the time the summons is served) has his place of residence/business in the territory of an EU Member State. Shell has its place of business, that is, its principal place of business and its management board in the Netherlands (see Article 63 of the regulation[47] and below in more detail).

II.1.2 Principal place of business and management board in the Netherlands

81. The Brussels I bis Regulation designates the Dutch court as the competent court. This initially follows from the main rule of Article 4 in conjunction with Article 63 of the regulation, which stipulates that those who have their management board or principal place of business in the territory of a Member State can also be summoned to appear in the courts of that Member State. Shell's principal place of business and management board are located in the territory of the Member State of the Netherlands, more particularly in The Hague, which means Shell must also be summoned to appear in the courts of the Netherlands.

82. Shell is the parent company of many subsidiaries. Like many of its subsidiaries, Shell is located in The Hague, the Netherlands, where it has its head office.[48]

83. The articles of association of Shell stipulate that the head office of the company will be located in the Netherlands and that the term 'head office' must be determined by the Board.[49] The board has defined the head office as the location where Shell is effectively managed and as

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45 See T&C Civil Procedure, 8th edition, 2018, p.2236.
See also: CJEC 27 September 1988, C-189/87, Dutch Law Reports 1990/425, Kalfelis/Schröder: paragraph 18: *"Therefore, the answer to the first part of the second question is that the term 'obligation arising from an unlawful act' within the meaning of Article 5(3) of the Brussels I Regulation must be considered an autonomous term, which includes every legal action that intends to bring the liability of a defendant into the discussion and which is not related to a 'contractual obligation' within the meaning of Article 5(1)."*. This interpretation of the term unlawful act still applies, see, for instance, CJEU 16 June 2016, C-12/15, ECLI:EU:C:2016:449, Universal Music International Holding and CJEU 6 November 2016, C-417/15, ECLI:EU:C:2016:881, Schmidt.

46 Article 4 of the Brussels I bis Regulation: 1. Without prejudice to this regulation, those who have their place of residence/business in the territory of a Member State can be summoned to appear in the courts of that Member State, regardless of their ationality.

47 Article 63 of the Brussels I bis Regulation: 1. For the application of this regulation, the companies and the legal entities have their place of business in the location of a) their registered office, b) their management board, or c) their principal place of business.

48 See, for instance: Articles of Association of Royal Dutch Shell plc, 18 May 2010, article 79: "The headquarters of the company shall be in The Netherlands." (exhibit 016);
Articles of Association of Royal Dutch Shell plc, 18 May 2010, article 103: "*All meetings of the board will usually be held in The Netherlands…*"; (exhibit 016)
Trade Registry Certificate of Shell (exhibit 016), Business location: Carel van Bylandtlaan 30, 2596 HR The Hague;
Annual report 2017 Royal Dutch Shell plc, p. 10 (exhibit 024): "*Royal Dutch Shell plc (the Company) is a public limited company registered in England and Wales and headquartered in The Hague, the Netherlands.";*

49 Articles of Association of Royal Dutch Shell plc, May 2018, article 79. (exhibit 024)

such, it is the location (i) where virtually all members of the executive committee will have their offices and from where they will fulfil their duties, (ii) where the majority of the heads of the main functions of the group will be located, (iii) where the corporate secretariat will be located in support of the executive committee, the board and the board committees and (iv) where the majority of the most important business units are managed.[50]

84. The Board of Shell convenes several times a year in the Netherlands, more particularly in The Hague. This is evidenced by the articles of association and the most recent annual report, that of 2017.[51] During these meetings, the Board makes many strategic decisions that have a direct impact on the business operations of Shell and its subsidiaries. Decisions that are made include those with regard to the climate policy to be pursued and contribution of the company to climate change, which is the topic of these proceedings. From Shell's 2017 annual report it specifically follows that, with regard to Shell's climate policy, this is adopted by the Board of Shell, i.e. in the Netherlands, and that the adopted policy applies to the entire Shell group of companies.

85. In its 2017 annual report, for instance, Shell says:

> "*We have standards and a clear governance structure in place to help manage potential impacts. Our standards are defined in our* Health, Safety, Security, Environment and Social Performance (HSSE & SP) *Control Framework (Control Framework), in line with our Commitment and Policy and the Shell Code of Conduct, and are supported by a number of guidance documents. They apply to every Shell entity, including all employees and contract staff, and to Shell-operated ventures."*[52] and "*Shell has a climate change risk management structure in place which is supported by standards, policies and controls. This includes the work of the Board, which discusses a number of regular agenda items, among them reporting on environmental topics. Throughout 2017, the Board held strategy sessions in the context of the changing global energy market, energy transition and climate change, and considered risks and opportunities of the current and future shape of Shells portfolio for different timescales. The Board committees (...) play an important role in assisting the Board with regard to governance and management of climate change risks and opportunities."*.[53]

86. Furthermore, shareholders' meetings are held in The Hague, the Netherlands[54] and the Netherlands can be regarded as the fiscal place of business of Shell.[55]

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50 Honée 2005, C. Honée, *De Koninklijke is niet meer: lang leve Royal Dutch!(?)*, Ondernemingsrecht 2005, part 153, paragraph 3

51 Articles of Association of Royal Dutch Shell plc, 18 May 2010, article 103 (exhibit 016) and Annual report 2017 Royal Dutch Shell plc, p. 78: "*The Board generally meets eight times a year, however in 2017 there were seven meetings, all of which were held in The Hague, the Netherlands.*" (exhibit 024)

52 Shell 2017, Annual report 2017 Royal Dutch Shell plc, p. 58. (exhibit 024)

53 Shell 2017, Annual report 2017 Royal Dutch Shell plc, p. 62. (exhibit 024)

54 Articles of Association of Royal Dutch Shell plc, mei 2018 art. 49 (exhibit 016) en Shell 2018, Verslag Annual General Meeting 22 mei 2018, p.1 (exhibit 025)

55 Shell 2017, Annual report 2017 Royal Dutch Shell plc, p. 202 (exhibit 024)

87. It can be concluded from the above that the Netherlands should be considered the Member State from where Shell undertakes its principal board and business activities, which includes determining the climate policy to be pursued.

88. Furthermore, reference is made to the Shell Nigeria cases[56], pronounced between Milieudefensie, Shell and other parties. In these cases, the jurisdiction of the Dutch court with regard to Shell was assumed, as Shell came to head the Shell group of companies on 20 July 2005 and it has its principal place of business in the Netherlands. At no point in time did the parties dispute the fact that Shell has its principal place of business in the Netherlands and that the Dutch court, therefore, has jurisdiction with regard to Shell. Shell did not lodge a statement of appeal to this (primary) consideration of the court in The Hague. Therefore, it is established that Shell has its principal place of business in the Netherlands and that it can be summoned to appear in the Dutch court. In addition to that, we can even state that the decision with regard to the jurisdiction of the Dutch court has become final, in any case, between Shell and Milieudefensie.

II.1.3 Harmful fact in the Netherlands

89. Furthermore, pursuant to Article 7.2[57] of the Brussels I bis Regulation, in the case of an unlawful act, the court in the location where the harmful fact occurred or could occur (also) has jurisdiction.

90. In the case of (cross-border) climate change, the 'location where the harmful fact occurred' should include both the location of the causal event that forms the basis of the damage and the location where the damage occurred (CJ 30 November 1976, 21/76, Dutch Law Reports 1977/494, Bier/Mines de potasse d'Alsace, the so-called "Kalimijnen ruling"[58], confirmed as settled case law in the successive court ruling of the Court of Justice).[59]

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[56] See: Court of The Hague 24 February 2010, ECLI:NL:RBSGR:2010:BM1470;
Court of The Hague 30 January 2013, ECLI:NL:RBDHA:2013:BY9845;
Court of appeal The Hague 18 December 2015, ECLI:NL:GHDHA:2015:3586,
ECLI:NL:GHDHA:2015:3587, ECLI:NL:GHDHA:2015:3588.

[57] Article 7.2 of the Brussels I bis Regulation: A person who has his place of residence in the territory of a Member State, can be summoned to appear in the following courts in another Member State: 2. with regard to obligations arising from an unlawful act, the court of the location where the harmful fact occurred or could occur.

[58] CJ 30 November 1976, 21/76, Dutch Law Reports 1977/494, Bier/Mines de potasse d'Alsace: *"24. that, therefore, the answer should be that in the event that the location where the act took place could imply liability from an unlawful act, and the location where damage occurred as a result of this act are not the same, the term 'location where the harmful fact took place' in Article 5.3 of the Treaty should, therefore, be understood to constitute both the location where the damage occurred and the location of the damaging act; 25. that from this it follows that the defendant, at the discretion of the applicant, can be summoned to appear in court either in the location where the damage occurred or in the location of the causal event that forms the basis of the damage."*

[59] For more details, see the commentary from D.F.H. Stein to CJEU, 16/06/2016, C-12/15, JBPR 2017/3, margin number 6 et seq.: *"It is settled case law of the Court of Justice that the "harmful fact" can relate to both the location where the damaging act took place (the Handlungsort) and the location where the damage occurred as a result of that act (the Erfolgsort). If the Handlungsort and the Erfolgsort are both located in a different Member State, the courts of both Member States have jurisdiction, in that sense that the claimant can decide at which courts he will bring legal action.* The result of this jurisdiction rule is that the "court in the closest proximity of the cause of the damage" has jurisdiction

91. The harmful facts on which Milieudefensie et al. base their claims take place in the Netherlands. On the one hand, the main cause that forms the basis of the damage occurs in the Netherlands. Shell adopts the group policy that results in the environmental damage in the Netherlands. The subsidiaries of Shell also pursue this group policy. On the other hand, Shell's policy causes damage to people and the environment in the Netherlands (as well).

92. Therefore, Article 7.2 also designates the Netherlands as the competent court.

93. In addition to the above, it is pointed out that the current international trend is to hold parent companies of multinationals liable in their own country, also for damaging acts perpetrated abroad or by foreign subsidiaries. Insofar as (climatic) damage occurs outside the Netherlands or as a result of the actions of Shell's subsidiaries, on the basis of all of the aforementioned principles, Shell, established in the Netherlands and as the head of the Shell group of companies that determines the (climate) policy should in all reasonableness foresee that it will be summoned in the Netherlands for a legitimacy test of the group policy it has adopted in the Netherlands and the consequences thereof, also if it causes damage abroad or if damage is caused by its foreign subsidiaries. Again, in this context, see the considerations of both the court and the court of appeal in the Shell Nigeria cases[60] as well as the literature with regard to foreign direct liability.[61]

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to judge the dispute *(see CJ 30 November 1976, case C-21/76, ECLI:EU:C:1976:166, Dutch Law Reports 1977, 494, with commentary from J.C. Schultsz (Kalimijnen), paragraph 21 et seq., and successive case law).* The distance between the court and the damage is, therefore, smaller, simplifying the furnishing of proof *(CJ 16 July 2009, case C-189/08, ECLI:EU:C:2009:475, NJ2011, 349, with commentary from Th.M. de Boer (Zuid-Chemie/Philippo's), paragraph 24).*"

[60] Court of The Hague 30 January 2013, ECLI:NL:RBDHA:2013:BY9845, margin number 4.6: *"Secondly, for some time now (see Enneking in Netherlands Law Journal 2010, p. 400-406), we have seen an international trend to hold parent companies of multinationals liable in their own country for damaging acts perpetrated by foreign subsidiaries or foreign sub-subsidiaries, while the foreign subsidiary or foreign sub-subsidiary in question was summoned along with the parent company on multiple occasions.";*
Court of The Hague 18 December 2015, ECLI:NL:GHDHA:2015:3586, margin number 3.6: *"[…] against the background of (i) the continuing developments in the field of foreign direct liability claims (compare, among other things, the legal proceedings brought against Shell in the United States in America in the 1990s on account of the group of company's alleged involvement in the violation of human rights; the case of Bowoto v. Chevron Texaco (09-15641); Kiobel v. Royal Dutch Petroleum Co., 133 S.Ct. 1659 (2013), as well as the case of Lubbe v. Cape Plc. [2000] UKHL 41) […] RDS, in its capacity of head and SPDC in its capacity of an operational unit of the Shell group of companies, should in all reasonableness have foreseen that ultimately, the arrows could also be pointed at RDS, in the course of which SPDC, which has appeared in court in Nigeria on multiple occasions, could also be summoned to appear in a court with jurisdiction with regard to RDS.";*

[61] E. Bauw, GS Unlawful act VIII.6.2.3 Cross-border environmental damage: About the Shell Nigeria cases: *"These rulings are considered a breakthrough for the acceptance of foreign direct liability claims, which would make it possible to hold Dutch companies liable for the behaviour of subsidiaries in, mainly, developing countries, for instance, if such behaviour results in environmental pollution that will affect local residents.";*
L. Enneking, "*Foreign direct liability and beyond. Exploring the role of tort law in promoting international corporate social responsibility and accountability*", diss. UU, The Hague: Eleven international publishing 2012, p. 104 et seq.;
L. Enneking, "*Aansprakelijkheid via 'foreign direct liability claims' Den Haag is weer even de 'Legal Capital of the World'*", NJB 2010, p. 318.
L. Enneking, "The Common denominator of the Trafigura Case, Foreign direct liability cases and the Rome II-regulation. An essay on the Consequences of Private International Law for the Feasibility of Regulating Multinational Corporations through Tort Law", in: European Review of Private Law, Vol. 16 (2008), issue 2, Kluwer Law International, p. 283-311;

II.1.4 Territorial jurisdiction of the court in The Hague

94. As it has been established that the Dutch court has jurisdiction, we have to establish which court in the Netherlands has territorial jurisdiction. According to both Dutch procedural law (more specifically, Article 99 of the Dutch Code of Civil Procedure[62] in conjunction with Sections 1:10[63] and 1:14[64] of the Dutch Civil Code, see also Supreme Court 26 January 1933, Dutch Law Reports 1933, 655 with commentary from Meijers[65], as well as Article 102 of the Dutch Code of Civil Procedure[66]) and European law (more specifically, Article 7.2 of the Brussels I bis Regulation[67]) the court of The Hague has jurisdiction to take cognisance of these proceedings. Shell's principal place of business is in The Hague. This is where Shell has its board and where the damaging policy is developed and adopted.

II.2 THE APPLICATION OF DUTCH LAW

95. As it has been established, based on the above, that the Dutch court has jurisdiction and the court of The Hague has (territorial) jurisdiction, it is necessary to establish which legal system applies to the assessment of the claims brought by Milieudefensie et al. As explained below, it is Dutch law.

II.2.1 Rome II Regulation

96. The law applicable to non-contractual obligations (including unlawful acts) is regulated in the Rome II Regulation.[68]

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62 Article 99.1 of the Dutch Code of Civil Procedure: 1. Unless the law dictates otherwise, the court located in the defendant's place of residence/business has jurisdiction.

63 Article 1:10.2 of the Dutch Civil Code: 2. A legal entity has its place of business in the location where it has its registered office in accordance with a statutory regulation or its articles of association or standing orders.

64 Article 1:14 of the Dutch Civil Code: A person who runs an office or a branch, has his place of residence at that office or branch with regard to matters that concern that office or branch.

65 Supreme Court 26 January 1933, Dutch Law Reports 1933, 655, with commentary from Meijers: *"The Supreme Court, when asked where a public limited company has its place of business with a view to Article 125b of the Dutch Code of Civil Procedure, assumes that: 'with regard to an opposing party legal entity, the provisions of the Dutch Civil Code with regard to the place of business are not susceptible of literal application and it is up to the court to decide where that legal entity has its place of business within the meaning of Article 125b, depending on the circumstances.' This is, indeed, the only correct basic principle. The Supreme Court subsequently comes to the conclusion that the claimant can submit his application to both the sub-district court within whose jurisdiction the company has its principal place of business and to the sub-district court within whose jurisdiction the public limited company's articles of association say the company is established."*

66 Article 102 of the Dutch Code of Civil Procedure: In cases about obligations arising from an unlawful act, the court of the location where the harmful fact has taken place also has jurisdiction.

67 Article 7.2 of the Brussels I bis Regulation: A person who has his place of residence in the territory of a Member State, can be summoned to appear in the following courts in another Member State: 2. with regard to obligations arising from an unlawful act, the court of the location where the harmful fact occurred or could occur.

68 EC Regulation 864/2007 of the European Parliament and the Council of 11 July 2007 pertaining to the right that applies to non-contractual obligations, OJEU L 199/40, also known as the Rome II Regulation.

97. The Rome II Regulation is applicable to this case, because:

(i) it concerns the assessment of a non-contractual obligation in a civil and commercial matter, namely an unlawful act and the (imminent) damage that is the result of that (see Article 1.1[69] in conjunction with Article 2[70] of the regulation).[71]

(ii) this assessment is conducted by the Dutch court and the Netherlands is a Member State that is subject to the Rome II Regulation (Article 1.4[72] of the regulation), and

(iii) the harmful events that are presented to the court for assessment purposes (also) occurred after 11 January 2009 and do, for that matter, continue to this day (Article 31[73] in conjunction with 32[74] of the regulation and CJEU 17 November 2001, C-412/10, Homawoo/GMF Assurances).[75]

98. For the following reasons, the Rome II Regulation designates Dutch law as the applicable law:

1. the harmful event that results in environmental damage occurs in the Netherlands, to the extent that pursuant to Article 7 of the Rome II Regulation, a choice for Dutch law is made;[76]
2. the damage (also) occurs in the Netherlands;[77]
3. all parties, i.e. Shell (the defendant) and Milieudefensie and co-claimants have their place of business or are established in the Netherlands;[78]

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69 Article 1.1. of the Rome II Regulation: 1. When a choice has to be made between the legal systems of different countries, this regulation applies to non-contractual obligations in civil and commercial matters. […]

70 Article 2 of the Rome II Regulation: 1. In this regulation, damage is taken to mean every effect ensuing from an unlawful act, unjust enrichment, management of another's affairs or pre-contractual liability. 2. This regulation also applies to the non-contractual obligation that is likely to arise. 3. In this regulation, a) a damaging event is taken to mean, among other things, the damaging event that is likely to arise; b) damage, the damage that is likely to occur.

71 See recital 7 in the preamble of the Rome II Regulation: The material scope and the provisions of the regulation have to correspond with EC Regulation 44/2001 of the Council of 22 December 2000 pertaining to jurisdiction, the acknowledgement and enforcement of decisions in civil and commercial matters ("Brussels I Regulation") and with the instruments pertaining to the law that applies to contractual obligations.

72 Article 1.4. of the Rome II Regulation: 4. In this regulation, "Member State" is taken to mean every Member State, with the exception of Denmark.

73 Article 31 of the Rome II Regulation: This regulation applies to damaging events that occur after the regulation comes into effect.

74 Article 32 of the Rome II Regulation: This regulation applies with effect from 11 January 2009, with the exception of Article 29, which applies with effect from 11 July 2008.

75 CJEU 17 November 2011, C-412/10, Homawoo/GMF Assurances: "*Articles 31 and 31 of EC Regulation 864/2007 of the European Parliament and the Council of 11 July 2007 pertaining to the right that is applicable to non-contractual obligations ("Rome II Regulation"), read in conjunction with Article 297 of the TFEU, should be interpreted in such as way that a national judicial authority only has to apply this regulation to damaging events that occurred after 11 January 2009 and that the date of the initiation of the proceedings to grant compensation or the date on which the judicial authority where the action is brought has determined the law that is applicable, does not affect the determination of the temporal scope of this regulation."*

76 Article 7 of the Rome II Regulation:The law applicable to a non-contractual obligation arising out of environmental damage or damage sustained by persons or property as a result of such damage shall be the law determined pursuant to Article 4(1), unless the person seeking compensation for damage chooses to base his or her claim on the law of the country in which the event giving rise to the damage occurred.

77 Article 4.1 of the Rome II Regulation: Unless otherwise provided for in this Regulation, the law applicable to a non-contractual obligation arising out of a tort/delict shall be the law of the country in which the damage occurs, irrespective of the country in which the event giving rise to the damage occurred and irrespective of the country or countries in which the indirect consequences of that event occur.

4. with a view to all the facts and circumstances, the unlawful act under assessment appears to be closely related to the Netherlands.[79]

99. Reference is made to Article 7 of the Rome II Regulation, which applies in the event of statutory liability for environmental damage[80], as well as personal injury or financial loss as a result of environmental damage.[81]

100. Article 7 designates the main rule of Article 4.1 of the Rome II Regulation, i.e. the laws of the country where the damage occurs unless the person who claims compensation, that is, the person who brings a (preventive) claim with regard to (imminent) environmental damage,[82] chooses the laws of the country where the damaging event occurs or has occurred.

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[78] Article 4.2 of the Rome II Regulation: However, where the person claimed to be liable and the person sustaining damage both have their habitual residence in the same country at the time when the damage occurs, the law of that country shall apply.

[79] Article 4.3 of the Rome II Regulation: Where it is clear from all the circumstances of the case that the tort/delict is manifestly more closely connected with a country other than that indicated in paragraphs 1 or 2, the law of that other country shall apply. A manifestly closer connection with another country might be based in particular on a pre-existing relationship between the parties, such as a contract, that is closely connected with the tort/delict in question.

[80] See recital 24 in the preamble of the Rome II Regulation: 'Environmental damage' should be understood as meaning adverse change in a natural resource, such as water, land or air, impairment of a function performed by that resource for the benefit of another natural resource or the public, or impairment of the variability among living organisms.

[81] The scope of Article 7 of the Rome II Regulation includes the assessment of the liability for direct environmental damage, as well as personal injury and financial loss, which also includes net losses, as a result of environmental damage. See Asser 10-III, Internationaal Privaatrecht, Internationaal Vermogensrecht [International Private Law, International Property Law], p. 684-685, no. 1053: *"The mention of personal injury or financial loss in Article 7 of the Rome II Regulation merely serves, it seems, to emphasise that obligations to compensate these forms of damage fall under the domain of this provision. […] From Article 7 of the Rome II Regulation it also follows that 'net' losses ensuing from environmental damage are covered by this provision...".*

[82] This can be derived from Articles 2.2 and 2.3 of the Rome II Regulation: 2. This Regulation shall apply also to non-contractual obligations that are likely to arise. 3. Any reference in this Regulation to: a) an event giving rise to damage shall include events giving rise to damage that are likely to occur; b) Damage shall include damage that is likely to occur.". It follows from this that the regulation also applies to preventive actions with regard to damage that is likely to occur;
See also: T. Kadner Graziano, "*The Law applicable to cross-border damage to the environment, a commentary on article 7 of the Rome II Regulation*", Yearbook of Private International Law, Volume 9, 2007, p. 71-86, par. IV.: *"Art. 7 of the Rome II Regulation does not make a distinction between claims for damages and claims for other remedies, such as prohibitory or mandatory injunctions. According to Art. 2(2) and Art. 2(3)(a) and (b), the rules of the Rome II Regulation, however, also apply to 'non-contractual obligations that are likely to arise', Art. 2(2), and to damage that is likely to occur, Art. 2(3)(a) and (b). In principle, the Regulation therefore governs both compensation and injunctions. (…) Given the close link between rights for compensation and injunctive relief, the option under the second part of Art. 7 of the Rome II Regulation should not be interpreted as allowing the two remedies to be treated separately, i.e. breaking that link. In principle, it should therefore not be possible to opt for different laws to apply for damages and injunctions."*
See also the explanation with regard to the background to Article 7 as set out in the Commission Proposal and recital 25 in the preamble of the Rome II Regulation, from which it follows that the regulation (through a right of option, among other things) aims to guarantee extensive protection for the environment and victims of environmental damage: Commission Proposal COM(2003) 427 def.: *"Article 7 introduces a special rule with regard to third-party liability in the case of environmental violations. […]at the same time, the victim is offered the opportunity to opt for the laws of the location where the harmful fact occurred. […] The solution also encourages a preventive policy because the business owners who are established in a country that offers a low level of protection are forced to take the higher level of protection in neighbouring countries into account, which means that settling in a country with a low level of protection is*

101. According to this article, therefore, the claimant is entitled to unilaterally opt for the laws of the country where the damaging event took place. This is the Netherlands, as Shell's policy that leads to climate change is adopted and determined by the board that is established in the Netherlands and the damaging event, therefore, takes place in the Netherlands. Under application of this choice of law, the court is asked to apply Dutch law.

102. In addition, we point out that Dutch law also applies pursuant to the general rule of Article 4.1 of the Rome II Regulation.[83] After all, Article 4.1 designates the laws of the country where the damage occurs. Damage in the form of climate change and all ensuing (direct) negative effects on people and the environment also manifest themselves in the Netherlands. In so far as necessary for the applicability of Dutch law, Milieudefensie et al. appeal to this general rule of article 4.1.

103. We briefly highlight the other main rules of Article 4 of the Rome II Regulation, which also designate Dutch law as applicable law.[84] Both Shell and the co-claimants involved in these proceedings have their usual residence in the Netherlands (Article 4.2). Furthermore, from the body of facts discussed above (among other things, parent company Shell has its head office in The Hague/the Netherlands, where the main functions are located and where the most important meetings of the board and shareholders are held; Shell is, effectively, managed in and from The Hague/the Netherlands; the (climate) policy for the entire Shell group of companies is determined by Shell and is adopted in The Hague/the Netherlands; the Dutch safety regulations and codes of conduct must be observed[85]; environmental damage is (also)

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not in their interest. As such, the rule contributes to generally raising the level of environmental protection. […] After all, the excluding application of the laws of the location where the damage occurred could encourage a business owner to settle along the border and to dump hazardous substances in a river, speculating on the less strict legislation of a neighbouring country. Such a solution would violate of the underlying philosophy of European substantive environmental law and with the 'polluter pays' principle. That is why Article 7 offers the aggrieved party the opportunity to base his claims on the laws of the country where the damaging event took place. It is, therefore, up to the victim and not up to the court to decide which laws are most favourable for him."
Recital 25 in the preamble of the Rome II Regulation: *"With regard to environmental damage, Article 174 of the Treaty - which stipulates a high level of protection, based on the precautionary principle and the principle of preventive action, the principle that environmental damage is preferably combated at the source and the principle that the polluter pays - constitutes sufficient accountability for the application of the principle of priority for the person who suffers damage. The question of when the person demanding compensation can choose the applicable law must be answered on the basis of the laws of the Member State of the court addressed.*

83 Article 4.1 of the Rome II Regulation: 1. Unless stipulated otherwise in this regulation, the law that applies to the unlawful act is the law of the country where the damage occurs, regardless of the country in which the damaging event took place and regardless of the countries where the indirect effects of that event manifest themselves.

84 Articles 4.2 and 4.3 of the Rome II Regulation: 2. However, if the person whose liability is at stake and the person who suffers damage both have their usual residence in the same country at the time the damage occurs, the laws of that country apply. 3. If the body of facts shows that the unlawful act appears to have a closer link with one country than a country other than the one referred to in paragraphs 1 and 2, the laws of that other country apply. An apparent closer link with another country could particularly be based on an existing close relationship between the parties, such as an agreement, that is connected to the unlawful act.

85 Article 17 of the Rome II Regulation: During the assessment of the behaviour of the person whose liability is at stake, it is necessary to actually and appropriately take into account the safety regulations and codes of conduct that apply at the time and in the location of the event that causes the liability.

suffered in the Hague and Shell is resident for tax purposes in the Netherlands) it follows that the unlawful act to be assessed is very closely linked to the Netherlands (Article 4.3).

104. It can, therefore, be concluded that Dutch law applies and on the basis of Dutch law, it is necessary to assess, among other things, the basis and extent of the liability, who can be held liable, as well as the measures that can be imposed so as to prevent, reduce and compensate damage.[86]

105. Insofar as (some of) the damaging events (also) occurred before 11 January 2009 and as such, they fall outside the temporal scope of the Rome II Regulation (see (iii) above), Dutch law should also be applied, which is evidenced by the following.

II.2.2 Book 10 of the Dutch Civil Code

106. The literature and case law are divided about whether the applicable law for the assessment of damaging events that do not fall under the temporal scope of the Rome II Regulation should be determined on the basis of the Act on Conflict of Laws in Unlawful Act [Wet conflictenrecht onrechtmatige daad (WCOD)][87] or on the basis of Book 10 of the Dutch Civil Code.[88]

107. Insofar as Book 10 of the Dutch Civil Code applies to these events, obligations arising from an unlawful act that fall outside the scope of the Rome II Regulation *are*, in fact, subject to the provisions of the Rome II Regulation by analogy pursuant to Article 10:159 of the Dutch Civil Code. Therefore, all of the above also applies to the damaging events from before 11 January 2009 and Dutch law applies also to the assessment thereof.

II.2.3 Act on Conflict of Laws regarding unlawful acts (WCOD)

108. If the applicable law required to assess the damaging events from before 11 January 2009 should be determined on the basis of the WCOD, Dutch law must be applied as well. In Article

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[86] See Article 15 of the Rome II Regulation: The laws that apply to the non-contractual obligation pursuant to this regulation regulate, in particular, a) the reason and the extent of the liability, which includes determining who can be held liable for an act; b) the reasons to exclude liability, as well as a limitation and division of liability; c) the existence, nature and assessment of the damage or the claim; d) the measures that the court may take, within the limits of its jurisdiction under procedural law, so as to prevent, reduce and compensate injury or damage; e) the option to transfer the right to claim compensation or indemnification, which includes hereditary succession; f) determining who is entitled to compensation for damage suffered in person; g) the liability for the actions of others; h) the method in which the obligation is nullified, as well as the prescription and expiry, which includes the start, the suspension or interruption of the limitation or expiry period.

[87] The Unlawful Act (Conflict of Laws) Act of 11 April 2001, which regulates conflict of laws with regard to obligations arising from an unlawful act, Bulletin of Acts and Decrees 2001, 190, also known as the WCOD. For the applicability of the WCOD, see: Y.A. Rampersad e.a., "*Hora ruit, tempus fluit. Boek 10 BW, WCOD, Rome II en het overgangsrecht*", MvV 2016, no. 2, p. 51-51. This is also the line followed by most authors and in most case law, see, for instance, the Shell Nigeria case, court of The Hague 30 January 2013, ECLI:NL:RBDHA:2013:BY9845, paragraph 4.9.

[88] Article 10:159 of the Dutch Civil Code: Obligations that fall outside the scope of the Rome II Regulation and the applicable treaties and which can be considered unlawful acts are subject to the provisions of the Rome II Regulation by analogy, on the understanding that obligations ensuing from Dutch public authority being exercised are subject to Dutch law.

3, the WCOD gives three main rules, with paragraph 3 (common residence perpetrator and aggrieved party) ranks above paragraph 2 (location of the damage) and paragraph 2 ranks above paragraph 1 (place of the act). However, all paragraphs refer to the Netherlands. This will be discussed below.

109. Article 3.1 of the WCOD[89] stipulates that the laws of the state in whose territory the unlawful act takes place must be applied. As discussed extensively above, this is Dutch law.

110. Furthermore, Article 3.2 of the WCOD[90] stipulates that if the location of the unlawful act is different from the location where this act harms a person, property or the natural environment, the laws of the country where this effect manifests itself must be applied. However, we already discussed above that the country of the unlawful act and the country where damage is (also) suffered within the meaning of climate change/degradation of the natural environment resulting in damage to persons and property, is the Netherlands in both cases.

111. On a final note, Article 3.3 of the WCOD[91] stipulates that when the perpetrator and the aggrieved party have their usual residence or their business address in the same state, the laws of that state apply. This, too, has been discussed above in the sense that Shell, Milieudefensie and the co-claimants have their place of residence or business in the Netherlands and that, therefore, Dutch law applies.

112. Therefore, the WCOD, too, stipulates that Dutch law applies and that the reason and the extent of Shell's liability must be assessed in any case on the basis of Dutch law.[92]

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89 Article 3.1 of the WCOD: Obligations arising from an unlawful act are governed by the laws of the State in whose territory the act takes place.

90 Article 3.2 of the WCOD: In derogation from paragraph 1, when an act has a harmful effect on a person, property or the natural environment other than in the State in whose territory the act takes place, the laws of the State in whose territory those effects manifest themselves will be applied unless the perpetrator could in all reasonableness not have foreseen the effects there.

91 Article 3.3 of the WCOD: If the perpetrator and the aggrieved party have their usual residence or their business address in the same State, the laws of that State apply in derogation from paragraphs 1 and 2.

92 Article 7 of the WCOD: The law that is applicable pursuant to Articles 3 to 6 stipulates, in particular: a) the reasons for and the extent of the liability; b) the reasons for limiting and dividing liability; c) the existence and the nature of the damage that qualifies for compensation; d) the extent of the damage and the way in which this is compensated; e) the possibility to transfer or assign the right to compensation; f) the persons who are entitled to compensation on their own account; g) the liability of a client for the actions of someone acting on his behalf; h) the term for the prescription or expiry of a claim for compensation, as well as the time at which the period starts and the interruption or suspension.

III. THE CLAIMANTS' CAUSE OF ACTION

III.1 THE CLAIMING NGOs ARE LEGAL ENTITIES WITHIN THE MEANING OF ARTICLE 3:305a OF THE DUTCH CIVIL CODE

113. The non-governmental organisations (NGOs) acting as the claimants in these proceedings are all legal entities within the meaning of Article 3:305a of the Dutch Civil Code.

114. Pursuant to Article 3:305a of the Dutch Civil Code, foundations and associations with full legal capacity can bring legal action purporting the protection of social and collective interests of other persons, if defending such interests is in accordance with the object defined in their articles of association.

115. It follows from the object clause of each of the claiming NGOs, discussed below, and from the way the NGOs implement these objectives, that through the legal action brought against Shell with this summons, each of the NGOs defends its collective (legal) interests set out in their articles of association. Thus, also in view of the further substantiation below for each NGO individually, they have cause of action with their claims against Shell on the basis of Article 3: 305a of the Dutch Civil Code.

116. Each of the claiming NGOs is a charitable organisation or association with ANBI status (Algemeen Nut Beogende Instelling / Public benefit organisation status). To obtain this status, an organisation must deploy activities of which at least 90% serve the public interest without profit motive, the board and employees must meet the integrity requirements and (long-term) policy plans and (annual) financial justifications must be made known to the general public. The ANBI status can be consulted online in the ANBI register of the Dutch Tax and Customs Administration. Extracts from this register of each of the claiming NGOs are submitted with this summons as an exhibit.[93]

III.2 THE CLAIMS AGAINST SHELL FALL WITHIN THE SCOPE OF ARTICLE 3:305a OF THE DUTCH CIVIL CODE

117. The claims filed by the NGOs against Shell in these proceedings are the types of claims the Dutch legislator finds admissible and explicitly wanted to make possible with Article 3:305a of the Dutch Civil Code.

118. It appears from the Explanatory Memorandum, for instance, that the provision does not focus on financial interests alone. In his conclusion under Supreme Court 08 June 2007, Dutch Law Reports 2007,322 (ECLI:NL:HR:2007:BA2075), advocate general Spier wrote the following about the question what types of claims can be based on Article 3:305a of the Dutch Civil Code:

[93] ANBI Register, Certificate registration claimants (exhibit 026)

> *"4.9.3*
> *I will give a topical example by way of illustration, whereby we assume that the railways and its associated technical facilities form a part of the State of the Netherlands. After a number of collisions in quick succession, it appeared that in a large number of locations, insufficient measures were taken to prevent trains from going through a red light. The 'organisation' responsible for this wants to take measures, that however will take years to implement. An interest group of travellers feels this will take far too long, given the fact that safety is at stake. There is no doubt that based on Article 3:305a of the Dutch Civil Code, this group can request a declaratory judgment that the period deemed necessary by the 'organisation' responsible is (far) too long."*

119. Following this ruling, the legal literature noted that Article 3:305a of the Dutch Civil Code offers a legal ground for claims that challenge climate change. See Professor C.J.J.M. Stolker in his text and comments about Article 3:305a of the Dutch Civil Code, note 1:

> *"The possibility of a class action against activities that contribute to climate change is quite conceivable. In principle, Article 3:305a does not seem to contain any impediment to claims with such purport, such as a claim to ban excessive emissions and an order to take measures to prevent such emissions."*

120. The rulings of the court and the court of appeal in The Hague in the Urgenda case show the same. In the Urgenda case, for instance, the court considers (paragraph 4.6):

> *"in principle, Urgenda's claims against the State are, indeed, considered the types of claims the Dutch legislator deems admissible and wanted to make possible with Article 3:350a of the Dutch Civil Code. The explanatory memorandum considers that a claim brought by an environmental organisation to protect the environment, without an identifiable group of persons requiring protection, would be admissible under the proposed regulation."*

The court of appeal in the Urgenda case considers in the same sense, referring to the legislative history of Article 3:350a of the Dutch Civil Code, and using the following quote from the legislative history:

> *"The interests that would qualify for pooling in a collective claim may be financial interests but also more idealistic interests. The legal action can serve to look after the interests that affect people directly or which have been adopted by people on the basis of a certain conviction. In the case of more idealistic interests, it does not matter if not every member of society attaches the same amount of value to these interests. It may even be that the interests which they wish to protect during the proceedings clash with the ideas and opinions of other groups in society. This in itself will not stop a collective legal action.(...) It does not have to concern the interests of a strictly defined group of other people. It may also concern the interests of an undefinable, very large group of people. (…)".*

121. The claims of the claiming NGOs in these proceedings, like the claims in the Urgenda case, are exactly the types of claims Professor Stolker mentions, namely a ban on excessive emissions and an order to take measures to prevent excessive measures, all of which serves to stop the activities of Shell that contribute to dangerous climate change.

III.3 THE NGO's CAUSE OF ACTION

III.3.1 THE MILIEUDEFENSIE ASSOCIATION

III.3.1.1 A brief history of Milieudefensie

122. Milieudefensie stood at the basis of the environmental movement in the Netherlands, which started almost simultaneously with the 1972 publication of the Rome Club report (entitled *Limits to Growth*). One of the Dutch members of the Rome Club, Wouter van Dieren, was one of the co-founders of Milieudefensie.

123. Milieudefensie was set up on 06 January 1971 as *De Raad voor Milieudefensie*. Initially, the association was a group of scientists with an advisory body consisting of 12 professors. The starting capital of NLG 5,000 (almost 10,000 euros today) was granted by Prince Bernhard.

124. Late 1972, Milieudefensie had 8,000 members and it was decided to incorporate the Milieudefensie association, by which the association acquires full legal capacity. Almost immediately after its incorporation, the association becomes a member of the global environmental network Friends of the Earth International. Milieudefensie is still part of this international network.

125. The first administrator/chairman of the new association was Professor Egbert Tellegen (a professor in environmental studies). Subsequent administrators of Milieudefensie were, among others, Professor Jacqueline Cramer (a professor in environmental management, who later became the Minister for Housing, Spatial Planning and the Environment), doctorandus Teo Wams (currently a Nature Management director at Natuurmonumenten), Wijnand Duyvendak (later a member of the Lower House for the GroenLinks political party), Frank Köhler (a former alderman for the Municipality of Amsterdam, a member of the Upper House for the SP political party) and doctorandus Wouter van Eck (a political scientist and a lecturer in development sciences). The board of Milieudefensie currently consists of seven members with various backgrounds - scientific, commercial and serving the general interest.

126. Doctorandus Donald Pols has been the director of Milieudefensie since 2015. His previous positions included Global Sustainability Senior Manager at the Energy Research Centre of the Netherlands (ECN) and head of the World Wildlife Fund Climate Programme.

127. As of 01 January 2019, Milieudefensie has 66,852 members, 28,689 donors, 98 members of staff, 40 active local groups and 2,000 volunteers.

128. Milieudefensie is a legal entity within the meaning of Article 3:305a of the Dutch Civil Code.

III.3.1.2 Milieudefensie's object according to its articles of association

129. Milieudefensie's object is defined in Article 2.1 of their articles of association[94], which reads as follows:

> *"The object of the association is to make a contribution to solving and preventing the climate issues and to preserve cultural heritage, and to strive for a sustainable society on a global, national, regional and local level in the broadest sense of the word and in the interest of the members of the association, as well as in the interest of the quality of the environment, nature and landscape in the broadest sense of the word, for present and future generations."*

130. Protecting the environment and nature at home and abroad for both present and future generations and striving for a sustainable society is therefore the object for which Milieudefensie was created. Article 2.2 of the articles of associaton defines how the association aims to achieve this object:

> *"The association aims to achieve its object by critically following all developments in society that have an effect in the fields of the environment, nature, landscape and sustainability, by influencing the relevant decision-making process by using all appropriate and permitted means, conducting research, distributing and providing information in the broadest sense of the word, securing court decisions and undertaking anything the association deems necessary in order to achieve its object."*

131. Conducting research, informing the public, influencing the decision-making process and instituting legal proceedings in order to achieve sustainability and environmental protection; all of this is part of the many tools the association uses to achieve its object as laid down in its articles of association. Milieudefensie also shows this in practice.

III.3.1.3 Actions undertaken by Milieudefensie over the years

132. In the 1970s, Milieudefensie successfully opposed the contamination of the Rhine, among other things, and the full closure of the Eastern Scheldt (to protect its (marine) water environment). In those years, the fight against environmental pollution caused by disposable packaging was also started. Milieudefensie planted a protest forest against the construction of a new runway at Schiphol. Its actions served to prevent environmental pollution caused by unbridled expansion of the airport and air traffic.

133. In the 1980s, Milieudefensie successfully fought against CFKs in aerosols that destroy the ozone layer. At the time, Milieudefensie also exposed the environmental pollution caused by fossil fuels, including acid rain and the greenhouse effect.[95] It campaigned against the use of toxic PVC in packaging and against cadmium, the toxic yellow colourant in Heineken's yellow beer crates. Because of these protests, Heineken's crates are now green and harmless. During

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94 Articles of Association Milieudefensie (exhibit 009)

95 Milieudefensie 1988, brochure "*Het Gat in de Ozonlaag – Broeikaseffect – Zure regen: Wat hangt ons boven het hoofd*" (exhibit 027)

those years, Milieudefensie also campaigned against the use of tropical hardwood (and the resulting deforestation), which led to the introduction of the FSC quality mark. Milieudefensie also set up the Milieutelefoon (now MilieuCentraal), an environmental hotline for those with questions about environmental issues. This initiative was taken up by other countries too.

134. In the 1980s, Milieudefensie organised extensive protests against nuclear energy which meant this dangerous and environmentally harmful energy generation method - the disaster in Chernobyl emphasised this at the time - never gained much popularity. In the 1980s, Milieudefensie also started campaigning for the roll-out of sustainable energy as an environmentally-friendly alternative to the polluting use of fossil energy. "Aktie Schoonstroom", a campaign for clean energy, was one example.[96] It was a reaction to the government's position that for our power supply, we could only choose between power generated by nuclear energy or by coal. With its campaign, Milieudefensie showed there were better alternatives and it pointed out that due to increasing environmental pollution, the future of power generation was in sustainable sources such as wind and solar energy.

135. In 1990, Milieudefensie and Natuur en Milieu published a report entitled "*Het Broeikaseffect, erop of eronder: nationale verkenning aanpak CO_2-probleem"*.[97] After successfully drawing attention to the ozone problem (in 1989, the successful Montreal Protocol to control CFKs came into force), Milieudefensie brought the climate issue under public attention on an even bigger scale.

136. In 1991, Milieudefensie, author Martijn van Calmthout and Van Arkel publishers released a book entitled *Broeikaseffect*, the foreword of which was written by the then Minister for Housing, Spatial Planning and the Environment, Minister Alders. The book discusses the causes and consequences of climate change and also discusses the need to pursue climate politics and a climate policy.[98] The book was part of a large climate campaign run by Milieudefensie in 1991 and thereafter. The climate campaign in question was announced in the 1990 Annual Report of Milieudefensie, which reads as follows:

> *"The year 1991 will, very appropriately, see the largest campaign of Milieudefensie's history, the greenhouse gas campaign ... Milieudefensie will encourage and urge local authorities in the Netherlands to conclude a climate pact with groups in the Third World: "we will do this ... if you...[…]"*[99]

137. In its 1991 Annual Report, Milieudefensie reported about the way in which the campaign was run and it specified the results achieved to date:

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96 Milieudefensie 1986, *Schoonstroomkrant* (exhibit 028) and Milieudefensie, 1988 *Schoonstroomplan* (exhibit 029)

97 Albers 1990 *Het Broeikaseffect, erop of eronder, nationale verkenning aanpak CO2-probleem* (uitdraai website felnet.eu) (exhibit 030)

98 Calmthout 1990 *Het Broeikaseffect, Inleiding in de problematiek van het Broeikaseffect* (exhibit 031)

99 Milieudefensie 1990 Annual Report, foreword by the chairman, p.1, 3, 4 (exhibit 032)

> *"Ultimately, 43 local authorities joined the climate pact in 1991, representing 3.1 million residents, more than 20% of the Dutch population. The target of 50% (a quarter of the population) was reached in February 1992 [...]*
> *The campaign will be continued in 1992 and it will focus on the UN-CED conference in Brazil[100], which may lead to an international Climate Convention [...]*
> *The campaign entitled "Werk samen aan een Schone Wereld" (in collaboration with 11 other organisations, including Novib, the Ministry of Housing, Spatial Planning and the Environment and the Association of Netherlands Municipalities) directs attention to the local authorities and will emphasise the Climate Pact and the local greenhouse policy."*[101]

138. During the 1992 UN conference in Brazil, the UN Climate Convention was, indeed, adopted, setting out that climate change could pose a great danger to people and the environment if the human population does not stop global warming in time. Stopping climate change as part of environmental protection and the sustainability of society subsequently became a fixed part of Milieudefensie's agenda. In 1994, the association organised the so-called "Broeitour" in 33 towns and cities, as well as a so-called "Nationaal Broeidebat", later followed by so-called "Klimaatcafés". The number of towns and cities that joined the Climate Pact rose to 131.[102] In 1995, a report ("*Studie naar een duurzaam Europa*") commissioned by Milieudefensie and Friends of the Earth was published. It marked the start of a European-wide "*Campaign for Sustainable Development in Europe*".[103]

139. As demonstrated above, the Milieudefensie association has been focusing since its on environmental protection and sustainable development in many areas and on many different scale levels, from the toxic production of beer crates and packaging to global environmental problems such as the deterioration of the ozone layer, acid rain and climate change. Milieudefensie has continued that line.

140. More well-known, subsequent campaigns and results achieved include the following:

- the popular yes/no and no/no stickers on letterboxes aimed to reduce the use of paper and, as such, the felling of trees;
- under the influence of EKO counts and public campaigns by Milieudefensie, supermarkets started to sell more organic products;
- campaigns were dedicated to encouraging sustainable agriculture and livestock breeding and the use of renewable energy;
- campaigns were held against fully developing green rural areas with new industrial estates (this resulted in the inclusion of the Ladder for Sustainable Urbanisation in the law) and against air pollution caused by ever-increasing car use;
- Milieudefensie and four Nigerian farmers have and are still in the process of conducting legal proceedings against Shell because of oil pollution in the Niger delta, in the course of which the court of The Hague ruled in 2013 that Shell is responsible for the pollution in one of the three villages in question (the appeal is still pending).

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[100] UNCED stands for United Nations Conference on Environment and Development
[101] Milieudefensie 1991 Annual Report, under "*Broeikascampagne: het tij keren*", p.1 and 3 (exhibit 033)
[102] Milieudefensie 1994 Annual report "*In Actie*" p.12 (exhibit 034)
[103] Buitenkamp 1992, *Duurzame Ontwikkeling in Nederland en Europa ,* p. 83-96 (exhibit 035)

- Milieudefensie's campaign against the extraction of shale gas because of the heavy environmental burden of this form of mining was very successful and, in part as a result of this campaign, no more shale gas will be extracted in the Netherlands);
- the recent change of course by the Ministry of Economic Affairs regarding gas extraction in Groningen is also, in part, the result of campaigns by Milieudefensie against continued gas extraction in Groningen.

141. Since the 1980s and 1990s, Milieudefensie has also remained specifically active in the field of climate change. Milieudefensie's long-term policy plans of the past 12 years are a testament to that.

III.3.1.4 Milieudefensie's general Policy Plans

2006-2010 Policy Plan "Uitzien naar 2010"

142. Between 2006 and 2010, Milieudefensie focused on encouraging climate-friendly banking, among other things:[104]

> *"The fast changes to the climate pose a great threat to people and the environment [...] Climate change is connected to the large-scale use of fossil fuels in the energy supply [...] We need a shift of money flows from the fossil fuel economy to the sustainable energy sector [...] Private banks and public asset managers are the ideal partners in that respect [...] That is why Milieudefensie campaigns for 'climate-friendly banking', which means we show what happens to the banks' money."*

143. In the run-up to the local elections in 2006, the Partij voor de Droge Voeten (PvDV) association was launched, with Hans Brinker as the leading candidate. Milieudefensie and the Netherlands Climate Pact Association together also urged local authorities to make climate-friendly purchases, giving them examples and ideas for measures they can take. Comparisons can be made by means of the Lokale Duurzaamheidsmeter (a local sustainability meter).

144. In 2006, the commemoration of the nuclear disaster in Chernobyl (1986) resulted in the publication of the *Energiekrant* and the website schoonstroom.nl, together with Greenpeace, Natuur en Milieu and WISE. The organisations called for investments in renewable energy and reduced energy consumption. Milieudefensie also started a survey entitled "Kan mijn energiebedrijf groener?" to find out if businesses can make their operations greener.

145. Within the framework of the *Hier* campaign of more than 40 charitable organisations, Milieudefensie started the "Niet met mijn geld" campaign in 2007. This was aimed at transforming banks into a *Hier* climate-neutral bank. Milieudefensie compared the climate performances of banks in terms of policy and products and it issued information packages about alternative, green pathways for banks. It also asked citizens to sign a campaign form to

[104] Milieudefensie 2006 *General Policy Plan "Uitzien naar 2010!*" p.18-19 (exhibit 036)

make banks aware of the fact that they should not be spending their money on activities that lead to climate change.

146. In February 2008, Milieudefensie and Natuur & Milieu and JMA, Milieudefensie's youth organisation, started a campaign for a Dutch climate act. The campaign was supported by the entire Dutch environmental movement and development organisations. 75,000 people signed the petition to the Lower House. The initiative for this campaign came from Donald Pols, who at that time was the campaign leader of the climate campaign and who now is the director of Milieudefensie. On the instruction of Milieudefensie and Natuur & Milieu, Phon van den Biesen, a lawyer, even wrote an entire web text. At the time, Dutch politics were not yet ready for the climate law. Minister Cramer for the Environment called the proposal "sympathetic" but she preferred to rely on voluntary agreements with the business community rather than on an act. Now, ten years later, the Lower House has adopted the initiative and a Climate Act was presented and accepted by the Lower House on 20 December 2018.

2010-2015 General Policy Plan: "Met draagvlak naar beweging"

147. Between 2010 and 2015, also because of the financial crisis, Milieudefensie focused on stressing that the climate and the financial crisis were connected, as they would both be a result of the unbridled capitalist (short-term) market orientation that ignores the negative consequences for people and the environment in the long term. The following was announced in the policy plan for that period:

> *"We want to demonstrate the link between the crises that hold the world in their grip - the energy, climate, financial and food crises - and we want to formulate answers to them."*[105]

and

> *"Sustainability and the environment are notions that are embedded in society. Pressure on the earth's natural flexibility is still growing. Raw materials are depleted faster, species are disappearing, the climate is increasingly disrupted and the environment is polluted."*[106]

148. Milieudefensie implemented its policy plan in this area, for instance, by instructing Ecofys to study the "accelerated developments of sustainable energy in the Netherlands".[107]

149. It also contributed to the Beat the Heat Now campaign, which drew attention to the Climate Summit in Copenhagen.

150. A major Climate Event was held in the Jaarbeurs in December 2009, after which the Beat the Heat Now express left for Copenhagen, carrying numerous ministers, young people and interest groups. This presented the opportunity to forge relationships and coalitions.

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[105] Milieudefensie *2010-2015 General Policy Plan, "Met draagvlak naar beweging"*, p.3 (exhibit 037)
[106] Milieudefensie *2010-2015 General Policy Plan, "Met draagvlak naar beweging"*, p.4 (exhibit 037)
[107] Geurts 2009 (Ecofys): *Versnelde ontwikkeling van duurzame energie in Nederland, de rol van zon-PV & een verbeterd SDE systeem* p.1-2 (exhibit 038)

151. In addition, Project A15 was launched in 2013, in collaboration with Natuur & Milieu and Postcodeloterij. This project aimed to create the world's first sustainable highway, with clean and silent cars, charged with locally generated solar and wind energy.

152. In 2014, following growing unrest in Groningen because of earthquakes caused by gas extraction, Milieudefensie started to focus on ending gas extractions in Groningen, together with the Groninger Bodembeweging, among other partners. During the climate conferences in 2018, it also urged for a change of course in the national energy policy, in favour of investments in renewable sources. The motto of that successful campaign was "Samen gas terug, het kàn". At the end of 2014, the Lower House decided that there was no room in the Netherlands for the extraction of shale gas because of the environmental risks involved. And at the end of 2018, after a lot of protests, a law was passed that stipulates that gas extraction in Groningen will be phased out by 2030.

2016-2025 General Policy Plan: "Samenwerken aan een eerlijke transitie"

153. For the period until 2025, the fight against climate change is still high on Milieudefensie's agenda, as is evidenced by, among other things, Milieudefensie's liability claim against Shell of April 2018 (and the preparations for that) and bringing those proceedings against Shell. In the policy plan until 2025, this focus on fighting climate change was also announced:

> *"Climate change continues unabatedly, despite warnings from scientists. Furthermore, the transition to a climate-friendly society isn't going fast enough. We are the last generation that can stop climate change. Milieudefensie acknowledges this responsibility in this new General Policy Plan. We will all have to use the means available to us in order to set up and develop an effective social movement in the next ten years that will stop greenhouse gas emissions."*[108]

and

> *"This demands a fundamental change in the way in which we produce, do business and consume. The current method in untenable. Climate change is an urgent issue. Not only are we already confronted with the consequences every day at present but our children's future is at stake too. [...] Milieudefensie senses that responsibility and it, therefore, makes climate justice the central theme of this new General Policy Plan. During the next few years, we will be trying to curb the disproportionally large climate impact of the Netherlands on the world and we will ensure that the Netherlands will take the lead in climate solutions. This is realised by holding our business community to account about its climate impact at home and abroad."*[109]

154. By holding Shell to account about its climate impact in the Netherlands and beyond, Milieudefensie implements the prevailing policy plan and at the same time, it continues a decade-long tradition to use all possible means to combat the environmental pollution caused by the use of fossil fuels such as climate change, acid rain, the deterioration of the ozone layer and oil pollution in Nigeria.

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[108] Milieudefensie 2016: *General Policy Plan 2016-2025, "Samenwerken aan een eerlijke transitie"*, p.3 (exhibit 039)
[109] Milieudefensie 2016: *General Policy Plan 2016-2025, "Samenwerken aan een eerlijke transitie"*, p.4 (exhibit 039)

III.3.1.5 Conclusion

155. Solving and preventing the climate issue and environmental problems in general and promoting a sustainable society on a global, national, regional and local level, both for present and future generations, are interests that Milieudefensie defends according to their articles of association and in practice, as shown above, and that Milieudefense may therefore consider as their own interests. With its legal claims against Shell, Milieudefensie defends these collective (legal) interests defined in its articles of association. Pursuant to Article 3:305a of the Dutch Civil Code, Milieudefensie therefore has cause of action against Shell.

III.3.2 THE GREENPEACE NETHERLANDS FOUNDATION

III.3.2.1 A brief history of Greenpeace and Greenpeace Netherlands

156. Greenpeace is an independent, internationally operating environmental campaign network that fights for a green and peaceful planet. The Greenpeace network consists of 27 independent national/regional Greenpeace organisations and an international coordinating body, Greenpeace International.

157. As an international movement, Greenpeace has been fighting environmental malpractices since the 1970s. In the early days, the focus was on American and French nuclear tests. In the following years, it added whaling, seal hunting and environmental pollution to its key areas.

158. At present, Greenpeace operates in 55 countries. The independent Greenpeace organisations bring large-scale environmental problems to the public attention in a non-violent manner by openly confronting big environmental polluters.

159. The Greenpeace Netherlands Foundation (hereinafter referred to as Greenpeace Netherlands) was set up in Amsterdam in 1979. Greenpeace Netherlands collaborates intensively with all other Greenpeace organisations. They coordinate their substantive policies, just like financial affairs, but they are otherwise autonomous.

160. Greenpeace Netherlands does not accept gifts from the business community and it does not accept government subsidies. The Nationale Postcode Loterij donates a substantial amount of money every year and other income mainly originates from donors. In 2017, there were more than 350,000 donors. This safeguards Greenpeace's independence.

161. Greenpeace Netherlands employs about 100 people and it has approximately 2,000 volunteers. Its directors are Anna Schoemakers and Joris Thijssen. It has an independent, non-remunerated Supervisory Board that consists of Chris Fentener van Vlissingen, Lucille Hegger, Marcel Lebon and Martine Bosman.

162. Greenpeace Netherlands is a legal entity within the meaning of Article 3:305a of the Dutch Civil Code.

III.3.2.2 Greenpeace Netherlands' object according to its articles of association

163. With its legal claims against Shell, Greenpeace Netherlands stands up for the collective (legal) interests laid down in its articles of association.

164. Greenpeace Netherlands' object is defined in Article 2.1 of the articles of association[110], which reads as follows:

> 1. *The object of the foundation is to promote nature conservation.*
> 2. *Together with supporters, members of staff and alliances, the foundation tries to achieve its object by, for instance:*
>   a. *ending certain malpractices;*
>   b. *protecting biodiversity in all its manifestations;*
>   c. *stopping climate change, pollution and abuse of the earth;*
>   d. *ending all nuclear threats; and*
>   e. *promoting peace and global disarmament and non-violence.*
>   f. *organising targeted, non-violent actions with a view to the future in order to help bring about a fundamental change in the opinions of people and contributing to bigger ecological awareness;*
>   g. *collecting funds to support and realise the campaigns;*
>   h. *enabling ships to sail;*
>   i. *providing information orally, visually and in writing;*
>   j. *owning and maintaining an agency and undertaking anything else in connection with the above or deemed conducive to that.*
> 3. *The foundation does not aim to make a profit other than required for keeping a financial reserve that is sufficient for responsible business operations.*

165. Fighting global climate change and the global pollution that causes it, also with a view to the future, through alliances, is therefore the main reason why Greenpeace Netherlands was incorporated as a foundation. Article 3 of the articles of association stipulates how Greenpeace Netherlands aims to achieve this object:

> *Greenpeace is an independent, international environmental organisation that draws attention to problems through non-violent and creative campaigns and that realises solutions that are essential for a green and peaceful future. The foundation's mission is to cherish and protect life on earth in all its diversity.*

166. Greenpeace campaigns also show that Greenpeace has been running campaigns for a green and peaceful future for years now and that it opposes against climate change, polluting businesses and is committed to the transition to green energy.

III.3.2.3 Greenpeace's climate change-related actions

167. Greenpeace has been working on climate change for a long time. As far back as 1993, Greenpeace International published a scenario for sustainable development.[111] On an

[110] Greenpeace Articles of Association (exhibit 013)

[111] Lazarus 1993 *Towards a fossil free energy future*. p.1-7 (exhibit 041)

international level, Greenpeace organisations have run many campaigns to fight climate change, a number of which are mentioned below.

168. One of Greenpeace's first campaigns regarding climate change took place in Austria in 1990, where Greenpeace urged members of the government to commit themselves to reducing CO_2 by 30% before 2000.[112]

169. In 1992, Greenpeace took action on the last day of the Rio Conference by painting the word ACT on chimneys across the world to remind government leaders that they had to actually implement the goals.

170. In 1993, Greenpeace Netherlands started developing climate and energy campaigns. Global warming and CO_2 emissions already were on the agenda back then.[113]

171. In 1995, sociologists wrote that Greenpeace played an important role in formulating the problem and in distributing information about climate change among the general public.[114]

172. Since 1997, various Greenpeace organisations have been organising expeditions to the North Pole area, Antarctica, the Alps and the Himalayas in order to document the effects of climate change. Greenpeace is considered a pioneer in the field of holding visual campaigns about climate change. Images such as melting glaciers have since become 'powerful symbols of a vulnerable earth that is threatened by the consequences of climate change'.[115]

173. Greenpeace developed various Energy [R]evolution Scenarios that are often used in the worlds of science and energy. The latest version dates from 2015.[116] In these scenarios, Greenpeace and the German Institute for Space and Space Travel demonstrated that a completely CO_2-free energy supply by 2050 is technically *and* economically feasible.

174. In the Netherlands too, Greenpeace Netherlands published many reports aimed at policymakers and politicians, with substantiated pleas for a more sustainable energy supply. A number of examples:

- The report entitled '*Nieuwe elektriciteitscentrale in Nederland – de 'vergeten' kosten in beeld*' calculated the external costs of various types of power plants (coal, gas, biomass and nuclear energy) which power producers pass on to society and the government. A special summary was written for social influencers and policymakers of this report.[117]

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[112] B. Knappe 1994: *Het geheim van Greenpeace*. Uitgeverij Mingus, 1994.
[113] B. Knappe 1994: *Het geheim van Greenpeace*. Uitgeverij Mingus, 1994
[114] M. Mormont & C. Dasnoy, 1995: *Source strategies and mediatization of climate change*. Environmental Sociology Unit, Fondation Universitaire Luxembourgeoise, Arlon, Belgium, Media, Culture & Society, Sage, vol. 17, p.49-64
[115] J. Doyle 2007: *Picturing the clima(c)tic: Greenpeace and the representational politics of climate change communication* juni 2007, University of Brighton, UK, Science as Culture, vol. 16(2), p.129-50
[116] Greenpeace 2015: *Energy [r]evolution* p.1-9 (exhibit 042)
[117] Sevenster 2007: *Nieuwe elektriciteitscentrale in Nederland, de vergeten kosten in beeld* p.1-2 (exhibit 043)

- The report entitled '*Sluiting van de Nederlandse kolencentrales. Maatschappelijke en economische effecten*' demonstrated that Dutch coal-fired power plants have already lost half their value.[118]

175. Also in recent years (2015-2018), Greenpeace Netherlands has dedicated itself to avoiding the disastrous consequences of climate change. Greenpeace Netherlands campaigns for the reduction of fossil energy such as coal, gas and oil. Various Greenpeace organisations have been campaigning against Shell's policies and activities for years now. The Greenpeace network studies, lobbies and campaigns in order to encourage businesses to switch to cleaner energy generated by the sun, wind and water, for instance.

176. Greenpeace Netherlands has taken a lot of action against climate change. Examples of action against Shell, oil, palm oil and coal are given below.

A number of activities targetting Shell

177. In 2015, in collaboration with local NGOs and hurricane victims, Greenpeace South East Asia brought action before the Philippine human rights committee, investigating the responsibility of 47 of the world's biggest polluters when it comes to climate change and its effects on people.[119] Shell is one of the most prominent businesses in these proceedings.

178. In 2018, Greenpeace Netherlands, Amnesty International, Global Witness, Groninger Bodem Beweging and Milieudefensie opened a pop-up exhibition during Shell's annual shareholders' meeting that was held in The Hague. The court cases against Shell around the world were shown[120] and explained in a report for investors.[121]

179. In 2015, Greenpeace Netherlands collaborated in a global campaign to stop Shell from drilling for oil on the North Pole. A lot of campaigns were held and more than eight million citizens around the world signed the petition addressed to Shell to leave the North Pole alone.[122]

Activities aimed against oil

180. In 2018, Greenpeace Netherlands organised a campaign to try and stop pension funds and insurers Nationale Nederlanden and Aegon investing in tar sand oil.[123] The production and export of tar sand oil accelerate climate change. As the managers of billions of pension funds of civil servants, teachers and nurses, ABP and PFZW were urged to stop contributing to the violation of human rights, the destruction of century-old forests and the continued derailment

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118 Spring 2016: *Sluiting van de Nederlandse kolencentrales. Maatschappelijke en economische effecten* p.1, 3-5, 22 (exhibit 044)

119 Geenpeace 2018: *World's First human rights investigation into corporate responsibility for climate change concludes* (exhibit 045)

120 Greenpeace 2018: *Actie bij aandeelhouderdsvergadering Shell* (exhibit 046)

121 Greenpeace 2018: *Seeking justice: the rising tide of court cases against Shell* (exhibit 047)

122 Greenpeace 2015 Jaarverslag p. 8-9 (exhibit 048)

123 Greenpeace 2018: *Nationale Nederlanden stapt uit Teerzandolie* (exhibit 049) and Greenpeace 2019: *Aegon stapt uit smerigste olieproductie* (exhibit 050)

of the climate. In 2018 and 2019, insurers Nationale Nederlanden and Aegon announced they were going to stop investing in tar sand oil.

181. In 2017, Greenpeace Netherlands laid a metres-long oil pipeline up to the Amsterdam head office off ING in order to urge the bank to withdraw its loans for the construction of the Dakota Access pipeline. The construction of this pipeline is planned on the land of a native Sioux clan and it poses a threat to the environment and the habitability of the area. ING stopped funding the pipeline.[124]

Activities aimed against palm oil

182. Greenpeace International has published more than ten reports about the harmful effects of non-sustainable palm oil for the climate.[125] In the Netherlands, Greenpeace Netherlands presented these reports to the government and investors such as banks and insurance companies. The production of palm oil leads to wildfires and deforestation, among other things. This accelerates climate change.

Activities aimed against coal

183. Greenpeace Netherlands has been campaigning against coal and coal-fired power plants for a very long time now. In 2017, it published a report that mapped out the health damage caused by the NUON power plant at Hemweg in Amsterdam. It was part of a collective crowdfunding campaign during which 42,000 supporters collected 112,000 euros to make a bid on the polluting NUON power plant. Actions were organised weekly, Greenpeace activists locked themselves inside NUON's head office, full-page advertisements were published in Het Parool and 10,000 'NUOFF' stickers were distributed in public spaces around the country.[126]

184. In 2016, Greenpeace Netherlands prevented a ship with a cargo of coal from unloading at Essent's new coal-fired power plant in Eemshaven in Groningen. The two new directors, Schoemakers and Thijssen, were suspended from a 500 metre-long cable between two windmills, 10 metres above the water.[127]

III.3.2.4 Conclusion

185. According to its articles of association, Greenpeace Netherlands' object is to, in collaboration with others, promote nature conservation, to combat climate change, pollution and abuse of the earth in order to safeguard a sustainable future, together with other parties. The mission of Greenpeace Netherlands as part of the independent international environmental campaigning network, is to draw attention to problems through non-violent and creative campaigns and to achieve solutions that are vital for a green and peaceful future.

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[124] Greenpeace 2017 Jaarverslag 2017, p. 8 (exhibit 051)

[125] Greenpeace 2018 The Final Countdown, Now or never to reform the palm oil industry, p. 12-13 (exhibit 052)

[126] Greenpeace Nederland 2017 Jaarverslag 2017, pp. 7 and 17 (exhibit 051)

[127] Greenpeace Nederland 2016 Jaarverslag 2016, p. 3 and 8 (productie 053)

186. Both as a Dutch entity and as part of the global joint venture, Greenpeace Netherlands has for many years now and also during the past five years, run many campaigns for the sustainability of Shell and for a reduction in the use and production of fossil fuels. This case against Shell is in line with past and present campaigns.

187. With its legal claim against Shell, Greenpeace Netherlands defends these collective (legal) interests pursuant to its articles of association.

188. Based on the above, Greenpeace Netherlands is of the opinion that it has a cause of action against Shell pursuant to Article 3:305a of the Dutch Civil Code.

III.3.3 THE FOSSIL FREE NL FOUNDATION

189. The "Stichting tot bevordering van de Fossielvrij beweging" foundation, abbreviated to Fossil Free NL, is a legal entity within the meaning of Article 3:305a of the Dutch Civil Code.

190. It follows both from the object defined in the articles of association of Fossil Free NL and the way in which Fossil Free NL pursues that object, that Fossil Free NL, in filing claims against Shell, is dedicated to defending the collective (legal) interests set out in its articles of association.

III.3.3.1 Articles of association

191. The articles of association of 22 March 2016 (exhibit 012) show that Fossil Free NL, with registered office in Amsterdam, is a foundation with full legal capacity.[128] The object and the footing of the foundation are defined as follows in Article 3 (underlining by the lawyer):

> *"Article 3. Object.*
>
> *3.1 The foundation has the following object:*
> *To locally, regionally and nationally promote, protect, support and realise social, environmental and economic justice and health for present and future generations by removing the social legitimacy of coal, oil and gas companies (so-called "fossil companies") and to realise an alternative use of investments and means in order to accelerate the transition to a sustainable economy based on renewable energy.*
> *3.2 The foundation aims to achieve this object by, for example, assuming all possible tasks that could promote its object. They include:*
> *- Urging public institutions and organisations such as universities, local authorities, insurers, religious organisations and pension funds to break their financial ties with coal, oil and gas companies and to become 'fossil-free'.*
> *- Setting up and holding campaigns and petitions.*
> *- Building up a strong network of initiators and sharing skills and knowledge by means of training and workshops.*

[128] Akte van Oprichting "Stichting tot bevordering van de Fossielvrij beweging" d.d. 22 maart 2016 (exhibit 012)

- Conducting research.
- Holding talks with members of staff and the directors of organisations.
- Organising, holding and taking part in creative (public) campaigns.
- Making clear what the foundation stands for and what it does by actively seeking public debate and approaching the media.
- Connecting international and local groups in the field of divestment.
- Linking up with international opportunities to reinforce the global divestment movement.
- Organising meetings that serve the object.
- Concluding joint ventures and partnerships that serve the foundation's object; and
- Developing different activities.
3.3 The foundation does not aim to make profits."

III.3.3.2 A brief history of Fossil Free NL

192. The Fossil Free movement has been active in the Netherlands since 2013. It receives direct support from the globally active NGO 350.org. The object and the size of the organisation are summarised on the website of 350.org[129]:

> *"350 uses online campaigns, grassroots organizing, and mass public actions to oppose new coal, oil and gas projects, take money out of the companies that are heating up the planet, and build 100% clean energy solutions that work for all. 350's network extends to 188 countries."*

193. Article 4 of the articles of association of Fossil Free NL explains the relationship between the foundation and the international Fossil Free movement, and what it means.

> *"The foundation has its origins in a growing movement, the 'Fossil Free movement'. This is a growing network of, for instance, students, civilians and professionals who urge their own local authorities, universities or pension funds to break their financial ties with the fossil fuel industry (referred to as divestment) in order to tackle climate change and to accelerate the transition to a sustainable economy with sustainable energy.*
> *This movement forms a part of the global divestment movement that is supported by the "350.org" organisation. The international Fossil Free campaign started in the US in 2012 and soon became an international movement that also gained a Dutch branch. The Fossil Free NL foundation is aware of the history of the 'Fossil Free movement', which led to the 'Stichting ter bevordering van de 'Fossielvrij-beweging'. Contact with and representation from the movement in the board is vital for the foundation."*

194. On 22 March 2016, the Fossil Free NL Foundation was registered in the Netherlands with the goal of reinforcing the Fossil Free movement with a local, organisational basis. During the past few years, the number of people involved in the Fossil Free movement has grown considerably, from a couple of dozen in 2013 to thousands of supporters and more than 100 actively involved volunteers.

195. The main object of the foundation is to mobilise people in order to achieve the following in the Netherlands:

- that public organisations break their ties with the fossil industry;

[129] 350.org, website (exhibit 054)

- that the influence of the fossil industry on our society decreases, thereby accelerating the transition to a sustainable economy and sustainable energy solutions.

III.3.3.3 Activities

196. Below are a number of examples of the activities undertaken by Fossil Free NL in the past two years in light of these key objectives:

- The ABP Fossil Free campaign, launched in 2014, booked early successes and attracted a lot of media attention. The ABP pension fund, with more than EUR 334 billion in its portfolio, was urged to stop investing in the fossil industry. A petition with more than 10,000 signatures and media attention in Tegenlicht and Nieuwsuur prompted the pension fund to considerably tighten its climate goals. This campaign was followed by the Paris-proof campaign, aimed at all Dutch pension funds, asking them to bring their investments in line with the Paris Climate Agreement. More than 3,000 pension participants sent a letter to their pension fund via the Fossil Free website;
- On 02 November 2017, at Pakhuis De Zwijger in Amsterdam, a public meeting was held about "My pension and the climate crisis", a public debate with a number of representatives from the pension sector. That evening, Fossil Free NL launched the so-called Pension Climate Label, which attracted a lot of attention in the financial media and ABP Fossil Free received an extensive reply from the Pension Federation;
- Fossil Free NL published several reports about the investments of ABP in the fossil industry and it mobilised concerned pension participants on numerous occasions. A 2017 study conducted by the working group ABP Fossil Free, BothENDS and Urgewald[130], for instance, showed that in 2016, ABP invested about two billion euros more in the fossil energy industry than the year before. Based on the information received, also from other funds, the researchers developed a 'Pension Climate Label',[131] enabling them to find out to what extent the investment portfolios of pension funds are in line with the targets of the Paris Agreement. Most pension funds obtained a 'non-transparent' score. The highest score, 'reasonable' was obtained by 'BPL Pensioen', the pension fund for the agricultural industry. Not one pension fund scored 'good' or 'very good';
- Fossil Free NL initiated various Dutch campaigns during global climate-related mobilisations. The 2015 Global Divestment Day, including a successful bike parade in Amsterdam, was one of the first major campaigns. During a global week of campaigns (07-14 May 2017) under the title of Global Divestment Mobilisation[132], a wide range of creative campaigns and activities were organised in a large number of countries on five continents. In the Netherlands, for instance, visual campaigns were held at five different universities and three pension funds were visited by their participants. The main theme and message were: *"fossil fuels are a thing of the past, we need to break the financial ties now!";*

[130] Both Ends, Urgewald en FossielVrij 2018: *Still Dirty, Still Dangerous, the fossil fuel investments of Dutch pension fund ABP Connecting people for change* p.1-9 (exhibit 055)
[131] Fossielvrij Het Pensioen Klimaatlabel, 2 november 2017 (exhibit 056)
[132] 350.org, website (exhibit 054)

- For the Netherlands, this week of campaigns ended at the Van Gogh museum with the performance 'Drop the Shell' by the Fossil Free Culture NL artist collective.[133] The collective thus drew attention to the negative impact of fossil fuels on a stable living environment, rendering a humane society impossible. This event was widely shared on social media, resulting in support from thousands of people in the Netherlands and across the world;
- In September 2017, Fossil Free Culture NL again took action, this time it held a performance: '[Sp]oiled Landscapes'.[134] Again, the ties between Shell and the Van Gogh Museum were scrutinised. In August 2018, the Van Gogh Museum decided to terminate its sponsorship contract with Shell and so did Mauritshuis;
- In addition to the Fossil Free Pension campaign and Fossil Free Culture NL, Fossil Free NL also launched the Fossil Free Education campaign in 2017. Under the motto of "No coal, oil and gas at our school", this campaign urges primary schools to bar education kits from Shell and GasTerra. The campaign was started in September 2017, with the so-called Unmask Shell climate parade.[135] The reason for this Climate Parade was the Generation Discover festival, which is aimed at children. This children's marketing festival, with free admission for primary school children, is an annual event that is organised by Shell, among others;
- The Fossil Free Education campaign was launched because companies such as GasTerra and Shell appeared to provide primary and secondary schools with a lot of 'cool' education kits that argued that the energy transition is no cause for urgency and that society will remain dependent on coal, oil and gas for a very long time to come.
- At the Generation Discover Festival, students involved in Fossil Free informed visitors of Shell's true role in the energy transition. With their farcical 'Come to the Green side, we've got cookies' campaign, they handed out stickers, cookies and information about Shell's true intentions ('the real Shell');
- The education campaign is still going and Fossil Free campaigns around the Generation Discover Festival were held in 2018 too. The pressure exerted by Fossil Free NL prompted the Municipality of The Hague to withdraw its annual subsidy to the festival; 40 primary schools have decided to no longer visit the festival and it will no longer be held in The Hague.

III.3.3.3 Conclusion

197. The above shows that Fossil Free NL is committed, both in its articles of association and in its activities, in short, to removing the social legitimacy of coal, oil and gas companies and (therefore) to promoting the transition of society to a more sustainable economy, based on renewable energy.

198. From that point of view, it is a logical step for Fossil Free NL to take part in these proceedings against Shell as a co-claimant, to induce Shell to follow a sustainable course in line with the Paris Agreement. This serves to protect the social interests which Fossil Free NL aims to defend,

[133] Fossilfreeculture.nl website Drop the Shell (exhibit 058)
[134] Fossilfreeculture.nl website Spoiled Landscapes (exhibit 059)
[135] Fossielvrijonderwijs.nl website Uncover generation discover (exhibit 060)

according to its articles of association. Therefore, Fossil Free NL is of the opinion that it has cause of action against Shell pursuant to Article 3:305a of the Dutch Civil Code.

III.3.4 WADDENVERENIGING

199. The Landelijke Vereniging tot behoud van de Waddenzee (the Dutch Society for the Preservation of the Waddenzee, hereinafter referred to as Waddenvereniging) is a legal entity within the meaning of Article 3:350a of the Dutch Civil Code.

200. It follows from Waddenvereniging's object set out in its articles of association, discussed below, and from the way in which Waddenvereniging puts this object in practice, that Waddenvereniging, with its legal claims against Shell, defends the collective (legal) interests set out in its articles of association.

III.3.4.1 Articles of association

201. The articles of association, last amended on 20 June 2017, show that Waddenvereniging is an association with full legal capacity**.**[136] The object and means of the society are set out as follows in Article 3:

> *Object and means. Article 3*
> *1. The society aims to preserve, restore and correctly manage nature, landscape and the environment, as well as the ecological and natural historical values of the Wadden Sea region, including but not limited to the northern sea clay area, the West Frisian Islands, the Wadden Sea and the North Sea as irreplaceable and unique wildlife areas. The society also aims to promote interest in these areas. In its actions, it assumes the notion that people are part of the ecosystem.*
> *2. It aims to achieve its object by using all appropriate means, including:*
> *- the development, realisation and promotion of activities to protect the ecological, scenic and cultural and historical value of and in the Wadden Sea region and to oppose activities that may harm that;*
> *- lobbying activities and conducting legal proceedings;*
> *- collecting and distributing information about the Wadden Sea region.*
> *3. The society aims to bring everyone who has an interest in the Wadden Sea region into contact with each other and to unite them.*
> *4. The society aims to be a charitable organisation and, therefore, does not aim to make a profit."*

III.3.4.2 A brief history of Waddenvereniging and its activities

202. Waddenvereniging was set up in 1965 by a fifteen-year-old boy who was concerned about plans to reclaim the Wadden Sea. Fortunately, those plans were wiped off the table but since then, the association has been dedicating itself to fighting the various threats which the Wadden Sea region faced over the years. It drew our attention to major water pollution as early as the 1970s, for instance. In the 1980s, the association successfully opposed the reclamation of the onshore salt marshes and in 1999, it secured a ban on gas extraction platforms in the Wadden Sea. In 2004, Waddenvereniging won its court case about mechanical cockle fishing at the European Court.

[136] Deed of amendment to the articles of association of Waddenvereniging, last amended on 20 June 2017 (exhibit 015)

203. From the start, Waddenvereniging dedicated itself to education and awareness of the importance of this area. For instance, Waddenvereniging has been providing primary schools with education kits for a very long time now and every year, it organises excursions to increase awareness of the importance of the Wadden Sea.

204. In terms of climate change as a threat to the Wadden Sea region, Waddenvereniging cooperated in a number of climate buffer projects in its capacity of member of the Coalitie Natuurlijke Klimaatbuffers, which it joined in 2008. The Coalitie Natuurlijke Klimaatbuffers is a coalition of eight nature organisations that aim to contribute to making the Netherlands climate-proof by means of climate buffers, that is, areas where natural processes are given enough space to allow them to grow with climate change. The 'Levende Kust' project, for instance, contributes to protecting coastal and delta waters against high tide. This type of climate buffer reinforces the primary water-control structure by means of a natural set-up of the coast, such as dune formation with free aeolian sand and natural salt marshes that slow down waves.

205. The 'De toekomst van de Waddenzee, een stijgende zeespiegel over een dalende bodem' report was prepared on the instruction of Waddenvereniging in 2017.[137] This report demonstrates that, under the impact of rising sea levels driven by global climate change and the potential aggravation of the effects thereof as a result of soil subsidence caused by salt and gas extraction, the Wadden Sea region will be at risk of drowning within the 21st century. Among other things, this report led to Parliamentary questions. The findings of the report about the highly real risk of parts of the Wadden Sea region drowning was then also confirmed in, for instance, the report prepared on the instruction of the Delta Commissioner (see also below and in Chapter VII.2.2 of this summons about this report.)

206. Summarising, over the decades, Waddenvereniging has done its best to contribute to the preservation and protection of the Wadden Sea region. Waddenvereniging thinks climate change is a major threat to the preservation and protection of the Wadden Sea region, which is why it has an interest in preventing dangerous climate change. From that point of view, it is a logical step for Waddenvereniging to take part in these proceedings against Shell as a co-claimant, to induce Shell to follow a sustainable course in line with the Paris Agreement, which aims to prevent dangerous climate change.

III.3.4.3 The Wadden Sea region

The ecological importance

207. The Wadden Sea is the largest tidal system in the world, where natural processes are given free rein. The region stretches along the coasts of Denmark, Germany and the Netherlands.

208. Because of its globally unique geological and ecological values, the Wadden Sea is on UNESCO's World Heritage List. Nowhere else in the world will you find such a dynamic landscape full of habitats shaped by the wind and tides.

[137] Schuttenhelm 2017, De toekomst van de Waddenzee p.1-13 (exhibit 061)

209. The World Heritage site covers almost the entire Wadden Sea of Denmark, Germany and the Netherlands, a surface of almost 11,500 square kilometres along a coastal strip of about 500 kilometres.

210. The Wadden Sea is considered one of the world's most important areas for migratory birds. Global biodiversity depends on this area.

Protected status

211. The global importance of the Wadden Sea region is acknowledged in various international conventions and legislation on a national level.

UNESCO World Heritage

212. The Wadden Sea has been a world heritage site since 2009. An area has to meet at least one of the ten selection criteria of UNESCO in order to secure world heritage status. The site meets three of these criteria from the UNESCO Operational Guidelines (OG)[138]:

Ramsar area

213. Apart from being acknowledged as a UNESCO World Heritage site, the Wadden Sea is also protected under other conventions. The Dutch side of the Wadden Sea, for instance, has been a designated Ramsar area since 1984. The object of the Ramsar convention is

> *"the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world".*[139]

Natura 2000 area

214. The Wadden Sea and parts of the West Frisian Islands are designated Natura 2000 areas within the meaning of the 92/43/EEC Directive of the Council of 21 May 1992 pertaining to the preservation of the natural habitats and wild flora and fauna (Habitat Directive) and the 2009/147/EC Directive of the European Parliament and the Council of 30 November 2009

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[138] Criterion 77 viii of the OG: Geological processes
Nowhere in the world will you find such a varied and dynamic coastal area of this size that continues to be shaped and changed by the wind and tides. These natural processes can be experienced on a daily basis. They occur continually throughout the Wadden Sea, shaping islands, sandbanks, channels, mudflats, tidal gullies, salt marshes and dunes.
Criterion 77 ix of the OG: Ecological and biological processes
Wadden nature is invaluable proof of the dynamic adjustment of plants, animals and their environment to global changes, past and present. The biomass production is one of the highest in the world compared to other, similar coastal areas and it offers plenty of food for fish, seals and birds.
Criterion 77 x of the OG: Biodiversity
Despite the fact that the area seems relatively tranquil, the Wadden Sea World Heritage site is the largest wilderness areas in Europe and one of the most important hotspots of biodiversity in the world. The Wadden Sea is home to over 10,000 plant and animal species. It also plays an invaluable role across the borders because the wealth of local species is crucial for about 12 million migratory birds that use this area as a stop-over on their way to their winter or summer habitats.

[139] Ramsar.org website *The Ramsar Convention and its mission* (exhibit 062)

pertaining to the preservation of bird numbers (Birds Directive). Natura 2000 is the name of a European network of protected wildlife areas. The European Commission's describes Natura 2000 as follows:

> *"Stretching over 18 % of the EU's land area and almost 6 % of its marine territory, it is the largest coordinated network of protected areas in the world. It offers a haven to Europe's most valuable and threatened species and habitats."*[140]

215. The Natura 2000 area is a network of vital growth and resting places for rare and endangered species, and a number of rare types of habitat that are independently protected. The Natura 2000 network covers all 28 Member States of the European Union, both on land an at sea. The aim of the network is to safeguard Europe's most valuable and endangered species and habitats - included in the Birds and Habitat Directive - in the long term.

216. Their protection in the Netherlands is guaranteed by the implementation of the Nature Conservation Act and, additionally, through the direct effect of the Birds and Habitat Directive, if necessary.

III.3.4.4 Climate change in the Wadden Sea region

217. The current changes to the climate compared to pre-industrial levels already affect the Wadden Sea region. Rises in temperature and rising sea levels are both observed on the Dutch coast. This is not without consequences, as physical and biotic systems in the Wadden Sea region become imbalanced and they lead to changes to the ecosystem. The so-called stress factors on the system, changes in temperature, sea level, erosion and sedimentation create a wide range of changes in the area, all of them different in terms of progress, space and impact.[141]

III.3.4.5 Rising temperatures

218. Around the world, the temperature has already risen by 1°C compared to pre-industrial levels; on the Dutch coast, this is as high as 1.8°C. As a result, the water temperature has also risen by 1.5°C during the past 25 years and our winters have become milder. This again results in that the mud on the tidal flats freezes less often and for less time, with the consequence that certain types of plants and animals develop more, which disturbs the balance in the ecological system of the area.

219. It also causes changes in the growth season of certain plant species, so that vegetation on the soil becomes denser in certain places, which speeds up succession processes and creates system changes.[142] An example of such a change is the change in plankton diversity in the Wadden Sea that has been observed. During the past 40 years, there has been a clear

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[140] European Commission website *Natura 2000* (exhibit 063)

[141] Philippart 2017 Wadden Sea Quality Status Report *climate ecosystems*, chapter 2.1, p.3-5 (exhibit 064)

[142] Succession is an ecological process during which the composition of species within a habitat noticeably changes. This change takes place within a certain time period, after which a stable habitat is formed. Succession starts with a number of pioneer species, after which the system becomes increasingly complex as succession progresses.

northwards shift of plankton species, as a result of which species that originate from the south and that prefer warmer water are increasingly more prevalent in the Dutch Wadden Sea region. Also, some species have shifted from the Wadden towards the north, which has changed plankton diversity during the past decades, which affects other species and ecosystems in the Wadden Sea region.[143]

220. Climate change causes milder winters and mild winters cause changes to migration processes of, among others, birds but also fish and other sea organisms. This means that, among other things, species that naturally occur in the Wadden Sea region are ousted by species that are not natural to the Wadden Sea region but that manage to spread quickly and that may be harmful to the ecosystem, the so-called invasive exotics.[144]

III.3.4.6 Rising sea levels

221. Rising sea levels are another major consequence of climate change. On a global level, sea levels have risen by 1.8 mm per year since 1990.[145]

222. Due to the dynamic character of the Wadden Sea region, the consequences of rising sea levels differ from location to location. The most significant consequences are coastal erosion and a change to sand depletion. The tidal areas strongly depend on sediment that originates from the North Sea and the rivers. Rising sea levels create an imbalance in sand supplies and those are needed to keep the mudflats high enough. This also increases the risk that tidal areas will drown. Currently, it is the western section of the Wadden Sea mainly that suffers from a lack of sand supply. If sea levels continue to rise, the mudflats are expected to drown.[146, 147, 148]

223. The Delta Committee asked Deltares research agency to study the consequences of rising sea levels for the Netherlands. The agency drew the following conclusions with regard to the Wadden Sea region. If sea levels rise by 6 mm per year, the sediment balance in the western Wadden Sea region will not adjust fast enough and the tidal arsenal (mudflats, banks and salt marshes) in this area will decline considerably.

224. In the eastern Wadden Sea region, this will happen when sea levels rise by about 10 mm per year. Within the scenario of a temperature rise of 2°C, this would mean, according to Deltares, that the quality of the western Wadden Sea region will start to deteriorate as early as 2050.[149] Previous studies have pinpointed places in the Wadden Sea region such as the Vlie, where the critical drowning limit will be exceeded as early as 2030.[150]

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143 Philippart 2017 Wadden Sea Quality Status Report *climate ecosystems*, chapter 2.2, p.6-11 (exhibit 064)
144 Philippart 2017 Wadden Sea Quality Status Report *climate ecosystems*, chapter 2.2, p.6-11 (exhibit 064)
145 KNMI 2015: *KNMI '14 Klimaatscenario's voor Nederland: leidraad voor professionals in klimaatadaptatie*, p. 14/15 (exhibit 066)
146 Philippart 2017 Wadden Sea Quality Status Report *climate ecosystems*, chapter 2.1.3, p.4 (exhibit 064)
147 Oost 2017, Wadden Sea Quality Status Report, *Climate Change*, chapter 2.3, p.14-18 (exhibit 065)
148 Spek 2018, *Ontwikkelingen van de Nederlandse Waddenzee bekkens tot 2100*, p. 8-12 (exhibit 067)
149 Haasnoot 2018 Deltares, *Mogelijke gevolgen van versnelde zeespiegelstijging voor het Deltaprogramma – een verkenning* p. 6 (exhibit 068)
150 Spek 2018, *Ontwikkelingen van de Nederlandse Waddenzee bekkens tot 2100*, p. 9-11 (exhibit 067)

225. If tidal areas do, indeed, shrink and if they disappear altogether in time, it would constitute a loss of an important and unique landscape with an immense value for, for example, biodiversity. A deterioration of mudflats and salt marshes, for instance, would result in a reduction of foraging areas for birds and a reduction of suitable places for young fish to grow.[151]

III.3.4.7 Extreme weather conditions

226. So far, the average increase in precipitation measured in the Dutch coastal area between 1910 and 2013 is 25.9%. This may rise by another 15% for every additional degree of warming. An increase of 9% is expected to result in a drop in salt levels in the water. Water salinity is an important factor in the ecological balance of the area.[152]

227. More precipitation also means the rivers discharge more water. This will affect the migration of fish, for instance. Studies have also shown that half of the increased storm-surge level in the North Sea is the result of atmospheric changes, i.e. climate change. Storms also cause higher frequencies of flooding on the salt marshes. These areas are vital for a number of summer birds and certain areas may become less suitable for mussel beds due to air flows. On the other hand, the Wadden Sea region is also affected by periods of drought. A reduction in rain during the summer, for instance, as a result of climate change, causes swamps and salt marshes to shrink. As a result, the size of important nesting grounds and unique landscapes, with a lot of rare and special flora and fauna, will shrink.[153]

III.3.4.8 The Wadden Sea area in extreme climate scenarios

228. Climate scenarios in which the Paris targets are not met will jeopardise the future of the Wadden Sea region. The tempo at which sea levels rise is a determining factor in all scenarios. In the scenario in which sea levels rise by 1.7 metres by 2100, most of the Wadden Sea will have drowned by then. Erosion of sandbanks and continued deepening of the basins is going so fast that sand supplies cannot keep up. As explained before, certain areas will reach the critical upper limit as early as 2030 if the present course continues.[154]

229. With a global rise in temperature of 4°C, the critical speed of rising sea levels (6 and 10 mm per year) will be reached as early as between 2050 and 2065. This will result in an accelerated loss of inter-tidal areas.[155, 156]

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[151] Philippart 2017, Wadden Sea Quality Status Report *Climate ecosystems*, chapter 2.2, p. 6-11 (exhibit 064)
[152] Oost 2017, Wadden Sea Quality Status Report, *Climate Change*, chapter 2.2 p.9-13 and chapter 2.4 p.18-22 (exhibit 065)
[153] Philippart 2017, Wadden Sea Quality Status Report *Climate ecosystems*, chapter 2.2, p. 6-11 (exhibit 064)
[154] Spek 2018, Deltares, *Ontwikkelingen van de Nederlandse Waddenzee bekkens tot 2100*, p. 9-11 (exhibit 067)
[155] Haasnoot 2018, Deltares, *Mogelijke gevolgen van versnelde zeespiegelstijging voor het Deltaprogramma, een verkenning*, p.6 (exhibit 068)
[156] An inter-tidal area is an area that remains above water during low tide and is submerged during high tide.

III.3.4.9 Conclusion

230. The Wadden Sea region is an extremely vulnerable area of immense ecological value. It is of national and international importance to protect the area due to its diverse ecological functions and high level of biodiversity. Climate change may be disastrous to this area. Rising water temperatures disturb ecological balances in the system and rising sea levels cause an imbalance in physical processes. If sea levels continue to rise, the risk of first the western (at a 6-mm annual rise) and then the eastern Wadden Sea region (at a 10-mm annual rise) drowning will be almost unavoidable.

231. This ecological, cultural and historical catastrophe can only be prevented if global warming is kept to a minimum, i.e. below 1.5°C. In order to protect the interests defended by Waddenvereniging according to its articles of association, it is therefore important that Shell starts acting in line with the Paris Agreement so that dangerous climate change can be averted for the Wadden Sea region (too). Therefore, Waddenvereniging is of the opinion that it has cause of action against Shell pursuant to Article 3:305a of the Dutch Civil Code.

III.3.5 THE BOTH ENDS FOUNDATION

232. The Both ENDS foundation is a legal entity within the meaning of Article 3:305a of the Dutch Civil Code.

233. In follows from Both ENDS' object set out in its articles of association, discussed below, and from the way in which it puts this object in practice, that the organisation, with its legal claims against Shell, is defending the collective (legal) interests set out in the articles of association. Therefore, Both ENDS is of the opinion that it has cause of action against Shell pursuant to Article 3:305a of the Dutch Civil Code.

III.3.5.1 Articles of association

234. The articles of association of 20 December 1990, most recently amended on 09 November 2009, show that Both ENDS, with its registered office in Amsterdam, is a foundation with full legal capacity.[157] The object and fundamentals of the foundation are set out as follows in Article 2 (emphasis added):

> *"Object.*
> *Article 2.*
> *1. The object of the foundation is:*
> *To contribute to and to promote responsible nature and environmental management around the world and to do anything else directly or indirectly related or conducive to that in the broadest sense of the word.*
> *2. Among other things, the foundation aims to achieve its object by:*

[157] Articles of association of the Both ENDS Foundation of 20 December 1990, amended on 09 November 2009 (exhibit 011)

a. collecting and providing information about policies and activities regarding nature and environmental management, development cooperation and organisations in that field;
b. actively reinforcing and supporting organisations that integrate nature and environmental aspects in activities of development cooperation and vice versa;
c. providing assistance in national and international communications, as well as establishing contact with potential project financiers, among others;
d. promoting an active dialogue about matters regarding nature and environmental management in relation to development cooperation;
e. promoting the exchange of expertise in this field, as well as mediating during the transfer and application of this knowledge;
f. giving relevant advice and information.
3. The foundation does not aim to make a profit."

III.3.5.2 A brief history of Both ENDS

235. Both ENDS was created in 1986 by representatives from 15 Dutch environmental organisations who at the time were united in the so-called IUCN member contact (International Union for Conservation of Nature).

236. The background to the formation was, firstly, the "World Conservation Strategy" (WCS) report, which was published by the IUCN in 1980.[158] This report drew attention to climate change and the need to protect nature and the environment as a basis for sustainable development.

237. In 1984, on the instruction of the then Ministry of Housing, Spatial Planning and the Environment, a study was published about NGOs in developing countries that were engaged in environmental management.[159] This report contained clear recommendations to offer such NGOs more support and to involve them in development activities. This with a view to the common ground between nature and environmental management on the one hand and development cooperation on the other.

238. The general objective of the organisation that was created on the basis of this is to promote responsible nature and environmental management (also in relation to development cooperation) on an international level, which includes combating climate change.

239. During its early years, Both ENDS was mainly a service provider, reinforcing the global environmental movement by directly supporting environmental and human rights organisations in the south in activities for which those organisations were seeking international support. These organisations often operated in isolation and within a context of political repression. They also suffered from a lack of information, financial support and solidarity from traditional development organisations. Both ENDS mainly focused on providing information and it helped organisations in the south to find financial support. Both ENDS also brought

[158] IUCN-UNEP-WWF 1980: *World Conservation Strategy, Living Resource Conservation for Sustainable Development*, Prepared by the International Union for Conservation of Nature and Natural Resources (IUCN) with the advice, cooperation and financial assistance of the United Nations Environment Programme (UNEP) and the World Wildlife Fund (WWF) 1980 https://portals.iucn.org/library/sites/library/files/documents/WCS-004.pdf

[159] Environmental NGOs in Developing Countries, drs. H.P. van der Wulp (editor), a publication of the Ministry of Housing, Spatial Planning and the Environment, The Hague, ISBN: 90 346 0485 3; 1985

organisations into contact with each other by helping to set up regional and international networks for the exchange of knowledge and experience.

240. Over the years, Both ENDS' field of activity continued to expand. Together with local organisations, Both ENDS holds policymakers and businesses (including Shell) on a local, national and international level to account with regard to their policies and operating activities that cause problems for people and the environment, particularly in developing countries. Given the subject of the proceedings, below, we mainly discuss the activities that relate to promoting a good climate policy and fighting (the consequences of) the extraction of fossil fuels.

III.3.5.3 Activities

241. Fighting climate change and the influence of the climate policy and fighting (the consequences of) the extraction of fossil fuels is a key theme in the activities of Both ENDS. The extraction of fossil fuels and climate change caused by that seriously affect nature and the environment across the globe and, in the first instance, it mainly affects the poorest and most vulnerable groups and countries in the 'general south'. Initially, they suffer the most from the consequences[160], while they themselves hardly contributed to it.[161]

242. The extraction of fossil fuels hits local communities in developing countries two-fold. First, the consequences of climate change, the main cause of which is the use of fossil fuel products, are disproportionally far-reaching for people in developing countries. Second, the extraction affects ecosystems on a grand scale, as a result of which the means of support of local populations are seriously affected; water wells are extremely contaminated and agriculture or fishing is seriously hampered.

243. The negative effects of the extraction of oil and gas and the issues of the extensive climate policy - both in terms of adaptation and mitigation - have been playing a central role in Both ENDS' activities for a long time now. The foundation was involved in initiatives such as OilWatch in Ecuador as early as 1995, for instance. Together with partner organisations, it pleaded with international financial institutions such as the World Bank for investments in renewable energy sources. Within that context, Both ENDS facilitated the publication 'Fuel for Change, World Bank Energy Policy: Rhetoric vs Reality'.[162]

244. At present, Both ENDS tries to reverse the downward climate spiral in several ways.

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[160] Quirin Schiermeier, Nature, 20 April 2018, *Clear signs of global warming will hit poorer countries first* https://www.nature.com/articles/d41586-018-04854-2

[161] J. Friedrich 11 april 2017: *This Interactive Chart Explains World's Top 10 Emitters, and How They've Changed*, https://www.wri.org/blog/2017/04/interactive-chart-explains-worlds-top-10-emitters-and-how-theyve-changed

[162] I. Tellam, juli 2000: *Fuel for Change, World Bank Energy Policy: Rhetoric vs Reality* ZED Books Ltd, https://press.uchicago.edu/ucp/books/book/distributed/F/bo20849501.html

Call to stop investing in the fossil sector

245. Both ENDS urges governments, the financial sector and private parties to stop investing in the fossil fuel sector and the supporting transport and infrastructure companies that build gas pipelines, oil ports and coal ships. Both ENDS is asking them to do so, so that fossil fuels and CO_2 emissions are systematically phased out in accordance with the Paris climate target. It operates both independently and in international networks of social organisations such as the Climate Action Network (CAN) and Big Shift Global.[163]

246. Via these and other international networks[164] it puts pressure on international financial institutions such as the World Bank. Following years of external pressure, at the end of 2017, the World Bank announced that it was going to end financing activities relating to the exploration and extraction of oil and gas after 2019.[165]

247. Both ENDS also holds the Dutch government to account for its responsibility to bring the export credit insurance policy in line with the Paris climate target. Studies have shown that two-thirds of the value of all export credit insurances are related to fossil fuel projects.[166]

248. Pension funds such as the ABP are also approached by Both ENDS, along with other organisations such as Milieudefensie, Fossielvrij and local organisations in developing countries that experience negative effects from projects of (mostly western) companies in which pension funds invest.[167]

249. Together with Milieudefensie, Both ENDS recently conducted research that shows that trade treaties form an obstacle for the energy transition. This report demonstrates how Shell started an ISDS case (investor-state dispute settlement) against the Philippines via a trade treaty.[168]

Collaboration with local groups to stop fossil fuel projects

250. Both ENDS, in collaboration with local, national and international organisations, is active in various countries to map out the social and environmental consequences of fossil extraction and to prevent and limit this to the greatest possible extent (Shell is also one of the parties often held to account). Examples of this collaboration include:

- the Movement for the Survival of the Ogoni People (MOSOP) in Nigeria in connection with the oil contamination caused by the extraction and transport of oil by Shell;
- the Russian Sakhalin Environment Watch in the coastal area of the island of Sakhalin, in connection with the extraction of natural gas by Shell;

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163 Climate Action Network – website (exhibit 069) and The Big Shift – Website (exhibit 070)
164 Both ENDS uitdraai website, overview international networks (exhibit 071)
165 World Bank Press Release 12 december 2017, https://www.worldbank.org/en/news/press-release/2017/12/12/world-bank-group-announcements-at-one-planet-summit
166 Both ENDS 2017: *Towards Paris Proof Export Support* p.1-4 (exhibit 072)
167 Both ENDS 9 mei 2018: *ABP Belooft Groen maar houdt vast aan Fossiel* (exhibit 073) Both ENDS 9 mei 2018: *Still Dirty, still Dangerous* (exhibit 055)
168 Verbeek 2018: *Bescherming voor Klimaatvervuilers* p.1-5 (exhibit 074)

- local organisations in Mozambique in connection with the potential extraction of gas in the northern province of Cabo Delgado. Many government-led and private parties, including Shell, are involved in this potentially second-largest gas field in the world.

251. Both ENDS has also been closely involved in setting up the international Oilwatch network (previously referred to under Activities) and it stood at the cradle of setting up a large network in central and eastern Europe, united in CEE Bankwatch. Among other things, this network conducts research into oil and gas projects such as the Southern Gas Corridor.[169]

Both ENDS supports local climate adaptation initiatives

252. Even if global warming is limited to 1.5°C, the consequences for developing countries will be significant. That is why Both ENDS supports promising and feasible local initiatives, for instance, to make degraded land in regions hit by the consequences of climate change green and fertile again.[170] Specific examples include Rich Forests[171] and Analog Forestry.[172] Both ENDS wants to convince policymakers of the potential of existing and recovered forests as sources of food and income, as regulators of water and air quality and as buffers against climate change so that encouraging this form of agriculture becomes a normal subject in future policies.

253. Another example is Farmer Managed Natural Regeneration, or Regreening.[173] Desertification of the Sahel is stopped by allowing native plants to grow that will come up when given the opportunity, making the soil fertile and productive again. Within that context, Both ENDS also scrutinizes the international Green Climate Fund (GCF), the largest climate fund in the world. Both ENDS uses various means to try and ensure that money from this fund ends up with those for whom it is intended, namely the people hit hardest by climate change and who actively have to arm themselves against it - among other things, by protecting their natural living environment and by adapting to changing circumstances.[174]

III.3.5.4 Conclusion

254. In view of the above, it is a logical step for Both ENDS to take part in these proceedings against Shell as a co-claimant, with the aim of inducing Shell to follow a sustainable course in line with the Paris Agreement. This serves to protect the social interests which Both ENDS aims to protect, according to its articles of association.

255. In the thirty years that Both ENDS and partner organisations throughout the world pleaded and fought for climate action, it has found that nothing has changed in the daily business of the fossil industry. Worse still, with today's knowledge, it concludes that this sector is doing everything it can to *obstruct* positive changes. Extracting and combusting fossil fuels is the

[169] Bacheva-McGrath 2015 CEE Bankwatch Network, *Pipe Dreams* p.1-7 (exhibit 075)
[170] BothENDS.org website *Regreening* (exhibit 076)
[171] Both ENDS.org website, *Rich Forests, making a living under the canopy* p.1-6 (exhibit 077)
[172] Both ENDS.org website, *Analog Forestry* (exhibit 078)
[173] Both ENDS.org website, *Regreening* (exhibit 076)
[174] Both ENDS.org website, *Green Climate Fund* (exhibit 079)

main cause of climate change and still, these activities are not phased out and replaced with sustainable alternatives. The fossil fuel sector is still hardly restricted in the search for new oil and gas fields. To make matters worse, the sector benefits from all kinds of (financial) government support and it does not have to give account for its part in global warming. In the meantime, Both ENDS has noticed that nature and the environment are being affected and that larger and larger groups of people are suffering from the consequences of global warming, to such an extent that living has become virtually impossible. Therefore, Both ENDS is of the opinion that it has a cause of action against Shell pursuant to Article 3:305a of the Dutch Civil Code.

III.3.6 VERENIGING JONGEREN MILIEU ACTIEF (YOUNG FRIENDS OF THE EARTH ASSOCIATION)

256. The Vereniging Jongeren Milieu Actief (Young Friends of the Earth association / JMA) is a legal entity within the meaning of Article 3:305a of the Dutch Civil Code.

257. It follows both from the object set forth in its articles of association - discussed below - and from the way in which it implements this object, that JMA, with its legal claims against Shell, defends the collective (legal) interests set out in its articles of association.

III.3.6.1 Articles of association

258. The articles of association of 20 December 2010 show that JMA is an association with full legal capacity.[175] The object and the means of the association are set forth as follows in Article 4:

> *Article 3 - Object - Basis*
> *1. The object of the association is to seek a better environment by:*
> *a) giving young people a place where they can work on sustainability in their own way;*
> *b) actively working on promoting sustainability;*
> *c) offering alternatives for a more environmentally-friendly life;*
> *2. The association aims to achieve its object by:*
> *a) running campaigns and organising activities in the broadest sense of the word, for and by young people;*
> *b) using all legitimate means that are conducive to or required for its object.*

III.3.6.2 A brief history of JMA

259. JMA was incorporated in 1990 by Environmental Hygiene students at Wageningen Agricultural University with the purport of pursuing a better environment, as set out in Article 4 of its articles of association. As the name suggests, JMA is an association by and for young people, aged between 16 and 28. JMA works closely with Milieudefensie, on the basis of a collaboration protocol.

[175] Articles of association of Jongeren Milieu Actief / Young Friends of the Earth NL, 20 December 2010 (exhibit 014)

III.3.6.3 Activities

260. JMA operates on a national *and* an international level. For instance, JMA forms a part of the international Young Friends of the Earth Europe joint venture and in that capacity, it has contributed to various international campaigns. One example is that JMA, as part of a Norwegian campaign of a sister organisation aimed at stopping mine waste dumping on the Lofoten, put pressure on the Norwegian embassy in the Netherlands.

261. In the Netherlands, JMA has contributed to a better environment in various ways, by mobilising young people and give them the means to take action themselves. One example is the 'Sustainable education treaty'[176] which JMA and 40 other youth organisations concluded with a majority of the Lower House on 14 October 2014. The decision was made to conduct research into a new support framework to encourage sustainability in education.

262. A second example is JMA's Mobility Manifesto,[177] which it drew up with political youth organisations in Amsterdam and Rotterdam, among other things, to reduce CO_2 emissions and fight climate change. The goals of this manifesto include the reduction of CO_2 emissions, creating more space for cyclists and pedestrians and encouraging the use of shared cars and emission-free delivery services. The parent parties of the political youth organisations involved have adopted some of the points of the Mobility Manifest under the leadership of JMA.

263. JMA also works on fighting climate change and promoting sustainability and a clean environment in other ways. With the 'Koelestudenten'[178] campaign, JMA tried to create a more sustainable living environment for students in student housing, with, among other things, a focus on housing that is more energy-efficient and the promotion of sustainable energy. Students were encouraged and involved by means of a competition to come up with sustainable solutions, a sustainable trip to Norway being first prize. During this campaign, JMA and Bewonersoverleg Koepel SSH (tenants' representation in Utrecht, Rotterdam, Zwolle, Tilburg, Amersfoort, Groningen, Maastricht) entered into talks with housing associations and local politicians about the options to make student housing sustainable.

264. During the 'Green Cantine'[179] project, JMA and students urged for food in canteens at secondary schools to be more sustainable, climate-friendly and healthier. As a result of this, various schools in the Netherlands structurally improved their food, such as the Caland Lyceum in Amsterdam and the Bernard Lieve Goedschool in Maastricht.

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[176] Website Groene Generatie *Duurzaamheid in het onderwijs* (exhibit 080)
[177] *Amsterdams Mobiliteitsmanifest*, October 2017 and *Rotterdams Mobiliteitsmanifest*, 21 February 2018 (exhibit 081)
[178] JMA.org website, *About us* with references to Koelestudenten (exhibit 082)
[179] JMA.org website, *About us* with references to Green Canteen (exhibit 082)

III.3.6.4 Conclusion

265. For the JMA Association, combating climate change is an important subject in its pursuit of a better environment. Considering the object set forth its articles of association, taking Shell to court to challenge it on its responsibility to contribute adequately to the fight against dangerous climate change serves to protect the social interests which JMA aims to protect according to its articles of association. Therefore, JMA is of the opinion that it has a cause of action against Shell pursuant to Article 3:305a of the Dutch Civil Code.

III.3.7 THE ACTION AID FOUNDATION

266. The ActionAid foundation (hereinafter referred to as ActionAid) is a legal entity within the meaning of Article 3:305a of the Dutch Civil Code.

267. It follows both from ActionAid's object set forth in its articles of association, discussed below and the way in which it implements this object, that the organisation, with its legal claims against Shell, is committed to the collective (legal) interests set forth in its articles of association.

III.3.7.1 Articles of association

268. The articles of association, most recently amended on 22 August 2014, show that ActionAid is a foundation with full legal capacity.[180] The object and the basis of the foundation are set forth as follows in Article 2:

> *Article 2.*
> *1. The object of the foundation is:*
> - *To contribute to combating poverty and injustice in the world. Africa receives special attention in that respect.*
> - *To create awareness about and improving the public's understanding of the causes, effects and reasons of poverty and injustice.*
> - *To encourage policymakers to realise changes in order to guarantee the rights of vulnerable and poor people.*
> - *To reinforce the capacity of organisations and movements that dedicate themselves to the rights of the vulnerable and excluded population in order to combat the causes and consequences of poverty and injustice.*
> - *To raise funds in order to achieve the objectives set out above.*
>
> *2. The foundation does not aim to make profits.*

III.3.7.2 A brief history of ActionAid

269. ActionAid originates from the NiZA, the Netherlands Institute for Southern Africa. The NiZA was set up in 1997 after three organisations had joined forces, namely the Institute for Southern Africa (formerly known as the Anti-Apartheid Movement), the Eduardo Mondlane

[180] Articles of association of the ActionAid foundation, 22 August 2014 (exhibit 010)

Foundation and the Committee for Southern Africa. Each of them has a long service record when it comes to fighting apartheid and its solidarity with the population of southern Africa.

270. After the abolition of apartheid, NiZA gradually shifted its focus to a fairer distribution of the proceeds from natural resources in Sub-Sahara Africa. In 2007, it joined forces with ActionAid International, until NiZA was officially renamed ActionAid in 2012.

271. ActionAid International has been operating as a democratic federation since 02 June 2009 and it is active in more than 2,000 communities and in more than 100 alliances and networks across the world. ActionAid Netherlands forms a part of the federation.

III.3.7.3 Activities

272. ActionAid helps people in developing countries to stand up for their rights. In more than 45 countries, the organisation works side by side with advocates for a better world.[181]

273. ActionAid tackles the underlying causes of poverty and injustice. The foundation wants to tackle imbalanced power relations that maintain an unfair policy. It listens to what people really need and it supports local partners to implement their plans for change. The foundation's own ideas and the people's solutions are a central theme in its work. ActionAid offers direct assistance, information and training and it brings people together in cooperatives and action groups. The organisation helps them to urge the government and the business community to protect and respect human rights. It is assisted by supporters and campaigners from around the world. The foundation highlights successful local initiatives and alternative solutions and it runs global campaigns for structural change.

274. ActionAid also wants people in developing countries to benefit from their countries' riches and it does not want them to be disproportionally disadvantaged by the consequences of the extraction of raw materials. It achieves this by informing and training the local population so that they can defend and claim their rights. It also investigates mining companies and holds them to account if they fail to observe the legislation regarding human rights, women's rights, the environment and taxes.

275. From its basis in the Netherlands, ActionAid holds talks with companies that purchase raw materials to make sure they only use raw materials that are mined correctly. Together with locals, ActionAid dedicates itself to fair mining that does not involve a polluted living environment, conflict and poverty but that creates welfare for the local population.

276. ActionAid also urges the government to pursue a policy in which the consent from surrounding communities for a mining project is properly documented. The world's first fair mobile phone, Fairphone, was launched in 2010 and was co-produced by ActionAid. The aim was to use more recyclable or renewable raw materials in the production process that are extracted according

[181] Actionaid.org website *Who we are* (exhibit 083)

to sustainable methods and under better working conditions. It is now an independent company with more than 100,000 customers.

277. ActionAid considers climate change one of the biggest problems of this era. Apart from being a threat to nature and the environment, it also affects more and more people through climate-related disasters such as droughts, hurricanes and flooding. The very poorest, in particular, will notice the impact because they are less able to defend themselves. Also, in many southern countries, there are no social security programmes to cover the damage suffered by the population.

278. The majority of greenhouse gases are emitted by industrialised countries such as the Netherlands. International agreements about climate change are, therefore, based on the fact that they have to bear most of the responsibility and the costs for mitigation. All around the world, the foundation supports the growing movement that dedicates itself to climate justice.

279. The ActionAid federation has been working on the theme of climate change for years now. In ActionAid's new international strategy for 2017-2028 and the ActionAid Netherlands strategy, the climate is regarded as one of the four themed priorities.[182] "Strategic Priority" 3, therefore, reads: "Strengthen resilient livelihoods and secure climate justice."[183]

280. On an international level, ActionAid, as an NGO, is a major player in the climate negotiations.[184, 185]

281. ActionAid on its own and together with other organisations such as CLARA (Climate Land Ambition and Rights Alliance) has published various reports about how climate change affects society. Some of them were also presented at successive climate summits such as: [186, 187, 188, 189, 190]

282. In the Netherlands, ActionAid Netherlands draws attention to the impact of climate change in developing countries and the role of the Dutch government and businesses in the fight against climate change. It also devotes itself to an honest energy transition where the focus is on human rights. Furthermore, climate-proof agriculture has been a key theme for the organisation for a considerable time now.[191, 192]

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182 Actionaid.nl website, *Strategy 2017-2028* p. 1-16 (exhibit 084)
183 Actionaid.nl website, *Strategy 2017-2028* p. 12 (exhibit 084)
184 Actionaid.nl website, *ActionAid's 5 eisen bij de VN-klimaatonderhandelingen* (exhibit 085)
185 Actionaid.nl website, *In actie voor Climate Justice bij Klimaattop in Bonn* (exhibit 086)
186 Actionaid.org website, *On the Brink* p.1-8 (exhibit 087)
187 Actionaid international, *Into unknown territory* p.1-3 (exhibit 088)
188 Actionaid, Care and WWF: *Global Goal on Adaptation: From Concept to Practice* p.1-5 (exhibit 089)
189 Actionaid, Care and WWF: *Loss and Damage, Climate Reality in the 21st Century* p.1-4 (exhibit 090)
190 Actionaid, *Hotter Planet, Humanitarian Crisis* p.1-3 (exhibit 091)
191 Actionaid, website, *Landrechten zijn een cruciale oplossing voor klimaatverandering* (exhibit 092)
192 Actionaid, website *Benodigde actie op klimaat is haalbaar met genoeg politieke moed* (exhibit 093)

283. In the run-up to the Climate Summit in Bonn on 03 November 2017, ActionAid, PAX and Vice Versa magazine used special tactics to draw attention to clean *and* fair energy.[193] During a so-called 'coal cruise'[194] of the port of Amsterdam, the organisations showed how the electricity that comes from our power points does not only threaten the climate but it also has a devastating impact on people and the environment in Colombia and South Africa. Women Affected by Mining United in Action (WAMUA), a partner organisation of ActionAid, explained that human rights violations that take place in faraway places are caused by activities in the Netherlands.

III.3.7.4 Conclusion

284. Considering the above, it is a logical step for ActionAid to take part in these proceedings against Shell as a co-claimaint, with the aim of inducing Shell to follow a sustainable course in line with the Paris Agreement. This serves to protect the social interests which ActionAid aims to protect, according to its articles of association. Therefore, ActionAid is of the opinion that it has cause of action against Shell pursuant to Article 3:305a of the Dutch Civil Code.

III.4 THE CLAIMING NGOs CAN DEFEND THE INTERESTS OF FUTURE GENERATIONS

285. In the Urgenda case, the court of appeal made it clear that claims for a ban on excessive emissions and an order to take measures to prevent those emissions are already admissible insofar as an NGO stands up for the interests of the present generation of Dutch people. According to the court of appeal *"it is, after all, unreservedly likely that the present generation of Dutch people, particularly but not exclusively the younger generation, will during their lives be faced with the negative consequences of climate change if global emissions of greenhouse gases are not properly reduced."*.[195]

286. As this case is not only about current climate change impacts, but also about how Shell's present actions have serious consequences for the human living environment in the second half of this century (and beyond), the claiming NGOs want to emphasise that they fight against climate change, for the environment, human rights, ecological and natural and historical values and other social goals set forth in their articles of association not only to protect present generations but also to protect future generations.

287. In addition, Milieudefensie and Fossil Free NL also specifically include in their articles of association that they also act in the interest of "*future generations*" (Articles 2 and 3 of their respective articles of association). The fact that the other claiming NGOs intend to stand up for future generations follows from the fact that their articles of association and activities show that with their activities against climate change and in favour of nature protection, they seek a sustainable society.

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[193] ActionAid Jaarverslag 2017 p.1-7, 16-20 (exhibit 094)
[194] Ekker 2017, NOS, *Milieuclubs eisen stop op handel in steenkool* (exhibit 095)
[195] Court of appeal, The Hague 09 October 2018, paragraph 37, ECLI:NL:GDHA:2018:2591

288. Environmental protection and seeking a sustainable society by their nature mean that it involves the interests of both present and future generations. This also follows from the globally accepted definition of sustainability used by the United Nations - the UN World Commission on Environment and Development - in their 1987 report Our Common Future. This definition reads as follows:

> *"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."*

289. In other words, society can be sustainable only when you weigh up the interests of not only the present generation but those of future generations too so that they can continue to enjoy a healthy living environment and sufficient resources in order to live a dignified life.

290. This inter-generational aspect of sustainability has already been acknowledged in international conventions, during the formation of (climate) legislation and by various courts.

291. The Charter of Fundamental Rights of the European Union states for instance:

> *"the enjoyment of these rights includes responsibilities and obligations towards our fellow human beings, human society and future generations."*[196]

292. The Aarhus Convention, for instance, states this:

> *"Also acknowledging that everyone has the right to live in an environment that is appropriate for his or her health and well-being and has the duty, both individually and collectively, to protect and improve the environment in the interest of present and future generations."*[197]

And the UN Climate Convention states the following:

> *"The Parties should protect the climate system for the benefit of present and future generations of human kind."*[198]

293. In the Netherlands, the court of The Hague, in its ruling of 02 May 2011 (ECLI:NL:RBSGR:2001:AB1369), also argued that pursuant to Article 3:305a of the Dutch Civil Code, it is also possible to stand up for the rights and interests of future generations in court by considering the following:

> *"The interest which the claimants in these proceedings stand up for lies in the fact that around 2030 too, the people of the Netherlands (whom the claimants say they represent) ... should be able to meet their energy needs. This (property-law) interest is, as the parties do not dispute the fact that action needs to be taken now in order to safeguard the energy supply in the long term, sufficiently specific to admit the claimants' claim in light of Article 3:305a of the Dutch Civil Code."*

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[196] See the preamble to the Charter of Fundamental Rights of the European Union

[197] See the peamble of the Aarhus Convention

[198] Article 3.1 of the United Nations Framework Convention on Climate Change 1992, and considerations in the preamble of the convention (exhibit 096)

294. The court of The Hague in the Urgenda case has also, again, emphasised that the terms sustainability and sustainable society inherently have inter-generational dimensions (paragraph 4.8).

295. The claiming NGOs are, therefore, of the opinion that they can stand up for the interests of future generations in court too. This of great significance in relation to the climate issue because as explained elsewhere in the summons, today's actions have major consequences for what the environment and the human living environment will look like in the near-future, in a couple of decades and in the second half of this century (and beyond).[199]

III.5 CONSULTATIONS WITH SHELL

296. Pursuant to Article 3:305a of the Dutch Civil Code, a legal entity that wants to bring a legal claim against another on the basis of Article 3:305a of the Dutch Civil Code is inadmissible if, given the circumstances, he has made insufficient effort to achieve the claim by consulting with the defendant.

297. In order to fulfil this obligation to consult, Milieudefensie contacted the CEO of Shell, Mr. Ben van Beurden, by means of a letter dated 04 April 2018.[200] This letter could be considered a summary of this summons. On 12 February 2019, this letter was resent to Shell with an accompanying letter[201], this time on behalf of all claiming NGOs. This has already been explained in the introduction to this summons.

298. Among other things, this letter from Milieudefensie et al. explains that Shell's operating activities make a substantial contribution to causing climate change and that they cause great damage (and will continue to cause damage) to people and the environment, as well as that, according to Milieudefensie et al. under Dutch law, also with a view that Shell knew of the climate issue and the gravity thereof as early as the 1980s, Shell has a legal obligation to prevent this (future) damage to the greatest possible extent. As further explained in the letter this, according to Milieudefensie et al., should mean that Shell will have to adjust its corporate policy and that it will have to bring it in line with the global objective of preventing dangerous climate change that endangers people and the environment. On the basis of the factual and legal substantiation in the letter, Milieudefensie et al. have asked Shell to reduce its CO_2 emissions to net zero by 2050.

299. Milieudefensie et al. have indicated that they are happy to hold further consultations with Shell. Shell has not taken up the invitation for further consultations. Shell did, in a letter dated

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[199] The fact that action needs to be taken now in order to prevent future damage and to safeguard the interests of future generations also follows from the precautionary principle to be discussed elsewhere in this summons as part of sustainable development. Following the 1987 UN report entitled Our Common Future and the subsequent 1992 UN conference about the Environment and Development in Rio de Janeiro - known as The Earth Summit during which the UN Climate Convention was also signed - this principle was documented in the Declaration of Rio de Janeiro as part of sustainable development. The precautionary principle as part of sustainable development was also documented in the UN Climate Convention (Article 3.3.), which convention will also be discussed elsewhere in this summons.

[200] Letter from Milieudefensie to Royal Dutch Shell, dated 4 april 2018 (exhibit 017)

[201] Letter from Milieudefensie et al. to Shell, dated 12 February 2019 with enclosure (exhibit 019)

28 May 2018, on behalf of Mr Van Beurden, clarify that it will not comply with the demands from Milieudefensie and that it does not feel they have merit either. In its reply, Shell does not discuss the legal arguments of Milieudefensie, but it does indicate that it has been acknowledging the climate issue for more than two decades and that it 'strongly' supports the objective of the Paris climate agreement. However, Shell is of the opinion that a court is not the right forum for a discussion about solving the climate issue, the energy transition needed for that and Shell's role in it. In the letter, Shell then highlights a number of measures it is taking in order to promote the sustainability of the energy transition but it does not discuss Milieudefensie's reproach that the intended corporate strategy and investment decisions are far removed from what is needed to make a proportional contribution to preventing dangerous climate change.

300. This position of Shell is in line with previous (formal) statements made by Shell's board. In 2017, a group of climate-conscious shareholders of Shell submitted a shareholders' resolution to the board of Shell under the name Follow This. It urges the board to bring Shell's corporate strategy in line with the Paris climate target, to also incorporate the necessary emission reduction targets and to account for this on a regular basis. The board of Shell unanimously advised shareholders not to support this shareholders' resolution. The board said that Shell may support the targets of the Paris climate agreement but that it is not in the (financial) interest of Shell and its shareholders to bring the operating activities in line with that.[202] According to the board, this would have to result in a reduction of the fossil activities, whereas Shell wants to *expand* its fossil activities.[203]

301. The shareholders' meeting followed the board's advice with a large majority and, as such, it formally and publicly prolonged and confirmed that Shell will not adopt the Paris target in its corporate policy and that it will not adjust its investment decisions accordingly.

302. A similar shareholders' resolution was submitted again by the shareholders of Follow This in 2018 and it was similarly and formally rejected by Shell's board and the shareholders' association on 22 May 2018.[204]

303. Shell's negative reply to the demands of Milieudefensie in the letter of 28 May 2018, therefore, follows the same repeating pattern and Shell did not want to discuss the matter with Milieudefensie et al. In the letter of 26 March 2019, Shell pursued its previous negative reaction of 28 May 2018. [205]

304. In view of the above, it is clear that the demands of Milieudefensie et al. will not be met, which is why Milieudefensie et al. have taken the step to summon Shell and to ask the court to impose the requested action on Shell, all of this for the reasons set out in this summons.

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[202] Shell, 08 March 2017, *Notice of Annual General Meeting – Royal Dutch Shell plc*, p.7 (exhibit 097)

[203] Shell, 08 March 2017, *Notice of Annual General Meeting – Royal Dutch Shell plc*, p.7-8 (exhibit 097)

[204] Shell, 14 March 2018, *Notice of Annual General Meeting – Royal Dutch Shell plc* p.8 (exhibit 098)

[205] Letter of Shell to Milieudefensie et al. of 26 March 2019 (exhibit 040)

III.6 THE PRIVATE CLAIMANTS' CAUSE OF ACTION (APPENDIX A)

305. The 17,379 private co-claimants have a sufficient personal interest in the claims they collectively submit with the claiming NGOs. They, therefore, also have a cause of action in their claims. As clarified in the summons, dangerous climate change is a global, major threat to, among other things, the right to life, the right to self-determination, the right to health and the right to basic needs such as food, drinking water and housing. The direct and indirect consequences of dangerous climate change for Dutch nationals, extensively discussed in this summons, are consequences which none of the private claimants can evade and which each and every one of them will be exposed to on a regular basis. They are of the opinion that Shell does not have the right to drastically change their living environment and render it unsafe and that Shell has a legal obligation towards them to make a contribution to preventing dangerous climate change for the reasons set out below.

IV. IMPORTANT FACTS FROM CLIMATE SCIENCE

306. In this chapter, Milieudefensie et al. will discuss a number of important facts that follow from climate science. These facts also form the basis for the international agreements made in the UN Climate Convention of 1992 and the Paris Agreement of 2015.

IV.1. GLOBAL WARMING IS CAUSED BY THE USE OF FOSSIL FUELS

307. Global warming is a scientifically established. In its 2013/2014 report, the IPCC, the formal name of which is the Intergovernmental Panel on Climate Change, hereinafter referred to as the IPCC, has the following to say about this:

> *"Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased..."* [206] (emphasis added)

308. According to the IPCC, global warming is caused by an increase in the levels of greenhouse gases in the atmosphere. This increase of atmospheric greenhouse gases is mainly the result of the fact that we started combusting fossil fuels (oil, coal and gas) since the industrial revolution:

> *"The atmospheric concentrations of carbon dioxide, methane, and nitrous oxide have increased to levels unprecedented in at least the last 800,000 years. Carbon dioxide concentrations have increased by 40% since pre-industrial times, primarily from fossil fuel emissions…"* **[207]** (emphasis added)

309. There is scientific consensus that we, humans, cause global warming by using fossil fuels and that this causes the climate to change. The IPCC has the following to say about this:

> *"Human influence on the climate system is clear. This is evident from the increasing greenhouse gas concentrations in the atmosphere, positive radioactive forcing, observed warming, and understanding of the climate system."* **[208]** (emphasis added)

310. Based on these and other findings of the IPCC, the Dutch national institute for strategic policy analysis in the field of the environment, nature and space, the PBL Netherlands Environmental Assessment Agency [*Planbureau voor de Leefomgeving (PBL*)] concludes as follows:

> *"It has been proven beyond a doubt that the earth has been warming, land and sea ice have been melting and sea levels have been rising since the industrial revolution. It is certain that concentrations of CO_2 have risen by almost 40% since the start of the industrial revolution. It has*

[206] IPCC 2013, AR5, WGI, SPM, p.4 (exhibit 099)
[207] IPCC 2013, AR5, WGI, SPM, p.11 (exhibit 099)
[208] IPCC 2013, AR5, WGI, SPM, p.15 (exhibit 099)

also been established that this rise in CO_2 is caused by human activity. Physicists have told us that greenhouse gases, including CO_2, cause global warming."[209]

311. The essence of a greenhouse gas such as CO_2 is that it retains solar heat on earth, causing the earth's temperature to rise. According to the IPCC, the effect between the increase of greenhouse gases and the rise in temperature is virtually linear.[210]

312. The more CO_2 (and other greenhouse gases) are emitted into the atmosphere, the higher their concentrations in the atmosphere. As a result, more solar heat is retained on earth, causing the average earth temperature to rise. This global warming subsequently results in climate change. This has far-reaching consequences on global, regional and local levels. They will be discussed in this case (Chapter VII) on account of the danger they pose to human society and the ecosystems on which we depend.

313. The climate change (thus) created by people is also referred to as anthropogenic climate change.

314. As will be explained in Chapter VIII.2.1.2.b of this summons, Shell has acknowledged since, at least, the 1980s that the use of fossil fuels causes anthropogenic climate change.

IV.2 THE EMISSIONS OF CO_2 INTO THE ATMOSPHERE CAUSED BY MAN

315. Since the start of the industrial revolution, human beings have been a new (and historically, a previously unknown) perpetrator of large-scale emissions of greenhouse gases, particularly CO_2. By combusting huge quantities of fossil plant remnants and other organic material - which is what coal, natural gas and crude oil are, in essence – human beings have gained great influence over CO_2 concentrations in the atmosphere. These fossil plant remnants that are now being combusted as fuel removed CO_2 from the atmosphere millions of years ago by means of the photosynthesis process and due to pressure and temperature, they have turned into condensed carbon compounds in the earth's crust. This storage of carbon in the earth's surface forms a part of the natural carbon cycle on a very long geological time scale.

316. Because we started combusting these carbon reserves stored in the earth about 200 years ago, concentrated carbon compounds from earth's ancient history now end up in today's atmosphere in the form of CO_2. And because this millions-year-old carbon, which is stored in the earth's crust, is being added to the atmosphere, atmospheric CO_2 concentrations are rising at an unnaturally and unprecedented pace as a direct result of human action.

317. The fossil fuels found are combusted for the energy that is released during this combustion process and which is used for, for instance, power generation (the energy sector), to drive

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[209] PBL 14 January 2013, memorandum entitled "De Achtergrond van het Klimaatprobleem" p.100 (exhibit 100)

[210] IPCC 2013, AR5, WGI, H.12, p.1033: *"The principal driver of long-term warming is total emissions of CO_2 and the two quantities are approximately linearly related*"; p.1113: *"the near linear relationship between cumulative CO_2 emissions and peak global mean temperature is well established in the literature..."* (exhibit 101).

machines (the industrial sector) or modes of transport (mobility), or to heat rooms (the developed environment).

318. Other than many other greenhouse gases, the CO_2 that is emitted during the combustion of fossil fuels, cannot be broken down in the atmosphere. Scientists have concluded that it will take many hundreds of years for some CO_2 molecules and as much as thousands of years for others to disappear from the atmosphere but in the meantime, they retain their warming properties.[211] Of all CO_2 that is emitted into the atmosphere, on balance, about 50% is reabsorbed by the oceans and forests within 30 years but due to deforestation and the warming of the oceans, this percentage is falling. Of the other 50% of added atmospheric CO_2, about 30% will continue to act as greenhouse gases for centuries while about 20% will retain its warming properties for many millenniums.[212]

319. Due to the long-term atmospheric life of the gas, current CO_2 concentrations are, as it were, a sum of all anthropogenic CO_2 emissions since the start of the industrial revolution. The concentrations of CO_2 in the atmosphere today are about 45% higher than pre-industrial levels and they are still rising every year.[213]

IV.3. THE INCREASING CONCENTRATIONS OF CO_2 IN THE ATMOSPHERE

320. Based on measurements carried out in the ice caps on Greenland and Antarctica, which took hundreds of thousands of years to form, scientists know that CO_2 concentrations at the start of the industrial revolution were about 280 ppm, i.e. out of every 1,000,000 particles in the atmosphere, 280 consisted of CO_2. During the 8,000 years prior to the industrial revolution, i.e. the period after the last ice age (the Holocene), CO_2 concentrations in the atmosphere have not been below 260 ppm and not higher than 280 ppm according to the IPCC; that is a bandwidth of only 20 ppm during an 8,000-year period. The IPCC:

> *"The concentration of atmospheric CO_2 has increased from a pre-industrial value of about 280 ppm to 379 ppm in 2005. Atmospheric CO_2 concentration increased by only 20 ppm over the 8000 years prior to industrialization."*[214]

321. As the concentrations of CO_2 in the atmosphere during the 8,000 prior to the industrial revolution fluctuated between 260 and 280 ppm (the natural variation), the climate has been reasonably stable during the past 8,000 years. This stable and temperate climate of the past 8,000 years has created reasonably stable living conditions for today's ecosystems and the planet's biodiversity. These ecosystems and biodiversity have optimally adjusted themselves to today's stable climatological circumstances but that also means they now strongly depend on them as well.

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211 IPCC 2007, AR4, WGI, H.7, p.501 (exhibit 102), IPCC 2013, AR5, WGI, H.6., p.544 and 545 (exhibit 103)
212 IPCC 2007, AR4, WG1, H.7, p.501 (exhibit 102)
213 PBL 14 January 2013, memorandum entitled "De Achtergrond van het Klimaatprobleem" (exhibit 100)
214 IPCC 2007, AR4, WGI, TS, p.25 (exhibit 104)

322. In that stable climate of CO_2 concentrations between 260 and 280 ppm during the past 8,000 years, man, who until then was a nomadic hunter and gatherer of food, 'discovered' agriculture in the form of arable farming and livestock breeding. These food supplies, which are all tied to and benefit from the stability of the climate system, have facilitated a global population of billions of people.

323. All climatic changes that took place before the industrial revolution, similar to the warmer periods around 900 AD (when wine was being produced in England, for instance) and the colder periods in the 16th and 17th centuries (the time of the wintry scenes depicted in paintings by the Dutch masters) took place within that bandwidth of 20 ppm (i.e. between 260 and 280 ppm).

324. Not only was the bandwidth limited to this 20 ppm in the 8,000 years prior to the industrial revolution, according to the IPCC, that bandwidth was also limited during the past 800,000 years. According to the IPCC, the levels of CO_2 in the atmosphere during those 800,000 years never exceeded 300 ppm (the hottest periods) and they never fell below 180 ppm (the ice ages). This emerged from scientific research on the basis of drillings in the aforementioned prehistoric ice layers on Greenland and Antarctica.

> *"Further back in time, during the past 800.000 years prior to 1750, atmospheric CO_2 varied from 180 ppm during glacial (cold) up to 300 ppm during interglacial (warm) periods. This is well established from multiple ice core measurements."*[215]
> *[…]*
> *"Past changes in atmospheric GHG concentrations can be determined with very high confidence from polar ice cores."*[216]

325. In 2015, the annual average of global CO_2 concentrations exceeded a level of 400 ppm for the first time. In 2019, that figure is 410 ppm[217], i.e. 110 ppm higher than the highest concentration values of the past 800,000 years. Stronger still, levels are more than 130 ppm higher than the maximum CO_2 value of the past 8,000 years, the period during which human civilisation was able to form.

326. In a graph, the situation of the past 800,000 years looks like this:[218]

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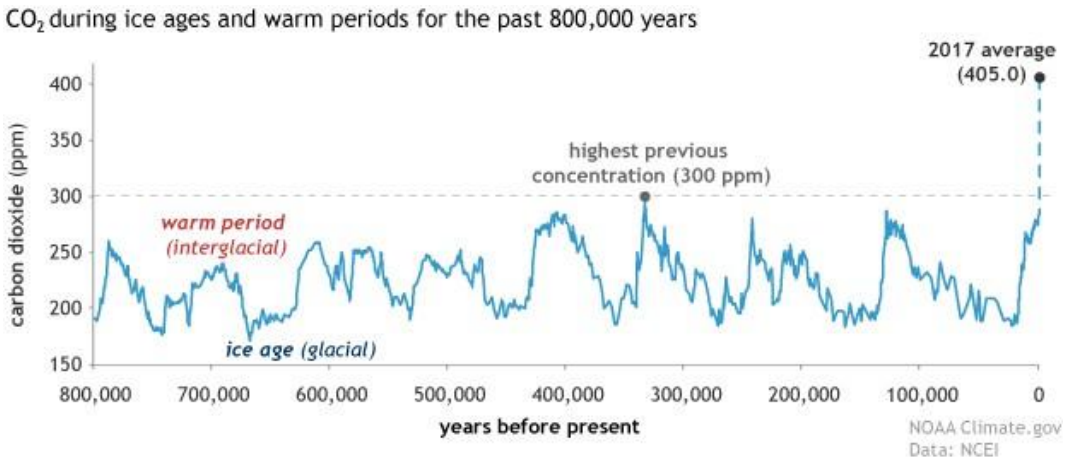
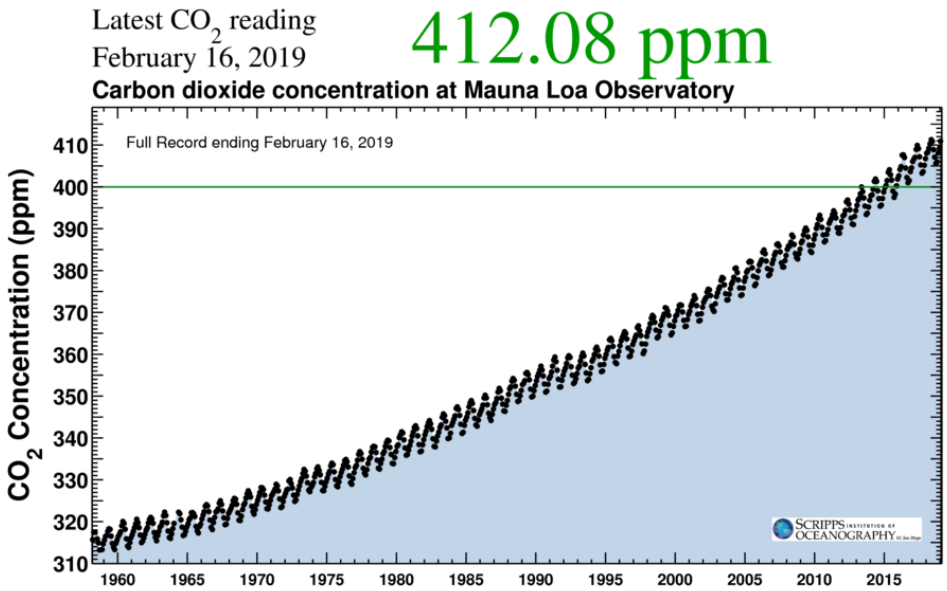
[215] IPCC 2013, AR5, WGI, H.6, p.468 (exhibit 103)
[216] IPCC 2013, AR5, WGI, H.5, p.385 (exhibit 105)
[217] Monthly updates of global CO_2 measurements are published by, among others, the National Oceanic & Atmospheric Administration, an agency of the American federal government which is similar to the KNMI in the Netherlands. For these updates, see https://www.esrl.noaa.gov/gmd/ccgg/trends/gl_full.html A print of the website ESRL.noaa.gov is submitted as exhibit 106
[218] Lindsey 2009, National Oceanic & Atmospheric Administration (NOAA) an agency of the American Federal gouvernment similar to the the Dutch KNMI. A print of the website Climate.gov is submitted as exhibit 107.



327. As the graph clearly shows, the speed at and the ultimate extent by which human beings have changed the chemical composition of the atmosphere since the industrial revolution are enormous. Climate reconstructions show that the speed of the current increase in greenhouse gases may be higher than all known natural climate change of the past 55 million years.[219]

328. The most telling and worrying comparison may well be that since the 1980s, mankind has added an average of 20 ppm of CO_2 to the atmosphere every decade (see the figure below of the NOAA).[220] In other words, every decade since 1980, due to human intervention, CO_2 concentrations rise by as much as what used to form the maximum natural bandwidth during the 8,000 prior to the industrial revolution. So through the CO_2 emissions it causes, mankind extraordinarily drastically intervenes with the chemical composition of the atmosphere.



[219] Ciu 2011, Nature Geoscience, *Slow release of fossil carbon during the palaeocene-eocene thermal maximum* (exhibit 108) en Barras 2015, BBC.com, *When global warming made our World super-hot* (exhibit 109)

[220] The National Oceanic & Atmospheric Administration (NOAA) is an agency of the American federal government which is similar to the KNMI in the Netherlands.

329. In its report from 2013/2014, the IPCC expects that without new emission-reducing measures, we will have reached a level of 450 ppm of CO_2 and other greenhouse gases (the collective scientific name for which is CO_2 equivalents or CO_2 eq, see footnote[221]) by 2030, and that because of the business as usual use of fossil fuels, this will have reached a level of as much as 750 to 1,300 ppm by 2100.

> *"Baseline scenario's (scenario's without explicit additional efforts to constrain emissions) exceed 450 parts per million (ppm) CO_2-eq. by 2030 and reach CO_2-eq. concentration levels between 750 and more than 1300 ppm CO_2-eq. by 2100."*[222]

330. If the emissions of greenhouse gases continue to develop as they do now, climate scientists expect global warming of more than 4°C above the pre-industrial level during this century (alone). As things currently stand, the world is, therefore, heading for climate change that is catastrophic for people and the environment.[223]

IV.4. The relationship between fossil fuels, CO_2 and global warming has been known for more than 100 years.

331. According to the IPCC, scientists have known for more than 100 years that CO_2 is a greenhouse gas and that CO_2 in the atmosphere causes additional global warming.[224]

332. As early as 1859, Irish physicist John Tyndall used lab experiments to describe that changes in CO_2 in the atmosphere may explain all of the historical climate change discovered by geologists. [225]

333. Based on research and measurements, Svante Arrhenius, a Swedish scientist who was affiliated with Stockholm University, concluded in 1896 that the large-scale combustion of fossil fuels (mainly coal in those days) would cause atmospheric CO_2 concentrations to rise and that it would result in global warming. As early as 1896, Arrhenius indicated that a 40% rise in CO_2 concentrations in the atmosphere could lead to the melting of ice caps on earth.[226]

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[221] Explanation: along with the other greenhouse gases, CO_2 is also referred to as "CO_2 eq", which stands for CO_2 equivalent. In that case, the other greenhouse gases such as methane gas have been converted into CO_2 values. As the 450 ppm eq also includes greenhouse gases such as methane in addition to CO_2, the ultimate limit of (only) the cumulative quantity of CO_2 in the atmosphere is, in fact, lower than 450 ppm.

[222] IPCC 2013, AR5, WGIII, SPM, p.8 (exhibit 110)

[223] IPCC 2013, AR5, WGIII, SPM, p.8 (exhibit 110): "*Baseline scenarios, those without additional mitigation, result in global mean surface temperature increases in 2100 from 3.7C to 4.8C compared to pre-industrial levels."*

[224] IPCC 2007, AR4, WGI, H1, p.103 (exhibit 111): "*The realisation that Earth's climate might be sensitive to the atmospheric concentrations of gases that create a greenhouse effect is more than a century old."*

[225] IPCC 2007, AR4, WG1, H1, p.103: (exhibit 111 "*In 1859, John Tyndall (1861) identified through laboratory experiments [..] that changes in the amount of […] CO_2 could have produced 'all the mutations of climate which the researches of geologists reveal*." Tyndall's work in question is entitled 'On the absorption and radiation of heat by gases and vapours, and on the physical connection' and it was published in Philosophical Magazine and Journal of Science, 1861, Vol 22, p. 277 et seq.

[226] IPCC 2007, AR4, WGI, H1, p.105 (exhibit 111): "*In 1895, Svante Arrhenius (1896) followed with a climate prediction based on greenhouse gases, suggesting that a 40% increase or decrease in the atmospheric abundance of the trace gas CO_2 might trigger the glacial advances and retreats*." Arrhenius' work in question is entitled 'On the influence of

334. In the 1930s, British meteorologist Guy Stewart Callendar started collecting data from 150 weather stations across the world and he also started his own measurements. His findings were that between 1890 and 1910, concentrations of CO_2 had risen from 290 ppm to 303 ppm and in 1930 to 310 ppm. Based on his findings, Callendar concluded in 1938 that by using fossil fuels, we were considerably changing the atmosphere's composition at a pace that was highly exceptional in terms of geological time scales and that the potential effects of such change should, therefore, be studied closer.[227]

335. In the 1950s, American chemist Charles David Keeling started registering CO_2 concentrations in the atmosphere with a higher degree of accuracy, using better technology. He incorporated his data into a graph called the Keeling curve which, as indicated by the IPCC, has obtained iconic status in the world of climate science (the NOAA figure included earlier in this summons shows the Keeling curve from the 1960s onwards).[228] When Keeling started his measurements in the 1950s, CO_2 concentrations were around 315 ppm, in 1980, they were 340 ppm, in 1990, they were 355 ppm and they have now reached around 410 ppm (2018/2019). From 1978 onwards, it was possible to use satellites for measurements, which meant we had an additional method to prepare a picture that covered the entire world. These measurements, which are still updated every day, confirmed the reliability of Keeling's previous measurements.

336. In 1957, oceanographer Professor Roger Revelle and Austrian chemist Hans Suess concluded in their report that human CO_2 emissions are likely to cause global warming. With their report, they disproved another scientific theory, namely that the oceans would absorb most of the CO_2 emitted by man. At the time, Revelle and Suess demonstrated that the oceans only absorb only about 50% of the CO_2 emitted by human beings and that the rest remains in the atmosphere in the form of greenhouse gas. They also concluded that the oceans emit some of the absorbed CO_2 into the atmosphere as a result of chemical processes and that these emissions increase as the ocean's water warm due to global warming. As the earth continues to warm and as the CO_2 saturation of the ocean's water increases, the ocean's absorption properties decline and more and more CO_2 remains in the atmosphere in the form of greenhouse gas.[229]

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carbonic acid in the air upon the temperature of the ground' and it was published in the Philosophical Magazine and Journal of Science, 1896, Vol 41, p.237 et seq.

227 IPCC 2007, AR4, WGI, H1, p.105 (exhibit 111): "*G. S. Callendar (1938) […] found that a doubling of atmospheric CO_2 concentration resulted in an increase in the mean global temperature of 2°C, with considerably more warming at the poles, and linked increasing fossil fuel combustion with a rise in CO_2 and its greenhouse effects: 'As man is now changing the composition of the atmosphere at a rate which must be very exceptional on the geological time scale, it is natural to seek for the probable effects of such a change."* Callendar's work in question is entitled 'The artificial production of carbon dioxide and its influence on temperature' and it was published in the Quarterly Journal of the Royal Meteorological Society, Vol 64, p. 223 et seq.

228 IPCC 2007, AR4, WG1, H1, p.100 (exhibit 111): "*The high-accuracy measurements of atmospheric CO_2 concentration, initiated by Charles David Keeling in 1958, constitute the master time series documenting the changing composition of the atmosphere (Keeling, 1961, 1998). These data have iconic status in climate change science as evidence of the effect of human activities on the chemical composition of the global atmosphere."*

229 IPCC 2007, AR4, WGI, H1, p.105 (exhibit 111): *"Revelle and Suess (1957) explained why part of the emitted CO_2 was observed to accumulate in the atmosphere rather than being completely absorbed by the oceans."* See also the work of Revelle and Sues, entitled Carbon Dioxide Exchange Between Atmosphere and Ocean and the Question of an Increase of Atmospheric CO_2 During the Past Decades, published in 1957 In Tellus, Vol 9, p.18 et seq.

337. The 1957 report by Revelle and Suess made it very clear that during the carbon cycle, the atmosphere, the oceans, land and the ecosystems all interact and that human emissions of CO_2 could have a bigger impact on the global climate than was initially thought.

338. The report by Revelle and Suess proved to be the starting shot for the extensive, international climate studies that were conducted since and which will also be discussed in this summons, also in light of the research that was conducted by Shell and other businesses in the fossil sector since then.

IV.5 WARMING TO DATE AND DELAYS IN THE CLIMATE SYSTEM

339. The fact that earth warms due to higher concentrations of CO_2 in the atmosphere has been known for a very long time. It brings up the question of how much the average temperature of the earth has risen since the start of the industrial revolution as a result of increasing CO_2 concentrations.

340. According to the IPCC, to date, the average earth temperature has risen by about 1.0˚C (bandwidth 0.8 to 1.2˚C) compared to pre-industrial levels and global warming at its current pace will increase by an average of 0.2˚C each decade as a result of historical and current emissions:

> *"Human activities are estimated to have caused approximately 1.0˚C of global warming above pre-industrial levels, with a likely range of 0.8˚C to 1.2˚C [… Estimated anthropogenic global warming is currently increasing at 0.2˚C (likely between 0.1˚C and 0.3˚C) per decade due to past and ongoing emissions (high confidence)."* [230]

341. Current global warming of 1˚C already has an impact on important ecosystems and is felt on all continents and in all oceans:

> *"Human influence has been detected in warming of the atmosphere and the ocean, in changes in the global water cycle, in reductions in snow and ice, and in global mean sea level rise […] In recent decades, changes in climate have caused impacts on natural and human systems on all continents and across the oceans."*[231]

342. According to the IPCC, climate-related extremes such as heat waves, droughts, floods, cyclones and wildfires reveal that many human and natural systems are vulnerable to global warming and its consequences, such as the disruption of food production and water reserves, damage to the infrastructure and settlements and the deterioration of the lives, health and well-being of man:

> *"Impacts from recent climate related extremes, such as heat waves, droughts, floods, cyclones, and wildfires, reveal significant vulnerability and exposure of some ecosystems and many human systems to current climate variability (very high confidence). Impacts of such climate-related*

[230] IPCC 2018, Global Warming of 1.5˚C SPM p.6 (exhibit 135)
[231] IPCC 2013, AR5, SYR, p.47 (exhibit 112)

extremes include alteration of ecosystems, disruption of food production and water supply, damage to infrastructure and settlements, morbidity and mortality, and consequences for mental health and human well-being."[232]

343. The consequences of global warming to date are, therefore, already significant(for more information, see Chapter VII below). It is also important to know that the climate system's response to greenhouse gases is delayed, as a result of which global warming and the effects thereof manifest themselves with a delay too. It takes 30 to 50 years before increased concentrations of atmospheric greenhouse gases will reach their full warming effect in the atmosphere.[233] [234] [235]It takes even longer (centuries and millenniums) before the full warming effect is reached in ice masses and deeper oceans, as these elements of the climate system warm slowest.[236]

344. The consequences of this decade-long delay between an increase in atmospheric CO_2 concentrations and the associated global warming is that the emissions of the past decades have yet to show their effects. This means that even if CO_2 concentrations were to remain level at today's CO_2 concentrations for the remainder of this century, the earth would still warm by an additional 0.6°C, according to the IPCC:

"The climate system response to the greenhouse gases and aerosols forcing is characterized by an inertia, driven mainly by the oceans...The AR4[237] *showed that if concentration of greenhouse gases were held constant at present day level, the Earth surface would still continue to warm by about 0.6°C over the 21st century relative to the year 2000. This is the climate commitment to current concentrations [...] "*[238]

345. Together with the warming of 1°C already measured (with a bandwidth between 0.8 and 1.2°C), we, therefore, have to allow for global warming of approximately 1.6°C (1.4 to 1.8°C) compared to the pre-industrial levels unless the CO_2 concentrations were to fall below the current levels in the next few decades (see also Chapter XI.2.2).[239]

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232 IPCC 2013, AR5, WGII, SPM p.6 (exhibit 113)

233 Vellinga 2011. *Hoezo Klimaatverandering* (exhibit 114) P. Vellinga is the co-author of various IPCC chapters; on p.51 and 52, he explains the delay and he argues that it will take 30 to 50 years before the average temperature on earth has adjusted itself to the higher concentrations of greenhouse gases.

234 IPCC 2013, AR5, WGI, H.10, p.920, which mentions 'many decades' (exhibit 115)

235 Hansen 2004. Hansen is the co-author of various IPCC chapters and in his publication (exhibit 116), he mentions a delay of 25 to 50 years (p.1) http://meteora.ucsd.edu/cap/pdffiles/Hansen-04-29-05.pdf

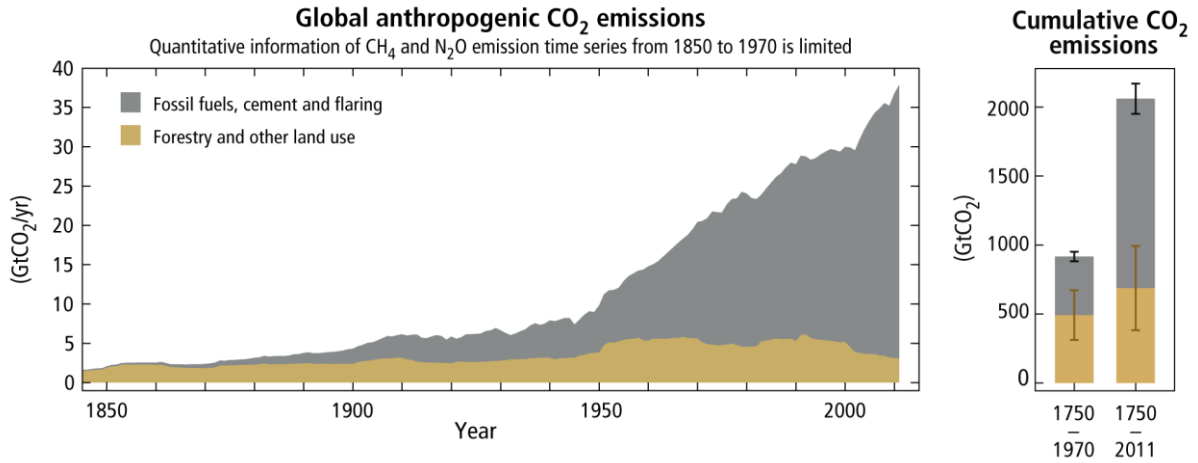
236 The warming of the oceans process, for instance, is extremely slow because, initially, the warming of the atmosphere only warms the ocean's surface, the top layer of the ocean waters. This warmed-up top layer then slowly emits its warmth to a deeper layer of water which in its turn emits to an even deeper layer, and so on. Today's emissions, therefore, will have an impact for centuries to come and cast a very long shadow towards the future: *"Cumulative emissions of CO_2 largely determine global mean surface warming by the late 21st century and beyond (see Figure SPM.10). Most aspects of climate change will persist for many centuries even if emissions of CO_2 are stopped. This represents a substantial multi-century climate change commitment created by past, present and future emissions of CO_2.",* IPCC 2013, AR5, WGI, SPM, p.27 (see reference list, exhibit 099)

237 "AR4" is the abbreviation of Assessment Report 4, the fourth IPCC report, which was published in 2007.

238 IPCC 2013, AR5, WGI, H.12, p.1106 (Exhibit 101):

239 The fact that CO_2 that has already been emitted will definitely result in considerable extra global warming in the following decades and that the climate system has a delayed response of decades to emitted CO_2 is something which scientists have known for a very long time and which was clearly communicated as early as 1985 and 1998 at the UN climate conference in Villach and Toronto respectively. It is also included in the reports of these conferences (see below, in Chapter V.3 and V.4).

346. The fact that the emissions of the past decade will create all this additional global warming is due to the fact that during the past decades saw a lot of the emissions took place after the industrial revolution. This becomes clear in the figure from the IPCC below:



347. This figure from the IPCC report from 2013/2014 (Synthesis Report, p. 45) clearly shows the amount of CO_2 emitted each year since 1850 (on the left) and the totals since 1750 (on the right).[240] The cumulative quantities of anthropogenic emissions between 1850 and 1950 are only a fraction of the emission growth since 1950 and, in particular, since 1980. So this emission growth from the early 1980s until today will cause the aforementioned anticipated further global warming to 1.6°C during the coming decades. Global warming will increase even further if CO_2 concentrations continue to rise and if due to continuous global CO_2 emissions, they were to stabilise at a level higher than the current 410 ppm.

348. The IPCC shows that because of the aforementioned delay in the climate system, climate change will without a doubt have more impact on society even under the most stringent mitigation scenarios, which would necessitate adaptation to the changes yet to come, no matter what:

> *"Even the most stringent mitigation efforts cannot avoid further impacts of climate change in the next few decades, which makes adaptation unavoidable."*[241]

349. However, it will be clear that current CO_2 levels, even if the energy transition were to speed up enormously, will continue to rise as the phasing out of the production and consumption of fossil fuels has not started yet. After all, we cannot just stop using fossil fuels from one day to the next. This means the transformation from a global society which currently still predominantly runs on the combustion of fossil energy to a society which will require alternative sustainable energy, for the most part, cannot take place in just a couple of years. During this transition phase to sustainable power supplies, we will, therefore, still have to burn

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240 IPCC 2014, AR5, SYR, p. 45 (exhibit 112)

241 IPCC 2014, AR5, WGII, H1 p.14 (exhibit 117)

more fossil carbon. The additional greenhouse gas emissions associated with that will contribute to further global warming.

350. In other words, in the event of system changes (such as a change to the energy system), society will experience a similar delay of new input as the delay that is inherent to the climate system. In literature, this is referred to as the lock-in effect. The result of that is that if highly strict net emission reductions are not forthcoming, future global warming is likely to (far) exceed the aforementioned 1.6°C. How much more extensive this global warming will be depends on the speed of the transformation to an alternative sustainable power supply and, therefore, on how fast greenhouse gas emissions that are added to existing concentrations in the atmosphere can be reduced so that the cumulative CO_2 concentrations in the atmosphere can stabilise as quickly as possible. As mentioned before, when we continue the current global emissions trend, we can expect catastrophic global warming of 4°C or more within this century.

351. For that reason, the speed of the transformation to a sustainable power supply ultimately determines the nature and gravity of climate change and, as such, the nature of our future.

V. THE ORIGINS OF THE INTERNATIONAL CLIMATE POLICY AND THE UN CLIMATE CONVENTION

352. As climate change caused by the changing composition of earth's atmosphere due to CO_2 emissions is a global and, therefore, an international problem, it is obvious that the subject of 'climate change' would be discussed within the context of the United Nations.

V.1 UNITED NATIONS CONFERENCE ON THE HUMAN ENVIRONMENT 1972, STOCKHOLM

353. The first time climate change featured on the agenda of the United Nations was in 1972, during the UN conference in Stockholm about the human environment (United Nations Conference on the Human Environment). During that conference, it was decided to set up a special UN organisation for the issue of climate change and for other international environmental issues. To implement that decision, the United Nations Environment Programme, or UNEP, was set up.[242]

V.2 UNITED NATIONS WORLD CLIMATE CONFERENCE 1979, GENEVA

354. The first world climate conference was held in Geneva, Switzerland, in 1979. It was organised by UNEP and another UN organisation, the World Meteorological Organization (WMO). The conference urged the countries of the world to take preventive measures against potential anthropogenic climate change that could harm the well-being of humanity (*"to foresee and to prevent potential man-made changes in climate that might be adverse to the well-being of humanity"*).[243] A Shell delegation attended this conference.[244]

V.3 UNITED NATIONS WORLD CLIMATE CONFERENCE 1985, VILLACH

355. In 1985, the UNEP and WMO organised a conference in Villach, Austria, in which 29 countries took part. At the end of this conference, the scientists, in consensus, presented a message to politicians, saying that as a result of the rising levels of CO_2 caused by the growing and unabated use of fossil fuels, we have to anticipate historically high global warming:

> *"As a result of the increasing concentrations of greenhouse gasses, it is now believed that in the first half of the next century a rise of global mean temperature could occur which is greater than any in man's history"* [245]

The statement also explains that continued global warming is unavoidable (due to the aforementioned delayed effect) on account of historical emissions but that we can still limit the climate change we have started by taking emission-reducing measures.

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242 For the origins of UNEP and the link with the UN Conference in 1972, see Wikipedia (exhibit 118)
243 WMO 1979: *Proceedings of the World climate Conference (WMO) Geneva 12-23 February 1979, p. 713* (exhibit 119)
244 WMO 1979: *Proceedings of the World Climate Conference (WMO) Geneva 12-23 February 1979*, p. 784 (exhibit 119)
245 UNEP/WMO/ICSU 1985 Conference Statement Villach 9-15 oktober 1985, p.1 (exhibit 120)

"While some warming of climate now appears inevitable due to past actions [i.e., to both past emissions and the failure to adopt policies to limit them], the rate and degree of future warming could be profoundly affected by governmental policies on energy conservation, use of fossil fuels, and the emission of some greenhouse gases."[246]

V.4 UN CLIMATE CONFERENCE 1988, TORONTO

356. In 1988, a new conference was held in Toronto, Canada, which attracted more than 300 scientists, politicians and policymakers from 48 countries.[247] The joint final statement is extremely insistent and calls for urgent action in order to prevent the major threat of serious anthropogenic climate change:

"Humanity is conducting an unintended, uncontrolled, globally pervasive experiment whose ultimate consequences could be second only to a global nuclear war. The Earth's atmosphere is being changed at an unprecedented rate by pollutants resulting from human activities[…] These changes represent a major threat to international security and are already having harmful consequences over many parts of the globe.

Far-reaching impacts will be caused by global warming and sea level rise, which are becoming increasingly evident as a result of continued growth in atmospheric concentrations of carbon dioxide and other greenhouse gases […] The best predictions available indicate potentially severe economic and social dislocation for present and future generations, which will worsen international tensions and increase risk of conflicts among and within nations. It is imperative to act now […]"[248] (emphasis added)

357. The conference of 1988 therefore urges governments, industrial and non-governmental organisations to take immediate action in order to fight the (imminent) climate crisis.[249] The Conference Statement then discusses the anticipated impact of increasing emissions of greenhouse gases and the all-encompassing threat it poses:

"Continuing alteration of the global atmosphere threatens global security, the world economy, and the natural environment [..] These changes will:
1 Imperil human health and well being;
2 Diminish global food security, through increase soil erosion and greater shifts and uncertainties in agricultural production, particularly for many vulnerable regions;
3 Change the distribution and seasonal availability of fresh water resources;
4 Increase political instability and the potential for international conflict;
5 Jeopardize prospects for sustainable development and reduction of poverty;
6 Accelerate extinction of animal and plant species upon which human survival depends;

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246 UNEP/WMO/ICSU 1985 Conference Statement Villach 9-15 oktober 1985, p.1 (exhibit 120)

247 CIEL 1990, Conference Statement Toronto 27-30 juni 1988 (exhibit 121) the conference statement was published in in American University Journal for International Law & Policy, The changing atmosphere: Implications for global security (1990), p.1 (= p. 515 of the Journal).

248 CIEL 1990, Conference Statement Toronto 27-30 juni 1988, p.1 (= p.515 of the Journal) (exhibit 121)

249 CIEL 1990, Conference Statement Toronto 27-30 juni 1988, p.1 (= p.515 van de Journal) (exhibit 121) also: Zillman 2009: Bulletin of WMO titled *A History of Climate Activities,* containing report of WMO on the conference 1988 (exhibit 122)

7 Alter yield, productivity and biological diversity of natural and managed ecosystems, particularly forests […]" [250] (emphasis added)

358. The statement also discusses the anticipated rise in temperature and it warns that it will be unprecedented and disruptive:

"The accelerating increase in concentrations of greenhouse gases in the atmosphere, if continued, will result in a probable rise in the mean surface temperature of the Earth of 1.5 to 4.5°C before the middle of the next century […] If current trends continue, the rates and magnitude of climatic change in the next century may substantially exceed those experienced over the last 5000 years. Such high rates of change would be sufficiently disruptive that no country is likely to benefit in total from climatic change." [251]

359. Again, as in Villach 1985, it makes us aware of the climate's delayed response, in other words, that continued global warming is already inevitable:

"There can be a time lag of the order of decades between the emission of gases into the atmosphere and their full manifestation in atmospheric and biological consequences. Past emissions have already committed planet earth to a significant warming."[252]

360. The final statement from 1988 also argues that the transition to a sustainable future means we have to switch to non-fossil fuels and that we need to increase energy efficiency:

"The transition to a sustainable future will require investments in energy efficiency and non-fossil energy sources […]"[253]

361. The statement, therefore, recommends that governments and the industry immediately proceed (i) to switch investments to sustainable energy on a large scale, (ii) to make considerable energy reductions and (iii) to use product labels to inform consumers of CO_2 pollution caused by the production and use of fossil products:

"*Recommended Immediate Action: A. By Governments and Industry*
[…] Energy research and development budgets must be massively directed to low and non-C02 emitting energy options […] An initial global goal should be to reduce C02 emissions by approximately 20 percent of 1988 levels by the year 2005 [..] Products should be labelled to allow consumers to judge the extent and nature of contamination of the atmosphere which arises from the manufacture and use of the product."[254]

362. This call from the 1988 climate conference to governments and the industry to proceed with an energy transition and to take specific measures can be called a historic event and rightly so, as this was the first time for a scientific conference to urge the main perpetrators of the climate issue to take immediate action. It demonstrates the concern already prevalent in the

[250] CIEL 1990, Conference Statement Toronto 27-30 juni 1988, p.2 (= p.516 of the Journal) (exhibit 121)
[251] CIEL 1990, Conference Statement Toronto 27-30 juni 1988, p.2 (= p.516 of the Journal) (exhibit 121)
[252] CIEL 1990, Conference Statement Toronto 27-30 juni 1988, p.3 (= p.516 of the Journal) (exhibit 121)
[253] CIEL 1990, Conference Statement Toronto 27-30 juni 1988, p.5 (= p.516 of the Journal) (exhibit 121)
[254] CIEL 1990, Conference Statement Toronto 27-30 juni 1988, p.7-8 (= p.516 of the Journal) (exhibit 121)

scientific community at that time. Within that context, the final statement urged the UN to draw up a convention to combat climate change and to protect the atmosphere (which would be done in 1992, in the shape of the United Nations Framework Convention on Climate Change (UNFCCC)) and to continue to support the work of the scientific UN Intergovernmental Panel on Climate Change (IPCC) that had been set up that year (1988).

V.5 CREATION OF THE IPCC (1988) AND SETUP

363. Since 1988, scientific knowledge of the causes and consequences of climate change is regularly brought together and evaluated by the Intergovernmental Panel on Climate Change (IPCC), a scientific organisation that was set up in that year by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO). The IPCC reports are the scientific basis for the international intergovernmental collaboration to stop climate change. In 1990, the IPCC published its first Assessment Report. In this report, the IPCC concluded that emissions caused by human activity cause a substantial increase of the concentration of greenhouse gases in the atmosphere and that this reinforces the greenhouse effect, which in its turn causes additional global warming. The IPCC, therefore, urged countries to collaborate so as to come to an international climate convention to prevent an anthropogenic climate change that harms people and the environment.

364. After the first Assessment Report of 1990, new editions followed in 1995, 2001 and 2007. In 2013 and 2014, the fifth IPCC Assessment Report was published (the part written by working group I was published in 2013 and the other parts in 2014).[255] In 2018, the IPCC published its most recent report, a special report (abbreviated to SR15) that discusses the differences between global warming of 1.5°C and 2°C. More and more scientific knowledge of the subjects discussed by the IPCC is now available, which means the scope and depth of these reports have also increased.

365. The IPCC is subdivided into three working groups that analyse the scientific situation with regard to:
1) the existing scientific knowledge (working group I);
2) the consequences of climate change for the environment, the economy and society (working group II); and
3) the potential strategies in reply to these changes (working group III).[256]

366. In this case, apart from the most recent IPCC SR15 report from 2018, we will mainly draw on the reports from the (working groups of) the IPCC from 2007 and 2013/2014. One reason for this is that the accusation aimed at Shell is that the company should have known of the need to reduce its fossil activities as early as 2007, also with a view to the contents of the fourth report from the IPCC.

367. The IPCC reports form the basis for the international intergovernmental collaboration to stop climate change, which gives these reports a special status. These reports are drawn up with

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[255] IPCC Website under *reports* (exhibit 123)
[256] IPCC Website under *structure* (exhibit 124)

the utmost care, which justifies their special status even more. A draft report from the IPCC (and the individual documents that form a part of that) is initially verified on two levels before it can be adopted, as evidenced by the Principles Governing IPCC Work, principle 3 of which reads:

> *"IPCC documents should involve both peer review by experts and reviews by governments".*[257]

368. In practice, the draft report is presented to external experts (who are not involved in the IPCC). As soon as the draft has withstood the test of criticism from these external experts, the draft document has to be presented to the 195 affiliated countries during a second verification round. These countries often forward the draft to a group of international scientists and (national) non-governmental organisations for a second opinion. This way, countries are given the opportunity to make recommendations or to comment on the draft report. The IPCC then has to study and assess the feedback from the second round again so that the report can be amended, if necessary, before it is adopted at a plenary meeting (third round) (principle 11):

> *"Conclusions drawn by IPCC working groups and any working groups, are not official IPCC views until they have been accepted by the Panel in a plenary meeting."*[258]

369. The setup of the IPCC reports is very similar to the process of hearing both sides of the argument used in the legal world. After all, ultimately, scientific visions are given at three layers of the process of hearing both sides of the argument, which is why the IPCC findings have a special status. On its website, the IPCC, therefore, qualifies itself - and deservedly so - as "*the leading international body for the assessment of climate change*".[259] That status is, of course, also evidenced by the fact that all 195 affiliated countries use the IPCC reports as a basic principle to formulate the climate policy and that the IPCC reports have also been granted a special place in the UN Climate Convention discussed below.[260]

V.6 THE 1992 UN CLIMATE CONVENTION

370. The UN Climate Convention, or the United Nations Framework Convention on Climate Change (UNFCCC), dates from 1992 (more than 25 years ago) and came into effect on 21 March 1994. A total of 195 countries and one regional organisation (the EU) are affiliated with the Convention.[261]

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[257] IPCC 2010 Statement on IPCC Principles and Procedures (exhibit 125)

[258] IPCC 2010 Statement on IPCC Principles and Procedures (exhibit 125)

[259] IPCC.ch website under *organisation* (exhibit 126)

[260] Article 21 of the UN Climate Convention stipulates that the IPCC provides the contracting states with scientific and technical advice and that the Secretariat set up under the Convention has to facilitate this. Article 21 explains that the Secretariat can also consult other qualifying scientific organisations. Practice has shown that the Secretariat uses, among other things, reports and advice from the two incorporating parties of the IPCC (the WMO and UNEP) and the World Bank, for instance, which is why this summons will also rely on the reports from these organisations.

[261] UNFCCC 1992 *United Nations Framework Convention on Climate Change* Status of ratification (exhibit 022)

V.6.1 Main objective of the Convention

371. The main objective of the UN Climate Convention is to prevent dangerous man-made climate change. This can be achieved by stabilising the concentrations of greenhouse gases in the atmosphere on a level on which a dangerous anthropogenic disruption of the climate system is prevented. According to the Convention, this level must be reached within a time frame that is sufficient to allow ecosystems to naturally adapt to climate change, to ensure that food production is not jeopardised and economic developments can continue in a sustainable manner. The ad verbatim text of Article 2 of the Climate Convention reads as follows:

> *"The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner."*[262]

V.6.2 The protection of present and future generations

372. The preambles in the UN Climate Convention clarify that the prevention of dangerous climate change is important both for present and future generations (*"Determined to protect the climate system for present and future generations"*[263]) and this is formulated as an instruction to the contracting states in Article 3.1, which stipulates:

> *"The Parties should protect the climate system for the benefit of present and future generations of humankind"*[264]

373. Among other things, the Convention clarifies that climate change and its negative consequences are a common concern of mankind *("common concern of humankind")* and it subsequently defines adverse consequences as consequences that have a considerable harmful impact on ecosystems, socio-economic systems or the health and well-being of man.[265]

V.6.3 The need to take measures and to apply the precautionary principle

374. Article 3 of the Convention then discusses the principles to be observed by the contracting states in their further actions, including the principle that the developed countries (being the

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[262] UNFCCC 1992 *United Nations Framework Convention on Climate Change*, Article 2 (Exhibit 096)

[263] UNFCCC 1992 *United Nations Framework Convention on Climate Change* final preamble before the articles of the convention (exhibit 096)

[264] UNFCCC 1992 *United Nations Framework Convention on Climate Change*, Article 3.1 (exhibit 096)

[265] UNFCCC 1992 *United Nations Framework Convention on Climate Change*, the first preamble of the convention and Article 1 (definitions) respectively (exhibit 096)

primary perpetrators of the climate issue) must, initially, take the lead in the approach to the climate issue.[266]

375. Another important principle imposed on all countries in Article 3(.3) is the precautionary principle, which means that precautionary measures must be taken in order to curtail or prevent the causes of climate change and to limit its negative impact.[267] The Convention clarifies that when serious or irreversible damage is likely to occur, any lack of full scientific certainty should not be a reason to postpone precautionary measures.[268] This precautionary principle, which is a common principle in international (environmental) conventions outside the Climate Convention and which is also included in the Treaty on the Functioning of the European Union (TFEU), and the relevance thereof in terms what can be expected from Shell will be discussed later in the summons.

V.6.4 The Conference of the Parties (COP) as the supreme body

376. Article 7 of the UN Climate Convention sets up the climate conference, officially referred to as the Conference of the Parties (COP). Article 7 stipulates that the COP is the supreme body of the Convention and that the COP makes the decisions required in order to promote the application of the Convention.[269]

377. The first COP was held in 1995 and is referred to as COP1. The numbering continues like this, which means the COP of 2010 is referred to as COP16. The most recent COP was that of 2018, COP24, which was held in Katowice, Poland, in December 2018.

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[266] UNFCCC 1992 United Nations Framework Convention on Climate Change, Article 3.1 (exhibit 096)
[267] UNFCCC 1992 *United Nations Framework Convention on Climate Change*, Article 3.3 (exhibit 096)
[268] UNFCCC 1992 *United Nations Framework Convention on Climate Change*, Article 3.3 (exhibit 096)
[269] UNFCCC 1992 *United Nations Framework Convention on Climate Change*, Article 7 (exhibit 096)

VI. THE INTERPRETATION OF THE TERM DANGEROUS CLIMATE CHANGE

378. As mentioned before, the main objective of the UN Climate Convention is to prevent dangerous man-made climate change and to use scientific insights of the IPCC and other qualifying scientific authorities. Below, we will explain how the contracting states have given substance to this main objective and on which scientific advice it is based. This gives us a very good picture of what was or should have been clear to Shell during the past decades on the basis of scientific findings and the associated decisions of the Conference of the Parties, the EU or the Dutch government. Chapter VII will then present proof of what Shell did, indeed, specifically know during the past decades about the climate issue and the consequences it should have on its business operations. Next we put matters in a legal context in order to substantiate the claims brought by Milieudefensie.

VI.1 GLOBAL WARMING OF 2°C IS DANGEROUS (1990-2012 PERIOD)

VI.1.1 Scientific findings in 1990 and 1992

379. As early as 1990, scientists indicated that global warming of 2°C is the maximum upper limit that cannot be exceeded if we want to prevent a highly serious danger. Even then, it was obvious that warming beyond 1°C could have potentially fast, unpredictable and non-linear consequences and could cause serious damage to ecosystems. This emerges from an international study from 1990 which was conducted with the participation of the Ministry of Housing, Spatial Planning and the Environment and the National Institute for Public Health and Environmental Protection [Rijksinstituut voor Volksgezondheid en Milieu (RIVM)]:

> *"Temperature increases beyond 1.0°C may elicit rapid, unpredictable, and non-linear responses that could lead to extensive ecosystem damage […] An absolute temperature limit of 2.0°C can be viewed as an upper limit beyond which the risks of grave damage to ecosystems, and of non-linear responses, are expected to increase rapidly."*[270]

Other scientists also came to similar findings.

380. In 1992, the RIVM subsequently announced that it is possible to calculate the maximum amount of carbon that can be emitted between 1992 and 2100 (i.e. during the next 108 years) in order to allow the concentrations of greenhouse gases in the atmosphere to stabilise at 475 ppm. The RIVM calculated a maximum emission of 338 GtC (gigatonnes of carbon) until 2100, i.e. 1,240 Gt of CO_2 (gigatonnes of CO_2).[271]

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[270] Rijsberman 1990 *Targets and Indicators of Climate Change p*.viii and ix (exhibit 127)

[271] Janssen 1992, *Allocating CO_2 emissions by using equity rules and optimization (*exhibit 128*),* p. 12 and 13: Table 2.3 on page 12 shows that the low-risk scenario has to remain below 475 ppm of CO_2 eq and table 2.4 on page 13 shows that this scenario has a maximum total budget of 338 GtC. In order to convert GtC into Gt CO_2 (which is important because this will be discussed later in the summons), the figure in GtC must be multiplied by 3.667 so that 338 GrC equals 1,240 Gt of CO_2. For this calculation formula, reference is made to IPCC 2013, AR5, WGI, SPM, p.27, Table SPM 3, which says: **"***1 Gigatonne of carbon = 1 GtC = 1015 grams of carbon. This corresponds to 3.667 Gt CO_2."* (exhibit 099)

381. The RIVM also clarifies that this limited emission scope means that we have to start reducing the use of fossil fuels fast, otherwise, emissions will exceed this available carbon budget. The longer we wait and continue on the basis of business as usual, the faster the budget will decrease and the faster we will have to reduce fossil fuels in order to remain within this (smaller) budget. If we wait until 2000 to tackle the climate issue, the use of fossil fuels will have to be reduced by 70% within 50 years, the RIVM said in 1992. However, if we wait until 2010 with climate measures, the use of fossil fuels will have to be reduced by 90% within only 10 years, the RIVM explains:

> *"[I]f the Business-as-Usual pathway is followed and in the year 2000 the world community decides to strive for a* CO_2 *equivalent concentration target of 475 ppmv in 2100 (the Low-Risk scenario), such a switch would require a 70% decrease of fossil* CO_2 *emissions within 50 years. If the decision to switch is taken in 2010, emissions from fossil fuel should drop by 90% in less than 10 years."*[272]

382. In other words, it was clear as early as 1992 that the longer we wait with phasing out fossil fuels, the more extreme and faster this phasing-out process would have to be in order to remain within the maximum available carbon budget.

VI.1.2 The findings of the EU since 1996

383. Based on the scientific information about the causes, consequences and dangers of climate change that has been available since the start of the 1990s, the EU decided in 1996 to use the 2˚C target as a starting point, also mindful of the precautionary principle:

> *"Given the serious risk of such an increase and particularly the very high rate of change, the Council believes that global average temperatures should not exceed 2 degrees above pre-industrial level [...] In this context the Council believes that the precautionary principle has to be applied [...] the Council notes that the IPCC considers that significant reductions in greenhouse gas emissions are technically possible, and can be economically feasible. It also notes that significant "no-regrets" opportunities are available; and that there is a rationale, on the basis of potential risk, for action beyond no-regrets [...]."*[273]*.* (emphasis added)

384. From that moment, the need to apply a 2˚C target has also become the EU's formal position in the climate negotiations and the COP meetings, as evidenced by, for instance, a report from COP4 in Buenos Aires (1998), in which the EU states the following, among other things:

> *"[F]ar greater global limitation and reduction effects[...] will be necessary over time [...] In this context, the EU have earlier stated that global average temperatures should not exceed 2˚C above the pre-industrial level [..]".*[274] (emphasis added)

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[272] Janssen 1992 *Allocating* CO_2 *emissions by Using Equity Rules and Optimization p.* (exhibit 128)

[273] European Commission 1996: *Community strategy on climate change – council conclusions*, under p.7 under point 6, 1996 no.188, exhibit 129

[274] UNFCCC 1998 COP4, Second review of the adequacy of article 4.2(a) and (b), p.8 (exhibit 130)

VI.1.3 The COP13 Climate Conference in 2007 (Bali Action Plan)

385. At the COP13 Climate Conference of December 2007, the Conference of the Parties adopted the Bali Action Plan (Decision 1/CP.13).[275]

386. The preamble of this COP decision again explicitly recognises the fact that drastic emission reductions are needed in order to be able to achieve the main objective of the Convention and the parties emphasise the urgency with which this should be done (referring to the findings of the 4th IPCC Assessment Report that was published shortly before that, in 2007):

> *"Recognizing that deep cuts in global emissions will be required to achieve the ultimate objective of the Convention and emphasizing the urgency to address climate change as is indicated in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change."* (emphasis added)

387. In this quoted paragraph from the Bali Action Plan, the word 'urgency' comes with a footnote. The text of the footnote refers to specific parts of the Technical Summary (TS) and Chapter 13 of Working Group III of the fourth IPCC report from 2007, which gives scientific substance to the word 'urgency'.

388. Among other things, it refers to page 39 of the Technical Summary of Working Group III, where we can find the table shown below.[276]

Category	Additional radiative forcing (W/m^2)	CO_2 concentration (ppm)	CO_2-eq. concentration (ppm)	Global mean temperature increase above pre-industrial at equilibrium, using "best estimate" climate sensitivity[a]), [b]) (ºC)	Peaking year for CO_2 emissions[c])	Change in global CO_2 emissions in 2050 (% of 2000 emissions)[c])	No. of assessed scenarios
I	2.5-3.0	350-400	445-490	2.0-2.4	2000 - 2015	-85 to -50	6
II	3.0-3.5	400-440	490-535	2.4-2.8	2000 - 2020	-60 to -30	18
III	3.5-4.0	440-485	535-590	2.8-3.2	2010 - 2030	-30 to +5	21
IV	4.0-5.0	485-570	590-710	3.2-4.0	2020 - 2060	+10 to +60	118
V	5.0-6.0	570-660	710-855	4.0-4.9	2050 - 2080	+25 to +85	9
VI	6.0-7.5	660-790	855-1130	4.9-6.1	2060 - 2090	+90 to +140	5
Total							177

389. In this table TS.2, the IPCC provides an insight into how not to exceed the limit of 2°C. Under Category I, the table shows that in order to limit the rise in temperature between 2 and 2.4°C, the concentrations of greenhouse gases in the atmosphere have to be stabilised at a level of 445-490 ppm of CO_2-eq. The IPCC then concludes - as we can see from the table as well - that the rise in temperature to 2°C can, in all reasonableness, only be achieved if the

[275] UNFCCC 2008 COP 13 Bali Action Plan p.3 (exhibit 131)

[276] IPCC 2007 AR4, WGIII, TS, p.39 (exhibit 132)

concentrations of greenhouse gases in the atmosphere stabilise at no more than 450 ppm of CO_2-eq.:

> *"[L]imiting temperature increases to 2° C above pre-industrial levels can only be reached at the lowest end of the concentration interval found in the scenario's of category I (i.e. about 450 ppmv CO_2-eq. using "best estimate" assumptions)."* [277]

390. Table TS.2 also shows that in order to stabilise around 445 ppm of CO_2-eq., we need to reduce global emissions by about 85% in 2050.

391. With this indirect reference to the 450-scenario, the Conference of the Parties indicated in 2007 that in order to be able to achieve the main objective of the Convention, the global rise in temperature should not exceed 2°C and the concentrations of greenhouse gases should, therefore, be stabilised at 450 ppm. It was, nevertheless, clear that in order to achieve this, we need to reduce the use of fossil fuels fast. Two years later, in 2009, this 2°C target was confirmed in the Copenhagen Agreement.

VI.1.4 The Copenhagen Agreement of 2009 (COP15)

392. The Copenhagen Agreement, which was concluded during the COP15 in Copenhagen in 2009, confirms that in order to achieve the main objective of Article 2 of the UN Climate Convention (i.e. preventing a dangerous anthropogenic climate change), scientific insights show that the global rise in temperature will have to remain below 2°C:

> *"To achieve the ultimate objective of the Convention to stabilize greenhouse gas concentration in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system, we shall, recognizing the scientific view that the increase in global temperature should be below 2˚C, on the basis of equity and in the context of sustainable development, enhance our long-term cooperative action to combat climate change. […]"* [278] emphasis added)

393. As such, the Copenhagen Agreement refers to a specific recommendation from the special update report from 2009, which adds more recent climate-scientific findings to the previous synthesis of IPCC AR4. This update report tells us that recent observations have shown that ecosystems and societies are extremely vulnerable to even modest levels of climate change and that temperature rises above 2°C are likely to cause major societal and environmental disruptions this century and beyond:

> *"Recent observations show that societies and ecosystems are highly vulnerable to even modest levels of climate change […] Temperature rises above 2˚C will be difficult for contemporary*

[277] See the explanation to table TS.2 - which is included as table 3.10 on p. 229 in Chapter 3 of Working Group III - in Chapter 3 of Working Group III of the fourth IPCC rapport from 2007, p. 227 (exhibit 133)

[278] UNFCCC COP 15 Copenhagen Agreement 2009, p.5 under 1, exhibit 137

societies to cope with, and are likely to cause major societal and environmental disruptions through the rest of the century and beyond."[279]

394. The update report also points out that the consequences are likely to be major with climate change between 1 and 1.5°C and that warming beyond 2°C will be an environmental catastrophe:

" [T]he impacts on water resources in many parts of the world will be severe with climate change associated with only 1.0 to 1.5˚C rises in temperature[280] *[…] There is a looming biodiversity catastrophe if global mean temperature rises above the 2˚C-guardrail, ocean acidification spreads and sea-level rise accelerates"*[281] […]

395. The report then summarises by saying that a 2°C scenario will bring major risks for people and the environment:

"In summary, although a 2˚C rise in temperature above pre-industrial remains the most commonly quoted guardrail for avoiding dangerous climate change, it nevertheless carries significant risks of deleterious impacts for society and the environment."[282]

396. As scientists clearly demonstrated prior to the UN climate conference in Copenhagen that the 2°C limit is not a safe limit, the Copenhagen Agreement stipulates that a far-reaching assessment of a 1.5°C limit as the ultimate objective of the Convention would be possible:

"We call for an assessment of the implementation of this Accord to be completed by 2015 including in light of the Convention's ultimate objective. This would include a consideration of strengthening the long-term goal referencing various matters presented by the science, including in relation to temperature rises of 1.5˚C."[283] (emphasis added)

397. In the context of the Copenhagen Agreement as well as in the context of the Cancun Agreements (which will be discussed below), the countries affiliated with the UN Convention made national emission reduction promises and submitted them to the secretariat of the UN Convention, which will be discussed later.

VI.1.5 The Cancun Agreements of 2010 (COP16)

398. The following year in Cancun (COP 16, 2010), the COP documented the 2°C target in the Cancun Agreements, again referring to the scientific findings, and the previous decisions in the Bali Action Plan (COP13, 2007) and the Copenhagen Agreement (COP15, 2009):

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279 Richardson 2009 (IPCC AR4 2009), *Synthesis Report from Climate Change, Global Risks, Challenges & Decisions* P.6, key message 2 Update report AR4/2007, 2009 (exhibit 138)

280 Richardson 2009 (IPCC AR4 2009), *Synthesis Report from Climate Change, Global Risks, Challenges & Decisions* P.13 Update report AR4/2007, 2009 (exhibit 138)

281 Richardson 2009 (IPCC AR4 2009), *Synthesis Report from Climate Change, Global Risks, Challenges & Decisions* P.14 Update report AR4/2007, 2009 (exhibit 138)

282 Richardson 2009 (IPCC AR4 2009), *Synthesis Report from Climate Change, Global Risks, Challenges & Decisions* P.16 Update report AR4/2007, 2009 (exhibit 138)

283 UNFCCC COP 15 Copenhagen Agreement, exhibit 137

> *"Recalling its decision 1/CP.13 (the Bali Action Plan) and decision 1/CP.15 [...]*[284]
> *"Recognizes that deep cuts in global greenhouse gas emissions are required according to science [...] so as to hold the increase in global average temperature below 2°C above pre- industrial levels, and that Parties should take urgent action to meet this long-term goal[...]"*[285] *(emphasis added)*

Then, reference is again made to the need to reconsider the 2°C target and to perhaps tighten it and change it to 1.5°C:

> *"Also recognizes the need to consider, in the context of the first review, as referred to in paragraph 138 below, strengthening the long-term global goal on the basis of the best available scientific knowledge, including in relation to a global average temperature rise of 1.5°C"*[286]
> (emphasis added)

399. Another important aspect is that the Cancun Agreements refer to resolution 10/4 from 2009 of the UN Human Rights Council, which states that climate change is a threat to human rights across the world, including the right to life and, in particular, to those in vulnerable positions.[287] Resolution 10/4 from 2009 of the UN Human Rights Council stipulates the following in this respect:

> *"Noting that climate change related impacts have a range of implications, both direct and indirect, for the effective enjoyment of human rights including, inter alia, the right to life, the right to adequate food, the right to the highest attainable standard of health, the right to self-determination [and] recognizing that while these implication affect individuals and communities around the world, the effects of climate change will be felt most acutely by those segments of the population who are already in vulnerable situations [...]."*

VI.1.6 The Climate Conference of Durban 2011 (COP17)

400. At the COP17 in Durban in 2011, the signatories collectively agreed on the following in Decision 1/CP.17,[288] among other things:

(i) to recognise that climate change constitutes an urgent and potentially irreversible threat to human societies and the planet and, therefore, something that must be addressed urgently by all parties:

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[284] UNFCCC COP 16 Cancun Agreements 2010, preamble, p.2 (exhibit 139)

[285] UNFCCC COP 16 Cancun Agreements 2010, p.3 under 4 (exhibit 139)

[286] UNFCCC COP 16 Cancun Agreements 2010 (exhibit 139)

[287] The preamble of the Cancun Agreements sets out the following: "*Noting resolution 10/4 of the United Nations Human Rights Council on human rights and climate change, which recognizes that the adverse effects of climate change have a range of direct and indirect implications for the effective enjoyment of human rights […]*" etc.

[288] UNFCCC COP 17 Durban 2011 Decision 1/CP.17 (exhibit 140)

> *"Recognizing that climate change represents an urgent and potentially irreversible threat to human societies and the planet and thus requires to be urgently addressed by all Parties…"*[289](emphasis added)

(ii) observing with grave concern the significant gap between the reductions for the year 2020 promised by the individual countries on the one hand and the actual emission reductions required on a global scale to keep global warming below 2°C or 1.5°C on the other:

> *"noting with grave concern the significant gap between the aggregate effect of Parties' mitigation pledges in terms of global annual emissions of greenhouse gases by 2020 and aggregate emission pathways consistent with having a likely chance of holding the increase in global average temperature below 2 °C or 1.5 °C above pre-industrial levels,"*[290] (emphasis added)

401. This gap between the emission reductions promised by the individual countries on the one hand and the reductions required to prevent dangerous climate change on a global level on the other is often referred to as the emissions gap.

402. With regard to this emissions gap, the UN Environment Programme (UNEP), in its first Emissions Gap Report of 2010[291] (a report that is updated annually by the UNEP), had already come to the conclusion that even if all promises made and reduction measures announced by the countries were, indeed, realised, the global reduction objective for 2020 deemed necessary by scientists will never be achieved. This message was repeated in the 2011 Emissions Gap Report and many times since:

> *"Although the country pledges help in reducing emissions to below a business-as-usual level in 2020, they are not adequate to reduce emissions to a level consistent with the 2°C target, and therefore lead to a gap"*[292]

403. This 2011 UNEP report clarifies that the gap between the action to be taken in terms of emission reductions prior to 2020 and the action actually taken, is big and worrying, which the decision of COP17 refers to as *Noting with grave concern the significant gap…."*, etc.

VI.2 WARMING BEYOND 1.5˚C IS DANGEROUS (2012 – TO DATE)

VI.2.1 The climate conference of Doha 2012 (COP18) and the Structured Expert Dialogue (2013-2015)

404. Based on the Conference of the Parties in Doha in 2012 (COP18), a process of expert dialogues entitled Structured Expert Dialogue, or SED, was started between 2013 and 2015 under the

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289 UNFCCC COP 17 Durban 2011 Decision 1/CP.17 p.2 (exhibit 140)

290 UNFCCC COP 17 Durban 2011 Decision 1/CP.17 p.2 (exhibit 140)

291 UNEP, The Emissions Gap Report 2010 *Are the Copenhagen Accord Pledges Sufficient to Limit Global Warming to 2˚C or 1.5˚C?* (exhibit 141)

292 UNEP, The Emissions Gap Report 2010 *Bridging the Emissions Gap*, Synthesis Report, p.8 (exhibit 142)

auspices of the UNFCCC during the preparations for the Climate Summit in Paris (COP 21, 2015).

405. Among other things, the aim of the SED was to find out if, given the ultimate objective of the convention to prevent dangerous climate change, the objective chosen in Copenhagen and Cancun to reduce global warming to below 2°C sufficed, also with a view to the possible need to reduce global warming to 1.5°C as mentioned in Copenhagen and Cancun.

406. The findings set out in the newer IPCC AR5 published in 2013 and 2014 are, of course, also included in these dialogues. The final conclusions of the expert dialogues were documented in an SED final report which the UNFCCC published in 2015.[293]

407. Based on the latest state of the art, this final report draws the conclusion that the 2°C target can no longer be considered safe. A number of messages from the SED report :

> *"Climate change impacts are hitting home. Significant climate impacts are already occurring at the current level of global warming and additional magnitudes of warming will only increase the risk of severe, pervasive and irreversible impacts. Therefore, the 'guardrail' concept, which implies a warming limit that guarantees full protection from dangerous anthropogenic interference, no longer works."*[294]
>
> *"The 2°C limit should be seen as a defence line […] The 'guardrail' concept, in which up to 2 °C of warming is considered safe, is inadequate and would therefore be better seen as an upper limit, a defence line that needs to be stringently defended, while less warming would be preferable."*[295]
>
> *"[L]imiting global warming to below 1.5 °C would come with several advantages in terms of coming closer to a safer 'guardrail'. It would avoid or reduce risks, for example, to food production or unique and threatened systems such as coral reefs or many parts of the cryosphere, including the risk of sea level rise […] Parties may wish to take a precautionary route by aiming for limiting global warming as far below 2°C as possible, reaffirming the notion of a defence line or even a buffer zone keeping warming well below 2°C."*[296]

408. As scientists now clearly consider the 2°C target inadequate and unsafe, as is clear from the quotes above, the SED report now considers this target as a line of defence (according to the quote above) that requires stringent defending *("a defence line that needs to be stringently defended*"), while the report also indicates that a target of 1.5°C would be a better line of defence and that global warming should be kept "*well below 2°C*".

409. The SED report also clarifies, among other things, that in order to be able to keep global warming below 2°C, a radical energy transition is required immediately, just for starters (quote):

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[293] UNFCCC 2015, *Report on the Structured Expert Dialogue on the 2013-2015 review* (exhibit 143)

[294] UNFCCC 2015, *Report on the Structured Expert Dialogue on the 2013-2015 review Message 4* p.15 (exhibit 143)

[295] UNFCCC 2015, Report on the Structured Expert Dialogue on the 2013-2015 review Message 5 p.18, (exhibit 143)

[296] UNFCCC 2015, *Report on the Structured Expert Dialogue on the 2013-2015 review* Message 10 p.33, (exhibit 143).

"Limiting global warming to below 2°C necessitates a radical transition (deep decarbonization now and going forward), not merely a fine tuning of current trends."[297]

VI.2.2 The Paris Agreement of 2015 (COP21)

410. The scientific findings from the SED report quoted above were copied in the Paris Agreement that was concluded during COP21 in Paris in December 2015. The Paris Agreement is a further elaboration and update of the UN Climate Convention of 1992. The Agreement came into force on 05 October 2016 after the necessary ratification processes.[298]

411. The Agreement[299] underlines the urgent threat of the climate issue and the need to tackle it on the basis of best available climatic and scientific findings, also in order to protect human rights, to protect future generations and to reduce damage caused by climate change. The Paris Agreement, therefore, tightened the main objective of the Convention (which was given substance in Bali, Copenhagen and Cancun) even further. The objective of the Paris Agreement is to keep global warming "*well below 2°C*" and to preferably limit it to 1.5°C. With that target in mind, all countries affiliated with the UN Climate Convention submitted the national emission reduction targets (set by themselves) to the Secretariat. These targets are also referred to as National Determined Contributions (NDCs) and they must have been achieved by 2030.

412. In the Convention, the above is formulated as follows (quote):

"PARIS AGREEMENT
The Parties to this Agreement, […]
In pursuit of the objective of the Convention, and being guided by its principles [..]
Recognizing the need for an effective and progressive response to the urgent threat of climate change on the basis of the best available scientific knowledge [...]
Acknowledging that climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights [...] and intergenerational equity, […]

Have agreed as follows: […]
Article 2
1. This Agreement […] aims to strengthen the global response to the threat of climate change [...] including by:
(a) Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change; […]
Article 3

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297 UNFCCC 2015, *Report on the Structured Expert Dialogue on the 2013-2015 review* Message 2 p.11, , exhibit 143.
298 UNFCCC website Status of ratification Paris Agreement (exhibit 144)
299 UNFCCC 2015 COP21 Paris Agreement (exhibit 145)

As nationally determined contributions to the global response to climate change, all Parties are to undertake and communicate ambitious efforts as defined in Articles 4, 7, 9, 10, 11 and 13 with the view to achieving the purpose of this Agreement as set out in Article 2."
(emphasis added)

VI.2.3 The decision of COP21 about the emission reductions required

413. The COP decision[300] under which the Paris Agreement was adopted and which is, as such, a further elaboration of the Convention, indicates that all the national determined contributions (NDCs) submitted by the countries will never be enough to achieve the main objective of the Agreement to prevent dangerous climate change. Mindful of the best available scientific findings, the COP decision indicates that the national determined contributions for 2030 together will still result in global emissions of 55 Gt of CO_2-eq. by 2030, while global emissions should have been reduced to 40 Gt of CO_2-eq. by 2030 in order to have a realistic chance of keeping global warming below 2˚C in the first place.

414. As we will have to realise an even further-reaching reduction by 2030 than the aforementioned 40 Gt under the 1.5˚C target from the Paris Agreement, the COP decision stipulates that a special report will have to be available by 2018 in order to determine by how much more emissions must be reduced by 2030 than the aforementioned 40 Gt in order to be able to realise this objective of the Agreement. The elements from the COP that currently matter are quoted below:

"Adoption of the Paris Agreement
The Conference of the Parties,
[…]
12. Welcomes the intended nationally determined contributions that have been communicated by Parties [...];
16. Takes note of the synthesis report on the aggregate effect of intended nationally determined contributions [...];
17. Notes with concern [...] that the aggregate green house gas emission levels in 2025 and 2030 resulting from the intended nationally determined contributions [...] lead to a projected level of 55 gigatons in 2030 and also notes that much greater emission reduction efforts will be required than those associated with the intended nationally determined contributions in order to hold the increase in the global average temperature to below 2˚C above pre-industrial levels by reducing emissions to 40 gigatonnes or to 1.5˚C above pre-industrial levels by reducing to a level to be identified in the special report referred to in paragraph 21 below;
[…]
21. *Invites* the Intergovernmental Panel on Climate Change to provide a special report in 2018 on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways;"
(emphasis added)

[300] UNFCCC 2015 COP21 Adoption of the Paris Agreement (exhibit 146)

VI.2.4 The IPCC report about the 1.5°C target, requested by COP21

415. As indicated above in paragraph 21 of the quoted COP decision, in 2018, at the request of the 195 affiliated countries, a special report was published with regard to the Paris target of reducing global warming to 1.5°C, preferably. The special report in question (known as IPCC SR15) concludes that global warming beyond 1.5°C will cause major damage and that the difference in the consequences of climate change with global warming of 1.5°C and 2°C respectively is big. In order to reduce global warming to 1.5°C, global emissions will have to be reduced to (far) below 35 Gt of CO_2-eq. by 2030, according to the report. The IPCC also points out that half of the models used even show that global emissions will have to be reduced to between 25 Gt and 30 Gt of CO_2-eq. by 2030.[301]

416. The IPCC SR15 report from 2018 also indicates that as a result of these findings, reducing global warming to 1.5°C requires global CO_2 emissions to be reduced by a net 45% by 2030 (a bandwidth of 40-60%) and by a net 100% by 2050 (a bandwidth of 2045-2055). This means that from 2050 (bandwidth 2045-2055), there can be no more atmospheric CO_2 emissions.[302] If this emission reduction process is followed, the likelihood of staying under 1.5°C is 50% or more and the likelihood of staying under 2°C will be 85% (in other words, even with these severe emission reductions by 2030 and achieving zero CO_2 emissions by 2050, there is a 50% chance that 1.5°C will be exceeded and a 15% chance that global warming will go beyond 2°C; for more details about this, see Chapter XI.2).

417. This IPCC SR15 report from 2018 also again confirms, in accordance with recent updates (2014, 2018) of the UNEP Emissions Gap Report, that the national determined contributions for 2030 issued by the 195 countries in Paris together will never be enough in order to be able to achieve the Paris objectives. The calculations from 2018 show that even if all these promises are kept, the earth will warm by 3°C this century alone, according to the IPCC, and this warming will continue to rise:

> *"Pathways reflecting current nationally stated mitigation ambition until 2030 are broadly consistent with cost-effective pathways that result in a global warming of about 3˚C by 2100, with warming continuing afterwards (medium confidence)."*[303]

418. An important note to make is that the pathway of current actual global emissions is higher - leading to approximately 4˚C, see UNEP 2015[304] - than the pathway of the national determined contributions (the NDCs) added up.

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301 IPCC, 2018, SR15 *Global Warming of 1.5˚C*, SPM p.20 (exhibit 135)

302 IPCC 2018, SR15, SPM p.14 (exhibit 135) *"In model pathways with no or limited overshoot of 1.5°C, global net anthropogenic CO_2 emissions decline by about 45% from 2010 levels by 2030 (40-60% interguartile range), reaching net zero around 2050 (2045–2055 interquartile range)."*

303 IPCC 2018, SR15 *Global Warming of 1.5˚C*, SPM, p.20 (exhibit 135)

304 IPCC 2013 AR5, WGIII, SPM, p.8 (exhibit 110): "*Baseline scenarios, those without additional mitigation, result in global mean surface temperature increases in 2100 from 3.7˚C to 4.8˚C compared to pre-industrial levels."* And UNEP *The Emissions Gap Report 2015,* figuur 2.1 op p.4 en toelichting op p.5 (exhibit 147).

VII. THE IMPACT OF HAZARDOUS CLIMATE CHANGE

419. As explained above, the 1.5°C objective of the Paris Agreement with regard to the prevention of dangerous climate change is based on the SED final report, which in turn is based on the findings in the fifth IPCC Assessment report (IPCC AR5) from 2013/2014. The special 1.5˚C report from the IPCC from 2018 (IPCC SR15) adds valuable new insights to this. In order to get a better picture of the dangers that arise for people and the environment if the Paris objective is not achieved, this aspect is discussed below.

VII.1 IMPORTANT GLOBAL HAZARDS AND FIVE REASONS FOR CONCERN

VII.1.1 Five reasons for concern

420. From the third Assessment report from 2001 (IPCC TAR), the IPCC has subdivided the important risks associated with anthropogenic climate change ("key risks") into “five reasons for concern”. The purpose of this was and is to enable the Conference of Parties (COP) to implement Article 2 of the UN Climate Convention on the basis of scientific data and thus to determine what is meant by dangerous climate change as meant in that Article 2.[305]

421. Major risks are considered "key risks" by the IPCC because of their great danger or the high degree of vulnerability of societies and / or ecosystems to these risks. Matters that play a role in this include the large size of the risk, its high probability, the irreversibility of the consequences or the limited potential to limit the risk through adaptation and mitigation.[306]

422. These criteria for interpreting danger used by the IPCC also play a central role in Dutch law when it comes to duty of care and the doctrine of unlawful endangerment as will be discussed further in chapter VIII. Partly for this reason, Milieudefensie et al. consider this inventory of Key Risks to be important.

423. In view of the interpretation above of the concept of dangerous climate change, the IPCC has been using the five integrative reasons for concern (RFCs) as a framework to summarise key impacts and risks across sectors and reasons since 2001. The RFCs used in the recent IPCC SR15 report from 2018 is the following.[307]

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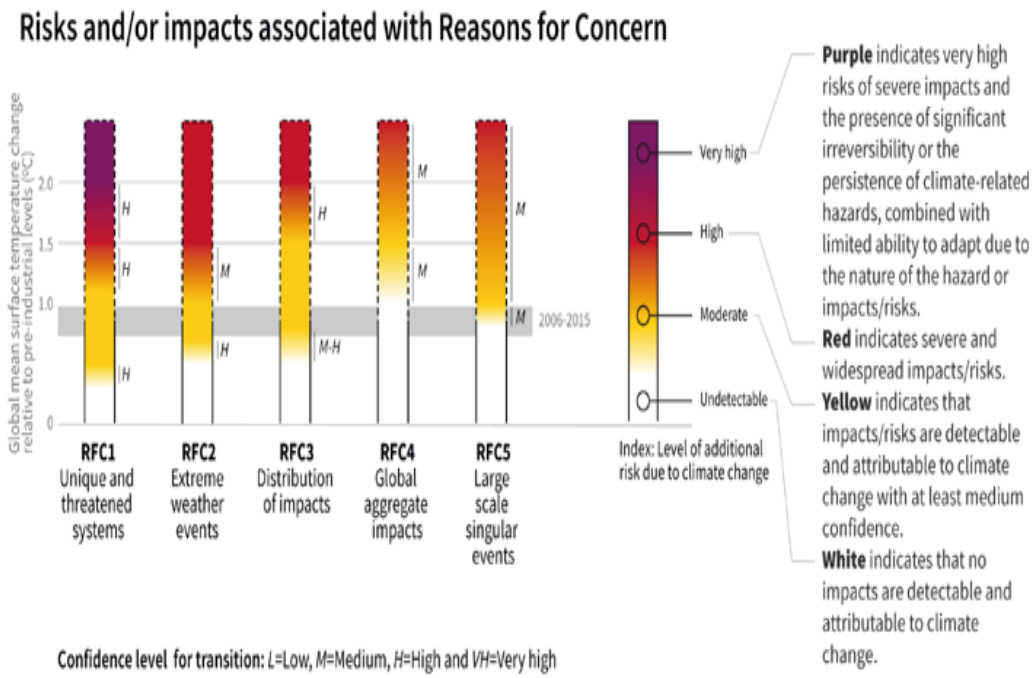
[305] IPCC 2007, AR4, SR, p.64 (exhibit 148)

[306] IPCC 2013, AR5, WGII, SPM, (exhibit 113) p.11 and 12, “*Key risks are potentially severe impacts relevant to Article 2 of the [UNFCCC], which refers to “dangerous anthropogenic interference with the climate system”. Risks are considered key due to high hazard or high vulnerability of societies and systems exposed, or both. Identification of key risks was based on expert judgement using the following specific criteria: large magnitude, high probability, or irreversibility of impacts; timing of impacts; persistent vulnerability or exposure contributing to risks; or limited potential to reduce risks through adaptation or mitigation. Key risks are integrated into five complementary and overarching reasons for concern (RCF’s)[..]”*

[307] IPCC 2018, SR15, Chapter 3, p.254 (exhibit 136)



424. The five "Reasons for Concern" (in short: RFC) are shown as RFC1 to RFC5. This figure shows where for each of the five reasons for concern, the turning point lies from moderate impacts/risks to high impacts/risks (the interface between yellow and red) and from high impacts/risks to very high impacts/risks (the interface between red and purple). The figure shows that the differences between the dangerous consequences of a temperature rise of 1.5˚C to 2˚C are considerable.

425. The figure shows, among other things, that the risks to unique and endangered (eco) systems (RFC1) are already high at a temperature rise of 1.5°C and these risks become very high at a temperature risebetween 1.5°C and 2°C; for extreme weather events such as heat, drought, heavy rainfall and storms (RFC2), the risk increases from moderate to high at a temperature rise between 1°C and 1.5°C:

> *"The risk transitions by degrees of global warming are now: from high to very high between 1.5°C and 2°C for RFC1 (Unique and threatened systems) (high confidence); from moderate to high risk between 1°C and 1.5°C for RFC2 (Extreme weather events) (medium confidence)."*[308]

426. For the other three reasons for concern, the figure shows that the transition from moderate to high risk is between 1.5°C and 2°C for RFC3 (distribution of impacts), between 1.5°C and 2.5°C for RFC4 (global aggregate impacts) and between 1°C and 2.5°C for RFC5 (large-scale singular events):

[308] IPCC 2018, SR15, SPM, p.12 (exhibit 135)

> *"The risk transitions by degrees of global warming are now:[…] from moderate to high risk between 1.5°C and 2°C for RFC3 (Distribution of impacts) (high confidence); from moderate to high risk between 1.5°C and 2.5°C for RFC4 (Global aggregate impacts) (medium confidence); and from moderate to high risk between 1°C and 2.5°C for RFC5 (Large-scale singular events) (medium confidence)."*[309]

427. The figure shows that the greater the warming, the greater the risks associated with the five reasons for concern. The climate risks therefore increase in all categories as the temperature rises. The IPCC therefore concludes:

> *"Human security will be progressively threatened as the climate changes (robust evidence, high agreement)"*[310]

428. Since the RFCs were first introduced by the IPCC in the Third Assessment Report of 2001, the risks identified by the IPCC have become ever greater. For example, the fourth IPCC Assessment report from 2007 states that the five RFCs have increased compared to the third report from 2001, that the risks have increased, that there is more clarity about the vulnerability of systems, sectors, groups and regions to the impacts of climate change.[311] A similar observation is made by the fifth assessment report from 2013/2014 compared to the fourth assessment report from 2007.[312] The IPCC SR15 special report from 2018 yet again finds that the risks have become even greater than described in the fifth report:

> *"There are multiple Lines of evidence that since AR5 the assessed levels of risk increased for four of the five Reasons for Concern (RFCs) for global warming to 2˚C (high confidence)."*[313]

429. The seriousness of the risks associated with one or more of the five reasons for concern is evident from the reports of the IPCC (emphasis added):

> *"The key risks that follow, all of which are identified with high confidence, span sectors and regions. Each of these risks contributes to one or more RFC:*
> *i) Risk of death, injury, ill-health, or disrupted livelihoods in low-lying coastal zones and small island developing states and other small islands, due to storm surges, coastal flooding, and sea level rise. [RFC 1-5]*
> *ii) Risk of severe ill-health and disrupted livelihoods for large urban populations due to inland flooding in some regions.[RFC 2 and 3]*
> *iii) Systemic risks due to extreme weather events leading to breakdown of infrastructure networks and critical services such as electricity, water supply, and health and emergency services. [RFC 2-4]*
> *iv) Risk of mortality and morbidity during periods of extreme heat, particularly for vulnerable urban populations and those working outdoors in urban or rural areas. [RFC 2 and 3]*

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309 IPCC 2018, SR15, SPM, p.12 (exhibit 135)
310 IPCC 2014, AR5, WGII, TS, p.72 (exhibit 149)
311 IPCC 2007, AR4, SYR, p.64 (exhibit 148)
312 IPCC 2013, AR5, WGII, CH.19, p.1075-1079 (exhibit 150)
313 IPCC 2018 SR15 SPM p.12 (exhibit 135)

> *v) Risk of food insecurity and the breakdown of food systems linked to warming, drought, flooding, and precipitation variability and extremes, particularly for poorer populations in urban and rural settings. [RFC 2-4]*
> *vi) Risk of loss of rural livelihoods and income due to insufficient access to drinking and irrigation water and reduced agricultural productivity, particularly for farmers and pastoralists with minimal capital in semi-arid regions. [RFC 2 and 3]*
> *vii) Risk of loss of marine and coastal ecosystems, biodiversity, and the ecosystem goods, functions, and services they provide for coastal livelihoods, especially for fishing communities in the tropics and the Arctic. [RFC 1, 2, and 4]*
> *viii) Risk of loss of terrestrial and inland water ecosystems, biodiversity, and the ecosystem goods, functions, and services they provide for livelihoods. [RFC 1, 3, and 4]"* [314]

430. This summary already explains the impacts associated with the various RFCs. However, it is also important to look at each specific RFC to understand the global impact and local impacts.

431. RFC1: 'unique and threatened systems' are both natural and cultural systems. Global temperature rises will cause certain human systems to have to adapt strongly or that ecosystems as we know them will disappear. Examples of systems that already run a very high risk of extensive damage between 1.5°C and 2°C are the ice masses in the Arctic Ocean and the coral reefs in tropical waters. One of the other consequences of a rising CO_2 concentration is that the oceans acidify, which together with increasing heat stress due to the increase in temperature of the oceans leads to large-scale coral mortality and the disappearance or decline of important species that are essential for the food chain, such as plankton. In addition, sea level rise, also under relatively conservative scenarios, ensures that certain areas are no longer livable or disappear completely. Livelihoods and ecosystems are threatened in this way and in other ways, as well as the cultures that depend on these livelihoods and systems.[315]

432. RFC2: 'Extreme weather events' will increase both in frequency and intensity. Drought, extreme precipitation, heat and (tropical) storms and hurricanes are examples of extreme weather conditions that are expected to increase in frequency or severity, which will in turn lead to more forest fires (due to drought / heat) and flooding (due to extreme precipitation and storms). According to the IPCC, this will in many ways infringe family life. Most infrastructures (ports, roads, waterways, railways, energy supply, real estate, hospitals, dikes, urban planning etc.) are not dimensioned to withstand this type of extreme weather such as extreme heat and extreme precipitation and the damage, the need for adjustments included, will be significant. According to the IPCC, climate change therefore creates risks to undisturbed family life in many ways:

> *"Climate change will have profound impacts on a broad spectrum of infrastructure systems (water and energy, supply, sanitation, drainage, transport and telecommunication), services (including health care and emergency services), the built environment and ecosystem services. These interact with other social, economic and environmental stressors exacerbating and*

[314] IPCC 2014, AR5, WGII, SPM, p.12 and 13, (Exhibit 113)
[315] IPCC 2014, AR5, WGII, SPM p.12 (Exhibit113)

> *compounding risks to individual household well-being (medium confidence based on high agreement, medium evidence).”* [316](emphasis added.)

433. RFC3: ‘Distribution of impacts’ ; the impact of climate change will not be the same all over the world. The IPCC emphasizes that the risks are unevenly distributed and that in all countries (regardless of the state of development), the already weaker and marginalized groups, in particular, will be most affected by climate change and will be the first to be affected by changes in food and water security. The IPCC says the following about this (emphasis added):

> *“Risks are unevenly distributed and are generally greater for disadvantaged people and communities in countries at all levels of development. Risks are already moderate because of regionally differentiated climate-change impacts on crop production in particular (medium to high confidence).”*[317]

> *“Major future rural impacts are expected in the near term and beyond through impacts on water availability and supply, food security, and agricultural incomes, including shifts in production areas of food and non-food crops across the world (high confidence). These impacts are expected to disproportionately affect the welfare of the poor in rural areas [...],”*[318]

434. RFC4: ‘Global aggregate impacts’ are the effects of climate change that are greater than just the direct effects and that add up various (indirect) effects that reinforce each other. This can be explained with an example. Climate change leads to a loss of biodiversity through various complex mechanisms, in a relationship in which the loss of biodiversity increases exponentially with the extent of global warming. This loss of biodiversity not only has major (direct) consequences for the ecology, but also major (indirect) economic consequences because people depend on this biodiversity. Consider, for example, fisheries (when species become extinct or when populations are affected, an important part of human food supplies is affected) or crop pollination in agriculture (if the population of bees and other pollinating insects decreases, this leads to less pollination and possibly lower crop yields). Loss of biodiversity and the changing distribution of species can also lead to pests, also resulting in further ecological damage and damage to agriculture. Environmental damage thus also leads to economic damage. This connection is further elaborated in this summons in chapter VIII (when the Kelderluik criteria are discussed). The IPCC expects that economic damage caused by environmental degradation will accelerate as the temperature rises.[319]

435. RFC5: ‘Large-scale singular events’ are abrupt changes that in most cases are irreversible and therefore have very large and lasting consequences. Because of the comprehensiveness of this risk, this topic will be discussed separately in the following section.

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316 IPCC 2014 AR5, WGII CH.8, p.538. (exhibit 021)
317 IPCC 2014, AR5, WGII, p. 12 (exhibit 113)
318 IPCC 2014, AR5, WGII, p. 19 (exhibit 113)
319 IPCC 2014, AR5, WGII, SPM p.12 and 13 (exhibit 113)

VII.1.2 The risk of 'Tipping Points'

436. Of the five reasons for concern, the fifth reason (the risks of large-scale singular events) deserves special attention because it refers to the most comprehensive, drastic and abrupt dangers of climate change, the so-called tipping points in the climate system:

> *"large-scale singular events (also called "tipping points", or critical thresholds) are abrupt and drastic changes in physical, ecological, or social systems […] Combined with widespread vulnerability and exposure, they pose key risks because of the potential magnitude of the consequences; the rate at which they would occur; and, depending on this rate, the limited ability of society to cope with them."*[320]

437. With a tipping point, the IPCC indicates (see quote above) that a climate system is undergoing an abrupt and irreversible change. If such tipping points are reached, certain major consequences may become irreversible and feedback mechanisms may accelerate climate change and possibly even make it uncontrollable.

438. As afore mentioned, in the SR15 report from 2018, the IPCC has sharpened the risks of tipping points as explained above, by establishing that the transition from moderate to high risks of tipping points is between 1°C and 2.5°C. In the AR5-report from 2015 the IPCC indicated that there are "*early warning signs*" that already occur now. The IPCC observes major changes that are already taking place at the current 1˚C of warming at the North Pole and at the tropical coral reefs.[321] In the period 1979-2012, for example, the summer ice in the North Pole decreased by no less than between 9.4% and 13.6% every 10 years.[322] The expansion of the Arctic sea ice at the end of the summer has almost halved since the start of satellite observations in 1979. Also in the other seasons, Arctic ice shows an unmistakable decrease, whereby the volume decrease is even faster than the decrease of the ice surface, because the remaining sea ice is also becoming thinner - and therefore more vulnerable to further melting, indicative of a possible approaching tipping point.

439. Other possible tipping point risks include, according to the IPCC, (i) the defrosting of the permafrost layer in the bottom of the tundra regions in the world, and the defrosting of permafrost layers in adjacent shallow seabeds, causing large quantities of methane gas (a considerably stronger greenhouse gas than CO_2) stored in the frozen soil to end up in the atmosphere, (ii) drying out of the Amazon region, so that the tropical rain forests in this area can extract much less CO_2 from the atmosphere and even risks to become a net source of CO_2, with an increasing risk of major forest fires and the tilting of the rain forest biome to a Savannah state, and (iii) the disappearance of the ice on Greenland, which could cause sea levels to rise by 7 meters as well as the West-Antarctic ice sheet, also considered unstable, which can lead to an additional sea level rise of approximately 4 meters.[323]

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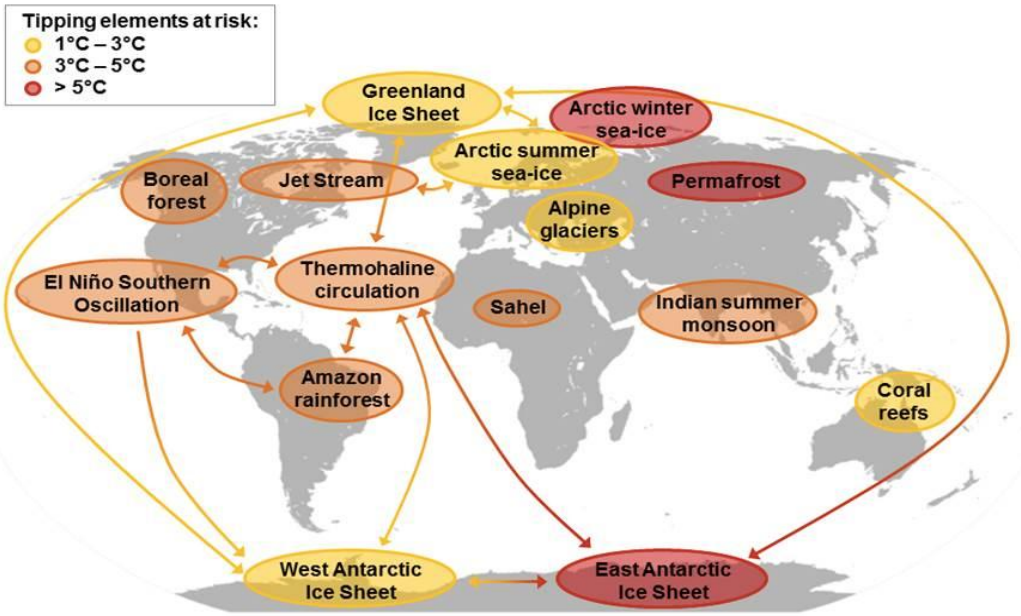
[320] IPCC 2013, AR5, WGII, CH.19, p.1079, (exhibit 150)
[321] IPCC 2014, AR5, SYR, p.72 (exhibit 112)
[322] IPCC 2013, AR5, WGI, SPM, p.9.(exhibit 099)
[323] IPCC 2013, AR5, SYR, p.70-72 with reference to other chapters, (exhibit 112)

440. The IPCC concludes that the risk of tipping points is large to very large if we do not proceed to further emission reductions:

> *"Without additional mitigation efforts beyond those in place today, and even with adaptation, warming by the end of the 21st century will lead to high to very high risk of severe, widespread and irreversible impacts globally."*[324]

441. In 2018, a team of international climate scientists from renowned universities and climate institutions published an article about tipping points that confirms the IPCC findings[325]. This includes the overview map below, which shows which tipping points can turn over at what temperature rise above the pre-industrial level and how one tipping point can also trigger other tipping points, because of cascading reactions.



Global map of potential tipping cascades. The individual tipping elements are color-coded according to estimated thresholds in global average surface temperature (tipping points; 18,43). Arrows show the potential interactions among the tipping elements, based on expert elicitation, which could generate cascades. Note that although the risk for tipping (loss of) the East Antarctic Ice Sheet is proposed at >5˚C, some marine-based sectors in East Antarctica may be vulnerable at lower temperatures.

442. The report confirms that the world – at the temperature rise of around 1.6˚C that should be linked to thermal climate inertia and the already achieved greenhouse gas concentration in the absence of in-depth emission reductions - is dangerously approaching tipping points in some

[324] IPCC 2013, AR5, SYR, p.77, (exhibit 112)
[325] Steffen 2018, *Trajectories of the Earth System in the Antropocene* (exhibit 151)

important climate systems. With a temperature rise between 1˚C and 3˚C (the yellow circles in the figure above), tipping points must be taken into account such as the disappearance of summer sea ice around the North Pole, and the irreversible melting of the Greenland ice sheet, the West Antarctic ice sheet and of the mountain glaciers in the world as well as the irreversible death of tropical coral reefs, ecosystems that, among other things, act as breeding grounds for the fish populations on which a large part of humanity is dependent for food.

443. The study also shows that these first tipping points can subsequently lead to accelerated heating or other changes via various feedbacks to the climate system, so that other tipping points can be initiated in the climate system. This phenomenon is sometimes referred to in science as "positive (climate) feedback". In the overview map, some of these "feedbacks" are represented by the arrows between the different climate systems.

444. The resulting domino effect is called "*Tipping Cascades*", with the consequence that once the first tipping points have been reached the earth warms more quickly, and partly irreversibly and uncontrollably, so that dangerous climate change can no longer be prevented (a scenario that is referred to as "*Hothouse Earth*" in the research). So there is a threshold that should not be exceeded if one does not want the earth to become an unlivable planet for humanity and that threshold is, to the best estimate, around 2˚C:

> *"[A] 2˚C warming could activate important tipping elements (12, 17), raising the temperature further to activate other tipping elements in a domino-like cascade that could take the Earth System to even higher temperatures (Tipping Cascades)".*[326]

445. For that reason, these scientists do not exclude that even if the warming could be kept well below 2˚C or 1.5˚C (the central objective of the Paris Agreement) the self-accelerating road to an escalating Hothouse Earth is already deployed:

> *"This analysis implies that, even if the Paris target of a 1.5˚C to 2˚C rise in temperature is met, we cannot exclude the risk that a cascade of feedbacks could push the Earth System irreversibly onto a "Hothouse Earth" pathway."*[327]

446. It is also warned that once this "cascade" has been deployed, the climate on earth can hardly be reduced within the limits that the earth has known over the past millions of years (called "*Stabilized Earth*"):

> *"A critical issue is that, if a planetary threshold is crossed toward the Hothouse Earth pathway, accessing the Stabilized Earth pathway would become very difficult no matter what actions human societies might take. Beyond the threshold, positive (reinforcing) feedbacks within the Earth System – outside of human influence or control – could become the dominant driver of the system's pathway, as individual tipping elements create linked cascades through time and with rising temperature."*[328]

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[326] Steffen 2018, Trajectories of the Earth System in the Anthropocene, p.8254 (exhibit 151)
[327] Steffen 2018, Trajectories of the Earth System in the Anthropocene, p.8254 (exhibit 151)
[328] Steffen 2018, Trajectories of the Earth System in the Anthropocene, p.8256 (exhibit 151)

447. The scientists do not want to leave any misunderstanding that even if a warming of 2˚C will not lead to self-accelerating warming, this limited temperature rise will in any case have significant consequences for humanity and the vital ecosystems which humanity depends on:

> *"Stabilized Earth will likely be warmer than any other time over the last 800,000 years at least (83) (that is, warmer than any other time in which fully modern humans have existed). In addition, the Stabilized Earth trajectory will almost surely be characterized by the activation of some tipping elements (Tipping Cascades and Fig 3) and by non-linear dynamics and abrupt shifts at the level of critical biomes that support humanity […] Current rates of change of important features of the Earth System already match or exceed those of abrupt geophysical events in the past."*[329]

448. For these reasons, humanity faces a difficult period, even if the Stabilized Earth scenario is reached:

> *"Even if a Stabilized Earth pathway is achieved, humanity will face a turbulent road of rapid and profound changes and uncertainties on route to it - politically, socially and environmentally – that challenge the resilience of human societies."*[330]

VII.1.3 Global health risks

449. The five reasons for concern already clarify that dangerous climate change carries significant risks for people's lives and health and that these risks are part of each of the five reasons for concern. Milieudefensie et al. want to emphasize once again in a general sense how great the health risks of climate change are on a global scale according to, among others, the IPCC and the World Health Organization (WHO). In the elaboration below on the consequences of climate change for the Netherlands and (Western) Europe, specific health risks for this region are discussed.

450. In 2014, the IPCC also emphasized in the AR5 report that the effects of climate change such as heat periods, floods and droughts affect people's health both directly and indirectly. With regard to the latter, the consequences for food supply due to crop failures, the spread of infectious diseases spread by insects and the health consequences associated with the displacement of people are to be considered:

> *"The health of human populations is sensitive to shifts in weather patterns and other aspects of climate change (very high confidence). These effects occur directly, due to changes in temperature and precipitation and occurrence of heat waves, floods, droughts, and fires. Indirectly, health may be damaged by ecological disruptions brought on by climate change (crop failures, shifting patterns of disease vectors), or social responses to climate change (such as displacement of populations following prolonged drought). Variability in temperatures is a risk factor in its own right, over and above the influence of average temperatures on heat-related deaths."*[331]

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329 Steffen 2018, Trajectories of the Earth System in the Anthropocene, p.8257 (exhibit 151)

330 Steffen 2018, Trajectories of the Earth System in the Anthropocene, p.8257 (exhibit 151)

331 IPCC 2014, AR5, WGII, H 11, p.713 (Exhibit 152)

451. Due to the comprehensive scope of direct and indirect damage to people's lives and health, the WHO identifies climate change as the greatest challenge to human health and a risk that seriously threatens all aspects of our society:

> *"Climate change is the greatest health challenge of the 21st century, and threatens all aspects of the society in which we live. The severity of the impacts of climate change on human health are increasingly clear, and further delay in action will increase the risks."*[332]

452. The Lancet, the largest medical scientific journal, comes to a similar conclusion, stating that health risks are becoming unacceptably high and that a lack of emission reductions threatens human life and health:

> *"Present day changes in heat waves, labour capacity, vector-borne disease, and food security provide early warning of the compounded and overwhelming impact on public health that are expected if temperatures continue to rise. Trends in climate change impacts, exposures, and vulnerabilities show an unacceptably high level of risk for the current and future health of populations across the world."*
> *[...]*
> *"A lack of progress in reducing emissions and building adaptive capacity threatens both human lives and the viability of the national health systems they depend on, with the potential to disrupt core public health infrastructure and overwhelm health services."*[333]

VII.1.4 The dependence on ecosystem goods, functions and services

453. The link shown above, for example, between climate change and the degradation of food supply, makes it clear that humans depend on healthy ecosystems. The IPCC explicitly links the impact of climate change on ecosystems to their impact on human systems, human well-being and the ability of people to support themselves.

454. The IPCC states in several places in AR5 (2013) that it must be well understood that ecosystems meet essential needs such as food, potable water, raw materials, the atmospheric conditions necessary for life and the like. In addition, ecosystems also play a critical role in limiting the spread of human and non-human diseases and pests, they influence and stabilize the weather and climate (for example, the tempering of temperature extremes, the circulation of rainwater and the absorption of CO_2 through forests) and thereby affect agriculture, food supplies, water supply and flood risks and physical human infrastructures. As ecosystems change, their impact on these issues also changes and, according to the IPCC, they affect human well-being and the well-being of millions of other species in many different ways. The faster and more far-reaching ecosystems are affected by climate, the harder it is for humans and other species to adapt to these changes.[334]

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[332] UNFCCC World Health Organisation 2018, COP 24 Special Report Health & Climate Change p.10 (exhibit 153)

[333] Watts 2018, The Lancet, The 2018 report of the Lancet countdown on health and climate change p.2479 (exhibit 154)

[334] IPCC 2014 AR5, WGII, CH.4, p.319, FAQ 4.5: Why does it matter if ecosystems are altered by climate change? (exhibit 155).

455. Services by ecosystems that are already threatened with the current warming of around 1˚C are pollination, pest control, disease regulation, climate regulation services and (drinking) water supply. With more stress on ecosystems, the chances of responding to climate change will be limited.[335] This is important, among other things, because ecosystems that cannot adapt to climate change (because it is too fast or too drastic) are an obstacle to human adaptation:

> *"[S]uccessful adaptation will depend on our ability to allow and facilitate natural systems to adjust to a changing climate, thus maintaining the ecosystem services on which all life depends."*[336]

456. The major effect that ecosystems destruction due to climate change will have on human life and well-being has been the reason why article 2 of the 1992 UN Climate Convention clarified that climate change is dangerous once ecosystems are no longer able to adapt naturally to this climate change. For the same reasons, under the definition of "adverse effects of climate change", the Treaty clarifies (see Article 1 of the Treaty) that adverse effects include the significant adverse effects on the composition, resilience or reproductive capacity of natural or man-managed ecosystems.

457. In short, humans depend on healthy and sufficiently vital ecosystems for their lives and well-being that can provide the ecosystem goods, functions and services that humans need for their existence in a sufficiently reliable manner. Climate change is a threat to ecosystems and therefore a threat to human life and well-being.

VII.1.5 Difference in climate impacts between 1.5˚ and 2˚C of warming

458. It has already been clarified above that the risk framework used by the IPCC shows that the higher temperature rises, the higher the risks associated with the five reasons for concern. In addition, the IPCC SR15 report specifically goes into the differences in risks and impacts between 1.5˚C and 2˚C of warming.

459. The IPCC predicts that the difference between 1.5˚C and 2˚C of warming will manifest itself among other things through a robust and significant increase in average temperatures and temperature extremes in most country regions. The average and extreme sea surface temperatures will also increase further with a 2˚C temperature rise.[337]

460. Limiting global warming to 1.5˚C will, according to the IPCC, reduce the risk of extreme torrential rains worldwide and substantially reduce the risk of extreme droughts, (drinking) water shortages and flooding on a regional scale.[338] Large differences between regions aside,

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335 IPCC 2014 AR5, WGII, CH.14, p.840, (exhibit 156)
336 IPCC 2014 AR5, WGII, CH.14, p.839, (exhibit 156)
337 IPCC 2018 SR15, CH.3, p.177 (exhibit 136)
338 IPCC 2018 SR15, CH.3 p.178 and 179 (exhibit 136)

the share of the world population that suffers from water scarcity would be up to 50% higher with a temperature rise of 2˚C compared to a temperature rise of 1.5˚C.[339]

461. The IPCC points out that in comparison with a 1.5˚C temperature rise, a 2˚C temperature rise in general means more risks for natural and human systems, more risks for food production and public health, will lead to a faster sea level rise and will affect the summer ice in the North Pole substantially more.[340]

462. In addition,the risk of far-reaching degradation of biodiversity and the risk of extinction of animal and plant species is much smaller with a 1.5˚C temperature rise than with a 2˚C temperature rise, according to the IPCC. Ocean ecosystems will already undergo critical changes with a a 1.5°C temperature rise (70-90% of the tropical coral reefs will disappear with a 1.5°C temperature rise), but with a 2˚C temperature rise, the effects on ocean ecosystems are even more drastic and lead to a further decline in fish production, for example.[341]

463. Not just the differences in impacts and risks between a 1.5˚C and a 2˚C temperature rise are significant, the same applies, according to the IPCC, when the current temperature rise of 1˚C is compared to a temperature rise of 1.5 ˚C.[342] The report shows, according to the IPCC press release, that every bit of extra warming matters, in particular because a temperature rise of 1.5°C or higher further increases the risk of long-term, irreversible changes, such as the loss of ecosystems (quote):

> *"Every bit of warming matters, especially since warming of 1.5°C or higher increases the risk associated with long-lasting or irreversible changes, such as the loss of some ecosystems."* [343]

VII.2 CLIMATE CHANGE IMPACTS IN EUROPE AND THE NETHERLANDS

464. Above we discussed the main global consequences for people and the environment of additional global warming and the associated risks. These global consequences also include the tipping points discussed above (the "large-scale singular events"), that can bring global warming to an irreversible and uncontrollable acceleration that will affect every inhabitant of the earth.

465. In order to get a better picture of the consequences of climate change for the Netherlands and its residents, including the co-claimants, this section discusses the consequences that are now being observed or will manifest in the course of this century in the Netherlands and (Western) Europe if global warming is not stopped. The consequences in (Western) Europe are also being discussed, because there are more studies available about this larger geographical area than

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339 IPCC 2018 SR15, CH.3 p.179 (exhibit 136)

340 IPCC 2018 SR15, CH.3 p.178 (exhibit 136)

341 IPCC 2018 SR15, CH.3 p.179 (exhibit 136)

342 IPCC 2018 SR15, SPM p.9 (exhibit 135) and IPCC 2018 SR15, CH.3 p.178-180 (exhibit 136)

343 IPCC 2018, SR15, Press Release October 8th 2018 (exhibit 134)

for the Netherlands alone; these studies also provide an insight into what the consequences will be for the Netherlands.

466. In all this, it is important to realize that (i) the consequences on a global and European scale will (indirectly) also have consequences for Dutch society - in addition to the direct consequences that global warming will have for the Netherlands - and (ii) the ecosystems that are (seriously) affected by global warming also affect human existence and well-being.

467. After a brief explanation of these two topics, the consequences for the Netherlands will be further charted through the use of Dutch and European reports.

VII.2.1 The indirect consequences of global warming for the Netherlands

468. Because of the international dimension of the effects of global warming, the Netherlands is not only exposed to the dangers that take place within the Dutch borders, but also to the dangers that take place outside the borders of the Netherlands. In a globalized world in which food supplies and raw materials are purchased all over the world, there are consequences for Dutch society such as declining food production in the world or crop failures or the destruction of important infrastructures by weather extremes in other parts of the world. The IPCC also indicates this:

> *"[E]xtreme weather events in one region may impact production of commodities that are traded internationally, contributing to shortages of supply and hence increased prices to consumers, influencing financial markets and disrupting food security worldwide, with social unrest a possible outcome of food shortages."*[344]

469. That climate effects in another part of the world create risks for Dutch food security, trade and safety can also be read in the letter from the State Secretary of Infrastructure & Environment (I&M) of 17 June 2014, in which the House of Representatives responded to the IPCC AR5 WGII report on behalf of the government:

> *"This report illustrates how the world is changing as a result of climate change. The effect on food production may turn out to be stronger than previously thought, especially in Africa. Although there are many opportunities to improve this productivity, it is not easy to achieve. Water scarcity and food shortages are increasing in many parts of the world. Extreme weather is more common and causes more damage, also because people are more likely to live in sensitive areas.*[345] *This means risks for our trade and food security, conflicts and possible migration flows."* (emphasis added.)

And later in the letter, the effects of climate change abroad for the Netherlands are emphasized by the government:

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344 IPCC 2014, AR5, WGII, CH21, p.1151 (exhibit 157)

345 Parliamentary Papers II 2013/14, 61793, 91, p. 1 and 2 (International Climate Agreements) (exhibit 158)

> *"The climate problem is a global problem, whereby the effects in other parts of the world can also have consequences in the Netherlands. For example, climate change can have effects on our food and energy security and lead to global instability and refugee flows."*[346]

470. The IPCC underlines this security risk for the Netherlands and other countries as a result of climate change and states that climate change makes the world more sensitive to conflict:

> *"Climate change can indirectly increase risks of violent conflicts in the form of civil war and inter-group violence by amplifying well-documented drivers of these conflicts such as poverty and economic shocks (medium confidence)."*[347]

471. Foreign conflicts can also affect the Netherlands, for example because global instability can lead to growing refugee flows, as the government also indicated.

472. The global climate effects will also affect the Netherlands economically, as did the credit crisis in the United States of 2008, which resulted in a banking crisis and euro crisis which have also hit the Netherlands. The forecast of the IPCC is that climate change will dampen economic growth in the world and that will also affect the Netherlands:

> *"Throughout the 21st century, climate-change impacts are projected to slow down economic growth".*[348]

473. It is evident that the Netherlands is not an island that can shut itself off from the international consequences of climate change. The consequences of climate change abroad must therefore be involved in determining the severity and extent of the consequences and dangers of climate change for the Netherlands and its residents and future generations of Dutch.

474. That is exactly what the US Federal Environmental Agency, the Environmental Protection Agency (EPA) has done with regard to risk analysis for US citizens when it decided in 2009 to designate greenhouse gases such as CO_2 as dangerous air pollutants (as referred to in article 202a of the federal law "Clean Air Act"). In this decision ('Endangerment finding'), the EPA indicated that it is necessary to include international climate effects in the risk analysis, such as the increase in crop failures in other parts of the world because, according to the EPA, the health of citizens are affected. According to the EPA, all these effects of climate change affect the safety, well-being and health of American society, and as global warming becomes worse, these negative effects will become more serious, says the EPA.[349]

475. From this brief explanation of the international effects of climate change alone it follows that these effects pose a threat to food supplies, to sustainable economic growth and security and to the ecosystems on which humanity depends. That is precisely why Article 2 of the UN

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[346] Parliamentary Papers II 2013/14, 61793, 91, p.5 (International Climate Agreements) (exhibit 158)
[347] IPCC AR5, WGII, SPM, p.20 (exhibit 113)
[348] IPCC AR5, WGII, SPM, p.20 (exhibit 113)
[349] Environmental Protection Agency, Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Final Rule, 15 December 2009, p.66514 under D, p.66531 and p.66534, 66535, 66536 under g and h (exhibit 159)

Climate Convention, which defines the key Convention objective for the prevention of dangerous anthropogenic global warming, talks about the need to stabilize the concentration of greenhouse gases at a level and within a certain time frame sufficient to ensure that food production is not endangered, economic development can continue in a sustainable way and ecosystems can adapt naturally to climate change.[350]

476. The importance that the ecosystems on which human beings depend are not affected is already explained in Chapter VII.1.4.

VII.2.2 The direct consequences for the Netherlands and Europe

477. Now and in the coming decades, the Netherlands is experiencing direct consequences of climate change, in addition to the many indirect consequences. This appears for instance from the increased heat periods in the Netherlands. From the scientific literature it follows that there is a relationship between climate change, heat periods and health problems and deaths in society.[351] Based on these scientific findings, the Ministry of Health, Welfare and Sport drew up a Heat Plan in 2007. The Heat Plan confirms that several hundred people in the Netherlands died of heat stress in 2003 and 2006 due to persistent heat periods[352]. Across Europe, an estimated 70,000 people died during the extremely hot summer of 2003 as a direct result of the then continuing exceptional high temperatures - the majority in France.[353] In addition, there is also a large group of people whose health and quality of life is affected by heat stress. According to the Heat Plan, it involves consequences ranging from reduced well-being, skin disorders, dehydration, breathing and circulation problems and heat strokes.[354]

478. Heat stress is only one of the consequences of climate change that the Netherlands is experiencing and will increasingly be experiencing, as is apparent from the report of the *Algemene Rekenkamer* [Court of Audits] "*Aanpassing aan klimaatverandering: strategie en beleid*" [Adapting to climate change: strategy and policy] from 2012.[355] In addition to heat stress, other health problems associated with climate change for the Netherlands include increasing infectious diseases, deteriorating air quality, increasing UV exposure and increasing water and food-related diseases. According to the Court of Audits, the Netherlands will also experience water issues in the coming decades, such as flooding, water shortages, deterioration of water quality, salinization, waterlogging and drought. Periods of drought and water shortages can occur every year, as well as periods of flooding. These changes and

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350 UNFCCC 1992, UN climate agreement, article 2 (Objective) (exhibit 096)

351 See for instance Garssen 2005 (Eurosurveillance, *The effect of the summer 2003 heat wave on mortality in de the Netherlands*, which talks about possibly 1,400 to 2,200 deaths in the summer of 2003 as a result of heat stress, the majority of which were elderly people (exhibit 160). See also Füssel 2012 (European Environment Agency) in the report *Climate change, impacts and vulnerability in Europe 2012*, which states that heat waves are expected to occur more frequently and to last longer. The report also states that with every increase of 1 $^{\circ}C$ in a region between 1 and 4% more deaths are expected to occur as a result of weather extremities such as heat stress, mainly among the elderly and the socio-economically disadvantaged people, p.1-29 (exhibit 161)

352 National Heat Plan 2007 p.7-8 (exhibit 162)

353 IPCC 2007 AR4 WGII, CH.8, p.397 (exhibit 163)

354 National Heat Plan 2007 p.7-8 (exhibit 162)

355 Adapting to climate change: strategy and policy (exhibit 164)

uncertainties in water availability will have consequences for agriculture and biodiversity, but also for the energy sector and industry (think of cooling water problems and poor accessibility via the rivers in case of drought, flooding or other weather extremes).

479. Direct and indirect climate impacts in the Netherlands can also be deduced from European studies. For example, the European Commission identified the consequences of climate change for the EU in 2007 in the Green Paper 'Adapting to climate change in Europe - Options for EU action', in which the European Commission provides a penetrating picture of climate change impacts in the EU and its Member States. The Green Paper states, among other things:[356]

- that climate change will have far-reaching consequences for Europe's natural environment and for almost all sectors of society and the economy;
- that the increase in frequency and intensity of extreme phenomena such as storms, cloudbursts, storm floods and sudden floods, droughts, forest fires and landslides will cause damage;
- that damage outside EU territory can also have a significant impact on the EU economy;
- that within the EU ports and industries will be relocated and entire towns and villages will be transferred from low-lying coastal and river plains to higher-lying areas;
- that the frequency and severity of large-scale disasters such as fires, landslides, droughts, heat waves, floods and epidemics will increase;
- that the poorer sections of the population are the most vulnerable to climate change;
- that food production risks could become an issue in certain parts of Europe as heat waves, droughts and pests are likely to increase the incidence of crop failures;
- that climate change will significantly affect our economies and societies;
- that the impact of climate change poses a significant financial risk to individual citizens and businesses and that major restructuring may be required from certain economic sectors that depend on the weather, such as agriculture, forestry, renewable energy, water, fisheries and tourism, or from areas that are highly exposed to climate change, such as ports, industrial infrastructure and residential areas in coastal and river strips and in the mountains;
- that all parts of Europe are increasingly confronted with the adverse effects of climate change.

480. The EU thus clearly states the seriousness of the problem, that all parts of Europe face the adverse effects of climate change and that individual citizens and businesses run a significant financial risk because of these consequences.. The effects of climate change will therefore be felt on an individual level. The findings of the European Commission in the Green Paper have been endorsed by the Dutch government (after review by the Netherlands Environmental Assessment Agency).[357]

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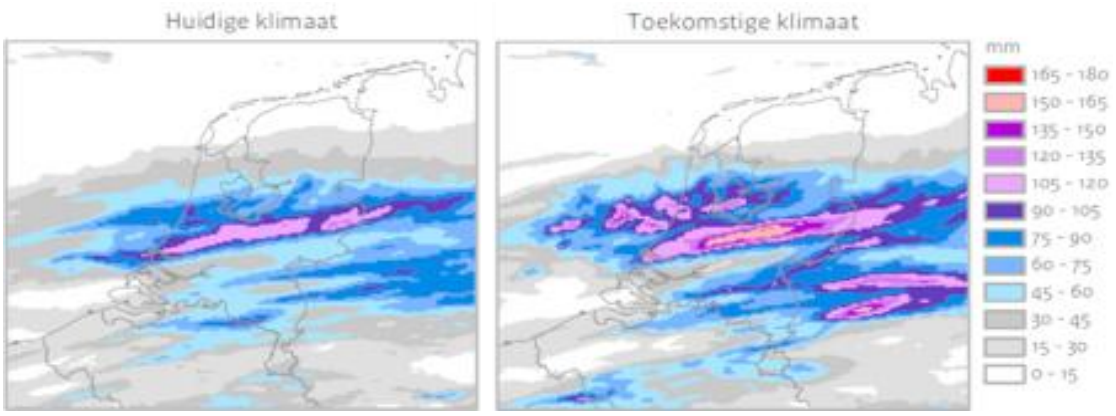
[356] European Commission Brussels 29 June 2007 "*Green paper Adapting to climate change in Europe – Options for EU action 2007*" (exhibit 165)

[357] PBL, 2007, the meaning of the Green Paper 'Adapting to climate change in Europe – Options for EU action 2007' for the Netherlands, (exhibit 166)

481. The Royal Netherlands Meteorological Institute (KNMI) has provided an insight into what the Netherlands can expect in the event of further warming in the report "*KNMI 14, klimaatscenario's voor Nederland*', [KNMI 14 climate scenarios for the Netherlands], issued in 2011 by the Ministry of Infrastructure and the Environment, revised version published in 2015.[358]

482. To give a concrete example, reference is made to Figure 18 on page 21 of the report (which is reproduced here).



483. The KNMI says the following about figure 18:

> *"Figure 18 shows an example of two corresponding weather patterns, now and in the future. This example concerns a situation with heavy rainfall during two days in August 2010 in the east of the Netherlands. With the detailed model, this situation has been transformed into a 2°C warmer climate in accordance with the Wh scenario […]Transformation of this extreme situation into a future climate leads to a significant increase in the calculated amount of precipitation. The maximum amount increases from 130 mm to 180 mm and the area with more than 100 mm of precipitation is almost twice as large. The complete picture of the future weather that has thus been obtained makes detailed research into the disruptive consequences of extreme weather possible."*

484. The size and intensity of extreme weather types in the Netherlands will increase (the current extremes will be normal by then) and everyone will be confronted with it. Figure 18 shows the intensity of precipitation in an extreme rain storm that is unprecedented in the Netherlands. Rain fronts of 180 mm are extremes that have never been measured in the Netherlands. And please note that we are talking about the effects of climate change that do not exceed a global warming of 2°C. It should also be noted that the temperature rise in the Netherlands is about twice as fast as the global average - and that a global average temperature rise of 2°C may therefore manifest itself as twice as large temperature rise in the Netherlands.

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[358] KNMI 2015: KNMI '14 Klimaatscenario's voor Nederland: leidraad voor professionals in klimaatadaptatie p.20-21 (exhibit 066)

485. As explained above (chapter VI.2.4), based on the nationally determined emissions reduction targets that have been submitted to the UNFCCC, the world is currently on its way to heat this century by around 3˚C, and even below 4°C or more under the even higher actual emission path, also in view of the increasing risk of activating accelerated climate feedback once the aforementioned tipping points in the climate system are reached. A report that has mapped the consequences for (Western) Europe of a warming of 3 to 4˚C is the so-called Climate Cost Project that has been financially supported by the EU and that is also important for the Netherlands. This report[359] was included by the Court of Audits in the above-mentioned report and the PBL also refers to this report.[360] Without additional mitigation and adaptation, the consequences for (Western) European countries, including the Netherlands, of a 3 to 4˚C warming[361] are (among others) the following, according to this report:

- that in the EU, by 2050 around 88,000 people will die each year as a result of heat; that by 2080, there will be around 126,000 deaths from heat in the EU each year; that the related welfare costs will be around 102 billion euros by 2050 and around 146 billion euros by 2080.[362]
- that by 2050, around 5550 people will be affected each year by floods and by 2080, 121,000 to 425,000 will be affected by flooding each year and another 438,000 will have to be relocated;[363]
- that by 2080, flood-related annual costs will be between 19 billion euros and 37 billion euros;[364];
- that those costs can go up to 156 billion euros per year if the sea level rises by more than 1 meter this century;[365]
- that the number of people killed in floods in 2080 will be around 650 people per year, of which 2/3 of those killed will be in the Western European EU countries.[366]

According to the IPCC, the number of potential victims worldwide will even reach hundreds of millions around 2100:

"Due to sea-level rise throughout the 21st century and beyond, coastal systems and low-lying areas will increasingly experience adverse impacts such as submergence, coastal flooding, and coastal erosion (very high confidence) [367]
[...]
By 2100, due to climate change and development patterns and without adaptation, hundreds of millions of people, will be affected by coastal flooding and displaced due to land loss (high confidence)."[368] (emphasis added)

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359 ClimateCost Project 2011 Final Report (productie 167)
360 PBL 2013, De achtergrond van het Klimaatprobleem, noten (productie 100)
361 PBL 2013: This concerns the A1B scenario discussed in the report, which assumes a temperature rise from 2.4˚C to 3.4˚C in the period 2071-2100 compared to the period (1961-1990), which is approximately 3 to 4 degrees of warming compared to compared to the pre-industrial level.
362 ClimateCost Project 2011 Final Report p.9 (exhibit 167)
363 ClimateCost Project 2011 Final Report, p.4 (exhibit 167)
364 ClimateCost Project 2011 Final Report, p.4 (exhibit 167)
365 ClimateCost Project 2011 Final Report p.5 (exhibit 167)
366 ClimateCost Project 2011 Final Report p.9 (exhibit 167)
367 IPCC 2014, AR5, WGII, TS, p.68 (exhibit 149)
368 IPCC 2014, AR5, WGII, H.5, p.364 (exhibit 269)

- that, in addition to the coastal areas, by 2050, the rivers will also affect around 300,000 people each year and by 2080 around 360,000 people will be affected by flooding each year (coast and rivers combined up to 785,000 people affected each year plus 438,000 relocated people); whereas by 2050, the costs will be around 46 billion euros a year and by 2080 around 98 billion euros a year; that the actual costs can be higher or lower by a factor of 2; that this will lead to high costs, particularly in England, Ireland, Italy, the Netherlands and Belgium.[369]
- that by 2050 (compared to a 2°C scenario), 2800 more people will die each year from ozone pollution; that there will be an additional 36,000 cases of chronic bronchitis each year; that an additional 23,000 climate-related hospitalizations will take place annually; that for the lighter complaints of climate-related air pollution there will be an additional 150 million so-called "minor symptom" days per year; that by 2050, the additional costs of this climate pollution will be between 44 billion and by 2080, 98 billion euros per year.[370]
- that the models used show that the yields of limiting the average world temperature to 2˚C are greater than the costs of aggressive mitigation that are required for this.[371]

486. It is worth remembering that the ClimateCost report on the effects of climate change on (Western) Europe, discussed above, took into account a sea level rise of up to 37 centimeters up to 2080.[372] The report was published in 2011. Since then the forecasts about the possible rise in sea level have been adjusted, so that more serious consequences than those described above must be taken into account.

487. Based on calculations from 2017, the KNMI has reported that the sea levels can rise by 2.5 to 3 meters this century in the event of a high global emissions scenario. Previously, the KNMI assumed that the rise could amount to a maximum of 1.2 meters. The KNMI clarifies that since 2014 in particular the understanding of the possible contribution to sea level rise of Antarctica ice loss has changed enormously. According to the KNMI, certain processes are taking place there that can lead to great acceleration of ice loss and to sea level rise. This new indication of the expected sea level rise to an upper limit of 2.5 to 3 meters in a high emission scenario is in line with other recent international scientific studies.[373]

488. The report commissioned by the Delta Commissioner in 2018 from the Deltares research agency on the possible consequences of accelerated sea level rise for the Delta Program also shows the new KNMI projections that show that the sea level rise even under a more moderate emission scenario (RCP4.5 - corresponding to a more moderate emission scenario) temperature rise of around 2.4 degrees) can already increase to 1.8 meters. With even higher emissions and stronger warming this can increase to almost 3 meters sea level rise in 2100.[374]

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[369] ClimateCost Project 2011 Final Report, p.6 (exhibit 167)
[370] ClimateCost Project 2011 Final Report p.11 and 12 (exhibit 167)
[371] ClimateCost Project 2011 Final Report, p.14 (Exhibit 167)
[372] ClimateCost Project 2011 Final Report. p.4 (exhibit 167)
[373] KNMI 6 April 2017. Extreme Sea Level Rise in the 21st Century (exhibit 168)
[374] Haasnoot, Deltares 2018, Mogelijke gevolgen van versnelde zeespiegelstijging voor het Deltaprogramma – een verkenning p.4 (exhibit 068)

489. The report commissioned by the Delta Commissioner shows that protecting the Netherlands against such extreme scenarios requires various and very drastic measures, for example in order to be able to safeguard water safety and freshwater supplies in the Netherlands this century. In the long term, there is a risk of permanent closure of storm surge barriers such as the Maeslantkering and the Oosterscheldekering, with major ecological consequences, such as the drowning of the intertidal area of the Oosterschelde. The report shows that there is also a very urgent risk of drowning for the Wadden Sea, the only UNESCO World Heritage site in the Netherlands and the world's largest contiguous intertidal area. This drowning can already start with a relative sea level rise of 6 millimeters per year, a speed that according to the report can already start in about 15 years under high emission scenarios. With a rapid rise in sea level, early replacement of coastal defenses and storm surge barriers will also have to be considered, because the current coastal defense offers insufficient protection against accelerating sea level rise. Agriculture in the West and North of the Netherlands will be faced with potentially very serious salinization via groundwater and rivers, and the accumulation of river water can cause serious problems far inland, as a direct consequence of a sharp rise in sea level. Costs, intervention and the pace at which adjustments are needed to infrastructure in the Netherlands that is very diverse, depend strongly on the rate of acceleration of sea level rise and thus on the level of global emissions. Under high emission scenarios, sand nourishment needs to be scaled up very strongly and potentially uncontrollable risks also increase considerably.[375]

490. After 2100, the above-mentioned accelerated sea level rise can continue to 5 and possibly 8 meters in 2200, according to the Deltares report.[376] The report does not make clear what the consequences will be for the habitability of the Netherlands, but in a recent article in Vrij Nederland, 7 Dutch sea level experts say that the physical limitations of traditional adaptation measures (extra dikes, heavier pumping stations, very strong increase in sand nourishments) may already be at 1 or 2 meters sea level rise.[377] Above these values, more and more (inhabited) land will have to be surrendered for the establishment of so-called "exchange polders", a measure to promote natural silting up. However, there are also physical limits to this. The experts state that if the sea level rises several meters, large-scale retreat to higher-lying land in South-east Netherlands and abroad should be considered as a serious scenario.

491. The above clarifies that (future) Dutch and other (Western) Europeans are exposed to the many direct and indirect climate change impacts. In addition to the material damage that this will cause, these dangers also threaten the right to life, health and an undisturbed family life as referred to in the ECHR (see chapter X). The extreme weather types causing damage and injury of the future will not be a natural phenomenon, but will be caused by humans themselves and will be of a size that the Netherlands has never known before.

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375 Haasnoot, Deltares 2018, Mogelijke gevolgen van versnelde zeespiegelstijging voor het Deltaprogramma – een verkenning, p.5-8 (exhibit 068)

376 Haasnoot, Deltares 2018, Mogelijke gevolgen van versnelde zeespiegelstijging voor het Deltaprogramma – een verkenning, p.4 (exhibit 068)

377 Schuttenhelm 2019, De Zeespiegelstijging is een groter probleem dan we denken, Vrij Nederland 2019 (exhibit 169)

492. Finally, if there are tipping points in the climate, this will also have consequences for the Netherlands and its inhabitants. The KNMI says the following about this in the above-mentioned report from 2011 (p.28):

> *"Scientific circles support the view that strong global warming increases the likelihood of a radical, abrupt change in the climate system […] Some models calculate an abrupt decrease in the sea ice surface in the Arctic, causing the temperature in this area to increase considerably. This could possibly have an impact on storms in Europe. Another effect that some models calculate is a very strong dehydration of the soil in southern Europe. This "desertification" of the Mediterranean increases the chance of east winds in the Netherlands, resulting in very dry and warm summers. […].*
> *Another phenomenon concerns the possibility that remnants of tropical hurricanes will reach Western Europe. In recent years, we have seen hurricanes occur relatively often in the east of the tropical Atlantic, and less often in the Caribbean. Many eastern hurricanes move northward and then bend towards Western Europe. The chance of eastern hurricanes occurring increases due to global warming, and with it the chance that hurricane remains reach Western Europe. New calculations of future weather with a very fine-meshed KNMI model confirm this. As a result, the storm season in the Netherlands can start earlier and the intensity of storms can increase."*[378]

493. The chance of these consequences for the Netherlands as a result of these tipping points scenarios is present in the event of further warming, but can be limited if the warming does not exceed 1.5°C, as explained above.

VII.3 THE IMPACT ON PRIVATE CO-CLAIMANTS

494. It is clear that due to anthropogenic climate change, Dutch residents, like other Western Europeans and world citizens, will be exposed to injury and damage (to property).

495. The co-claimants will not be able to escape these negative consequences. Weather types such as extreme heat (see also the Heat Report), drought, precipitation etc. will lead to mortality, damage to health, damage and nuisance and everyone in the Netherlands will have to deal with this more or less structurally and regularly. This applies to all the effects of global warming as described above, both to the direct effects in the Netherlands and the indirect effects due to climate change in other countries inside and outside Europe. The claimants wish to be protected against these (future) threats.

496. The claimants in this lawsuit are already experiencing the effects of climate change. Following the announcement of this case, people who joined as a co-claimants, told Milieudefensie how they are already affected by climate change. There were stories of elderly people suffering so much from heat stress in the summer that they could not leave the house, which in addition to the physical symptoms of heat stress caused loneliness. The co-claimants told about their increasing allergy symptoms because the flowering season of hay fever causing plants starts earlier and lasts considerably longer. In addition, co-claimants foresee large investments in their home and garden, for example, because many Dutch homes and gardens are not equipped to remove large amounts of rain during peak showers or to offer coolness during hot

[378] KNMI 2015: KNMI '14 Klimaatscenario's voor Nederland p.28 (exhibit 066)

summers. Co-claimants also experienced damage due to (hail) storms or droughts. Co-claimants who are growers or farmers expect many changes as a result of climate change. In the agricultural and horticultural sector, people expect to have to adjust their business model, among other things because they are faced with less and less predictable harvests. As a result, they not only suffer damage but also experience uncertainty about the future of their business.

497. As stated above, the co-claimants, like other residents of the Netherlands, will therefore have to deal with the direct and indirect effects of climate change on a structural basis and cannot escape climate change, which is why they need protection against it.

VII.4 THE INJUSTICE BETWEEN GENERATIONS

498. The impact of climate change not only differs for people from different regions and socio-economic environments, but also leads to inequalities between generations. The fact that the consequences of climate change will inevitably become larger in the future automatically means that climate change will hit young and future generations harder.

499. The concept of intergenerational inequality got its first prominence after the Brundtland commission defined sustainable development in its well-known report "Our Common Future" as follows:

> *"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."*[379]

500. Although this report did not specifically address climate change, it does show that the impact of anthropogenic activities has an impact on the lives of future generations, and that it is important to also consider the needs and opportunities of these generations. The 2006 and 2009 reports of Lord Stern confirm this argument and also link it to climate change.

> *"Questions of intra- and inter-generational equity are central. Climate change will have serious impacts within the lifetime of most of those alive today. Future generations will be even more strongly affected, yet they lack representation in present-day decisions."*[380]

501. Among the co-claimants, there is a group of young people who deserve extra attention in this context. More than 22% of the co-claimants are under 30 and even 32% under 35. Part of them is underage. These generations are increasingly experiencing the effects of climate change as described in previous sections. In addition to the increasing number and intensity of extreme weather conditions, rising sea levels will also directly or indirectly affect the lives of

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[379] UN Documents, Our Common Future, Gathering a Body of Global Agreements, Chapter 2, Towards Sustainable Development, p.44 (exhibit 170)

[380] Stern Review 2006: The Economics of Climate Change, H. 2, Economics, ethics and climate change (exhibit 171), this report is published on request of the British government in 2006. The EU-commission and the Dutch government referred to the report multiple times.

these co-claimants. These are people who have not had the largest share in causing climate change.

502. If insufficient action is taken now to prevent severe climate change and to stay below 1.5°C, the costs of adaptation and damage will largely be borne by these people and future generations, who did not cause the problem. The contradiction that emerges here, is that the desires lie with the older generations and the burdens with the young. Which again emphasizes the importance of climate action and shows that delay is not an option.

VIII. UNLAWFUL ACT

VIII.1 INTRODUCTION

503. Milieudefensie et al. are of the opinion that the global consensus about what should be done so as to prevent dangerous climate change, as laid down in the Paris Agreement and as has been substantiated from a climate science point of view in the IPCC report, including the most recent IPCC SR15 report about 1.5°C, has legal meaning for Shell and under Dutch law, Shell has a social duty of care to contribute to preventing dangerous climate change.

504. Based on the best available scientific findings, all countries in the world agree that global warming of 2°C is a very great and all-encompassing danger to mankind, a danger we should steer clear from. That is why the Paris Agreement has stipulated that global warming should be limited to far below 2°C and, preferably, to 1.5°C. Nevertheless, dangerous climate change is imminent because the parties that have a substantial influence on continued global warming (including Shell) knowingly and wilfully refuse to make their proportional (emission reduction) contribution to stop global warming in time. That is why under Dutch law, according to Milieudefensie et al., these parties are guilty of unlawful endangerment and, therefore, they are in conflict with what is generally accepted according to unwritten law (Article 6:162 of the Dutch Civil Code) and, therefore, they are in conflict with what is also referred to as the social standard of care or the social duty of care.

505. This social duty of care, which is embedded in the Dutch Civil Code, is an open legal standard of a highly casuistic nature. That is why, when certain behaviour is verified against what is generally accepted, it is first necessary to establish what *is* generally accepted behaviour in the relevant context. The assessment of the social duty of care is, therefore, an assessment of behaviour within a specific context. Based on the facts of the specific case, the legal standard needs to be studied. This legal standard is of a general nature and like a statutory standard, it also applies to a new case of a similar situation.[381] When looking for a standard of unwritten law, we can use convention and statutory provisions, among other things, that apply to behaviour that shows a connection with the behaviour that needs to be checked for due care. Universal principles of law, juridical views and customs that apply to certain sectors of society may also help to establish the due care required in the specific case.[382]

506. Given the nature of the social standard of care as an open standard and given (among other things) the global climate target laid down in the Paris Agreement and the climate-scientific findings on which they are based, Milieudefensie et al. are of the opinion that the extent of current and future CO_2 emissions linked to Shell are such that the consequences are serious to the extent that these CO_2 emissions and the Shell policy they are based on are in conflict with the social duty of care and are, therefore, unlawful towards Milieudefensie et al. The reduction of these emissions as demanded by Milieudefensie et al. is necessary in order to eliminate the unlawfulness of Shell's actions.

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[381] C.H. Sieburg, *Toerekening van een onrechtmatige daad*, Kluwer, 1 juli 2000 p.75 - 77

[382] C.H. Sieburg, *Toerekening van een onrechtmatige daad*, Kluwer, 1 juli 2000 p.75 – 77 and Asser 6-IV, 2011/76 (Asser/Hartkamp&Sieburgh)

507. Essentially, due care, especially when one person or legal entity creates a danger to another, is about balancing the right interests: how can we serve our own interests without harming the legitimate interests of others. Milieudefensie et al. take the position that because of its current policy and the resulting emission scope, Shell fails to look after the legitimate interest of Milieudefensie et al. and, therefore, it violates this legitimate interest. The legitimate interest of Milieudefensie et al. is that the global climate target of Paris is realised so that dangerous climate change with its catastrophic consequences for the statutory and personal interests of Milieudefensie et al. can be prevented.

508. The principal claim of Milieudefensie et al. is, therefore, that they ask the court to order Shell to reduce the CO_2 emissions it causes and which it can control in line with the global climate target of Paris as set out in this summons and formulated in the claim for relief. In addition to this application for a court order, Milieudefensie et al. will demand various declarations in court that are linked to this application for a court order.

509. For the sake of clarity, we note that Milieudefensie et al. do not believe that the CO_2 emissions of Shell in themselves lead to the danger described but that these emissions do make a non-negligible and even substantial contribution to the increase in the CO_2 levels in the atmosphere. That is why Shell shares the responsibility for these rising CO_2 levels and, as such, for the (imminent) consequences thereof. Milieudefensie et al., therefore, are concerned about the unlawfulness of the share of the CO_2 emissions linked to Shell in global CO_2 emissions, in light of how these global CO_2 emissions collectively affect the atmosphere, with all that this entails for the climate and the quality of life on earth. According to Milieudefensie et al., Shell is, therefore, liable for this shared responsibility for dangerous climate change and they are of the opinion they can hold Shell to account.

510. Below, Milieudefensie et al. will further substantiate why Shell, by violating its duty of care, is guilty of unlawful endangerment and why this unlawful act can be attributed to Shell and that this, therefore, should result in establishing Shell's liability, allowing the claim brought by Milieudefensie et al.

VIII.2 UNLAWFUL ENDANGERMENT

511. In order to assess if certain behaviour is unlawful on account of the endangerment that is exuded by such behaviour, the so-called Kelderluik criteria, formulated by the Supreme Court, have been used in case law for decades now.[383] Whether or not endangerment breaches the standard of due care is, according to case law and legal literature, determined by the extent of due care on the part of the injuring party (in this case: Shell) and the gravity of the hazard on the part of the injured party (in this case: Milieudefensie et al.). The (extent of) due care to be observed by the injuring party depends on the nature of the behaviour and the inconvenience of the precautionary measures to be taken. The hazard is assessed on the basis of the extent of

[383] HR 5 November 1965, Dutch Law Reports 1966, 136 (the Kelderluik ruling) ECLI:NL:HR:1965:AB7079

the feared damage, the recognisability thereof and the likelihood that such damage will occur.[384]

512. In the Urgenda case, the court used the same criteria to assess what the extent of the due care to be observed by the state should be, given the legitimate interests of Urgenda to remain protected against the danger linked to climate change and, in particular, to a dangerous climate change. The criteria mentioned by the court and relevant to this case - which follow on from the Kelderluik criteria and the application and effect thereof in later rulings of the Supreme Court about unlawful endangerment - are, in the words of the court (paragraph 4.63):

(i) the nature and the scope of the damage caused by climate change
(ii) the knowledge and foreseeability of this damage
(iii) the likelihood that dangerous climate change will manifest itself
(iv) the nature of the behaviour (or the omissions) of the state and
(v) the inconvenience of the precautionary measures to be taken;

These criteria should be applied with a view to the state of knowledge, the available (technical) possibilities to take safety measures and the benefit-cost ratio of the safety measures to be taken, according to the court.

513. After discussing the substance of these criteria, the court then arrives at the factual determinations, considerations and conclusions already summarised by Milieudefensie et al. In paragraphs and further of the introduction to this summons. This subsequently results in the court's opinion that the State of the Netherlands is guilty of unlawful endangerment (paragraph 4.53 in conjunction with 4.63 et seq.) and, therefore, breaches its duty of care by not doing enough to reduce emissions, as a result of which the legitimate interests of Urgenda are violated. In order to eliminate the unlawfulness of the endangerment, the court subsequently ordered the state to realise the specific emission reductions which (as an interim step) on the basis of best scientific insights are at least required in order to prevent dangerous climate change.

514. Milieudefensie et al. are of the opinion that the court, in relation to the climate issue, has formulated a legal standard of a general nature, which stipulates the extent of the due care to be observed by the injuring party in similar cases, namely that the injuring party, that is, the injuring party that meets the stipulated criteria in a similar way as the state does, has to assume emission reductions that are a minimum requirement in order to achieve the global objective, namely preventing dangerous climate change.

515. The court of appeal has even tightened the extent of due care to be observed by such an injuring party by (among other things) ruling that insufficient emission reductions so as to prevent dangerous climate change is a violation of the duty of care ensuing from the right to life and an undisturbed family life. That is why, when exercising that duty of care, the precautionary principle should be observed so that minimum emission reductions are not

[384] C.H. Sieburg, *Toerekening van een onrechtmatige daad*, Kluwer, 1 juli 2000 p.75 - 77

necessarily good enough. However, the court has been unable to attach any consequences to that because in its action against the state, Urgenda only claimed the minimum.

516. By extension of the rulings of the court and the court of appeal in the Urgenda case, Milieudefensie et al. will first discuss the five (Kelderluik) criteria used by the court. Based on these criteria, Shell also has a special social duty of care and Shell's current actions (and omissions) can be regarded as unlawful endangerment, the consequences of which are the justification of a court order imposed on Shell to realise the emission reductions that are a minimum requirement (as an interim step) in order to be able to prevent dangerous climate change.

517. Within that context, facts and circumstances will be presented that prove that it is once again justified to order Shell to realise the necessary emission reductions because the extent of Shell's careless actions in relation to the climate issue is bigger than those of the State, in the opinion of Milieudefensie et al. Among other things, this is down to the fact that to date, Shell has actively obstructed, that is, it has knowingly and wilfully hampered and continues to hamper the phasing out of global emissions and the energy transition needed for that, as will be further substantiated in Chapter VIII.2.1.3.

518. In Chapter X, Milieudefensie et al. will discuss the considerations of the court of appeal that insufficient emission reductions are a violation of the duty of care that ensues from the right to life and an undisturbed family life and that, according to the court of appeal, this also means that the precautionary principle should be applied when determining the extent of due care to be exercised. Milieudefensie et al. will explain that (due to the indirect horizontal effects of the ECHR via the open standard of the social duty of care) the provisions of the ECHR and the associated precautionary principle are also relevant to the definition of Shell's extensive duty of care towards Milieudefensie et al., namely to coordinate its actions with the legitimate interests of Milieudefensie et al.

VIII.2.1 The five criteria of unlawful endangerment

519. Below, Milieudefensie et al. will discuss the five criteria of unlawful endangerment as used by the court (see above).

VIII.2.1.1 Criteria (i) and (iii): the nature and extent of the climate damage and the risk that dangerous climate change will come about.

520. The nature and extent of the damage caused by climate change are extensively discussed in Chapter VII of this summons. Naturally, this concerns the same damage described in the court ruling and in the ruling of the court of appeal, which prompted both legal bodies to intervene. It proves to concern global damage to the environment, resulting in global financial loss and personal injury of potentially catastrophic proportions and as such, of unprecedented gravity in terms of nature and extent. So it concerns environmental damage as well as financial loss and personal injury that harms mankind due to the damage caused to the environment. Above

all, it concerns damage that will affect the right to life and a right to an undisturbed family life, as ruled by the court of appeal.

521. The environmental damage is evident. For instance, the use of fossil fuels affects the atmosphere and it has already increased atmospheric CO_2 levels by 40%, resulting in global warming, climate change and, among other things, deterioration of ecosystems, flora, fauna and biodiversity. Because of this environmental damage, ecosystem goods, functions and services that are important to mankind are also affected. Examples include food, drinking water, raw materials, life-necessitating atmospheric conditions, pollination, pest control and disease regulation, etc. (see Chapter VII.1.4). This environmental damage results in damage for and to mankind. In this case, both forms of damage play a role, which is why we continuously speak of damage to people and the environment. Both forms of damage are, evidently, linked to each other.

522. More frequent and more drastic forms of extreme weather (heat, drought, storms, hurricanes, deluges and flooding, etc.) affect food supplies, they pose a threat to our lives and health and they result in many forms of damage and financial loss. Take, for instance, the consequences of the anticipated intensifying storms and hurricanes in the case of continued global warming and the increasing risk of flooding caused by sea level rises and torrential rainfall: these situations claim victims, they destroy areas where we work and live, as well as infrastructures that are important and vital to society. Evidently, such destruction results in a loss of property but it also creates a chain of other damage and personal injury as explained by the former advocate general of the Supreme Court, Jaap Spier. Among other things, he describes this chain of damage in an English preliminary report from 2018.[385] Using this preliminary report, we can formulate this as follows.

523. People are temporarily unable to live or work normally because the ICT and electricity infrastructures are damaged or because hospitals and businesses are damaged or can no longer be reached due to damage to the road infrastructure. If people or businesses cannot bear the loss they suffered, for instance, due to a prolonged stoppage of business activities or the destruction of crops on which farmers rely for their income, people may lose their business or job. The loss of businesses and jobs may, in its turn, negatively affect local shops near these businesses and residents, loans can perhaps not be paid off as a result of which banks may run into trouble, etc. For this to happen, it is not even necessary for extreme weather conditions to occur in your own environment; when suppliers from a faraway country are hit by a hurricane or floods, production in our own environment may also fall flat. Everyone can experience such supply insecurity, also with regard to important matters such as food and medication.

524. When the electricity infrastructure is hit and areas lose their power supplies, services and facilities such as banks, hospitals and households will run into trouble. Payments can no longer be made, surgery cannot be performed. In time, coastal towns and cities can no longer be protected against rising sea levels, as a result of which property is lost, businesses have to

[385] Royal Netherlands Society of International Law Preliminary Reports [KNVIR Preadviezen, *Climate Change: Options and Duties under International Law,* Mededelingen van de Koninklijke Nederlandse Vereniging voor Internationaal Recht nr 145

close down, people have to start a new life elsewhere or, if they can't, they will be reduced to poverty. Tourist areas will disappear due to climate change and when people have to start living elsewhere, they will need new infrastructure for roads, hospitals, etc.[386]

525. These are only a couple of examples of how, according to Spier, among others, changes to the climate and our living environment, as a result of global warming, will have an impact on our daily lives, with all kinds of damage and risk of damage for all residents. The damage - and we have not even mentioned deaths and health conditions caused by extreme weather and associated disasters (including traumas) under growing global warming - is so big that the picture of the future of society becomes very grim. Preventing damage is the motto, if only because the damage will be so all-encompassing and irreversible that subsequent compensation will not be possible.

526. When global warming continues to increase, the damage to people and the environment caused each year will only increase and there will also be a growing risk of reaching the already discussed dangerous tipping points in the climate system which may speed up continued global warming and make it irreversible. So there are plenty of reasons to qualify the fight against dangerous climate change as a legitimate interest of Milieudefensie et al. that should be protected by law.

527. The (Kelderluik) criterion regarding the extent of the likelihood of the feared danger is also met. The discussion in Chapter VI.2.4 shows that if the world's biggest emitters do not change their policies, there is a very good chance that dangerous climate change will manifest itself within a couple of decades because the temperature will by then have already risen by 2°C or more (and by more than 3°C or 4°C at the end of the century). The aforementioned rulings of the court and the court of appeal demonstrate the same thing, as summarised in the introduction to this summons.

528. Therefore, all Milieudefensie at al. can do is confirm and emphasise the conclusion of the court and the court of appeal in the Urgenda case that the nature and the extent of climate damage to people and the environment is so serious and the chance of dangerous climate change when our approach does not change is so big that this justifies and necessitates legal intervention. That is why we ask the court for legal protection against this damage to people and the environment in the form of a (preventive) order to reduce the greenhouse gases caused by Shell (an application for a court order). Milieudefensie et al., therefore, aim for damage prevention and do not demand compensation during these proceedings.

529. All in all, we can conclude that the nature and extent of climate damage and the chance that dangerous climate change will manifest itself if Shell, among others, does not take action, will be very high. This is a reason to demand a special duty of care and a high level of care from Shell.

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[386] Royal Netherlands Society of International Law preliminary reports, KNVIR Preadviezen, *Climate Change: Options and Duties under International Law,* Mededelingen van de Koninklijke Nederlandse Vereniging voor Internationaal Recht nr 145

VIII.2.1.2 Criteria (ii) the knowledge and foreseeability of the damage

VIII.2.1.2.a the knowledge and foreseeability of the damage

530. From the text below, it follows that Shell was aware of the damage climate change would bring to people and the environment as early as the 1980s and 1990s. Not only that, during that period, Shell was also aware of the following facts:

- that Shell made a measurable and substantial contribution to climate change;
- that global warming of 2°C constituted dangerous climate change;
- that we, therefore, had to take into account a 450 ppm CO_2-eq. scenario or another reduction of concentrations;
- that the consequences of this should be that we could only use limited amounts of fossil fuels (and a lot of fossil reserves could not be extracted as a result of that);
- that Shell should take precautionary measures against the danger of climate change and that Shell had to make a transition to sustainable energy for that reason;
- that Shell was able to make that operational transition.

531. This crucial awareness and foreseeability at Shell of not just the damage and Shell's role in it but also the need and possibilities for Shell to help prevent damage are discussed and explained below.

VIII.2.1.2.b Shell has known for a long time that fossil fuels result in climate change and that this will have serious consequences for people and the environment

532. For many decades now, Shell has been aware of the fact that the use of fossil fuels leads to climate change and that this may have serious consequences for people and the environment.

533. As early as the 1950s, the American oil and gas industry conducted (paleontological) studies into climate-related issues such as historical sea levels, temperatures and hurricanes.[387] These studies were often conducted via the American Petroleum Institute ("API"), which Shell was and still is a member of. These studies may have predominantly been conducted in order to find and produce oil and gas, but by conducting such studies, the oil and gas industry was also at the vanguard of climate scientific research. Thanks to these studies, the industry was aware of the role of climate change in causing rising sea levels and hurricanes as early as the 1950s.[388]

534. In 1959, API, which was at that time chaired by H.M.S. Burns, the then CEO of Shell, organised a symposium entitled 'Energy and Man'. During that symposium, Edward Teller, an American physicist, gave a lecture about the link between fossil fuels, CO_2 and the greenhouse effect.[389] Teller warned that oil and gas companies had to start looking for alternative energy sources to replace oil, gas and coal. According to Teller, a 10% increase in atmospheric CO_2 would, in

[387] CIEL 2017: *Smoke and Fumes* p10 and p.11 (exhibit 172)
[388] CIEL 2017: *Smoke and Fumes* p.10 and p.11 (exhibit 172)
[389] Franta 2018: *On its 100th Birthday in 1959, Edward Teller Warned the Oil Industry About Global Warming* (exhibit 173) and CIEL 2018: *A crack in the Shell: New Documents Expose a Hidden Climate History*, p.5 (exhibit 174)

time, result in a rise in temperature that would be enough to melt ice caps and to submerge New York. He said that all coastal towns and cities would be affected by this (quote):

> *"[A] temperature rise corresponding to a 10 percent increase in carbon dioxide will be sufficient to melt the ice-cap and submerge New York. All the coastal cities would be covered…"*[390]

535. In 1962, Marion King Hubbert, the head of the geological department of Shell, wrote 'Energy Resources', a report that tells us that there is proof that the accumulation of CO_2 in the atmosphere was at that time already causing higher average temperatures and that in time, climate change could change weather conditions and that it could disrupt the ecological balance.[391]

> *"There is evidence that the greatly increasing use of the fossil fuels, whose material contents after combustion are principally H_2O and CO_2, is seriously contaminating the earth's atmosphere with CO_2. Analyses indicate that the CO_2 content of the atmosphere since 1900 has increased 10 percent. Since CO_2 absorbs long-wavelength radiation, it is possible that this is already producing a secular climatic change in the direction of higher average temperatures. This could have profound effects both on the weather and on the ecological balances."*

536. The fact that this imminent danger to the ecological balance could not remain without consequences for Shell was clarified by Hubbert when he referred to the conclusions linked to this imminent danger by another scientist, namely that we had to aim for sustainable energy, seriously considering the maximum application of solar energy:

> *'Professor Hutchinson urges serious consideration of the maximum utilization of solar energy.'*[392]

537. The year 1968 then saw the publication of 'Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants', a report written on the instruction of API.[393] It confirms the conclusions drawn by Hubbert; it warns about fossil fuels being the best explanation for the rise in CO_2 levels and that this was likely to cause rises in temperature and climate change. The authors of this report described the emission of greenhouse gases as "a big geophysical experiment" of mankind with his environment. They feared that a considerable rise in global temperature would result in various events, including the melting of the Antarctic icecap, rising sea levels and warming of the oceans. The study also told us that a system to control CO_2 emissions was lacking - carbon dioxide is an unavoidable residual product of the combustion of coal, oil and gas.

538. The 1973 oil crisis followed and this is when a lot of oil and gas companies decided to diversify in order to survive. Shell was one of them, investing in metal, coal and nuclear and sustainable energy. In 1973, Shell acquired Solar Energy Systems and from 1978, Shell's Non-Traditional Business division (NTB) mainly focused on renewable energy, including forestry and solar

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390 CIEL 2018: *A Crack in the Shell* (exhibit 174)
391 CIEL 2018: *A Crack in the Shell* p.5 & 6 (exhibit 174)
392 CIEL 2018, *A crack in the Shell*, p.6 (exhibit 174)
393 CIEL 2017, Smoke and Fumes p.11 en 12 (Exibit 172) and CIEL 2018, *A crack in the Shell*, p.6 (exhibit 174)

energy, although investments remained modest. In 1979, Shell acquired 50% shares in Solarhart, an Australian solar heating company.[394]

539. In 1979, Shell took part in the World Climate Conference, which was organised by UNEP and WMO (see also chapter V.2).[395] The conference urged the countries of the world to take preventive measures against potential anthropogenic climate change that can harm the well-being of humanity (*"to foresee and to prevent potential man-made changes in climate that might be adverse to the well-being of humanity"*).[396]

540. Between 1979 and 1983, senior scientists from Shell were members of the CO_2 and climate Task Force of API (in 1980, it was renamed the Energy and Climate Task Force). In 1979, they shared a study with this Task Force, confirming that carbon dioxide emissions were on the rise, also defining the negative effects of climate change. The members of the Task Force then proposed to make agreements about the use of cleaner fuels and to study the technical implications of an energy transition.[397] However, the Task Force was disbanded when API decided to merge its environmental department with the political department, consisting of lobbyists. According to the then director of the Task Force, James J. Nelson, businesses at that time were mainly interested in how climate science could be more favourable for the oil industry.[398]

541. In 1986, Shell wrote an extensive internal report about climate change, entitled *"The Greenhouse Effect"*. It was published two years later in 1988. In this report, Shell concludes that there is a reasonable consensus in the world of climate science that the increase of greenhouse gases is leading to global warming:

> *"There is reasonable scientific agreement that increased levels of greenhouse gases would cause a global warming"*[399]

542. The report then refers to the serious consequences of global warming:

> *"Significant changes in sea level, ocean currents, precipitation patterns, regional temperature and weather."*[400]

543. The report warns that these dramatic changes will affect the human environment, future living standards and food supplies and that they could have major social, economic and political consequences:

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394 CIEL 2018, *A crack in the Shell* p.7. (exhibit 174)

395 WMO 1979: World Metreorological Organization, *Proceedings of the World Climate Conference* Genève, p.784 (participants) (exhibit 119) en CIEL 2018: *A crack in the Shell* p.7 (exhibit 174)

396 World Metreorological Organization 1979, *Proceedings of the World Climate Conference* Genève, p.713 (exhibit 119)

397 Banerjee 2015: *Exxon's Oil Industry Peers Knew About Climate Dangers in the 1970's, too* (exhibit 175)

398 Banerjee 2015: *Exxon's Oil Industry Peers Knew About Climate Dangers in the 1970's*, too (exhibit 175)

399 Shell 1988: *The Greenhouse Effect* p.1, summary (exhibit 176) en Mommers 28 februari 2017: *Reconstructie: Zo kwam Shell erachter dat klimaatverandering levensgevaarlijk is (en ondermijnde het alle serieuze oplossingen)* (exhibit 177)

400 Shell 1988: *The Greenhouse Effect* p.1, summary (exhibit 176) en Mommers 28 februari 2017: *Reconstructie: Zo kwam Shell erachter dat klimaatverandering levensgevaarlijk is (en ondermijnde het alle serieuze oplossingen)* (exhibit 177)

> *"Such relatively fast and dramatic changes would impact on the human environment, future living standards and food supplies, and could have major social, economic and political consequences."* [401]

544. By 1986, at the latest, Shell, therefore, was aware of the enormity of the consequences for people and the environment as a result of global warming caused by greenhouse gases. On the same subject, the report also indicates that the consequences anticipated by Shell could be of such magnitude that some areas on earth may become inhabitable to such an extent that it can only lead to migration and displacement:

> *"The changes [in climate] may be the greatest in recorded history. They could alter the environment in such a way that habitability would become more suitable in one area and less suitable in another area. Adaptation, migration and replacement could be called for"*[402]

545. In the 1988 report, Shell also acknowledges that not taking action before the proof is irrefutable would be unwise and that it is important to look for solutions now, given the gravity and the fact that climate change may be irreversible:

> *"[M]onitoring will improve the understanding and likely outcomes. However, by the time the global warming becomes detectable it could be too late to take effective countermeasures to reduce the effects or even to stabilise the situation."*[403]

546. Based on this climate knowledge, Shell also took measures to protect its property. In 1989, for instance, Shell decided to modify the design for the "Troll A" gas production platform for tens of millions of dollars in line with the rising sea levels and the stronger waves and storms anticipated by Shell due to climate change during the more than 70 years of operations projected for the platform.[404] This proved the company did take the scientific conclusions seriously.

547. Shell was aware of the gravity of the situation to such an extent that in 1991, it decided to make a documentary entitled "Climate of Concern". The title alone showed they had plenty of reasons for concern even at that time. In this documentary, Shell warns viewers of the dangers of climate change. According to Shell, abnormal weather conditions across the globe could be the new standard. According to the film, climate change could happen so fast that society would have no time to adjust itself to it. In the film, Shell warns of climate refugees, among other things, who will lose all their possessions due to rising sea levels and catastrophic changes to their living environment. Shell's film concludes with "*taking action now is the only safe security we have*".[405]

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[401] Shell 1988: *The Greenhouse Effect* p.1, summary (exhibit 176) en Mommers 28 februari 2017: *Reconstructie: Zo kwam Shell erachter dat klimaatverandering levensgevaarlijk is (en ondermijnde het alle serieuze oplossingen)* (exhibit 177)

[402] Shell 1988: *The Greenhouse Effect,* p.25 (exhibit 176)

[403] Shell 1988: *The Greenhouse Effect,* p.25 (exhibit 176)

[404] CIEL 2017, *Smoke and Fumes* p.15 en 16 (exhibit 172)

[405] Mommers 28 februari 2017: *Reconstructie: Zo kwam Shell erachter dat klimaatverandering levensgevaarlijk is (en ondermijnde het alle serieuze oplossingen)* (exhibit 177)

VIII.2.1.2.c Shell has known for a long time that it makes a substantial contribution to climate change

548. There is a clear and measurable link between Shell's activities and global warming and the resulting climate change. From a scientific study published in 2017,[406] as well as previous studies, it follows that Shell, since its incorporation in 1890, has been one of the biggest individual perpetrators in terms of the rising levels of CO_2 in the atmosphere. Out of the total increase in CO_2 during this period, 1.8% can be traced back to Shell's operating activities. Half of the emissions that can be traced back to Shell took place since 1986, that is, after Shell became aware of the fact that the use of fossil fuels leads to climate change.[407] It also emerges that 1.6% of measured rises in temperature and 1.4% of measured rises in sea level can be traced back to Shell's activities.[408]

549. According to its own statement, Shell started publishing the annual amount of greenhouse gases connected to its operating activities and to the use of its products by its customers in 1997. For the year 2002, Shell reports that on that basis, it was the source of the equivalent of 3.6% of global CO_2 emissions that were emitted that year due to the use of fossil fuels.[409]

550. In the 1980s too, Shell was aware of similar emission data. For instance, the aforementioned internal and confidential report entitled "The Greenhouse Effect" from 1988 mentioned that Shell's contribution to total global CO_2 emissions was 4% in 1984. This report proves that Shell was even able to indicate its contribution to global emissions in 1984 on a fuel-by-fuel basis. [410]

551. The above shows that Shell has for some time now been aware of the fact that its activities and the products it produces make a substantial, measurable and defined contribution to global warming.

552. The fact that Shell is one of the largest industrial greenhouse gas polluters in the world is also confirmed by other studies. A scientific study into global industrial greenhouse gas emissions between 1988 and 2015 shows that more than half of these total greenhouse gas emissions were caused by only 25 companies, including Shell.[411] According to this study, Shell was responsible for 1.7% of all industrial greenhouse gas emissions between 1988 and 2015. That means Shell is number 9 on the list of biggest individual climate polluters.[412] In 2015 alone,

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406 Ekwurzel 2017: *The rise in global atmospheric CO_2, surface temperature, and sea level from emissions traced to major carbon producers* p.585 (exhibit 178). Heede 2014: *Tracing anthropogenic carbon dioxide and methane emissions to fossil fuel and cement producers, 1854-2010* p.237 (exhibit 179)

407 Heede 2014: *Tracing anthropogenic carbon dioxide and methane emissions to fossil fuel and cement producers, 1854-2010, p.229, p.234* (exhibit 179)

408 Ekwurzel 2017: *The rise in global atmospheric CO_2, surface temperature, and sea level from emissions traced to major carbon producers* (exhibit 178)

409 Shell 2004: The Shell Report 2004 – Meeting the energy challenge – our progress in contributing to sustainable development p.9 (exhibit 180)

410 Shell 1988: *The Greenhouse Effect* p.57, table 8 (exhibit 176)

411 Griffin 2017, The Carbon Majors Database, CDP Carbon Majors Report *100 Fossil Fuel Producers and nearly 1 trillion tonnes of greenhouse gas emissions* p. 2, p.8, p.14 (exhibit 181) and CDP 10 juli 2017: *New Report Shows just 100 companies are source of over 70% of emissions* (exhibit 182)

412 Griffin 2017, The Carbon Majors Database, CDP Carbon Majors Report *100 Fossil Fuel Producers and nearly 1 trillion tonnes of greenhouse gas emissions* p.14 (exhibit 181)

Shell was responsible for 1,2% of the total industrial greenhouse gas emissions, which made them the eleventh biggest industrial polluter.[413] This again confirms that Shell's share in both global CO_2 emissions and in relation to global greenhouse gas emissions is substantial.

553. For the sake of comparison, at the aforementioned percentages, Shell's contribution to global emissions is much higher than the 0.5% contribution of the State of the Netherlands to global emissions, a contribution for which the State is held responsible by the court and the court of appeal.[414] It demonstrates that Shell's contribution to the climate issue is sufficiently substantial to be able to hold Shell to account for that contribution in court.

554. Due to Shell's substantial contribution to climate change, Shell has a considerable and special responsibility to contribute to combating dangerous climate change.

VIII.2.1.2.d Shell has known for a long time that global warming has to stay below 2°C/450 ppm

555. The following shows that - given what Shell has known for decades about climate change, given the reports from its own climate scientific staff, the known close contacts between Shell and, among others, the Dutch government (and its ministries) and Shell's involvement in the annual climate conferences[415] - Shell knew and should have known as early as the 1990s that global warming should be limited to less than 2°C in order to prevent a major social danger.

556. In 1990, an international climate study was set up - participants include the Ministry of Housing, Spatial Planning and the Environment and the National Institute for Public Health and Environmental Protection [Rijksinstituut voor Volksgezondheid en Milieu (RIVM)] - which concluded that an average global warming of 1°C can cause major damage across the world and that global warming of 2°C should at all times be avoided, which is why it should be considered an upper limit.[416]

557. On the basis of the scientific findings of the IPCC, the EU has been pursuing the policy since 1996 that global warming should be reduced to less than 2°C in order to avert a great danger[417]. In the 1990s, based on the then available knowledge, it was assumed that in order

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413 Griffin 2017, The Carbon Majors Database, CDP Carbon Majors Report 100 Fossil Fuel Producers and nearly 1 trillion tonnes of greenhouse gas emissions p.15 (exhibit 181)

414 Court of The Hague 24 June 2015, ECLI:NL:RBDHA:2015:7145 and Court of Appeal The Hague 09 October 2018, ECLI:NL:GDHA:2018:2591

415 From the start, the climate conferences were accessible to Business and Industry NGOs (abbreviated to BINGOs) - including the (former) Global Climate Coalition (GCC) and the International Petroleum Industry Environmental Conservation Association (IPIECA) - who were used by Shell and other big oil companies to look after their interests and as a vehicle to be able to take part in these conferences themselves. For instance, IPIECA has been attending UN climate conferences for 20 years now and collaborates with Shell (exhibit 183). As for the close collaboration between Shell and the State of the Netherlands, this is common knowledge given, among other things (i) the collaboration that started in the 1960s with regard to the extraction and distribution of Groningen gas and (ii) the collaboration in order to secure Shell positions abroad). (exhibit 184: De Bruijn 2013: *Het ministerie van Shell zaken*) Shell also collaborates with other governments such as that of the United Kingdom and Nigeria in the same and other ways (exhibit 185: Ten Kate 2011 *Royal Dutch Shell and its sustainability troubles* p.40-44)

416 Rijsberman 1990: *Targets and Indicators of Climatic Change* p.viii and ix (exhibit 127)

417 European Commission 1996: *Community strategy on climate change – council conclusions* (exhibit 129)

to achieve this, the levels of greenhouse gases in the atmosphere had to remain below 550 ppm (parts per million).[418]

558. Science continued to develop in subsequent years and it became clear that the situation was more serious than initially assumed. After all, reducing global warming to 2°C means we have to keep the levels of greenhouse gases a lot lower than the previously assumed 550 ppm. It emerges that atmospheric levels of greenhouse gases have to be kept below 450 ppm because even with this 450 scenario, the chance to remain below 2°C is only 50%.

559. In 2007, the 450 scenario is documented in the so-called Bali Action Plan during the annual UN climate conference, stating that this scenario urgently needs far-reaching emission reductions[419]. That is why from 2007, the EU has also assumed the 450 scenario, as evidenced by a statement from the Commission that year:

> "*The objective of the EU is to reduce the average global rise in temperature to less than 2°C. If in the long term, concentrations stabilise on a level of about 450 ppm of CO_2-eq., there is a 50% chance we will achieve this objective."*[420]

560. This climate target (<2°C/<450 ppm) was confirmed at all subsequent annual UN climate conferences and in 2015, the global climate conference in the Paris climate agreement was tightened further. This tightening is the result of the latest scientific insights that demonstrate that the gravity of the global consequences of global warming beyond 2°C is worse than previously thought.[421] That is why since Paris, in order to prevent dangerous climate change, it is said that global warming has to be reduced to *far below* 2°C and preferably to 1.5°C at most.[422] This means that the concentrations of greenhouse gases need to be reduced even further (which is further specified in Chapter XI).

561. From the above, it follows that Shell knew and should have known from as early as the 1990s that global warming of around 2°C is highly dangerous and that this has been emphasised and tightened ever since, both by scientists and in a UN context.

VIII.2.1.2.e Shell has known for a long time that it has to take (precautionary) measures

562. Shell knew in 1998 that a 450-scenario would constitute an enormous reduction of the fossil fuels that were still tradeable. This is evidenced by Shell's own brochure from that time,

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418 European Commission 1996: *Community Strategy on climate change – council conclusions (*exhibit 129*).* 550 ppm (parts per million) means that out of every million particles in the atmosphere, 550 consist of carbon dioxide. Based on the scientific status of that moment, the EU assumed, during that period, that the atmospheric levels of CO_2 should not exceed 550 ppm if we were to have a realistic chance of keeping global warming below 2°C.

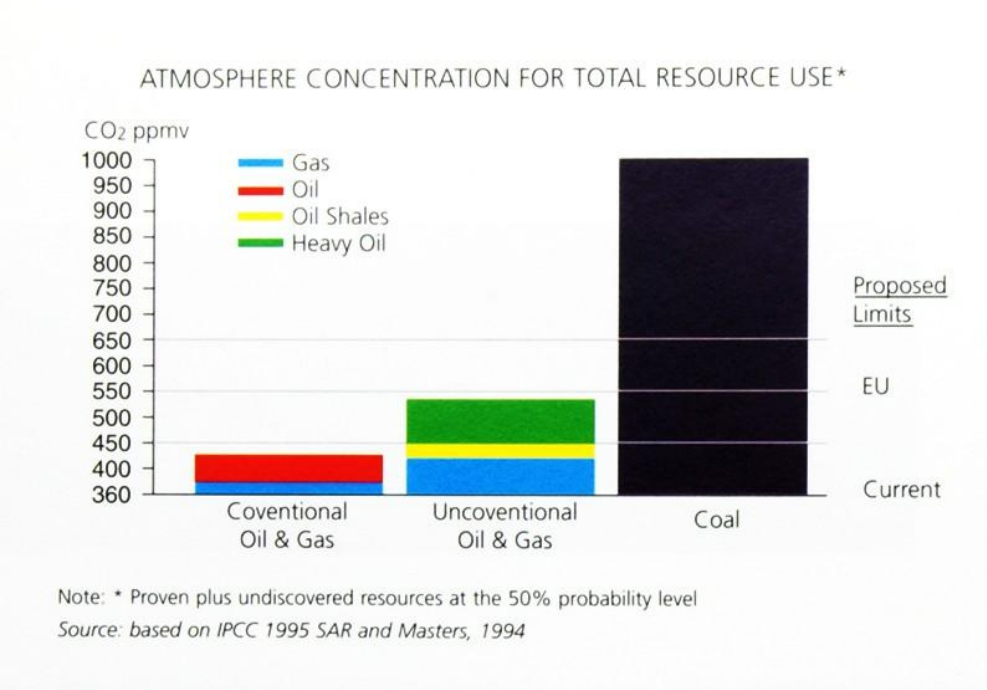
419 UNFCCC COP 13, Bali Action Plan 2008 (exhibit 131). The Bali Action Plan reads: "Deep cuts in global emissions will be required to achieve the ultimate objective of the Convention and emphasizing the urgency to address climate change as is indicated in the Fourth Assessment Report of the [IPCC]". The word urgency in the action plan is followed by a footnote that refers to the paragraphs in the IPCC report that discusses the 450 ppm scenario.

420 European Commission, 2007. *Limiting global climate change to 2°C: The way ahead for 2020 and beyond* (Exhibit 186)

421 UNFCCC 2015: *Report on the structured expert dialogue on the 2013-2015 review* (exhibit 143). It concludes that the 2°C target is no longer a safe target and that global warming should be kept below 2°C as far as possible, preferably under 1.5°C.

422 UNFCCC 2015 COP21 Paris Agreement (exhibit 145)

entitled "Climate Change, what does Shell think and do about it" (March 1998)[423]. It contains the following graph on page 6.



563. In the graph, Shell indicates the 450 scenario by means of a horizontal line. This graphs shows that CO_2 concentrations in 1998 had already risen to 360 ppm (in 2018, this was around 410 ppm, for that matter). It also demonstrates the following:

- that if we were to use only all of the conventional oil and gas reserves in the world (crude oil and natural gas), CO_2 concentrations would be as high as almost 450 ppm. Add to that the additional CO_2 concentrations that will be the result of the continuous use of coal and conventional oil and gas on top of that;
- that if we were to use only all of the unconventional oil and gas reserves in the world (shale gas, tar sand oil, etc.), CO_2 concentrations would be as high as almost 550 ppm. Add to that the additional CO_2 concentrations that will be the result of the continuous use of coal and unconventional oil and gas on top of that;
- that if we were to use only all of the coal reserves in the world, CO_2 concentrations would be as high as 1,000 ppm. Add to that the additional CO_2 concentrations that will be the result of the continuous use of conventional and unconventional oil and gas.

564. Although a 550 scenario was also still assumed in 1998, it was at that time clear to Shell that a 450 scenario also had to be taken into account. It is plausible that that's the reason for including this scenario in the graph. Both scenarios clearly indicate that the number of fossil fuels still to be traded should be reduced. This also made it clear that operations had to change.

[423] Shell 1998: *Climate Change, what does Shell think and do about it* (exhibit 187)

565. And Shell did realise as much. The brochure says that Shell realises that the energy markets are changing and that all Shell companies around the world have to adjust accordingly, that they will have to take precautionary measures and take their social responsibility:

> "*They must play their part in the necessary precautionary measures to limit greenhouse gas emissions…in their own operations as well as helping their customers to do the same*."[424]

566. Therefore, Shell knew as early as 1998 that it had to take precautionary measures in order to fulfil its social duty of care and that it had to take responsibility for the emissions that are released when consumers use its products. Even more so, in an internal document from 1998, Shell describes a scenario in which the company gets sued in the future if it does not take action in order to stop climate change, for instance, after a number of storms on the east coast of the United States (quote):

> *"Following the storms, a coalition of environmental NGOs brings a class-action suit against the US government and fossil-fuel companies on the grounds of neglecting what scientists (including their own) have been saying for years: that something must be done. A social reaction to the use of fossil fuels grows, and individuals become 'vigilante environmentalists' in the same way, a generation earlier, they had become fiercely anti-tobacco. Direct-action campaigns against companies escalate. Young consumers, especially demand action…"* [425]

567. In that same year, 1998, Shell set up a new business unit called Shell International Renewables, the renewable energy branch of Shell. In 1999, Shell made its intentions clear by publishing a big advertisement in the Financial Times:

> "*Shell is playing a major part in the move from oil and gas, and now we're planting the seeds of renewable energy with Shell International Renewables, a new business committed to making renewable energy viable*."[426]

568. This is clear evidence that Shell was acutely aware of the need to move away from oil and gas ("*the move from oil and gas*") and to transform itself into a sustainable energy company. It also proves that Shell felt that this business transformation was feasible, even though Shell was of the opinion that renewable energy was at that time not yet viable and, therefore, not profitable. Apparently, Shell felt that the company had to contribute to making sustainable energy (more) profitable.

569. In 2004, Shell repeated that climate change requires the company to not only deal with its own emissions but that it also results in its customers emitting fewer emissions. In its sustainability report of that year, Shell, therefore, indicates that apart from conventional natural gas, it will also have to start focusing on wind and solar power, hydrogen, biofuels and carbon capture and storage, i.e. CCS as a sustainable future portfolio:

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424 Shell 1998: *Climate Change, what does Shell think and do about it* p.8 and p.9 (exhibit 187)

425 Climateinvestigations.org print website *Internal Shell Climate Documents revealed* (exhibit 188)

426 Stockman 2009: *Shell's big dirty secret – Insight into the world's most carbon intensive oil company and the legacy of CEO Jeroen van der Veer* p.20 (exhibit 189)

> *"We recognise that our response to climate change means more than reducing our own emissions. A shift to lower carbon-emitting energy products is also needed, so the rapid rise in energy use does not bring an equally big increase in GHG emissions. Expanding our natural gas business will help. In the longer term, so will our efforts to lower the costs and increase the use of biofuels, wind and solar power, and hydrogen, and to develop efficient ways to capture and safely store the CO_2 from fossil fuels."*[427]

570. As such, Shell acknowledges that its strategic decisions have an impact on the course of the energy transition and that they, therefore, play a role in preventing serious climate change. In other words, Shell's strategic decisions can speed up or delay the energy transition.

571. When in 2007, due to the Bali Action Plan and the IPCC report of that same year, it became clear that the 450 scenario would have to be followed, it was once again clear to Shell that urgent (precautionary) measures were needed, that is, if Shell did not want to be guilty of contributing to dangerous global warming of 2°C or more. That urgency only increased in subsequent years. After all, the Copenhagen Agreement of 2009, the Cancun Agreements of 2010 and the annual climate conferences from 2011 also referred to a potential tightening of the global climate target up to 1.5°C.[428] This was also implemented in the Paris Agreement, as a result of which the 450 scenario no longer suffices (see also Chapter XI).

VIII.2.1.2.f Conclusion with regard to the knowledge and foreseeability of the damage

572. All in all, the above shows that not only had Shell for decades been aware of the gravity of the danger to people and the environment caused by the use of (its) fossil fuels but it also knew which share it had in creating the climate danger and it was also aware of the fact that this constituted a responsibility for Shell to take precautionary measures and to change its organisation by focusing on sustainable, non-emission energy forms.

573. Shell knew before 2007 that (i) global warming of 2°C had to be prevented and that (ii) to that end, the levels of greenhouse gases in the atmosphere had to be kept below 450 ppm. The fact that Shell knew and was aware of all of this since 2007 makes the nature of Shell's behaviour since 2007, discussed below, even more imputable. From 2009, Shell has had to take into account a 1.5°C target, i.e. further tightening of the global climate target.

574. Before we proceed with the Kelderluik criteria (see below, Chapters VIII.2.1.5 and VIII.2.1.6), Milieudefensie et al. first, by way of an interim step, wish to discuss the negligence of Shell's actions since 2007. The facts and circumstances to be discussed in that respect are, after all, also relevant to the other Kelderluik criteria to be discussed after that.

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[427] Shell 2004, *The Shell Report 2004 – Meeting the Energy challenge – our progress in contributing to sustainable development* p.9 (exhibit 180)

[428] Chapter VI.1.4 and further.

VIII.2.1.3 Shell's gross negligence with a view to its awareness since 2007

575. Since 2007, Shell had all the available information to realise that global warming of 2°C was regarded as dangerous by the global community and it knew that it had to stick to a 450 ppm CO_2-eq. scenario in order to have a realistic chance of being able to avert this danger. For this reason we can and should have a critical look at the extent of Shell's negligence since 2007.

576. In the introduction to this chapter, we announced that during the discussion of the Kelderluik criteria used by the court, Milieudefensie et al. will also present facts and circumstances that will demonstrate that it is all the more justified to order Shell to make the necessary emission reductions; after all, the extent of Shell's negligence with regard to the climate issue is even bigger than that of the State. The reason for this is that Shell, from 2007 of all moments, when it had all of the aforementioned knowledge, chose to be on a collision course with the global climate target in many different ways. This high degree of negligent behaviour of the past 12 years (since 2007) increases Shell's culpability with regard to continuing to add to the climate issue. It also exposes an important corporate culture at Shell and it emphasises the need to call Shell to order by means of a court order.

VIII.2.1.3.a Shell has been on a collision course with the global climate target since 2007

577. Given the developments, Shell should, after 2007, have considerably reinforced the sustainability process it had already started. It failed to do so. From 2007, of all times, Shell chose the opposite course. It has been reducing its investments in sustainable energy since 2007 and increased its investments in fossil activities. It should be noted that since 2007, Shell started investing in the most polluting and most CO_2-intensive unconventional fossil fuels such as tar sand oil, shale oil, shale gas and LNG fossil fuels, all of which emit more CO_2 and other greenhouse gases into the atmosphere per energy unit during the extraction, transport and combustion process than conventional crude oil and natural gas.

578. In 2007, Shell purchased tar sands in Canada for 2.5 billion dollars so that it could start extracting tar sand oil, a highly polluting substance. The year before, Shell had invested 7.4 billion dollars in Canada for the same purpose.[429] In its 2007 annual report, Shell explicitly mentions its ambition to become the global leader in tar sand extraction.[430] It succeeds in doing so and in 2009, Shell, therefore, is given the unenviable title of the most CO_2-intensive oil company in the world.[431]

579. Faced with the contradiction between the need, acknowledged by Shell for years, to become a sustainable organisation and the considerable investments in tar sands, the then CEO of Shell (Jeroen van der Veer) tells the world in a bewildering interview that he realises tar sand oil is

[429] Stockman 2009: *Shell's big dirty secret – Insight into the world's most carbon intensive oil company and the legacy of CEO Jeroen van der Veer* p.12 (exhibit 189)

[430] Stockman 2009: *Shell's big dirty secret – Insight into the world's most carbon intensive oil company and the legacy of CEO Jeroen van der Veer* p.12 (exhibit 189)

[431] Stockman 2009: *Irresponsible Energy - Shell: The World's Most Carbon Intensive Oil Company* (exhibit 190)

CO_2-intensive but that the responsibility for Shell's investments in the tar sands lies with the Canadian government who, after all, enable Shell to exploit the tar sands commercially.[432]

580. In 2009, Shell announces it will focus on fossil energy and that it will no longer invest in wind energy, solar energy and hydrogen. Shell withdraws from this sustainable energy branch. The reason is that higher profits can be realised with Shell's polluting unconventional fossil activities.[433] This is also the position Shell continues to maintain in subsequent years.[434]

VIII.2.1.3.b Shell misleads the public about the (non) sustainability of its course

581. In an attempt to hide the highly polluting nature of the unconventional extraction of oil and gas and to hold on to the green image it built up in previous years, Shell has been using a PR strategy that misleads the public since its change of course in 2007. In 2008, for instance, Shell was reprimanded by the English advertising code committee for a misleading advert in the Financial Times. In this advert, Shell suggested that investing in tar sand oil guarantees a sustainable future, that it is in the interest of future generations and that it helps to fight the climate issue, even though the committee had confirmed that it would only *increase* greenhouse gas emissions.[435]

582. The advertisement text contested by Shell read (quote):

> *"A growing world needs more energy, but at the same time we need to find new ways of managing carbon emissions to limit climate change…..we're investing heavily in new technology and assets to safeguard the interests of our shareholders and future generations. In Canada we're harnessing our global network of technical and financial expertise to unlock the potential of the vast Canadian oil sands deposit…..Difficult yes, impossible no."*

583. The previous year, in 2007, both the Dutch and the English advertising code committees had reprimanded Shell for misleading environmental claims about the reuse of CO_2.[436] In 2011, Shell was again reprimanded by the Dutch Advertising Code Committee, this time for a misleading advert in which Shell claims that natural gas is clean and that there is enough natural gas for the next 250 years. According to the Advertising Code Committee, neither statements are true.[437]

584. These examples show that Shell not only follows a disastrous climate policy but that it also makes one attempt after the other to mislead the public by selling fossil fuels as being sustainable with the aim of keeping demand for and the production of fossil products high.

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[432] PBS.org, 21 October 2008: *Interview: Jeroen van der Veer* (exhibit 191)
[433] Bergin 2009: *Shell goes cold on wind, solar, hydrogen energy* (exhibit192) and Persson 2009: *Shell 'worstelt' met winsten uit windenergie en stopt ermee* (exhibit 193)
[434] Collins 2016: *no one makes money from renewables* (exhibit 194)
[435] Hickman 2008: *Shell rebuded for 'greenwash' over ad for polluting oil project* (exhibit 195)
[436] Hough 2007: *Watchdog says Shell recycling adverts 'misleading'* (exhibit 196)
[437] Advertising Code Committee, 08 March 2012. Ruling 2012/00041 (exhibit 197)

585. In a 2009 issue of Vrij Nederland, a former PR manager of Shell notes that Shell's advertising policy consists of insincere campaigns that all objective analysts have called "*a parade of lies and half-truths*".[438]

VIII.2.1.3.c Shell bases its strategy on the assumption that the climate target will not be achieved

586. While during this period since 2007, Shell misleads the public and pretends to be sustainable and claims it is involved in combating the climate issue - behind the scenes, initially - Shell's corporate strategy is based on the assumption that the required global climate target will *not* be realised. This emerges later from a written explanation to the corporate strategy issued by Shell's management board in 2014.[439] This explanation, in the form of an open letter, follows a request from various shareholders and investors who are concerned about the financial risks for Shell in connection with the carbon bubble that will be created if global warming is, indeed, kept below 2°C and most of the fossil reserves cannot be converted into cash and have to be written off as a result of that. This financial risk is also referred to as stranded assets.

587. In response to the questions raised in this respect, Shell's management board writes in 2004 that it will not be negatively affected by the carbon bubble. The management board expects that the global 2°C target will not be realised due to decade-long write-off periods of investments in the energy sector and because of the anticipated lack of legislation (quote):

> *"We are writing this letter in response to enquiries from shareholders regarding the "carbon bubble" or "stranded assets" issue […] there is a high degree of confidence that global warming will exceed 2°C by the end of the 21st century […] because of the long-lived nature of the infrastructure and many assets in the energy system, any transformation will inevitably take decades […] Shell does not believe that any of its proven reserves will become "stranded" as a result of current or reasonably foreseeable future legislation concerning carbon."*[440]

588. It is that premise of a lack of (future) international legislation that has been the basis of Shell's future strategy for years. On that basis, Shell seems to assume that despite international climate agreements, it can continue to produce oil and gas in unlimited quantities. According to its own statement, Shell even assumes that at least 50% of all energy supplies will still be fossil in nature in 2050.[441] For that reason, Shell would see no need to reduce its oil and gas activities. As Shell's CEO tellingly said in 2016:

> "*I will pump up everything there is to pump up in order to meet demand*."[442]

VIII.2.1.3.d Shell continues to invest in fossil sources that need to remain in the ground

589. Based on the corporate strategy to keep producing as many fossil fuels as possible, Shell still intends to invest about 20 to 25 billion in its oil and gas business (also in the long term). This

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438 Vanheste 2009, Vrij Nederland, *Achter de façades van Shell 'de erfenis van Jeroen van der Veer'* (exhibit 198)
439 Shell, 16 May 2014: *Shell letter in response to shareholders enquiries on climate change* (exhibit 199)
440 Shell, 16 May 2014: *Shell letter in response to shareholders enquiries on climate change* p. 1 and 2 (exhibit 199)
441 Shell, 16 May 2014: *Shell letter in response to shareholders enquiries on climate change* figures 2 and 3: (exhibit 199)
442 De Kruif 2016: *Shell chief executive: I will pump up everything there is to pump up* (exhibit 200)

considerable and permanent focus of Shell on investments in the fossil infrastructure (oil platforms, pipelines, refineries, LNG vessels, new oil and gas fields, etc.) in order to increase oil and gas production constitutes a very great danger to the accelerated energy transition. This relates to the investments that run into the billions and decade-long write-off periods that characterise this infrastructure, which results in the lock-in effect that will be discussed in Chapter XI.3.5. With every investment in new fossil infrastructure, Shell again commits the world to decades of additional greenhouse gases. After all, Shell will not want to write off those investments earlier and it will oppose any legislation that stipulates early write-off and the associated financial loss for Shell. The more Shell continues to invest in its fossil infrastructure, the bigger Shell's interest in slowing down the pace of the energy transition.

590. In order to press home its fossil policy, Shell announced in January 2018 that it will focus on oil and gas from shale, the extraction of which requires fracking drilling technology, an intensive process that demands a lot of extra energy and, as such, involves higher CO_2 emissions per extracted energy unit compared to conventional crude oil and natural gas. In practice, it has emerged that the extraction of shale gas and shale oil also causes the highly powerful greenhouse gas of methane to leak into the atmosphere. Shell wishes to continue to invest in these activities "*because we really want this activity to grow very fast*".[443] Apparently, the intention is to double shale production before the end of the decade.

591. Prior to that, in April 2017, Shell's management board announced that the fossil industry as a whole has to ensure that gas is considered a new part of the solution to the climate issue, not as a part of the problem and that the industry would be wise to actively create demand for gas: "*we must relentlessly open up new markets for gas: new countries as well as new sectors*." [444] In October 2018, Shell's CEO again confirms in a speech that Shell's future lies in oil and gas products:

> *"Shell's core business is, and will be for the foreseeable future, very much in oil and gas, and particularly in natural gas […] people think we have gone soft on the future of oil and gas. If they did think that, they would be wrong."*[445]

592. These kinds of statements clearly indicate that Shell focuses and continues to focus on its own interest to continue to sell as many fossil fuels as possible and to generate as many profits from that as possible, regardless of the consequences for the legitimate interests of others, including those of Milieudefensie et al. Apparently, Shell does not consider this a problem, as the company did, in the past, take the position - of course, also because it serves its own interests - that the global climate target will not be achieved anyway. Shell's reasoning seems to be that if that is your position, there is no need to contribute to achieving that target and you are better off making as much money as possible from continued oil and gas production. This way, Shell creates its own preferred reality.

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443 Van Dijk 2018, *Shell zet vol in op olie en gas uit schalie* (FD.nl) (exhibit 201)
444 Shell.com, M. Wetselaar, 4 april 2017, *Securing the future of Gas* (exhibit 202)
445 Shell.com, B. van Beurden, 9 oktober 2018, *Moving with the Times* (exhibit 203)

VIII.2.1.3.e Shell hampers the energy transition

593. The contrast between Shell's business model and the global climate target is clear. The two are incompatible and one of them will have to give way to the other. Either the business model of Shell (and other fossil companies) will prevail and the global climate target will not be achieved or the global target is achieved because companies such as Shell reduce the extraction and production of fossil fuels, as Shell itself anticipated and announced in the Financial Times in 1999.

594. So evidently, within its current policy, Shell would benefit from the climate target not being reached. It comes as no surprise, therefore, that Shell verbally professes that legislation is required and at the same time, it tries to frustrate or mitigate an effective climate policy through lobbying, also via the trade associations it is affiliated with, all of which is aimed at preventing Shell from being forced to make changes fast. In 2007, for instance, Shell opposed a proposal from the European Commission for the Fuel Quality Directive, designed to force producers to reduce the emission intensity of the fuels to 10% by 2020. The European Petroleum Industry Association (EUROPIA), which represented Shell and others in its lobbying practices regarding this Directive, tried to entice the Commission to drop the 10% target. Shell also opposed the efficiency requirements for refineries as part of the Fuel Quality Directive and the restriction of emissions of flaring off gas because this, allegedly, cost the industry too much money.[446]

595. In the Financieel Dagblad in the same year, 2007, Jeroen van der Veer, the then CEO of Shell, warned of 'excessive [EU] climate targets', referring to the discussions between EU countries about the possibility to further tighten the emission reduction targets for 2020, from a 20 to a 30% reduction by 2020.

596. In 2011, Shell successfully lobbied against binding renewable energy targets for Member States for 2030, which would apply in addition to the emission reduction targets for 2030. Shell wrote a letter to the then President of the European Commission, Barroso, saying that Europe could save 500 billion euros by focusing on gas instead of renewable energy and that the best way to achieve the emission reduction targets would be by means of a carbon market, not through binding targets for renewable energy.[447] This is what Shell writes about this in the letter in question:

> *"Our position is clear: we support an ambitious GHG target, driven through a strong and functioning carbon market. This delivers the most cost effective decarbonisation. A strong ETS, as well as focus on innovation funding will support renewables without the need for binding targets."*[448]

597. In an EU context, Shell may have also lobbied to tackle the surplus of emission rights in the EU's emission trade system but at the same time, it also lobbied for free emission rights that

[446] Stockman 2009, *Shells big dirty secret* p.23 (exhibit 189)
[447] Neslen 2015, The Guardian, *Shell lobbied to undermine EU renewables targets, documents reveal* (exhibit 204) en Neslen 2015, The Guardian, *BP lobbied against EU support for clean energy to favour gas, documents reveal* (exhibit 205)
[448] Neslen 2015, The Guardian, Shell lobbied to undermine EU renewables targets, documents reveal (productie 204)

undermine the effectiveness of emissions trading. In a consultation from the European Commission, Shell wrote that it wanted free emission rights for CO_2 emissions, related to the use and production of electricity.[449] A study by CE Delft within that context shows that of all businesses in the Netherlands, Shell does, indeed earn the most from the surplus of free emission rights issued under the EU ETS and from passing on the CO_2 price to consumers. Between 2008 and 2014, this method earned the company an average of 385 million euros.[450]

598. A very recent example of Shell's climate lobby is a memorandum, leaked in September 2018, from BusinessEurope, a European lobby club of which Shell is a member.[451] The document has to serve as the basis for an agreement between the members of BusinessEurope about the strategy to be followed in respect of the EU's heightened climate ambitions for 2030. The memorandum proposes to use the 'usual arguments' against further climate ambitions, such as 'a level playing field, we can't compensate for others', etc. When asked, Shell did not distance itself from this memorandum.[452]

599. A 2017 study by InfluenceMap shows that Shell uses several trade associations such as BusinessEurope for its lobbying activities. Stronger still, Shell is in the top-5 of the 25 biggest oil and gas companies that exert the most negative influence on the climate policy through their trade associations. Apart from being a member of BusinessEurope, Shell is also a member of the WSPA, NAM, API, CAPP, APPEA and FuelsEurope trade associations, among others.[453] These are all trade associations that obstruct any climate action, in the United States, Canada, Australia and Europe.

600. Another example of Shell's working methods is its call during the World Gas Conference in 2015. During that conference, Shell urged governments to take measures to encourage the use of Liquid Natural Gas (LNG). At a Gastech conference in Tokyo in April 2017, Maarten Wetselaar, CEO of Integrated Gas & New Energies at Shell, said that the future of gas is not guaranteed and that the industry, therefore, has to make sure that gas is considered a part of the solution for the climate issue, not a part of the problem.[454]

601. Similar to Shell's objections to the aforementioned EU initiatives, it also resisted all kinds of intended, similar climate legislation in the United States.[455]

602. As such, Shell actively blocks progress in combating the climate issue and it uses its power and influence as one of the world's largest companies to enrich itself at the expense of society and future generations.

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449 InfluenceMap april 2016, *How much big oil spends on obstructive climate lobbying* p.10 (exhibit 206)

450 Bruyn 2016, CE Delft, *Calculation of additional profits of sectors and firms from the EU ETS,* tabel 28, The Netherlands (exhibit 207)

451 BusinessEurope, 13 september 2018, *EU's 2030 Greenhouse Gas Emission Reduction Target* (exhibit 208)

452 Lobyywatch 2018 *Oproep aan Shell, KLM en VNO-NCW: distantieer je van lobbygroep die hogere EU klimaatambitie wil blokkeren* (exhibit 209)

453 InfluenceMap april 2016, *How much big oil spends on obstructive climate lobbying* (exhibit 206)

454 Shell.com, 4 april 2017, speech given by Maarten Wetselaar, Integrated Gas & New Energies Director at Shell, *Securing the Future of Gas* (exhibit 202)

455 Stockman 2009: *Shell's big dirty secret – Insight into the world's most carbon intensive oil company and the legacy of CEO Jeroen van der Veer p.25* (exhibit 189) and Brulle 2018: *The Climate Lobby: a sectoral analysis of lobbying spending on climate change in the USA, 2000 to 2016 (*exhibit 210*)*

VIII.2.1.4 Conclusions with regard to Shell's gross negligence

603. It appears from the above that Shell was aware of the big climate dangers ensuing from its fossil activities as early as the 1980s. During the 1990s, Shell concludes that it makes a substantial contribution to the climate issue and that it has to take precautionary measures in order to prevent those dangers and that it has a social duty of care with regard to the emissions produced by its customers because they use its products. Shell would, therefore, move away from oil and gas production and in 1998, it set up a sustainable branch. Shell even felt it was important to use its sustainable branch to contribute to making sustainable energy viable.

604. However, before this change of policy was translated into a reduction of fossil activities, the company abandoned the new sustainable course in 2007. From that moment, Shell followed a high-fossil fuel course, digging itself increasingly deeper into the production and trade of, of all things, the most polluting oil and gas products.

605. Considering Shell's knowledge and awareness in 2007 and considering the strategy followed since then, Milieudefensie finds that since 2007, Shell has been consciously contributing to creating dangerous climate change and that it is consciously following a strategy that hampers energy transition. Shell does so for instance by actively encouraging demand for fossil fuels, by opposing government initiatives that aim to regulate Shell's activities and by talking green but acting fossil. By and, as such, misleading the general public about its real intentions and about the real urgency of the climate issue.

606. This behaviour is extremely negligent, considering the danger it has created and will create. This substantial degree of negligence is all the more striking because before 2007, Shell demonstrated that it knew it had to follow a sustainable pathway. That is why Shell is seriously imputable for its behaviour since 2007.

607. As a result, Shell's activities have become a real danger to mankind, human rights, future generations and the environment. Therefore, in the interest of people, the environment and future generations, Shell will now have to fully account for its social responsibility and duty of care.

608. The necessary transformation Shell envisaged as early as the 1990s and which it felt was feasible, must now be started by Shell in full and urgently. A lot of time has been lost and a lot of damage has already been done. Shell now has to sail the right course. In accordance with the discussion about the fourth and fifth Kelderluik criterion, Milieudefensie et al. request the court to order Shell to do so.

VIII.2.1.5 Criterion (iv) the nature of the behaviour (or negligence) of Shell

609. Whether or not the behaviour which the injuring party is charged with poses a great danger according to its nature, will affect the importance to be attached to the other Kelderluik

criteria. Behaviour that does not pose a great danger will only be negligent if there is a reasonable likelihood that damage will occur. Behaviour that poses a great danger and concerns, for instance, safety, is considered negligence sooner, even though the chance of damage is very small and the inconvenience of the precautionary measures to be taken is considerable.[456]

610. The judgment and ruling in the Urgenda case show that the court and the court of appeal followed the same arguments; in the case of behaviour that, by its nature, creates a danger that is so great such as (dangerous) climate change and which is also highly likely to cause damage, strict due care requirements can and should be imposed, even if the precautionary measures to be taken considerably inconvenience the injuring party.

611. According to paragraph 4.66 of the judgment of the court in that case, the State argued that it cannot be considered the co-perpetrator of imminent dangerous climate change because it is citizens and businesses that emit greenhouse gases, not the State itself. However, the court concludes that the State is able to exert control over the collective emission levels by citizens and businesses in the Netherlands and that because of that option to exert control (with a view to the considerable scope of the danger to be combated), we can demand a high level of care from the State. The court also takes into account that the State plays an important role in the transition to a sustainable society.

612. Milieudefensie et al. are of the opinion that a similar conclusion should be drawn for Shell, namely that Shell has control over both its own activities and the fossil fuels it trades and which are used by other businesses and citizens. Shell is in full control of the number of fossil fuels it produces and trades, now and in the future. If the production of oil and gas increases, so will Shell's contribution to climate change. When production decreases, so will the contribution.

613. Shell's control over these emissions linked to its production and products (which, for that matter, are bigger than all of the emissions in the Netherlands combined) is bigger and more direct than the control of the State of the Netherlands over the emissions by citizens and businesses. After all, it is up to Shell to focus on increasing its oil and gas production or on the phased reduction thereof. Back in the 1990s, Shell realised that it has control over both its own emissions and those of its customers who use Shell fuels. After all, as set out in Chapter VIII.2.1.2.e above, in 1998, Shell wrote that it realised that energy markets were changing and that all Shell companies in the world would have to move along with that and that they will have to take precautionary measures in order to accept their social responsibility in fighting climate change:

> "*They must play their part in the necessary precautionary measures to limit greenhouse gas emissions…in their own operations as well as helping their customers to do the same*."

[456] C.H. Sieburgh 2000, *Toerekening van een onrechtmatige daad*, Kluwer 1 juli 2000 p.75 t/m 77 and: Asser 6-IV, 2011/76 (A.S. Hartkamp en C. Sieburgh, *De verbintenis uit de wet,* 2011/76)

614. In 2004, Shell repeated that climate change requires the company to not only deal with its own emissions but that it also results in its customers emitting less CO_2.[457]

615. The fact that Shell has control over the emissions by users of Shell's fuels is something Shell still argues and acknowledges, which is why the company recently formulated ambitions to reduce emissions from its own products (see Chapter XI.4 below).

616. The fact that Shell, like the State, is a major influence on the energy transition thanks to the extent of its global operating activities and as one of the largest multinationals in the world, is clear and it does exert that influence, only, the way it goes about it is wrong. If Shell were to convert the tens of billions it invests in fossil production each year into investments in green non-emission energy products as soon as possible, it would certainly have an impact, both in terms of a signal to the rest of the world and in terms of investment volume towards green energy.

617. It would also mean that Shell contributes to reducing and phasing out the lock-in effect of its investments, which is also highly significant for the acceleration of the energy transition. If Shells stops lobbying against climate legislation, it would certainly have an effect. If Shell stops lobbying in favour of gas as the future's source of energy and if it stops urging the sector to collectively expand the markets for gas, instead urging the sector to collectively switch to the production of sustainable energy, it will undoubtedly have an effect on the energy transition.

618. As such, Shell has control over the emissions of its own activities and products and it also has an influence on the energy transition. With a view to the considerable danger linked to its behaviour - this concerns not only the behaviour that results in emissions but also to Shell's behaviour that delays and hampers the energy transition - the criterion discussed here about the nature and behaviour that are the subject of the dispute means high due care requirements must be imposed on Shell, even if the inconvenience for Shell of the precautionary measures to be taken is considerable.

VIII.2.1.6 Criterion (v): the inconvenience for Shell of the precautionary measures to be taken

619. As indicated above, strict due care requirements can and should be imposed in the case of behaviour which by its nature creates a danger that is as great and all-encompassing as (dangerous) climate change, even if the inconvenience for the injuring party of the precautionary measures to be taken is considerable.

620. Shell may argue that it highly inconveniences the company to change but this should not be the decisive factor. Even if it is considerably inconvenient for Shell to follow a correct climate policy, the enormity of the danger linked to its current behaviour, operating activities and products justifies the fact that it will have to implement and pursue this correct climate policy.

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[457] Shell 2004 *The Shell Report 2004 – Meeting the Energy Challenge – our progress in contributing to sustainable development* p.9 (exhibit 180) see also chapter VIII.2.1.2.e.

621. There is no reason why the entire world should have to suffer catastrophic climate change because it would be inconvenient for Shell (and other big CO_2 emitters) to change. How can you justify Shell's shareholders earning tens of billions of euros in profits from the sale of fossil fuels when it also causes the world to enter an ecological and humanitarian crisis at the same time? Why would society and its people have to suffer increasingly dangerous changes year after year because it would inconvenience Shell too much to change?

622. To ask the question is to answer it. It defies every sense of justice if the result would be that a company such as Shell would be able to sit in its offices in The Hague and continue to destroy the global living environment, a destruction which scientists in the 1980s said would be of such a scale that only a global atomic war would cause more damage (see Chapter V.4). Without changes to the policies of all major and substantial emitters in the world, the earth is likely to warm by 3°C or more, with unforeseeable consequences for people and the environment and with a big chance of a cascade of tipping points in the climate system. Against this background, we cannot expect the world to accept complete and irreversible destruction because it would be inconvenient for Shell (and other big fossil companies) to change. That is inexplicable. So Shell will have to change, whether this is inconvenient or not.

623. Shell *can* change, it has said so in the 1990s. As mentioned above, in 1998, Shell wrote that the company realised it had to change in order to combat climate change. At the time, it was the reason to set up Shell International Renewables, the renewable energy branch of Shell, in the course of which Shell announced in the Financial Times:

> "*Shell is playing a major part in the move from oil and gas, and now we're planting the seeds of renewable energy with Shell International Renewables, a new business committed to making renewable energy viable*."[458]

624. As mentioned before, this is clear evidence that as early as 20 years ago, Shell was acutely aware of the need to move away from oil and gas and to transform itself into a sustainable energy company. It also proves that as early as the 1990s, Shell felt that this business transformation was feasible, even though it was of the opinion that renewable energy was at that time not yet viable and, therefore, not profitable. Apparently, Shell felt that the company had to contribute to making sustainable energy (more) profitable. But, as we explained, during the last ten years, Shell failed to progress with expanding its renewable energy portfolio; it again focused on fossil fuels and their most polluting alternatives. They would yield higher profits. The sustainable energy branch was restructured in the process.

625. Today, 20 years after the above announcements that Shell was going to move away from oil and gas, it would, in any case, be easier to make the transformation from an oil and gas company to a sustainable energy company. The cost-benefit ratio for sustainable energy has improved during the past 20 years, which means the underlying principles have become more favourable for Shell. There is no reason why today, in 2019, the company couldn't still fast-track the sustainable transformation it announced back in the 1990s and to reduce its

[458] Stockman 2009: *Shell's big dirty secret – Insight into the world's most carbon intensive oil company and the legacy of CEO Jeroen van der Veer* p.20 (exhibit 189)

emissions in the process. There are plenty of options to build up a sustainable portfolio. In 2004, Shell indicated (see Chapter VIII.2.1.2.e) that the sustainable portfolio would have to consist of wind and solar power, hydrogen, biofuels and CCS (carbon capture and storage); perhaps Shell's opinion has changed by now and it will only focus on some of these energy sources or on completely different activities but there are plenty of opportunities to give substance to the transformation to a sustainable energy company.

626. However, a transformation to a sustainable energy company is not the only option open to Shell to reduce emissions at the speed required. One example is the early exit model, a scenario in which an oil and gas company lowers investments in upstream oil and gas, downgrading this business unit and paying profits to shareholders via dividend and buying back shares at the same time. This way, the company will be increasingly scaled down but it remains profitable (see also Chapter XI.5)

627. So Shell has several options to act in line with climate goals. They are feasible scenarios that also give Shell a prospect of an important role (if so desired) in a new energy era. It is up to Shell to make a choice from these options (and, undoubtedly, other options open to Shell to give substance to its future), as long as the emission reductions demanded by Milieudefensie et al. are achieved.

628. Milieudefensie et al. are of the opinion that if scientists say it is possible for global society to reach a point in 2050 when no more CO_2 is emitted into the atmosphere, this should certainly also be possible for Shell with all its (financial) resources, its knowledge, expertise and international network and contacts. Milieudefensie et al. do not demand that Shell stops its fossil activities from one day to the next but it does want Shell to use the next 30 years to reach zero CO_2 emissions in phases by 2050.

629. Shell will have to commence this emission reduction course immediately. Postponement not only means too many emissions for too long, resulting in additional global warming, but also that achieving the climate target will be harder and more expensive and that the risk of missing the target increases. UNEP formulated this, among other things, in its Emissions Gap report from 2013 (see also the judgment of the court under 2.30, referring to this report):

> *"[L]ater-action scenario's have several implications compared to least cost scenario's, including: (i) much higher rates of global emission reductions in the medium term; (ii) greater lock-in of carbon-intensive infrastructure; (iii) greater dependence of certain technologies in the medium-term; (iv) greater costs of mitigation in the medium- and long term, and greater risks of economic disruption; and (v) greater risks of failing to meet the 2°C target. For these reasons later-action scenarios may not be feasible in practice and, as a result, temperature targets could be missed."*[459]

630. Waiting any longer is not something Shell should want to do with a view to the rising cost profile and an increased risk of economic disruption. If Shell has to take action in line with the Paris Agreement, postponing it would be more onerous than starting sooner. If Shell starts

[459] UNEP, Emissions Gap Report 2013, p.xiii (exhibit 211)

now, i.e. with more than 30 years to make the transformation, it will be a simpler and smoother transition from a cost (and other) point of few compared to leaving it until 2025 with only 25 years to make the transition.

631. Apart from the cost-effectiveness for Shell, waiting any longer would be unacceptable because of the additional risk that emissions will be too high in the next few years in order to reach the climate target and that this target will be missed, with all of its consequences. The higher the global emission levels when the reduction is started, the harder it will be to complete the reduction from this extent to zero within a given time frame. Also, the less time that remains to reach zero, the more disruptive the transformation will be, economically and otherwise. All these reasons demand immediate action and with a view to the danger that should be avoided, they cannot inconvenience Shell to such an extent that we could not in all reasonableness demand it does so.

632. Within that context, Milieudefensie et al. feel they can deduce from the asbestos case law of the Supreme Court that in a situation such as this one, the court can order a change of corporate policy. From this asbestos case law, we can conclude that businesses can have a legal duty to phase out certain activities without the need for specific legislation that stipulates this. From the extensive case law that was developed in the 1980s and the 1990s because of the danger of asbestos to public health, it follows that since 1969, employers and asbestos manufacturers had a duty to protect employees and consumers against asbestos because these companies could have been sufficiently aware of the dangers and they, therefore, had a duty to protect, even though there was no legislation. According to the Supreme Court, the order of priority to be observed since 1969 was *"restricting the use of asbestos to a minimum, air purification and personal protective measures."*[460] The asbestos processor should have replaced the dangerous product with alternative products and it should have taken the aforementioned protective measures in the meantime, according to case law.[461] Translated freely in accordance with the climate situation, it offers points of reference to once more conclude that a fossil company should replace its fossil activities with alternatives that do not constitute a risk of continued global warming and the serious consequences associated with this. Although it was not until later (after damage had been done) that the Supreme Court in the asbestos case law was able to determine that asbestos processors should have phased out their asbestos activities given the risks involved, it does not alter the fact that such a conclusion could have been drawn beforehand within the context of preventing damage.

633. That is why Milieudefensie et al. again say that demanding Shell to change its business operations is legitimate with a view to all the facts and circumstances.

[460] Supreme Court 02 October 1998 (Ervan Cijsouw/De Schelde II) ECLI:NL:1998:ZC2721 legal ground 3.5
[461] Supreme Court 02 October 1998 (Ervan Cijsouw/De Schelde II) ECLI:NL:1998:ZC2721 legal ground 3.3.3

VIII.3 CONCLUSION WITH REGARD TO THE HAZARDOUS NEGLIGENCE CRITERIA

634. According to Milieudefensie et al., the above shows that if the five endangerment criteria are viewed together, the only conclusion that we can draw is that Shell is also guilty of unlawful endangerment, just like the State of the Netherlands. The court corrected the latter in that respect by means of an emissions reduction order.

635. As demonstrated, Shell has been aware for a long time of the fact that its activities and products make a non-negligible contribution to global warming, with major consequences for people and the environment. Shell has also for a long time been aware of the fact that in order to prevent the most serious damage, global warming should be kept (well) below 2°C and that now, it should, in fact, be kept to 1.5°C. It is also clear that without urgent and far-reaching global emission reductions, global warming will be far beyond 2°C this century alone. This has potentially catastrophic consequences such as the creation of a (host of) dangerous tipping points in the climate.

636. It has been demonstrated that Shell has control over the emissions of its activities and products and that it acknowledges such control. So it is within Shell's power to exert control over the emissions in question.

637. It has also been demonstrated that Shell forms an important link (and for now, an obstacle) in the energy transition and that it is able to implement effective measures to mitigate the emissions associated with its activities and products. In light of the danger that can be averted when these measures are taken, they could not be considered too inconvenient, also with a view to the fact that due to the extent and comprehensiveness of the danger, strict due care requirements can be imposed and that within that context, it is even possible to demand Shell takes measures that are considerably inconvenient for Shell.

638. With a view to all of this, Milieudefensie et al. conclude that Shell is guilty of unlawful endangerment, an unlawful situation that should be eliminated by means of the emissions reduction order to be imposed. Within that context, it has also been demonstrated that such an order is all the more justified as Shell started to show extraordinary negligent behaviour from 2007, which has been discussed in chapter VIII.2.1.3.

639. This brings Milieudefensie et al. to the following relevant legal aspects yet to be discussed.

IX. ATTRIBUTION, CAUSALITY AND RELATIVITY

IX.1 ATTRIBUTION

640. As discussed earlier, Shell has control over the emissions associated to its activities and products and it has emerged that without any further measures by Shell, they will remain too extensive in order to achieve the objective of Paris. For those reasons, the actions (and omissions) that Shell is accused of can be attributed to them. After all, it is within Shell's power to (i) pursue a policy that will sufficiently reduce the emissions of its activities and products, (ii) make a proportional contribution to achieving the Paris objective to prevent a very considerable danger, and (iii) encourage a transition to a sustainable power supply.

IX.2 CAUSALITY

641. As was argued in the Urgenda case, Shell will in this case too argue that allowing the claims brought by Milieudefensie et al., which are aimed at the specific reduction of CO_2 emissions by Shell (and Shell alone), are not effective on a global level because the emission reduction then to be made by Shell will only result in a small reduction of global greenhouse gas emissions. Within that context, the State invoked the fact that the Netherlands' share of the global emissions is only 0.5%. Within that context, Shell may refer to the fact that its contribution to global emissions may be twice as big as that of the Netherlands but that it still only constitutes 1% of global emissions.

642. However, the court and the court of appeal rejected this (causality) defence of the State because, in the words of the court, it has been established that climate change is a global problem that demands global responsibility. According to the court and the court of appeal, this means that more reduction measures need to be taken around the world. According to the court and the court of appeal, the fact that the extent of emissions in question is relatively small does not change the obligation to take the necessary reduction measures with a view to the social standard of care to be observed. The court continues (paragraph 4.79):

> "*After all, it has been established that every anthropogenic greenhouse gas emission, no matter how small, contributes to a rise in CO_2 levels in the atmosphere and, therefore, to dangerous climate change [...] As the emission reduction of the Netherlands is determined by the State, it cannot discard any liability with the excuse that its contribution is small, which is also the judgment, by analogy, in the so-called Kali Mines ruling (HR 23 September 1988, Dutch Law Reports 1989, 743). The rules given therein also apply, by analogy, to the obligation to take precautionary measures so as to prevent a danger as the one discussed in this case from manifesting itself.*"

643. The court of appeal supplements this argument of the court with the following consideration (paragraph 64):

> *"The State's reliance on a lack of a causal relationship fails too. First, these proceedings are about a claim to issue an order, not compensation, which means causality plays only a minor role. For the court to issue an order, all we need (summarising) is a realistic threat of danger against which*

> *measures should be taken. It has been established that this is the case. On top of that, if we were to follow the State's interpretation, an effective remedy against a global issue such as this one would be lacking. After all, every State that is held to account could then argue that it does not have to take any measures if other States do not do so either. Such a consequence is unacceptable, the more so as Urgenda cannot take all of the relevant States to a Dutch court."*

644. The considerations of the court and the court of appeal similarly apply to Shell's share in global emissions. At 1%, they are, indeed, not all-decisive in the cause of the climate issue but they *are* sufficiently substantial to have legal and effective relevance. This 1% in emissions also increase CO_2 levels in the atmosphere and, therefore, they also contribute to dangerous climate change. As the court has already said, it follows from the Kali Mines ruling that in situations such as this, measures do need to be taken in order to avoid the contested danger.

645. As for the considerations of the court of appeal, they are also applicable to Shell's share in global emissions because this case too is about preventive action, not about a claim for compensation, so all that is needed is proof that there is a real threat of danger against which measures should be taken. Milieudefensie et al. have demonstrated this realistic threat in their discussion of the Kelderluik criteria. And as the court of appeal considered, if the 1% share Shell has in global emissions cannot be challenged, an effective remedy against the biggest conceivable danger would be lacking. This does, in fact, mean that no one could be held to account as long others do not take sufficient action either.

646. To further support this latter argumentation by the court of appeal, Milieudefensie et al. refer to the ruling of the American Supreme Court in the famous case of Massachusetts versus EPA of 2 April 2007 in which the Supreme Court also used highly fundamental words - and similar to those of the court of appeal - about this "you-first-defence".[462]

647. In that case, EPA (the federal environmental agency in America) demanded that Massachusetts - with regard to combating climate change - should have to take stricter measures in the US car sector in order to reduce emissions. Among other things, EPA defended that stricter emission reduction measures in the car sector in the US would only result in minor emission reductions which would, for that matter, be entirely cancelled out by the increase in CO_2 emissions in India and China. The Supreme Court did not accept this defence as an argument for EPA not to take reduction measures in the car sector. According to the Supreme Court, it was undisputed that the American emissions that EPA refused to regulate were substantial in themselves and that the positive effects of the regulation by EPA would, indeed, be more than compensated by the emission increases in China and India but that regulation by EPA would, nevertheless, help to delay and mitigate the process of climate change or, as the Supreme Court put it:

> *"Its [an] erroneous assumption that a small incremental step, because it is incremental, can never be attacked in a federal judicial forum. Yet accepting that premise would doom most challenges to regulatory action. Agencies, like legislatures, do not generally resolve massive problems in one fell regulatory swoop […]*

[462] US Supreme Court, Massachusetts v. Environmental Protection Agency, 549 U.S. 497 (2007), 2 april 2007 (exhibit 212)

> *While it may be true that regulating motor-vehicle emissions will not by itself reverse global warming, it by no means follows that we lack jurisdiction to decide whether EPA has a duty to take steps to slow or reduce It […]*
> *A reduction in domestic emissions would slow the pace of global emissions increases, no matter what happens elsewhere."*[463]

648. These considerations again reinforce the arguments of the court of appeal and they show that for fundamental reasons, it is correct to hold Shell to account about its contribution to global emissions. A global challenge such as combating climate change would be doomed to fail if neither the legislator nor the courts can force anyone in the world to take action. In that case, everyone would be hiding behind the other big polluters and it would be impossible to take those first steps that would make it possible for the problem to be resolved step by step. The climate issue cannot be resolved just like that with a single campaign. Among other things, it requires important players in the cause of the problem to be made aware of their social responsibility to contribute to resolving the problem and that they are not free to worsen that problem.

649. A court order for Shell to take action should also be regarded as such an important first step in the further solution to the climate issue. Similar to the Urgenda case resulting in follow-up legal action at home and abroad, also creating a wider understanding in society that climate change is a danger that should be taken seriously and combated, a process in which the State is and should be an important player, a judgment against the defendant, Shell, will make a similar contribution to averting dangerous climate change. Not only because of the changes that Shell will have to undergo but also because of the wider message it conveys towards, among others, other big fossil energy companies and their lenders, accountants and supervisory bodies. It will increase their awareness that change is, indeed, necessary and it will help to realise that change.

650. What Milieudefensie et al. mean by this is that, like the opinion of the American Supreme Court in the EPA case, a judgment against the defendant, Shell, will be an important follow-up step in averting dangerous climate change. Even though such a judgment is not the final solution to the climate issue, it will result in follow-up steps at home and abroad, bringing us closer to the solution to the issue. The chain of steps, of which none is all-decisive but all are equally vital, should resolve the issue, not least because we hardly have any time left to resolve the issue and there certainly is no time for wavering. We can only hope that one of these steps will lead to a considerable acceleration of the climate strategy around the world in the next few years because it is desperately needed. In terms of the well-being of the world and the interests of Milieudefensie et al., this case against Shell can be seen as an important tool that is guaranteed to leave its mark on the approach to the climate issue and the progress of the energy transition.

651. This concludes the issue about causality, which means Milieudefensie et al. will now briefly discuss the relativity requirement and then the human right aspects of the climate issue

[463] US Supreme Court, Massachusetts v. Environmental Protection Agency, 549 U.S. 497 (2007), 2 april 2007 p.21, p.22, p.23 (exhibit 212)

discussed by the court of appeal in its ruling, which are of interest in this case against Shell because of the indirect horizontal effect of the ECHR. The human right aspects of this case are another reason to demand that Shell observes the highest possible care and to allow the reduction objections demanded of Shell by Milieudefensie et al.

IX.3 RELATIVITY

652. The violated standard in question is the need to observe due care in the fight against dangerous climate change. Among other things, this standard pertains to stopping the potential damage suffered by Milieudefensie et al. As such, the so-called relativity requirement is met. Furthermore, as set out below, Shell is also guilty of violating human rights, more in particular, the violation of the right to life and the right to an undisturbed family life. These standards too, pertain to protecting the rights and interests of Milieudefensie et al.

X. VIOLATION OF HUMAN RIGHTS

X.1 INTRODUCTION

653. When discussing the Cancun Agreements from 2010 (Chapter VI.1.5) in this summons, Milieudefensie et al. already referred to Resolution 10/4 of the UN Human Rights Council with regard to human rights and climate change.[464] Referring to the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights, this resolution states that the consequences of climate change are a global threat to human rights. By doing so, the UN Human Rights Council made the relationship between climate change and the violation of human rights explicit.

654. Among other things, the resolution states that the right to life, the right to self-determination, the right to health and the right to basic needs such as food, drinking water and housing are compromised due to the consequences of climate change (quote):

> *"Noting that climate change-related impacts have a range of implications, both direct and indirect, for the effective enjoyment of human rights including, inter alia, the right to life, the right to adequate food, the right to the highest attainable standard of health, the right to adequate housing, the right to self-determination and human rights obligations related to access to safe drinking water […]"*[465]

655. The infringement of human rights by climate change will, according to the UN Human Rights Council, have global consequences for individuals and society, and vulnerable people in particular will initially experience the worst consequences (quote):

> *"Recognizing that while these implications affect individuals and communities around the world, the effects of climate change will be felt most acutely by those segments of the population who are already in vulnerable situations owing to factors such as geography, poverty, gender, age, indigenous or minority status and disability."*[466]

656. The Cancun Agreements add that climate change is a potentially irreversible threat to human societies (quote):

> "*Recognizing that climate change represents an urgent and potentially irreversible threat to human societies* [..]"[467]

657. In order to combat the threat posed by climate change to human societies to the greatest possible extent, we need a strict climate policy and a transition to sustainable energy. The Court of Justice of the European Union (CJEU) already mentioned this relationship between climate policy, sustainable energy and the right to life as early as 2001 in one of its rulings:

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[464] Human Rights Council 25 march 2009, Resolution 10/4. *Human Rights and Climate Change* (exhibit 213)
[465] Human Rights Council 25 march 2009, Resolution 10/4. *Human Rights and Climate Change* p.1 (exhibit 213)
[466] Human Rights Council 25 march 2009, Resolution 10/4. *Human Rights and Climate Change* p.1 (exhibit 213)
[467] UNFCCC COP 16, Cancun Agreements 2010, p.2 (exhibit 139)

> *"The use of renewable energy sources…contributes to the reduction in emissions of greenhouse gases which are amongst the main causes of climate change which the European Community and its Member States have pledged to combat…It should be noted that that policy is also designed to protect the health and life of humans..."*[468]

658. Due to this relationship between the climate policy and the protection of the right to life, one of the most important fundamental rights of every human being, the CJEU ruled in the ruling in question that the climate policy can clash with the free-market principle the EU thinks so highly of because the climate policy (on account of the objective of protecting the right to life and health) serves a higher purposes than the objective of a free market.

659. The fact that around the world, the right to life and health is at stake, among other things, also follows from the report that was prepared under the direction of the former Secretary General of the UN, Koffi Annan. The report from 2009, bearing the telling title of "Climate Change - The Anatomy of A Silent Crisis", concludes that each year, hundreds of thousands of people die, hundreds of millions are seriously affected and billions of people are vulnerable to the consequences of climate change (quote):

> *"The findings of the report indicate that every year climate changes leaves over 300.000 people dead, 325 million people seriously affected […] Four billion people are vulnerable and 500 million people are at extreme risk."*[469]

660. The fact that climate change poses a threat to the right to life and health and other associated rights also follows from the consequences of climate change on a global, regional and a Dutch scale, which are extensively discussed in chapter VII of this summons. Heat stress, floods, rising sea levels, advancing infectious diseases, summer smog, damage to ecosystems, flora and fauna, and the risks for the supply of drinking water and food will continue to affect the right to life (Article 2 of the ECHR) and the right to health and an undisturbed family life (Article 8 of the ECHR), also in the Netherlands.

661. In the AR5 report of 2014, the IPCC indicates that family life will be affected by climate change in many (other) ways (quote):

> *"Climate change will have profound impacts on a broad spectrum of infrastructure systems (water and energy, supply, sanitation, drainage, transport and telecommunication), services (including health care and emergency services), the built environment and ecosystem services. These interact with other social, economic and environmental stressors exacerbating and compounding risks to individual household well-being [..]."*[470] (emphasis added)

662. If follows from the above that the right to life and the right to an undisturbed family life as contained in Articles 2 and 8 of the ECHR, apart from the aforementioned international human

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[468] The ruling of the court of appeal PreussenElektra/Schhleswag AG, C-379/98 of 13 March 2001, ECLIL:EU:C:2001:160

[469] Global Humanitarian Forum, Human Impact Report Climate Change, The Anatomy of A Silent Crisis, 2009 executive summary (exhibit 214)

[470] IPCC 2014 AR5, WGII H.8, p.538 (exhibit 021)

rights conventions, are increasingly compromised and violated due to continued climate change. In the Urgenda case, the court of appeal in The Hague came to the same conclusion.

X.2 THE CONSIDERATIONS OF THE COURT OF APPEAL IN THE URGENDA CASE

663. The court of appeal in the Urgenda case ruled that due to the realistic threat of dangerous climate change, there is a serious risk that residents of the Netherlands will be faced with the loss of life and/or a disruption of family life. According to the court of appeal, not or insufficiently contributing to achieving the global climate goals by the State is, therefore, a violation of the duty of care stipulated in Articles 2 and 8 of the ECHR (paragraphs 45, 73 and 76).[471] According to the court of appeal, it is also unreservedly likely that the current generation of Dutch people, particularly but not exclusively the younger generation, will during their lives be faced with the negative consequences of climate change if global emissions of greenhouse gases are not properly reduced (paragraph 37).

664. The court of appeal also explained that interest groups, like individuals, can invoke Articles 2 and 8 of the ECHR and that these convention provisions have a direct effect. Both articles form a part of Dutch jurisdiction and these ECHR provisions prevail over national legislation and should, therefore, be applied to the assessment of this climate issue, according to the court of appeal (paragraphs 36 and 69).

665. The court of appeal also pointed out that the precautionary principle under ECtHR case law should be observed during the duty of care to protect the right to life and the right to an undisturbed family life (paragraph 63). According to the court of appeal, the precautionary principle implies that if existing emission reduction measures are insufficient to prevent dangerous climate change, it will be necessary to take measures that *are* safe or, at least, as safe as possible and that those measures should not be postponed if there is no absolute scientific certainty about the effectiveness of those measures (paragraphs 63 and 73). According to the court of appeal, the application of the precautionary principle is all the more appropriate with a view to the risk of reaching tipping points in the climate system. These tipping points may result in abrupt climate change, something which neither human beings nor nature can properly prepare for and the risk of which increases at a steepening rate with rises in temperature between 1 and 2˚C (paragraph 63 in conjunction with paragraph 44).

X.3 THE INDIRECT HORIZONTAL EFFECT OF THE ECHR

666. The view of the court of appeal that insufficient emission reductions by the State are a violation of the duty of care of the State to protect the right to life and an undisturbed family life, in the course of which the State is also bound by the precautionary principle as part of the ECHR, will, according to Milieudefensie, also affect the duty of care that applies to Shell.

667. Under Dutch case law, indirect horizontal effect has been allocated to the ECHR on a grand scale via open standards of private law such as the social standard of care of Article 6:162 of

[471] Court of Appeal of The Hague, 09 October 2018, ECLI:NL:GHDHA:2018:2591

the Dutch Civil Code.[472] This way, the ECHR also colours the duty of care which private individuals and legal entities have towards each other. What this indirect horizontal effect means in practice can, among other things, be derived from the statements by Professor A.S. Hartkamp on the matter:

> *"The values embodied in the fundamental rights are important to society as a whole that it is desirable that such rights can also, that is, to a certain extent, be invoked by citizens in their relationship with other citizens, including associations and other organisations of a private law nature. This corresponds with today's reality in which these organisations are able to exert such legal, economic or actual control over individuals that the need for protection against such control is comparable to the need for protection against the control exerted by public organisations."* [473]

668. Hartkamp indicates that certain private legal entities have such legal, economic or actual control over (the fate of) individuals that individuals have to be protected against such control in a similar way as they are protected against the control over these individuals by public organisations such as the State. When applied to the current situation, Milieudefensie says it should be interpreted in such a way that Shell, given its power and influence as one of the largest multinationals in the world, has a similar duty of care to respect fundamental rights as the duty of care which the State is bound by, according to the court of appeal, as evidenced by the Urgenda ruling.

669. The fact that a similar duty of care should apply to Shell to respect the right to life and the right to an undisturbed family life is also obvious given the fact that the emissions linked to Shell's activities are even twice as high as those of the Netherlands. It is because of these emissions and the dangerous consequences thereof that Shell has a power, similar to that of the State, to decide the fate of current and future generations. If Shell continues its current course, it will continue to contribute to co-creating dangerous climate change which will affect everyone around the world. As such, Shell's dominant position over (the fate of) these individuals is a fact. Furthermore, as discussed, Shell also has a considerable influence on the energy transition and the important success thereof so that Shell also has control over (the fate of) individuals that way. In this case, see also the court of appeal in legal ground 36, individuals should also be taken to mean the charities and associations that can invoke Article 3:305a.

670. The duty of care which the court of appeal has formulated for the State and which, according to Milieudefensie also applies to Shell because of the indirect horizontal effect, is the positive obligation to undertake specific action to prevent a future infringement of the interests protected under Articles 2 and 8 of the ECHR. Positive obligation is taken to mean the State's obligation to take active or proactive action and to take the right measures in order to prevent citizens from violating each other's fundamental rights. This comes in addition to the so-called negative obligation of the States, namely that the State itself is not permitted to violate the fundamental rights of citizens.

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[472] Asser/Hartkamp 3-I 2019/226-231 (Europees Recht en Nederlands Vermogensrecht) with further reference to relevant case law and literature

[473] Professor A.S. Hartkamp in Asser/Hartkamp 3-I 2015/226 (Europees Recht en Nederlands Vermogensrecht)

671. Under reference to the case law of the ECtHR, the court of appeal argues that one or more of those interests are violated if the interest in question is not actually violated yet but is likely to be violated as a result of an act/activity or a natural event. We can say the following about that ECtHR case law.

X.4 ECtHR CASE LAW WITH REGARD TO THE VIOLATION OF ARTICLES 2 AND 8 OF THE ECHR

672. By now, the ECtHR has ruled in several cases that dealt with Article 2 or 8 of the ECHR that States have a positive obligation to take measures when the right to life or the right to an undisturbed family life is likely to be violated as a result of environmental pollution.[474] This means that if Shell has a similar duty of care with regard to the interests of Milieudefensie et al. as the State - which is what Milieudefensie et al. argue - Shell must actively arrange protection and preventive care.

673. According to ECtHR case law, that obligation to take preventive measures arises as soon as there is an increased risk of violation and it not is affected if the damage has not occurred yet.[475] If there is a sufficiently realistic chance of a negative impact on the health of citizens (which certainly is the case with dangerous climate change, the court of appeal of The Hague argues[476]), it constitutes an obligation to protect citizens against that negative impact, even if there is no absolute certainty yet about the causal connection between the damaging act (or omission) and the (imminent) damage. According to the ECtHR, this follows from the precautionary principle.[477] According to the ECtHR, the precautionary principle means that in the case of serious environmental damage, proper measures must be taken in situations of scientific uncertainty.[478] [479]

674. An indirect horizontal effect of these rulings means that Shell too has the duty of care to assume the precautionary principle when preventing the violations of Articles 2 and 8 of the ECHR that will be the result of dangerous climate change. When determining the emission reduction course which Shell has to follow in order to protect the interests linked to these sections of the ECHR, the precautionary principle has to be guiding.

675. In relation to climate change, which is something no one can evade, it is also relevant to know that the ECtHR attaches importance to the question if there are realistic options for a complainant to evade environmental pollution by, for instance, moving to a more

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[474] See, for instance, ECtHR 30 November 2004, *Dutch Law Reports* 2005/210 (*Oneryildiz/Turkey*) ECLI:NL:XX:2004:AS2641; ECtHR 27 January 2009, 67021/01 (*Tatar/Romania*) ECLI:NL:XX:2009:BIO380; ECtHR 27 January 2009, *AB* 2009/285; ECtHR 20 March 2008, *AB* 2008/206 (Budayeva/Russia) ECLI:NL:XX:2008:BD6179.

[475] ECtHR 10 January 2012, no. 30765/08 (*Di Sarno/Italy*).

[476] Court of Appeal of The Hague, 09 October 2018, ECLI:NL:GHDHA:2018:2591

[477] ECtHR 27 January 2009, *AB* 2009/285 (*Tatar/Romania)* ECLI:NL:XX:2009:BIO380

[478] Similarly, see Barkhuysen and Van Emmerik, 2011, p. 88-89 Het EVRM en het Nederlands bestuursrecht **(**exhibit 215)

[479] For the application of the precautionary principle in the Tatar case, the ECtHR referred to, among other things, the application of the precautionary principle in the declaration of Rio de Janeiro from 1992, it quotes the paragraph on the precautionary principle from a ruling of the International Court of Justice and it also refers to the codification of the precautionary principle in EU law and the court of appeal's use of the precautionary principle. See Barkhuysen and Onrust, *De betekenis van het voorzorgsbeginsel voor de Nederlandse (milieu)rechtspraktijk*, 2010, p.62 (exhibit 216)

environmentally-friendly area. If that is not possible, such as in the case of dangerous climate change which will have negative consequences around the world, a further duty of protection is in place.[480]

676. This follows from the ECtHR ruling in Fadayeva v. Russia (the ruling of 09 June 2005), in which Russia put up a defence against the complaint brought by Fadayeva pursuant to Article 8 of the ECHR, with the argument that Fadayeva had voluntarily moved to the polluted industrial region and that she could also *leave* the region at her own free will.[481] The ECtHR did not agree with this argument and first ruled that due to a lack of relevant information about the danger, Fadayeva could not be blamed for moving to the polluted region. However, the most important aspect of this ruling is that in its further substantiation, the ECtHR explains that it is of significance whether the complainant has a realistic free choice to opt to accept or avoid the impairment of his or her health by polluting industrial activities. According to the ECtHR, however, Fadayeva did not have a free choice because due to a lack of social housing in the region, Fadayeva would not have had another choice but to accept the house in the polluted area (the severity of which she was unaware of due to a lack of information and warning) and that, furthermore, after discovering the pollution, she could not - given her limited income - be expected to be sufficiently well-off to rent a house in the private sector outside the polluted region. In other words, Fadayeva had no other choice but to suffer the pollution, which is why the ECtHR ruled that Russia violated Article 8 of the ECHR and that it had to protect her against this pollution.

677. Milieudefensie et al. also do not have any other choice but to suffer the pollution and the dangers caused by dangerous climate change if no policy changes are made to tackle the climate issue by Shell (and others). It is impossible for Milieudefensie et al. to evade those dangerous consequences. This means Shells has the most extensive duty of care possible towards Milieudefensie et al. and their interests.

678. The fact that complainants at the ECtHR, such as Milieudefensie et al. at the court in The Hague in this case, oppose a situation that affects the entire population of a country or a region, does not stop the ECtHR from assuming that an individual complainant suffers identifiable damage or runs an identifiable risk. When there is a general risk to public health as a result of which people in a (very) large area are to a lesser or higher degree affected, the ECtHR argues there may be a sufficiently identifiable need for protection.[482]

679. In the case of Di Sarno versus Italy, for instance (the ruling of 10 January 2012), the complainants challenged the waste crisis that had affected the city of Naples and its surrounding area during the past years.[483] The Italian State opposed a judgment by arguing that it concerned an *actio popularis* in which the intention was to change the waste policy and legislation in Italy via the ECtHR, while it was evident that no personal interests of the complainants were at stake. The ECtHR acknowledged the fact that the complainants opposed

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480 This follows from ECtHR, 09 June 2005, *EHRC* 2005/80 (*Fadayeva/Russia*).
481 ECtHR, 09 June 2005, *EHRC* 2005/80 (*Fadayeva/Russia*).
482 ECtHR 10 January 2012, no. 30765/08 (*Di Sarno/Italy*); ECtHR 12 June 2005, appl. no. 3622/97 (*Okyay/Turkey*).
483 ECtHR 10 January 2012, no. 30765/08 (*Di Sarno/Italy*)

a situation that affected the entire region but it felt there was sufficient evidence that the complainants were concerned about and that they were affected by the waste crisis due to the waste in the streets mounting up and the waste fires that raged in their surrounding streets, which were of such a scale and danger that the fire brigade had to be called out on a regular basis. This sufficiently proved that the pleasurable living conditions, the health and physical integrity of the complainants were directly affected and that the interest to be protected under Article 8 of the ECHR was at stake, which is why the quoted defence of the Italian government would fail, according to the ECtHR. The fact that everyone in the world will to a lesser or higher degree be exposed to the consequences of dangerous climate change, means that Milieudefensie et al. do run an identifiable risk.

680. The fact that the entire territory of the Netherlands or a larger area will be hit by climate change and the entire population or a substantial part thereof will suffer the violation of rights thereof does, therefore, not preclude a claim for the violation of human rights. This also follows from Okyay versus Turkey (ruling of 12 July 2005).[484] In that case, the complainants lived 250 kilometres from three old coal plants that caused significant pollution. Turkey stated in its defence that the complainants were unable to prove that they, therefore, were exposed to a specific and imminent danger to their health. However, the ECtHR referred to an experts' report, which is also what the Turkish court had used and which showed that there was a general risk to public health, which also included the complainants because the emissions of the coal plants, according to the experts' report, causes pollution in an area with a diameter of 2,350 kilometres (which is where the houses of the complainants were located). The ECtHR ruled as follows (paragraph 66): *"[t]hat distance covers the area in which the applicants live and brings into play their right to protection of their physical integrity, despite the fact that the risk which they run is not as serious, specific and imminent as that run by those living in the immediate vicinity of the plants."* By saying this, the ECtHR again makes it clear that in cases that result in a general risk to public safety, affecting people in a (very) large area to a lesser or higher degree, there also may be a sufficiently identifiable interest.

681. In the case of Taskin versus Turkey of 10 November 2004[485], the ECtHR also stipulated that even when it is not possible to be absolutely certain about the damage because it may not be suffered until the distant future (after decades) - i.e. a situation very similar to the decade-long delay between an increase of atmospheric CO_2 concentrations that cause CO_2 emissions and the associated global warning (damage) - it will be possible to invoke the protection of Article 8 of the ECHR if it concerns a generally acknowledged and foreseen health risk.

682. In this case, in which the complainants opposed the pollution from a local gold mine, Turkey argued that it is not possible to invoke Article 8 of the ECHR because the specific risk which the complainants complained about could not manifest itself until twenty to fifty years later. According to Turkey, therefore, the risk was hypothetical and not threatening enough to justify invoking a violation of human rights. The ECtHR threw out Turkey's defence. According to the ECtHR, following Turkey's reasoning would result in an erosion of Article 8 of the ECHR and it is

[484] ECtHR 12 June 2005, appl. no. 3622/97 (*Okyay/Turkey*).
[485] ECtHR 10 November 2004, appl. no. 46117/99 (*Taskin/Turkey)*

sufficient to establish a clear link between dangerous effects on the one hand and the fact that complainants may be exposed to that in the future on the other.

683. The fact that there was a possibility that the imminent danger in the Taskin case would not manifest itself until decades later was, therefore, not a reason to reject invocation of Article 8 of the ECHR. A similar situation also manifests itself in the case of climate change on account of the oft-discussed delayed effects in the climate system but it does not pose any obstructions to invoke a violation of human rights. In terms of the link between dangerous effects of industrial activities on the one hand and the fact that people are exposed to those dangers now and in the future on the other, the case of Milieudefensie et al. against Shell does not differ from the aforementioned cases, including those of Fadayeva, Di Sarno, Okyay and Taskin. That is why it is possible to conclude - mindful of the indirect horizontal effects of the ECHR and ECtHR case law to explain it - that the lack of measures by Shell to take its proportional responsibility in the protection against dangerous climate change leads or will lead to a violation of human rights in the Netherlands (and beyond) and that the interest of Milieudefensie et al. to oppose this is sufficiently identifiable. After all, Milieudefensie et al. are exposed to the hazard of dangerous climate change and they need to be protected against it.

684. On a concluding note, the ECtHR stipulated that attempts to reduce a violation are not enough. The measures do actually have to yield sufficient result (ECtHR Dees versus Hungary, ruling of 09 November 2010).[486] Merely demonstrating that attempts were made to reduce the problem is, therefore, not enough. The measures should actually result in the protection of human rights and make a sufficient contribution to that. This is possible only if the claim brought by Milieudefensie et al. is allowed because every lesser contribution from Shell would increase the risk that dangerous climate change can no longer be prevented. Also for the sake of the precautionary principle to be applied, the requested emissions reduction order is, therefore, ideal to protect the right to life and to an undisturbed family life.

685. Dées versus Hungary dealt with a situation in which as a result of a newly imposed toll on a nearby motorway, a lot of trucks passed the complainant's home using a short cut in order to avoid paying toll, which meant the complainant suffered a lot of inconvenience and air pollution. He claimed that his rights under Article 8 of the ECHR were being violated.

686. The toll charges were introduced by the private party that operated and owned the motorway. As this concerned a horizontal violation, the State of Hungary was held to account about its positive obligations. The Hungarian government had already taken many measures to reduce the inconvenience to relieve the complainant, such as encouraging lower toll charges, introducing speed restrictions and traffic lights to discourage use of the short cut by goods traffic, a ban on the heaviest trucks and the construction of three other roads to relieve the short cut, as well as deploying extra police officers to check the short cut. However, these measures proved to be insufficient to be able to guarantee the peaceful enjoyment of one’s private life.

[486] ECtHR 9 November 2010, appl. Nr. 2345/06 (Dées/Hongarije) ECLI:NL:XX:2010:BP1602

687. The court of appeal ruled that, despite the fact that it was a complex situation and the government had already taken many measures, there was still a violation of Article 8 of the ECHR (even though the Hungarian government had a margin of appreciation). The court of appeal considered:

> *"The Court recognises the complexity of the State's tasks in handling infrastructural issues, such as the present one, where measures requiring considerable time and resources may be necessary. It observes nevertheless that the measures which were taken by the authorities consistently proved to be insufficient, as a result of which the applicant was exposed to excessive noise disturbance over a substantial period of time …[D]espite the State's efforts to slow down and reorganise traffic in the neighbourhood, a situation involving substantial traffic noise in the applicant's street prevailed [...] It finds that the respondent State has failed to discharge its positive obligation to guarantee the applicant's right to respect for his home and private life. Accordingly, there has been a violation of Article 8 of the Convention."*

688. From this statement, it appears that it is of primary importance to find out if, indeed the efforts are made that are needed to protect the fundamental rights. If not enough efforts are made or if the wrong measures are taken, the ECHR is violated.

689. So far, we have seen few 'attempts' by Shell regarding the climate strategy. As long as the 'attempts' are insufficient and they do not yield the result one can expect from Shell, the ECHR continues to be violated. The required result can be achieved only when Shell makes its proportional contribution to tackling the global climate issue by means of correct emission reductions. This will be required in order to eliminate the unlawfulness of Shell's behaviour and the ECHR-violating nature thereof.

690. In light of these rulings by the ECtHR, which are also quoted by the court of appeal in The Hague in the Urgenda case (paragraph 41), Milieudefensie et al. are of the opinion that the facts in this climate case against Shell mean that the protection of Articles 2 and 8 of the ECHR can be invoked against Shell and that a court order to reduce emissions can be imposed on Shell. The danger that manifests itself during climate change and, particularly, dangerous climate change, is a threat to the right to life and health as rightfully noted by the court of appeal. Shell's actions, therefore, violate these ECHR articles, which have a direct effect on Dutch legal order through Sections 93 and 94 of the Constitution.

X.5 THE OBLIGATION OF BUSINESSES TO RESPECT HUMAN RIGHTS

691. According to Milieudefensie et al., it follows from the previous discussion about (i) the relationship between climate change and the violation of human rights, (ii) the considerations of the court of appeal in The Hague with regard to the applicability of the ECHR in the Urgenda case, (iii) the indirect horizontal effect of the ECHR in private-law relationships and (iv) relevant ECtHR case law that Shell has an obligation to independently respect human rights and not to violate them.

692. The fact that Shell, as a large and influential multinational has a responsibility to respect human rights and, therefore, should self-regulate, is something Shell acknowledges on its website:

> *"We have the responsibility and commitment to respect human rights with a strong focus on how we interact with communities, security, labour rights and supply chain conditions."*[487]

693. Shell uses the UN Guiding Principles on Business and Human Rights as a basic principle, as we can read:

> *"We are committed to respecting human rights. Our human rights policy is informed by the UN Guiding Principles on Business and Human Rights and applies to all our employees and contractors"* [488]

694. These UN Guiding Principles on Business and Human Rights ("UN Guiding Principles") were adopted in 2011. The UN Guiding Principles originate from the UN Protect, Respect and Remedy Framework, which was adopted by the UN Human Rights Council in 2008 in response to the adverse effects of globalisation and the resulting increase in violations of human rights by multinationals.

695. The conclusion of the UN Human Rights Council was (see below) that the increase in violation of human rights by businesses was predominantly caused by the fact that (national) governments and public organisations did not have enough control over multinationals due to fast-paced international developments. A lack of international supervision and international regulation created a situation - a power vacuum - in which and as a result of which internationally operating businesses found it increasingly easy to operate outside the rules of individual countries, without any fear for sanctions.

696. That is why self-regulation by means of a new international guideline as a code of conduct for businesses was considered necessary. This code of conduct was intended to encourage businesses to respect human rights independently. As an envoy of the Secretary-General of the UN, John Ruggie was appointed to manage the project.

697. The explanatory introduction to the Protect, Respect and Remedy Framework contains the aforementioned background to this framework (and the Principles based on that). The UN Human Rights Council says the following (underlined by lawyer):

> *"[M]arkets work optimally only if they are embedded within rules, customs and institutions […] Indeed, history teaches us that markets pose the greatest risks - to society and business itself - when their scope and power far exceed the reach of the institutional underpinnings that allow them to function smoothly and ensure their political sustainability. This is such a time and escalating charges of corporate-related human rights abuses are the canary in the coal mine, signaling that all is not well.*

[487] Shell.com: *Human rights* (exhibit 217)
[488] Shell.com: *Human rights* (exhibit 217)

> *The root cause of the business and human rights predicament today lies in the governance gaps created by globalization - between the scope and impact of economic forces and actors, and the capacity of societies to manage their adverse consequences. These governance gaps provide the permissive environment for wrongful acts by companies of all kinds without adequate sanctioning or reparation. How to narrow and ultimately bridge the gaps in relation to human rights is our fundamental challenge."*[489]

698. The aforementioned framework was set up as a result of this conclusion, generally implying that apart from States, businesses also have an independent responsibility to prevent the violation of human rights during the performance of their activities.

> *"The framework rests on differentiated but complementary responsibilities […] : the State duty to protect against human rights abuses by third parties, including business; the corporate responsibility to respect human rights […] Each principle is an essential component of the framework: the State duty to protect because it lies at the very core of the international human rights regime; the corporate responsibility to respect because it is the basic expectation society has of business."*[490]

699. The State has to protect citizens against the violation of human rights by businesses and businesses have to refrain from human rights violations as well as they have to respect human rights because that is what society can expect from them.

700. That forms the basis of the framework that was further structured by Ruggie in consultation with the authorities, businesses and NGOs involved and which resulted in the UN Guiding Principles, which Shell committed itself to.

701. Milieudefensie et al. are of the opinion that it is important to know the background of the UN Guiding Principles because they indicate that the world is struggling with the consequences of globalisation and the fact that, because of that, multinationals are able to operate in a power vacuum, as a result of which the violation of even the most important standards and values of a civilised society lurks around the corner. In order to combat this, a form of self-regulation was deemed necessary to date because in a globalised world, national States are unable to combat this excess of increasing violations of human rights by (multinational) businesses. To that end, a change in behaviour is required.

> *"There is no single silver bullet solution to the institutional misalignments in the business and human rights domain. Instead, all social actors - States, businesses, and civil society - must learn to do many things differently."*[491]

702. The UN Guiding Principles try to turn this tide and have considerable international authority, which is why Shell voluntarily committed itself to them. Milieudefensie et al. are of the opinion

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[489] Ruggie 2008: Promotion and Protection of all Human Rights, Civil, Political, Economic, Social and Cultural Rights, including the right to development, p. 3 under 2 en 3 (exhibit 218)

[490] Ruggie 2008: Promotion and Protection of all Human Rights, Civil, Political, Economic, Social and Cultural Rights, including the right to development, p. 4 and 5 under 9 (exhibit 218)

[491] Ruggie 2008: Promotion and Protection of all Human Rights, Civil, Political, Economic, Social and Cultural Rights, including the right to development, p. 4 under 7 (exhibit 218)

that the background to and the content of the Principles underline why, along the lines of the law, admitting an indirect horizontal effect of the considerations of the court of appeal in the Urgenda case against this case against Shell also results in an outcome that will be broadly supported by the international community, namely a business with the status, power and options of Shell should not violate any human rights, not even when it cannot currently be sufficiently regulated nationally and internationally (in relation to the emissions of its activities and products) due to a lack of national and international agreements, instruments and resources to that end. Despite this gap in legislation, a business has an obligation to prevent human rights from being violated.

703. Shell also seems to make use of this gap. As explained in Chapter VIII.2.1.3.c, Shell anticipates that fossil energy multinationals such as itself will not be regulated in the near future, that is, not well and fast enough and that global warming, therefore, will exceed 2°C. Due to this expected lack of legislation, it will, according to Shell, be possible to trade large quantities of fossil fuels well into this century. Shell's business model, therefore, anticipates the failure of the international community to sufficiently regulate fossil fuels.

704. 196 countries - with different histories, background and cultures, in different stages of development, poverty or prosperity, all with different national priorities, with different political and economic systems, some of which have contributed (a lot) more to creating the climate issue than others, some of which will contribute more than others in the future, which differ in terms of their economic dependence on the income of fossil sources, which are still at war or not, are facing uprising or persistent food crises, whose citizens are vulnerable or not to what climate science tells them, who, to a higher or lower degree, are influenced by populist media, some of which accommodate more fossil multinationals than others, some of which are more exposed to the lobbying power of the industry than others, etc. - have been unable, during the past 25 years, since the UN Climate Convention of 1992 was created, to achieve consensus about the allocation of required emissions reductions due to these and other major differences.

705. All countries know that dangerous climate change has to be prevented but due to the major aforementioned differences between them, they have been in an unsolvable deadlock since 1992 which was also why the ideal of a collective global approach - with transparent allocation agreements and international control and sanctioning mechanisms - was abandoned. The approach was abandoned when the Paris Agreement was concluded, with the international community putting the ball back into the courts of the national States again. That is why the Agreement leaves it to the individual countries to determine how much it can contribute to a reduction in order to combat the climate danger. This explains the approach with NDCs as discussed in Chapter VI.2.2. However, this approach of voluntary national contributions is making little headway at the moment either, so the prospects of achieving the global climate target are, indeed, not very positive at the moment.

706. So Shell's analysis, i.e. that it is likely that the fossil industry will be insufficiently regulated in order to achieve the climate target, is in itself correct. However, it does not justify Shell's position to make it a lot harder for the countries to resolve the issue by continuing to invest (along with its industrial partners) in the ever-growing fossil fuel issue and by lobbying against

the climate policy in order to protect its own interests. By doing so, Shell creates its own right and also the picture of the future it prefers. A future in which it continues to be able to generate billions in profit each year by selling products that can bring the world to the brink of destruction by causing dangerous and potentially escalating climate change.

707. Shell knows that it and its industrial partners form an important link in the solution to the climate issue but it refuses to act accordingly voluntarily and it feels that it can wait until the moment that rules tell it to commit to correct behaviour.

708. However, the Paris Agreement shows that we can no longer wait for a collective approach by countries and that it is now down to the individual responsibility from both countries and other important parties in resolving the climate issue. In the decision of the 195 countries to adopt the Agreement, the countries, therefore, also urged the private sector to do more about reducing emissions. Under the caption Non-Party Stakeholders, the Paris Agreement has the following to say about this:

> *"134. Welcomes the efforts of all non-Party stakeholders to address and respond to climate change, including those of civil society, the private sector, financial institutions, cities and other subnational authorities;*
> *135. Invites the non-Party stakeholders referred to in paragraph 134 above to scale up their efforts and support actions to reduce emissions…"*[492]

709. That call is in line with the background to the creation of the UN Guiding Principles as embraced by Shell. These Principles set out the frameworks within which Shell has to operate, according to the international community (and Shell itself) if it wants to act responsibly and with care from a social point of view. About the Principles themselves, the following.

X.6 THE UN GUIDING PRINCIPLES ON BUSINESS AND HUMAN RIGHTS

710. The UN Guiding Principles were adopted with the support of the UN Human Rights Council in 2011. They serve to embed and elaborate the basic principle that, apart from the States, businesses also have independent obligations to prevent a violation of human rights. A Dutch translation of these Principles is available.[493] As mentioned before, Shell states it commits to these principles. Page 1 of the Principles sets out the following key starting point:

> *"These Guiding Principles are based on the acknowledgement of:*
>
> *a) the existing obligations of States to respect, protect and realise human rights and fundamental freedoms;*
>
> *b) the role of businesses as special authorities of society with special functions, who are obliged to abide by all applicable legislation and to respect human rights;*
>
> *These Guiding Principles apply to all States and to all businesses [and must] be interpreted in light of their objective, namely improving standards and practices with regard to the business*

[492] UNFCCC 2015 COP21 *Adoption of the Paris Agreement*, p.19 (exhibit 146)
[493] UN Guiding Principles inzake bedrijven en mensenrechten, Verenigde Naties 2011 (exhibit 219) and UN Guiding Principles on Business and Human Rights, United Nations 2011 (exhibit 220)

community and human rights so as to actually achieve results for those involved and for communities and to thereby contribute to socially sustainable globalisation."

711. Chapter II, p.13 and beyond of the Principles then discuss the responsibility of businesses to respect human rights and Milieudefensie et al. quote the following important paragraphs, which speak for themselves:

"A. BASIC PRINCIPLES

11. Businesses have to respect human rights. This means they have to refrain from violating the human rights of others and that they have to tackle the negative consequences in the field of human rights which they have a share in.

Explanation

The responsibility to respect human rights is a global standard of conduct which all businesses are expected to respect, wherever they operate. It is unrelated to the ability and/or willingness of States to fulfil their own obligations with regard to human rights and it does not affect those obligations. It prevails over national legislation to protect human rights.

Tackling negative consequences in the field of human rights means that measures must be taken in order to prevent, minimise and, where necessary, remedy, those consequences [...]

Businesses should not undermine the ability of the States to fulfil their own human rights obligations [...]

13. The duty to respect human rights requires businesses:

(a) to prevent their own activities from causing or facilitating negative consequences for human rights and to remedy such consequences when they arise;

(b) to make every effort to prevent or minimise the negative consequences for human rights that are directly linked to their activities, products or services through their business clients, also when they themselves did not contribute to this.

[…]

14. The responsibility of businesses to respect human rights applies to all of them [...] The scale and complexity of the resources available to businesses to fulfil that responsibility may, however, vary, depending on these factors and the gravity of the impact which their activities may have on human rights.

Explanation

The resources used by a business to structure its responsibility with regard to respecting human rights will be proportional to, among other things, the size of the organisation [...] The gravity of the impact is assessed on the basis of scale, scope and degree of reversibility.

17. In order to map out, prevent and minimise the negative consequences of their activities on human rights and to account for their policy in that respect, businesses should apply due diligence to the field of human rights [...] Due diligence in the field of human rights:

a) should be aimed at the negative consequences on human rights which the business causes or facilitates through its own activities, or which are directly linked to its activities, products or services through its business clients; [...]

Explanation

[…]

Risks to human rights is taken to mean the potential negative consequences for human rights because of its activities. Preventive of mitigating measures must be taken against those potential consequences. Remedial and/or recourse measures are needed for the actual - existing - consequences (Principle 22).

712. The UN Guiding Principles embraced by Shell state the following: the responsibility to respect human rights is a global standard of conduct which all businesses are expected to observe; tackling the negative consequences in the field of human rights means that measures must be taken in order to prevent, minimise and, where necessary, remedy those consequences; businesses are not permitted to undermine the ability of States to fulfil their own human rights obligations; therefore, businesses have to prevent their own activities, products and services from causing negative consequences for human rights; the larger the company and the gravity of the impact (scale, scope and degree of irreversibility), the larger the responsibility to prevent these negative consequences; preventive or mitigating measures must also be taken in the case of potential serious consequences.

713. These conclusions correspond with the application of the Kelderluik criteria to Shell's behaviour and they also correspond with the application of an indirect horizontal effect of Articles 2 and 8 of the ECHR on the actions of Shell. This, in the opinion of Milieudefensie et al. proves that the direct application of the Kelderluik criteria and the indirect horizontal application of the ECHR result in an outcome that corresponds with what the (international) community expects from large businesses such as Shell given the impact (scale, scope and irreversibility) of the violation of human rights that will be the result of dangerous climate change and which is something Shell contributes to.

714. In order to arrive at this conclusion, there is not even a specific need to apply the consequential effect of these guidelines as international soft law on the open standard of the social duty of care under Article 6:162 of the Dutch Civil Code. Nevertheless, Milieudefensie et al. are of the opinion that these guidelines should have a so-called consequential effect.

715. This, according to Milieudefensie et al., follows from the fact that, under reference to Barkhuysen and Van Emmerik[494], the European Court of Human Rights also uses soft law to structure the obligations ensuing from the ECHR. Among other things, the ECtHR uses non-legally binding standards of the World Health Organization (WHO) to give substance to Article 8 of the ECHR, such as the noise emission standards of the WHO.[495] When the ECtHR uses non-legally binding standards of the WHO to make an assessment or if Article 8 of the ECHR is

[494] Barkhuysen and van Emmerik 2011: *het EVRM en het Nederlands bestuursrecht,* p.89 (exhibit 215)
[495] With regard to which Barkhuysen and Van Emmerik (exhibit 215) then provide some examples from ECtHR case law.

violated, the widely supported (but non-legally binding) UN Guiding Principles can also be considered along the route of the consequential effect. This should apply even more so in this case because Shell has also specifically embraced these Guiding Principles and publicly commits itself to them. Apart from this, in 2000, Shell stood at the basis of the later (2011) creation of these Guiding Principles with regard to businesses protecting human rights, namely by setting up the UN Global Compact initiative, more of which follows below.

X.7 UN GLOBAL COMPACT

716. In 2000, Shell stood at the basis of the UN Global Compact, an initiative of non-state players - the majority of them internationally operating businesses - to highlight the fact that they have their own responsibilities to contribute, along with States, to a permanent solution to major global issues. On the organisation's website (a foundation under American law, set up in New York in 2000), we can read the following:

> *"The Foundation for the Global Compact was founded on the principle that public-private collaboration is essential to find lasting solutions to pressing global problems*."[496]

717. In its own words, Shell is one of the founding members of the UN Global Compact.[497] More than 9,000 businesses (and 4,000 non-businesses such as cities and public organisations) are now a member. In 2005, the organisation was adopted by the then UN Secretary General, Kofi Anan. Ties with the UN are close.[498]

718. In order to involve businesses in the solution to major international problems, various international treaties formed the basis for the organisation's ten most important internationally applicable principles, which the members of the UN Global Compact have to observe in their business operations.[499]

719. The ten principles to be observed are derived from, among other things, the Universal Declaration of Human Rights from 1948 and the UN Declaration of Rio de Janeiro regarding the Environment and Development from 1992 (adopted at the same UN conference as the one at which the UN Climate Convention was concluded as a derivative from this declaration).[500] Five of the then eight principles to be observed, therefore, are about the protection of human rights and the environment by the affiliated businesses. According to the Dutch publication of the UN Global Compact, these five out of ten principles read as follows:[501]

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496 United Nations Global Compact: *The Foundation for the Global Compact* (exhibit 221)

497 Shell Sustainability Report 2017, Introduction from the CEO (exhibit 222) foreword of Shell's CEO in Shell's sustainability report of 2017 and Shell's registration with the UN Global Compact since 2000 (exhibit 223)

498 UN Global Compact: *Our Governance* (exhibit 224)

499 UN Global Compact: *Mission/principles* (exhibit 225)

500 *"The Ten Principles of the United Nations Global Compact are derived from: the Universal Declaration of Human Rights, the International Labour Organization's Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development, and the United Nations Convention Against Corruption."* (exhibit 225)

501 UN Global Compact: *Mission/principles* (exhibit 225)

Principle 1: Businesses have to support and respect the internationally accepted human rights;
Principle 2: and they have to ensure at all times that they are not an accessory to a violation of human rights;
Principle 7: Businesses have to exercise precaution in their approach to environmental challenges;
Principle 8: they have to undertake initiatives so as to promote more responsibility with regard to the environment;
Principle 9: they have to encourage the development and dissemination of environmentally-friendly technologies.

Again, the above international principles, drawn and accepted by the founding businesses (including Shell), show a clear notion that businesses have a responsibility to respect human rights and the environment and that the prevention of a violation of human rights and environmental pollution is not something that can be left only to the States. The precautionary principle in relation to environmental problems is also mentioned as a central principle, a principle which Shell also acknowledges as necessary. The fact that Shell started violating these principles, which dates back to 2000, the phase during which Shell was serious about becoming a sustainable energy company, from 2007 onwards, is clarified in Chapter VIII.2.1.3.

X.8 OESO GUIDELINES FOR MULTINATIONALS

720. Other guidelines which Shell has committed itself to are the OECD guidelines for Multinationals, among others.[502] The OECD is known as a joint venture of 36 prosperous countries (including the Netherlands) created to discuss, study and coordinate social and economic policies. The affiliated countries try to solve shared issues and to coordinate international policies. They have also drawn up guidelines explaining what they expect from multinationals doing business in a global context. These guidelines, expressing the common opinion of 36 prosperous countries about the role of multinationals in society (these countries are also home to most of the large multinationals and their head offices), also make recommendations to businesses to protect human rights and the environment. The Dutch government (the Ministry of Foreign Affairs) has drawn up a Dutch version of the guidelines (version 2011), of which Chapter II, General principles for the corporate policy, reads as follows:

> *"Businesses have to fully take into account the existing policy in the countries where they operate and they have to observe the positions of other stakeholders. Within that context, they*
> 1. *Have to contribute to economic, ecological and social progress so as to promote sustainable development;*
> 2. *Have to respect the internationally acknowledged human rights that are affected by their activities; [etc.]"* [503]

[502] Shell.com, *External Voluntary Codes* (underlining OESO guidelines) (exhibit 226)
[503] Ministry of Foreign Affairs, OESO Guideline, 2011, p.10 (Exhibit 227)

721. The elaboration of the paragraph on human rights (Chapter IV, p.17) sets out the same principles as those in the UN Guiding Principles and, therefore, it too emphasises that multinationals have to prevent and minimise unfavourable effects on human rights when such effects are linked to their operating activities, products or services.

722. The introductory summary in the elaboration of the paragraph on the environment (Chapter IV, p.24) reads as follows (according to the explanation, this is also a derivative of the UN Declaration of Rio de Janeiro regarding the Environment and Development):

> *"Within the framework of the legislation and the administrative customs in the countries in which they operate and in accordance with the relevant international agreements, principles, objectives and standards, businesses have to make sufficient allowance for the need to protect the environment, public health and safety and, in general, to undertake their activities in a way that contributes to the wider objective of sustainable development."*[504]

X.9 CONCLUSION WITH REGARD TO HUMAN RIGHTS

723. The view of the court of appeal that insufficient emission reductions by the State are a violation of the duty of care of the State to protect the right to life and an undisturbed family life, in the course of which the State is also bound by the precautionary principle as part of the ECHR, will also affect the duty of care that applies to Shell.

724. Through the social standard of care, Articles 2 and 8 of the ECHR also colour the duty of care we should be able to expect from Shell, also because of the extent of the control Shell - like the State - has over (the fate of) individuals on account of its substantial share in global emissions and the solutions to climate change. The need for protection against Shell's dominant position is similar to the need for protection against the State's power.

725. The ECtHR case law set out above clearly shows that the current and anticipated future consequences of climate change fit within the scope of interests against which Articles 2 and 8 of the ECHR aim to offer protection. These articles also pertain to situations in which nothing has been violated yet but is likely to be violated - even if there is no absolute scientific certainty about the causal link between the contested action and the imminent violation of the law exerted by that. This by reason of the precautionary principle to be applied. A sufficiently realistic chance of that violation also requires preventive measures to be taken against this imminent violation.

726. ECtHR case law shows that if the complainant cannot evade the imminent danger, which is the case for Milieudefensie et al. in the event of (dangerous) climate change, this leads to a further duty to protect. This duty to protect also applies if the imminent damage does not manifest itself until many decades later and an entire region suffers from it.

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[504] Ministry of Foreign Affairs, OESO Guideline, 2011, p.24 (exhibit 227)

727. As demonstrated, the consequences of climate change fit within the frameworks set out by the ECtHR and from that, it follows that if Shell insufficiently reduces its emissions, the duty of care of Shell to protect the right to life and the right to an undisturbed family life during the activities related to its business operations is violated. The aforementioned non-binding guidelines to which Shell has committed itself support the correctness and significance of this conclusion. After all, the background to the creation of these guidelines also lies in the realisation that internationally operating businesses partially operate in a power vacuum due to globalisation. These businesses actively need to take measures for the full protection of human rights. In other words, due to increased globalisation, countries cannot (or no longer) achieve this full protection by themselves and businesses also need to take responsibility in that respect.

728. On a closing note, measures to be taken to protect the human rights that are at stake, have to be effective according to the ECtHR. It must be possible to prevent the imminent violation by means of these measures. Well-intended attempts to prevent such violation are insufficient. The measures have to yield sufficient result. The next chapter will explain the necessary consequences of the demand that the measures to be taken by Shell in order to avert the danger do, indeed, yield sufficient result.

XI. PREVENTING HAZARDOUS CLIMATE CHANGE

XI.1 INTRODUCTION

729. The latest scientific insights, summarized in the latest IPCC report (Special Report 15, abbreviated SR15) from 2018, show (see chapter VII.1.5) that a global average temperature rise beyond 1.5°C is dangerous and possibly irreversible and therefore much more damaging than a temperature rise limited to 1.5°C .[505] For this reason, the Paris Agreement already stipulates that efforts must be aimed at limiting global warming to 1.5˚C. This also provides the biggest possible chance of limiting global warming to well below 2˚C, as will be explained in this chapter XI.

730. To keep this goal within reach, global CO_2 emissions must be reduced as quickly as possible and by 45% by 2030 (compared to 2010 levels) and to (net) zero by 2050. This chapter first elaborates on this goal, after which it will be discussed that these emission reduction targets are possible and feasible, both for the global community and for Shell, provided that urgent action is taken now.

XI.2 THE TASK AT HAND

XI.2.1 Stabilisation under 430 ppm CO_2-eq. is necessary

731. To provide protection against dangerous climate change, it is necessary to meet the Paris objectives. This means that, according to the text of the Paris agreement, the average global temperature rise should preferably be limited to 1.5˚C and that warming should in any case be limited to well below 2˚C.

732. According to the IPCC, the concentration of greenhouse gases in the atmosphere will have to be below 430 ppm CO_2-eq by 2100 in order to maintain a chance of more than 50% to stay below 1.5˚C (a chance of more than 50% is referred to as "more likely than not" by the IPCC):

> *"Mitigation scenarios in which warming is more likely than not to be less than 1.5°C relative to pre-industrial levels by 2100 are characterized by concentration levels by 2100 of below 430 ppm* CO_2-eq."[506]

XI.2.2 The task: no more CO_2 emissions in 2050 and a 45% reduction in 2030

733. The findings of the IPCC in the fifth report of 2013/2014 regarding the global reduction scenarios that should be followed in order not to exceed certain temperature rise limits have been described and summarized by one of the main authors of the fourth IPPC report from

[505] IPCC 2018 SR15, *Global Warming of 1.5˚C*, SPM, p. 10 (exhibit 135)
[506] IPCC 2013 AR5, SR, p.81; with "more likely than not" the IPCC indicates a chance of >50% (exhibit 228)

2007, Bill Hare, and the Climate Analytics organisation he founded in 2008 together with other scientists.[507]

734. The analyses of Climate Analytics are used by the UN organisation UNEP and the World Bank, among others. Climate Analytics, for example, has collaborated on various UNEP Emissions Gap reports and for the World Bank, Hare and Climate Analytics (together with the Potsdam Institute for Climate Effects Research) produced the report[508] *Turn Down The Heat: Why a 4°C Warmer World Must Be Avoided*.[509]

735. In February 2015, prior to the Paris Agreement, Climate Analytics made clear, on the basis of the data from the 2013/2014 IPCC AR5 report and the 2014 UNEP Emissions Gap Report, by when the CO_2 emissions, or all greenhouse gas emissions combined, must be reduced to the point of zero emissions to meet climate goals.

736. The report shows that in order to maintain a more than 50% chance of limiting the global average temperature rise to below 1.5˚C, CO_2 emissions should be zero by 2050, whereby a bandwidth of 2045 to 2055 applies. It may therefore be that the point of zero emissions must already be achieved by 2045 or by 2055 at the latest:

> *"Return warming below 1.5˚C by 2100 with a more than 50% chance [..]:*
> *Global energy and industry CO_2 emissions reach zero around 2050 (range 2045-2055)."*[510]

737. Alongside this main conclusion that CO_2 emissions must be reduced to zero by 2050, the report explains three things.

738. Firstly, this report explains that the other greenhouse gases such as methane and laughing gas may reach zero at a later point in time, namely between 2060 and 2080, which according to the report means that these other greenhouse gases must have dropped by 70% to 95% by 2050 compared to 2010 emission levels (to be able to reach zero emissions between 2060-2080).[511] However, the most important greenhouse gas is CO_2, which, according to the report, must have been reduced to zero by 2050.[512]

739. Secondly, the report clarifies that CO_2 emissions need to be reduced to zero by 2050 (and that the other greenhouse gases need to be reduced by 70-95% by 2050) in order to be able to stay below the atmospheric greenhouse gas concentration limit of 430 ppm CO_2-eq. by 2100.[513]

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507 Climateanalytics.org website printout background Bill Hare and organization (exhibit 229)

508 See for instance the 2016 and 2017 UNEP Emissions Gap report (exhibits 230 and 231), both p.V, where Climate Analytics are referred to under "*External global and national modelling data contributors*"

509 This report has been commissioned by the World Bank to map out the dramatic climate impact that can be expected if CO_2 emissions at current levels are continued globally and as a result the earth will warm by 4˚C this century.

510 Climate Analytics 2015, *Timetables for zero emissions and 2050 emissions reductions: State of the Science for the ADP Agreement*, p.2 (text box); (exhibit 233)

511 Climate Analytics 2015, *Timetables for zero emissions and 2050 emissions reductions: State of the Science for the ADP Agreement* (exhibit 233)

512 Climate Analytics 2015, *Timetables for zero emissions and 2050 emissions reductions: State of the Science for the ADP Agreement* (exhibit 233)

513 Climate Analytics 2015, *Timetables for zero emissions and 2050 emissions reductions: State of the Science for the ADP Agreement*, p.6 (exhibit 233)

740. Thirdly, the report clarifies - after having stated that when these emission reduction targets are achieved there is a more than 50% chance that warming can be limited to 1.5˚C - that that also gives 85% chance that global warming remains well below 2˚C (the upper limit of the Paris target). The report states:

> *"For 1.5°C, virtually all pathways available from the scientific literature reach a peak warming level slightly above 1.5°C around mid-century, before dropping down to 1.5°C or below by 2100, with at least a 50% chance […] such 1.5°C pathways also hold warming well below 2°C during the whole of the 21st century, with a probability of around 85%."*[514]

741. By reducing CO_2 emissions to (net) zero in 2050, the chance that global warming can be limited to well below 2˚C this century is therefore around 85%. At the same time, there is a chance of more than 50% that global warming will stabilise at 1.5 C around 2100.

742. The special IPCC report SR15 from 2018, which deals specifically with the consequences and feasibility of limiting global warming to 1.5˚C, reaffirms the need to reduce CO_2 emissions to net zero by 2050 to stabilise the temperature at 1.5˚C by 2100 with no or limited temporary overshoot of the 1.5˚C limit. The SR15 report adds that by 2030, CO_2 emissions need to be reduced by (net) 45% (bandwidth 40-60%), compared to 2010:

> *"In model pathways with no or limited overshoot of 1.5°C, global net anthropogenic CO_2 emissions decline by about 45% from 2010 levels by 2030 (40-60% interguartile range), reaching net zero around 2050 (2045–2055 interquartile range)."*[515]

743. The IPCC clarifies that the bigger the reductions achieved by 2030, the greater the chance that global warming will peak at 1.5˚C and therefore the greater the chance that the 1.5˚C limit will not be exceeded (in between):

> *"Limiting warming to 1.5°C depends on greenhouse gas (GHG) emissions over the next decades, where lower GHG emissions in 2030 lead to a higher chance of keeping peak warming to 1.5°C (high confidence)"*[516]

744. If global CO_2 emissions are reduced by 45% (40-65%) by 2030 and to (net) zero by 2050, then the average global warming will thus not or barely temporarily exceed 1.5˚C, according to the IPCC. The IPCC also states that if less drastic reductions are achieved by 2030, the chance of exceeding the 1.5˚C limit increases, even if the (net) zero target is ultimately reached by 2050.

745. It is thus not only important to reach zero by 2050; it is equally important that sufficient reductions are achieved by 2030. Besides reaching emissions reduction targets, meeting climate goals thus also requires the correct reduction route to be followed.

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514 Climate Analytics 2015, *Timetables for zero emissions and 2050 emissions reductions: State of the Science for the ADP Agreement* (exhibit 233)

515 IPCC 2018, SR15, SPM, p.14 (exhibit 135)

516 IPCC 2018, SR15, Chapter 2, p.95 (exhibit 136)

746. It is important to prevent a temporary overshoot of the 1.5˚C target as much as possible, because it is in fact uncertain whether, after the global average temperature rise has exceeded 1.5˚C, it can be reduced to 1.5˚C again. This is only possible if excess CO_2 emitted in the coming decades is removed from the atmosphere in the second half of this century.

747. A limited degree of CO_2 surplus in the coming decades above the aforementioned limit of 430 ppm CO_2-eq. can still be reversed this century by the natural carbon cycle, without this having to lead to warming beyond the 1.5˚C limit. If, however, in the meantime the greenhouse gas concentration becomes higher than can be compensated for by the natural carbon cycle in a few decades, then the average warming is expected to exceed 1.5˚C and it will also become uncertain whether it can subsequently be returned to the level of 1.5˚C. Returning to that level is only possible if humanity itself could make a large-scale contribution to removing CO_2 from the atmosphere this century. This concept of the anthropogenic removal of CO_2 from the atmosphere is referred to as "negative emissions" and "Carbon Dioxide Removal" (CDR).

748. Before discussing the (im)possibilities of CDR technologies in more detail, first a brief explanation of how the carbon cycle itself can reverse a limited interim overshoot of the 430 ppm CO_2-eq. limit in a few decades.

749. The atmospheric CO_2 concentration is 'semi-cumulative'. Concentration continues to rise as long as anthropogenic CO_2 emissions remain high, but can also decrease somewhat if there are sufficient far-reaching emission reductions. It is therefore possible to have the greenhouse gas concentration stabilised in a natural way at an already exceeded value. This is due to a delay in the carbon cycle between the atmosphere and the oceans. As soon as anthropogenic emissions have been reduced by 100%, the CO_2 uptake of the oceans will lag, with a slight decrease in CO_2 concentration expected on a time scale of a few decades. This makes it possible to stabilise at a concentration of 430 ppm CO_2-eq (a concentration that is more or less the same as the current concentration) by 2100, without it being necessary to reduce the total anthropogenic emissions to zero immediately. Since after a 100% emission reduction, the natural decrease in greenhouse gases on a decade scale is of the order of -20 ppm, the intermediate maximum concentration peak in the 430 ppm scenario is around 450 ppm CO_2-eq., before decreasing and returning to 430 ppm CO_2-eq. by 2100. This therefore requires no anthropogenic carbon dioxide removal (CDR), but extremely extensive emission reductions (net) zero by 2050.[517]

750. If in a 430 ppm CO_2-eq. scenario the 450 ppm CO_2-eq. limit is temporarily exceeded, the temperature rise is likely to exceed 1.5˚C and stabilization at 430 ppm CO_2-eq by 2100 is no longer possible. This could only be different in the case of CDR or negative emissions. According to the IPCC, CDR measures are uncertain and entail clear risks.

[517] For the sake of comprehension, it is important to know that these delaying mechanisms in the CO_2 exchange between atmosphere and oceans have already been incorporated in current climate models, and that this is therefore also taken into account in the calculation of the emission reduction paths.

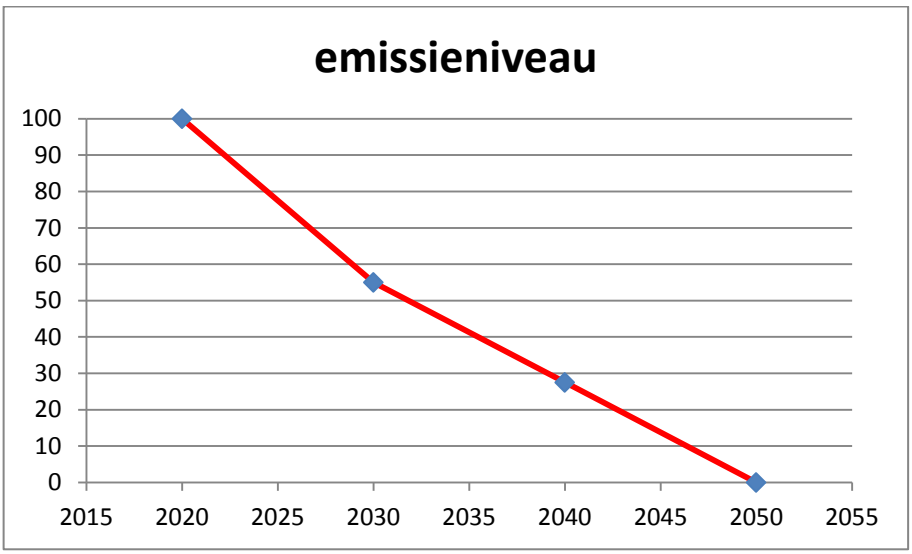
"Pathways that aim for limiting warming to 1.5°C by 2100 after a temporary temperature overshoot rely on large-scale deployment of carbon dioxide removal (CDR) measures, which are uncertain and entail clear risks."[518]

751. Due to the great uncertainty and risks associated with negative emissions and / or CDR technologies, a temporary overshoot of the 1.5˚C limit involves the risk that it is impossible to undo this overshoot and that this is therefore irreversible. The greater the overshoots, the greater the risk of this irreversibility.

752. According to Milieudefensie et al., this risk of irreversibility is all the more reason to do everything possible not to exceed the 1.5˚C limit, or at least to exceed it as little as possible. This also gives an as high as possible chance of staying well below 2˚C.

753. In accordance with the scenario of stabilization at a maximum of 430 ppm CO_2-eq by 2100, the products that Shell produces and trades in 2050 may no longer emit CO_2. This requires Shell to reduce its fossil fuel activities with immediate effect in a way that makes it possible to achieve this 2050 target, and in such a way that the chance is as high as possible that the 1.5˚C target is not temporarily exceeded. This is in view of the potential irreversibility of that excess.

754. In view of the IPCC data discussed above, this also means that Shell must already reduce its absolute CO_2 emissions by 45% by 2030, compared to 2010. From 2030, an at minimum linear reduction is required to net-zero by 2050, which means that by 2040 the emissions of Shell's activities and products must be reduced by (net) 72% in order to be able to reach net zero CO_2 emissions in 2050. This scenario is explained in the figure below.



2020	100	
2030	55	45% reductie
2040	27,5	72,5% reductie
2050	0	100 % reductie

[518] IPCC, SR15, 2018, chapter 2, p.95 (exhibit 136)

755. According to Milieudefensie et al., Shell must at minimum follow a linear reduction pathway to achieve the emission reduction targets for 2030 and 2050 (which also makes it possible to determine a target for 2040). This follows from the fact that if the reduction pathway is less than linear, Shell de facto postpones the required emission reductions and and therefore brings more emissions into the atmosphere throughout the entire period than in the case of a (at minimum) linear reduction. In that regard, Milieudefensie et al. also refer to consideration 4.32 of the court in the Urgenda judgment in which the need for at least a linear reduction has been clarified.

756. The following chapter will explain in more detail why the IPCC concludes that negative emissions by use of CDR technologies are uncertain and have clear risks in advance. With this explanation, Milieudefensie et al. intend to provide additional background information which underwrites the opinion of the court in the Urgenda case that the feasibility of negative emission technologies should not be assumed because, according to science, these techniques are very uncertain.[519]

XI.2.3 The (in)feasibility of negative emission technologies

757. If the above-described 430 ppm scenario is not followed and warming in the middle of this century exceeds 1.5˚C as a result, then it is only possible to return to a value below these exceeded limits if it would be possible to remove CO_2 from the atmosphere on a large scale worldwide and store it underground or store it sustainably eslewhere. As said earlier, this is also referred to as Carbon Dioxide Removal (CDR) or as "negative emission technologies".

758. The idea is that negative emissions could be achieved through CDR technologies, including through technology referred to as "*Bio-Energy with Carbon Capture and Storage*" (BECCS). This involves the large-scale planting of specific plant and tree species (biomass) that extract CO_2 from the atmosphere during their growth process. At set times, as the growth process and therefore the CO_2 uptake decreases, this biomass is then harvested and replanting takes place, after which the same process is followed again. The harvested biomass is then incinerated as an energy source and the CO_2 released during the incineration is captured, and subsequently transported and stored underground (carbon capture and storage, or CCS), so that these emissions do not end up in the atmosphere again. For the time being, however, it is unclear whether this technology is applicable and scalable at all, according to UNEP:

> *"Many later-action scenarios assume that a full portfolio of mitigation options is available, including technologies that are not yet proven on the large scale such as bio-energy combined with carbon capture and storage."*[520] (emphasis added.)

[519] The Hague Court of Appeal, 9 October 2018, par. 49. ECLI:NL:GHDHA:2018:2591

[520] UNEP 2013, The Emissions Gap Report 2013, p.21, left column (exhibit 211)

759. Therefore, for the time being, it is not clear to anyone whether negative emissions will work (on a large scale). The Dutch government, among others, confirms that a lack of climate action makes society dependent on these unproven technologies, including BECCS:

> *"The further postponement of mitigation costs "leads to higher costs in the long term, as more investments have to be written off early and we will be forced to use technologies that are not yet proven in practice, such as the use of biomass for energy supply with underground storage for the resulting CO_2."*[521] (emphasis added)

760. There is also much uncertainty about other CDR methods. The IPCC therefore indicates that CDR methods are not mature, that they have technical and biogeochemical limitations and carry side effects and long-term consequences on a global scale:

> *"CDR Methods are not mature and have biochemical and technological limitations to their potential on a global scale and carry side-effects and long-term consequences on a global scale* [...]"[522]

761. According to the IPCC CCS (Carbon Capture and Storage has not been commercially applied:

> *"CCS has not yet been applied at scale to a large operational commercial fossil fuel power plant."*[523]

762. Another risk to which the IPCC points to is that even if CDR / BECCS technologies could be applied on a large scale in the (distant) future, their effect will in part be reversed by biochemical processes. This has to do with the fact that the extra CO_2 emitted since the industrial revolution has been partly absorbed by the oceans.[524] This absorbed CO_2 will be released into the atmosphere by the oceans as soon as CO_2 is removed from the atmosphere by CDR techniques. This has to do with the fact that the natural carbon cycle at that moment will seek a new balance between the CO_2 level in the oceans and the level in the atmosphere. This natural phenomenon partly reverses the potential gain of applying a CDR technique such as BECCS (this is also called the rebound effect):

> *"In addition, it is virtually certain that the removal of CO_2 by CDR will be partially offset by outgassing of CO_2 from the ocean and land ecosystems."*[525]

> *"An intentional removal of CO_2 by CDR methods will be partially offset by the response of the oceanic and terrestrial carbon reservoirs if the CO_2 atmospheric concentration is reduced. This is because some oceanic and terrestrial carbon reservoirs will outgas to the atmosphere the anthropogenic CO_2 that had previously been stored."*[526]

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521 Parliamentary Papers II 2013/14, 31793, 91 (exhibit 158)
522 IPCC 2014 AR5, WGII, H.1, p.191, see also p.22 (exhibit 117)
523 IPCC 2014 AR5, WGIII, SPM, p.21 (exhibit 110)
524 As explained earlier in chapter IV.2 about 50% of all CO_2 emitted into the atmosphere is absorbed and extracted from the atmosphere by oceans and forests (albeit that this percentage decreases due to deforestation and global warming).
525 IPCC 2013 AR5, WGI, H.6, p.469 (exhibit 103)
526 IPCC 2013 AR5, WGI, H.7, p.633; (exhibit 234)

763. Considering the above, it is clear that the use of CDR technologies in emission reduction models that achieve stabilisation at 430 ppm CO_2-eq. by 2100 after the atmospheric greenhouse gas concentration exceed the levels that can be compensated for by the natural carbon cycle, is still a theory and no one knows if this will become reality.

764. The assumption of negative emissions therefore entails very large uncertainties and risks. That is also the key message of the 2018 report from the European Academies Science Advisory Council ('Negative emission technologies: What role in meeting Paris Agreement targets?') to which the court of appeal referred in the Urgenda case (ground for the decision 49 of the judgment). The passages from this report quoted there by the court of appeal further underline the above conclusions of UNEP and the IPCC, which is why the court did not want to take into account the possibility of negative emissions when determining the emission reduction targets for the state:

> *"The Court of Appeal therefore assumes that the possibility of removing CO_2 from the atmosphere with certain techniques in the future is very uncertain and that the climate scenarios based on such technologies have a low level of reality at the current state of affairs."*[527]

765. For the same reasons, Milieudefensie et al. are of the opinion that every effort must be made to limit dependence on negative emissions as much as possible, which is also an important background for the claim it is making against Shell. After all, there is no or a limited need to use negative emission technologies if CO_2 emissions are reduced by 45% by 2030 and to net zero by 2050.

XI.3 FEASIBILITY OF (NET) ZERO CO_2 EMISSION BY 2050

XI.3.1 Introduction

766. As explained in the chapters above, it will be necessary to make sure that there will be no more atmospheric CO_2 emissions by 2050 to prevent dangerous climate change.

767. This chapter clarifies that the task of achieving (net) zero CO_2 emissions by 2050 is deemed feasible. It is therefore still possible to maintain a more than 50% chance that global warming will stabilise at 1.5°C by the end of this century (with or without some temporary "overshoot"). This also maintains a 85% that warming stabilises at well below 2°C.

XI.3.2 Feasibility of the 1.5°C goal

768. It is not only necessary to limit the average temperature rise to 1.5°C in order to avert a great danger to society and all other life on earth and to prevent human rights violations, it is also possible. This is the conclusion of the IPCC in its last report *'Global Warming of 1.5°C'* based on

[527] The Hague Court of Appeal, 9 October 2018, ground for the decision 49. ECLI:NL:GHDHA:2018:2591

6000 scientific publications on climate change. In the press release about the report, Jim Skea, one of the chairmen of IPCC Working Group III, states:

> *"Limiting warming to 1.5°C is possible within the laws of chemistry and physics..."*[528]

769. However, this requires urgent and large-scale changes in all aspects of society:

> *"Limiting global warming to 1.5°C would require rapid, far-reaching and unprecedented changes in all aspects of society."*[529]

770. The feasibility of the 1.5°C goal therefore depends on several interdependent conditions and partly comes down to policy-driven will and decisiveness.

> *"The feasibility of staying within 1.5°C depends upon a range of enabling conditions with geophysical, environmental– ecological, technological, economic, socio-cultural, and institutional dimensions."*[530]

771. Limiting global warming to 1.5°C is therefore still possible, but requires unprecedented action at all levels and from all actors. Given the seriousness of the danger that the world will face in the event of warming beyond 1.5˚C, this far-reaching action should be taken.

XI.3.3 Feasibility of the 1.5°C target for the energy sector and other sectors that depend on fossil fuels

772. The energy transition that is necessary to meet the 1.5°C target is also specifically feasible for the energy sector and for other sectors that are still largely dependent on fossil fuels.

773. The latest IPCC report states that the socio-technological inertia with regard to the options for 1.5°C transition paths are increasingly being overcome, now that initial steps are taken to phase out fossil fuels.

> *"Sociotechnical inertia of energy options for 1.5°C-consistent pathways are increasingly being surmounted as fossil fuels start to be phased out."*[531]

774. In this context, the IPCC points to, among other things, the rapid developments in renewable energy technologies, in particular in solar and wind energy on both land and sea, and the contribution of these technologies to low-carbon electricity.[532] Solar panels with batteries are already cost-efficient in many rural and development areas. Decentralized renewable energy technologies make it possible for consumers to produce their own energy and thus contribute to universal access to energy.[533] Several countries have 100% renewable electricity targets

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528 IPCC 2018, SR15, Press Release (exhibit 134)
529 IPCC 2018, SR15, Press Release (exhibit 134)
530 IPCC 2018, SR15, H.1, p.56 (exhibit 136)
531 IPCC 2018, SR15, H.4 p. 324 (exhibit 136)
532 IPCC 2018, SR15, H.4 p. 324 (exhibit 136)
533 IPCC 2018, SR15, H.4 p. 324 (exhibit 136)

because this not only contributes to climate goals, but also to social, economic and broader environmental goals.[534]

775. The IPCC points to a growing number of studies into 100% renewable energy scenarios in all sectors and into energy systems with net zero CO_2 emissions in 2050 in line with the 1.5˚C scenario; studies that emphasize the economic and physical feasibility of these goals.[535] The following two reports serve as an example:

- Navigant, 2018: Energy transition within 1.5˚C. A disruptive approach to 100% decarbonisation of the global energy system by 2050. This study concludes that, based on available technologies, the 1.5˚C scenario can be achieved because all energy demand can be met by using energy sources with zero or almost zero CO_2 emissions and combining this with reforestation and tillage to increase the CO_2 uptake of the biosphere.[536]
- Gluber et al., 2018: A low energy demand scenario for meeting the 1.5˚C and sustainable development goals without negative emission technologies. This study concludes that by focusing on a reduction in energy demand (energy efficiency), based on already visible trends that indicate a low energy demand in the future, it is possible to stay below 1.5˚C without depending on negative emission technologies.[537]

776. If all important actors in the energy transition such as states and large fossil energy companies work with the required urgency to prevent a dangerous climate change of 1.5°C, then realizing the energy transition needed to achieve net zero CO_2 emissions by 2050 is therefore technically and economically possible.

XI.3.4 Countries and companies are already moving away from oil and gas

777. The energy transition is now inevitable and has already started. In 2017, 55% of the newly installed infrastructure for generating electricity worldwide was renewable energy.[538] Both governments and companies realise that dependence on and investments in fossil fuels are accompanied by financial risks and that the expansion of oil and gas activities is not compatible with the climate goals. At the publication of the latest World Energy Outlook report from the International Energy Agency (IEA), director Fatih Birol stated that new fossil-fuel infrastructure is not compatible with the climate targets if no (CCS) techniques are applied at the same time, to directly capture and store the emissions caused:

> *"We have no room to build anything that emits CO_2."* [539]

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534 IPCC 2018, SR15, H.4 p. 324 (exhibit 136)

535 IPCC, 2018, SR15, H.2 p.100 (exhibit 136)

536 Navigant, 2018: Energy transition within 1.5˚C. A disruptive approach to 100% decarbonisation of the global energy system by 2050 (exhibit 235)

537 Gluber et al., 2018: A low energy demand scenario for meeting the 1.5˚C and sustainable development goals without negative emission technologies (exhibit 236)

538 PRI 2018, How to invest in the low carbon economy p.5 (exhibit 237)

539 Vaughan 13 november 2018, The Guardian, World has no capacity to absorb new fossil fuel plants, warns IEA (exhibit 238)

778. In addition, governments and companies are increasingly aware that the energy transition and ambitious climate policies offer opportunities for developing future-proof, green and fair economies.

779. Below are a number of examples of governments and companies that have decided to move away from fossil fuels:

- Last year, New Zealand, France and Denmark decided, for the sake of climate, either to no longer grant permits for the search for oil and gas on land and / or at sea, or to end oil and gas production on land or at sea. In Ireland and Spain, too, there are legislative proposals to no longer allow exploration for and / or extraction of oil and gas;[540]
- Costa Rica has banned oil and gas extraction because of environmental reasons for some time already. This ban runs until 2021.[541] There is now a bill to completely end the production and consumption of oil and gas. The country has previously announced that it wants to be completely carbon neutral by 2021;
- In January 2018, Belize also decided to ban oil and gas extraction to protect maritime life;[542]
- In 2010, Denmark already decided that it wants to be completely independent of oil, gas and coal by 2050.[543] How Denmark will do this is described in its Energy Strategy 2050.[544] The decision was made on the basis of a study by the Danish Commission on Climate Policy that concluded that it would be possible for Denmark to be completely independent of oil, gas and coal, without nuclear energy or CCS;
- In November 2016, the Climate Vulnerable Forum (CVF), a forum of 48 countries vulnerable to climate change (such as Bangladesh, Costa Rica, the Philippines and Kenya) announced the Climate Vulnerable Forum Vision. Among other things, this vision states that all 48 members of CVF will reach the goal of 100% renewable energy as quickly as possible and by 2050 at the latest;[545]
- At the climate summit in Poland in December 2018, Maersk, the largest container shipping company in the world, announced that the company wants to reduce CO_2 emissions to zero by 2050. This is spectacular, given that shipping is one of the most polluting sectors, and the most difficult to decarbonize. According to Maersk, there will have to be carbon-free ships by 2030 in order to achieve the intended goal. Soren Toft, the Chief Operating Officer of Maersk, acknowledges that we have to abandon fossil fuels:

  "We will have to abandon fossil fuels. We will have to find a different type of fuel or a different way to power our assets. This is not just another cost-cutting exercise. It's far from that. It's an existential exercise, where we as a company need to set ourselves apart."[546]

[540] Whiteley 2018 Offshore Technology, Countries working towards ending oil exploration (exhibit 239)
[541] Wright 2018 Stop Digging: Countries move to end fossil fuel exploration (exhibit 240)
[542] Green 2018 Belize bans oil activity to protect its barrier reef (exhibit 241)
[543] Denmark.dk website Pioneers in clean energy (exhibit 242)
[544] Danish Government 2011, Energy Strategy 2050, from coal, oil and gas to green energy (exhibit 243)
[545] Climate Vulnerable Forum Vision 2016, Outcome Documentation CVF 2016/1 (exhibit 244)
[546] Milne 2018, Financial Times Maersk pledges to cut carbon emissions to zero by 2050 (exhibit 245)

Toft also states that not only governments, but also companies and industries will have to change:

"Not just governments and countries, but also companies and industries need to make a change. The maritime industry and Maersk need to take their responsibility."[547]

An important addition is that CO_2 compensation credits will not play a role in Maersk's strategy to achieve carbon neutrality in 2050. Maersk states in this respect that the credits do not satisfy because they do not address the problem at the source:

"If you buy offsets, you are basically delaying the pain. What you are doing is buying yourself an excuse and hoping that the money you pay goes to good uses, but you are not tackling the issue at its core." [548]

- Other companies that have committed to net zero greenhouse gas emissions by 2050 (and therefore go beyond just reducing CO_2 to net zero by 2050) are Kering, Unilever, Broad Group, Safaricom and Natura;[549]
- The Danish Ørsted (formerly Danish Oil and Natural Gas Energy) expects to reduce greenhouse gas emissions by 96% by 2035 (see also chapter XI.5.2);
- There is a growing number of countries on track for 100% renewable electricity.[550]

XI.3.5 Divestment from oil and gas reduces the risk of "stranded assets"

780. Given the above, moving away from fossil fuels is possible and also necessary to prevent dangerous climate change.

781. Reducing the use of fossil fuels in line with the Paris objective also seems to be in the interest of fossil fuel companies. Not only so that these companies and their people themselves are protected against dangerous climate change, but also because of the economic consequences that can arise if their eyes remain closed to the market changes that are taking place or are imminent. Although Milieudefensie et al. have not started this case to protect business interests, Milieudefensie et al. do want to point out that there are strong signals that fossil energy companies can get into serious financial problems if they continue to invest in the production and sale of fossil fuels, which they currently still do. This is because these investments are much larger than investment levels compatible with a 1.5˚C scenario and even a 2˚C scenario. If these investments have to be written off early this creates high financial risks.[551] Milieudefensie et al. want to show that the changes they require from Shell will undoubtedly have consequences for Shell, but that the continuation of the current business

[547] Milne 2018, Financial Times Maersk pledges to cut carbon emissions to zero by 2050 (exhibit 245)
[548] Milne 2018, Financial Times Maersk pledges to cut carbon emissions to zero by 2050 (exhibit 245)
[549] B-Team 2017, Net-Zero by 2050 (exhibit 246)
[550] UNFCCC 2018, 100+ cities produce more than 70% of Electricity from Renewables, CDP (exhibit 247)
[551] Carbon Tracker 2017 (exhibit 248);Carbon Tracker 2015 (exhibit 249); Carbon Tracker 2014 (exhibit 250); Carbon Tracker 2011 (exhibit 251)

model for Shell and for the fossil industry in general has just as many risks for Shell. So doing nothing is not an option anyway.

782. In view of the fact that much more oil, gas and coal is being extracted and present in already known reserves than can be burned, in both a 1.5˚C scenario and a 2˚C scenario (the carbon bubble discussed in chapter VIII.2.1.3.c), there is a significant risk that these fossil extraction projects will have to be prematurely terminated at some point due to stricter climate policies. Even if governments do not intervene or intervene insufficiently, this risk exists because energy-efficient, renewable energy technologies and electric vehicles are increasingly competing with fossil fuel technologies.[552] This can lead to investments in these projects not being recovered ("stranded assets").

783. According to a study published in the renowned scientific journal Nature Climate Change, the value of investments in fossil fuels will decrease considerably between 2020 and 2030 due to the declining demand for these products.[553] The losses can amount to 1-4 trillion dollars, an amount that is comparable to the losses made in the 2008 economic crisis. This would not only have an impact on fossil energy companies and their shareholders, but also destabilize financial markets and the global economy. These findings support the theory that there is a "carbon bubble" that is likely to burst, a risk that is reduced by the timely reduction of investments in fossil fuels and, on the other hand, is increased with continued investments in fossil fuels.

784. Already in 2015, Mark Carney, president of the Bank of England, warned that climate change could threaten financial stability because of this carbon bubble and cause substantial losses for investors. De Nederlandsche Bank (DNB) also warns against these risks. According to the DNB, the Dutch financial sector could face substantial losses in the transition from polluting to clean energy sources, ranging from 48 billion euros to 159 billion euros.[554] Effective and timely climate policy, shifting investments and risk management can help to reduce these risks, according to the bank.[555]

785. The need to stay away from a carbon bubble and thus shift to investments towards sustainable energy is also the reason why several pension funds are now starting to put pressure on oil and gas companies. In October 2018, a group of pension funds, with more than two trillion dollars in management, called on 55 fossil-oriented companies to cease their anti-climate lobby, particularly through industry associations.[556] Shell and 9 other oil and gas companies were addressed.

786. However, Shell continues to downplay this risk. In a letter from Shell's board in 2014 in response to shareholders' questions about "carbon bubble" (see also chapter VIII.2.1.3.c) Shell wrote shareholders not to worry about "stranded assets" risks. According to Shell, the

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[552] Mercure 2018 Nature Climate Change, Macroeconomic impact of stranded fossil fuel assets(exhibit 252)
[553] Mercure 2018 Nature Climate Change, Macroeconomic impact of stranded fossil fuel assets (exhibit 252)
[554] De Nederlandsche Bank overzicht financiele stabiliteit 2018, p.43 (exhibit 253)
[555] De Nederlandsche Bank overzicht financiele stabiliteit 2018, (exhibit 253)
[556] Hirtenstein 2018, pension funds point finger at lobbyists of Polluting companies (exhibit 254)

transformation of the energy system would take decades due to the long lifetime of energy infrastructure.

> *"…because of the long-lived nature of the infrastructure and many assets in the energy system, any transformation will inevitably take decades."*[557]

787. Four years later, Shell states again that the transition in the short term is not a major concern. In Shell's Energy Transformation report from 2018, Shell states that there will be no dramatic changes in the energy system between 2018 and 2030 due to the investments made in the system:

> *"From 2018 to around 2030, there is clear recognition that the potential for dramatic short-term change in the energy system is limited, given the installed base of capital."*

788. This problem is known as "carbon lock-in"[558]: once the initial high investments in fossil energy infrastructure have been made, the marginal costs for using it are low, and it becomes difficult for alternatives to compete. Investors will also want to continue to use the infrastructure they have installed at all costs to earn back as much of the investments they have made - even if those investments cannot be fully recovered.

789. It is precisely because the costs for this new fossil infrastructure have been incurred by the fossil energy companies that they will seek to protect these investments, or that if these investments are to be written off early by new regulations, this must be compensated for financially. For this reason, carbon lock-in poses a major obstacle to the energy transition and creates a major risk that dangerous climate change limits are exceeded due to the possible absence of necessary timely and far-reaching emission reductions.

790. This confirms the great responsibility that oil and gas companies have in the energy transition. Every new investment that companies like Shell make in additional fossil fuel infrastructure delays the transition and thus reduces the chance of achieving the Paris target.

791. It once again shows that it is necessary to shift investment flows and to move away from fossil fuels in order to prevent dangerous climate change and at the same time prevent the creation of new (financial) interests that obstruct the achievement of the Paris target.

792. Moreover: the aforementioned 1 to 4 trillion dollars of potential fossil fuel-related stranded assets risks worldwide can thus be reduced by limiting investments in fossil fuel projects.[559]

793. The importance of shifting these investment flows is now understood by more than a thousand institutional investors worldwide. For that reason, they withdrew their investments worth more than 7 trillion dollars from fossil fuels.[560] In December 2017, for example, the World Bank

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[557] Shell 16 mei 2014, open letter to Investors about Carbon Bubble and stranded assets (exhibit 199)
[558] Seto 2016, Carbon Lock-in: types causes and policy implications (exhibit 255)
[559] Mercure 2018, Nature Climate Change, Macroeconomic impact of stranded fossil fuel assets (exhibit 252)
[560] Divestinvest.org website (exhibit 256)

decided to stop funding upstream oil and gas projects starting in 2019,[561] and in January 2018 the mayor of New York, Bill de Blasio, announced that the city plans to dispose of five billion dollars in investments in fossil fuels from five pension funds.[562]

794. The next section explains that Shell does not have a climate policy that is compatible with the Paris objective even though it is scientifically possible for Shell to pursue a climate policy that supports the Paris goal.

XI.4 SHELL'S AMBITION IS INSUFFICIENT

XI.4.1. Introduction

795. As explained in this summons, despite Shell's early knowledge about climate change, Shell has not yet had any notable climate policy.

796. In this chapter it will be clarified, among other things, that the management and shareholders of Shell have also taken formal decisions in recent years that show that Shell does not intent to actually integrate the Paris objective into Shell's policy. Oil and gas production will continue to be the foundation for Shell's growth strategy in the coming decades, according to Shell CEO, Ben van Beurden.[563] In the coming years, therefore, Shell will continue to invest no less than between 20 and 25 billion dollars in oil and gas.[564]

797. Shell did announce a climate ambition at the end of 2017, but as will be explained in this chapter, it does not provide any guarantee that emission reductions will actually take place. The ambition does not exclude a significant growth in Shell's net CO_2 emissions up to 2050. Shell's expressed climate ambition is therefore far removed from what is needed to meet the Paris target and to reduce CO_2 emissions to net zero by 2050.

XI.4.2 Shell's climate ambition is insufficient

798. Although Shell is aware of the need to reduce CO_2 emissions to net zero by 2050 and has admitted this in various public communications[565], Shell's planned activities and investments do not contribute to this.[566]

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561 Word bank Group Announcements at One Planet Summit 12 december 2017 press release (exhibit 257)

562 New York City, office of the mayor, 10 januari 2018, climate action: Mayor, Comptroller, Trustees announce first in the nation goal to divest from fossil fuels (exhibit 258)

563 Van Dijk, Financieel Dagblad, 1 February 2018. 'Oil and gas remain the foundation for Shell' (exhibit 259) and Van Dijk, Energeia, 8 March 2018. 'Van Beurden: In 2050, Shell can produce three times as much gas as oil' (exhibit 260) and Ambrose 2018, The Telegraph, 'Shell not 'going soft' on foasil fuel future, says boss' (exhibit 261)

564 Shell 28 november 2017, *Management Day 2017: Shell updates company strategy and financial outlook and outlines net carbon footprint ambition (*exhibit 262)

565 Shell 2017, notice of annual general meeting (8 maart 2017) (exhibit 097) in which Shell presents necessity of "net-zero-emission world by 2050".

566 Shell 28 november 2018 *Management Day 2017: Shell updates company strategy and financial outlook, and outlines net carbon footprint ambition* (exhibit 262)

799. However, in November 2017, Shell's management did, for the first time, present a climate ambition on Shell's management day. Shell plans to reduce the CO_2 intensity of its combined energy products by 20% by 2035 and to halve it by 2050:

> *"Shell further positioned itself for the future today by unveiling its ambition to cut the net carbon footprint of its energy products by around half by 2050. As an interim step, by 2035 it will aim for a reduction of 20%."*[567]

800. This reduction in CO_2 intensity relates to the emissions of all energy products traded by Shell and consumed by third parties, as well as to emissions related to Shell's own operations and Shell's own energy consumption.[568] Shell states that it will adjust this ambition every five years (upwards or downwards), depending on the progress that is made across society with regard to reducing CO_2 intensity.

> *"The company will measure its progress by disclosing the net carbon footprint not just from its operations and energy use, as it does now, but also from the use of its energy products, expressed in grams of CO_2 per megajoule consumed and taking account of any emissions offset. This measure will be tracked over time, with reviews every five years to ensure Shell is progressing in line with societal progress towards the carbon footprint reduction required to meet the Paris goals."*[569]

801. Milieudefensie et al. applaud that with this ambition, Shell also seems to take responsibility for the emissions resulting from the use by third parties of Shell's fossil fuels. In the opinion of Milieudefensie et al., that responsibility lies with Shell as further explained in chapter VIII.2.1.5.[570]

802. However, as stated, Shell's climate ambition is far from sufficient to achieve the Paris climate target for several reasons, which will be explained successively below.

XI.4.3 Shell's climate ambition concerns relative and not absolute emission reductions

803. Shell's climate ambition is about reducing the CO_2 intensity of its activities and the energy products that it sells. It is important to understand exactly what this means. The media coverage of Shell's climate ambition shows that the ambition is easily misunderstood.

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567 Shell 28 november 2018 *Management Day 2017: Shell updates company strategy and financial outlook, and outlines net carbon footprint ambition* (exhibit 262)

568 Shell print-out website Frequently Asked Questions on Shells "net carbon footprint" p.1 (exhibit 263) "*What does the Net Carbon Footprint cover?* […] *This includes emissions directly from Shell operations, those caused by third parties who supply energy for that production and those from consumption of these products by end-users."*

569 Shell 28 november 2018 *Management Day 2017: Shell updates company strategy and financial outlook, and outlines net carbon footprint ambition* (exhibit 262)

570 The fact that third parties and not Shell themselves use its products and thereby create emissions does not affect Shell's own responsibility to limit those emissions from third parties. This can also be deduced by analogy from the Urgenda judgment of the The Hague court, in which the court has determined that the State is responsible for all Dutch emissions because it controls them, even though those emissions are caused by citizens and companies and not by the State itself.

804. Shell has formulated its ambition in such a way that there need not be any absolute CO_2 reductions in 2050. The ambition is to reduce the CO_2 intensity of Shell's activities and products. CO_2 intensity refers to the amount of emissions emitted per energy unit, in this case expressed in "*grams of CO_2 per megajoule consumed*".[571] Shell's climate ambition therefore does not concern an absolute emission reduction based on the total emissions caused by the total of Shell's activities and products, but a relative emission reduction per energy unit.

805. This means that Shell can realize this climate ambition by, for example, simply buying up companies that are involved in the production or trade of renewable energy. By doing so, the CO_2 intensity of the Shell group will decrease without Shell needing to restrict the production and sale of oil and gas (in this case nothing has changed in the energy market, other than that a number of existing renewable energy companies have changed ownership). If Shell maintains the size of its oil and gas activities until 2050 and also expands with the same volume of sustainable, emission-free energy, Shell will achieve the ambition to halve the CO_2 intensity of its products. However, Shell's total, absolute CO_2 emission will not have decreased.[572]

806. With this climate ambition, Shell's absolute CO_2 emissions could even rise. Suppose Shell triples its portfolio in the next three decades, then absolute emissions can even grow by 50% and Shell's ambition is nevertheless achieved. Considering that Shell's oil and gas production has increased by 3.5% per year since 2013, a tripling of the energy portfolio by 2050 is not inconceivable (indeed, with a compounded annual growth of 3.5% a tripling within 33 years is a fact).[573] Shell's ambition therefore offers no concrete prospect of reducing the absolute CO_2 emissions associated with Shell's activities and its products. It even makes significant emission growth possible in the coming crucial decades.

XI.4.4 Halving the CO_2 intensity per energy unit in 2050 is not sufficient

807. Even if Shell's climate ambition concerned absolute emission reductions - which is not the case - and Shell halved its absolute CO_2 emissions by 2050, this would not be enough to prevent dangerous climate change. As explained above the objective should be to add no more CO_2 emissions to the atmosphere by 2050. Only then is there a more than 50% chance of staying below 1.5°C with at the same time an 85% chance of staying below 2˚C. To achieve this, emissions must drop in absolute terms and that is only possible if the share of oil and gas in the global energy mix is reduced. Only then dangerous climate change can be averted. Shell's

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[571] Shell, 2017, *Frequently Asked Questions on Shell's "Net Carbon Footprint" (*exhibit 263)

[572] This can be further explained on the basis of the following, purely hypothetical example: suppose that Shell's emissions per traded megajoule are currently 100 grams of CO_2 and Shell produces and sells a total of 1000 megajoules of energy, this causes a total of 100,000 grams of CO_2 emissions. If Shell maintains the size of its oil and gas activities until 2050 and also generates the same volume (1000 megajoules) of emission-free energy, then Shell manages to halve the CO_2 intensity of its products. The emissions in this case remain 100,000 grams of CO_2, but the CO_2 intensity, the emissions per traded megajoule, is reduced to 100,000 / 2000 = 50 grams of CO_2. Shell's net CO_2 emissions remain the same in an absolute sense, namely 100,000 grams CO_2. In this case, a portfolio that is twice as large with the same emissions means that the CO_2 intensity per traded energy unit has been halved while no absolute reduction in emissions has taken place.

[573] Muttitt 2018, Oil change international, Shell on earth: Why Shell Fails on Climate, p.1 with reference to footnote at the end of the article (exhibit 264)

ambition to halve the carbon intensity of its activities and products by 2050 is therefore insufficient.

XI.4.5 Shell does not have an objective but an ambition

808. In addition to the above-mentioned objections from Milieudefensie et al., Shell also clarifies that the stated ambition to reduce CO_2 intensity by around 50% in 2050 is not a hard target for which it can be held to account. "*This is an ambition for Shell, not a target*", the CEO of Shell clarifies explicitly in an explanation of the stated ambition.[574] So it cannot even be assumed that Shell will actually implement its ambition. For that reason too, the ambition does not provide any guarantee that there will actually be any emission reductions at Shell.

XI.4.6 Shareholder resolutions aimed at bringing Shell's business in line with the Paris Agreement have invariably been rejected.

809. The fact that Shell does not want to commit itself to the Paris climate target is most evident from the decision-making of the management and the shareholders' meeting in recent years. During and in preparation for the 2017 shareholders' meeting, even though Shell's management indicated that it supports the Paris target and has also endorsed the need to achieve a *"net-zero emission world by 2050*", the management has also formally decided that Shell will not conform to that objective. According to the management, it does not fit into Shell's business strategy to do that.[575]

810. That Shell's management has expressed its opinion in this formal manner on whether the Paris objective is integrated into Shell's business strategy is the result of shareholders' resolutions submitted in this regard. In 2015, 2016, 2017 and 2018, a group of climate-conscious shareholders filed shareholders' resolutions calling on Shell's management to align its business strategy with the Paris target. To this end, they ask the company to incorporate the necessary emission reduction targets and to account for them regularly.[576] This mainly concerns the reduction of emissions resulting from the consumption by third parties of the fossil fuels that Shell produces and markets (scope 3 emissions) because these have the largest share in Shell's total emissions, but also so-called scope 1 emissions (the emissions from Shell's own operations) and scope 2 emissions (the emissions from purchased electricity, heat or steam).[577]

811. In response to the May 2017 resolution, Shell's management unanimously advised shareholders not to support this resolution. In addition, the management indicated that although Shell supports the objective of the Paris climate agreement, it is not in the (financial) interest of Shell and its shareholders to actually bring the business activities into line with this

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574 Shell.com, website 'Frequently Asked Questions on Shell's "Net Carbon Footprint" (exhibit 263)
575 Shell, 8 March 2017. 'Notice of Annual General Meeting – Royal Dutch Shell plc' (exhibit 097)
576 Shell, 8 March 2017. 'Notice of Annual General Meeting – Royal Dutch Shell plc' (exhibit 097) p.6 resolution 21
577 Shell, 8 March 2017. 'Notice of Annual General Meeting – Royal Dutch Shell plc' (exhibit 097) p.6 resolution 21

target,[578] as this would lead to a reduction in fossil activities, while Shell is still in favour of the expansion of its fossil activities.[579]

> *"Your Directors consider that Resolution 21 is not in the best interests of the Company and its shareholders as a whole and unanimously recommend that you vote against it. Shell welcomes and strongly supports the Paris Agreement, and supports the aspiration of transitioning towards a net-zero emissions world by 2050. We will work together with governments and stakeholders towards meeting this aspiration and we commit to report on steps taken."* [580]

812. The shareholders' meeting followed this advice with a large majority of votes. Similarly, the climate-related shareholder resolutions of 2015 and 2016, previously submitted by Follow This, were rejected by the management and the shareholders' meeting.

813. A similar answer was received to the Follow This resolution of 2018, which was again rejected by a majority after the Shell management advised shareholders to vote against this resolution. However, this time the management provided a different explanation. In the 2018 voting recommendation, Shell's management claims that the resolution would be unnecessary because the company already supports the Paris target and has set itself a higher ambition than what is asked for in the resolution. This is remarkable, because the resolution calls for the business activities and emissions of Shell activities and products to be aligned with the Paris goals, which requires far-reaching and direct net emission reductions. It has been clearly explained in the preceding paragraphs that the ambition that Shell has formulated does not achieve this.[581]

814. Shell does not comply with the Paris objective and will not comply with it voluntarily.

XI.5 SHELL CAN AND MUST CHANGE

XI.5.1 Introduction

815. Shell's former CEO, Jeroen van der Veer, stated in an interview with EnergyPost EU in 2016 that moving away from oil and gas offers great opportunities for oil companies:[582]

> *"Moving away from fossil fuels presents great opportunities for oil companies."*

816. The Sustainable Finance Programme of the Oxford University and the British think tank E3G have investigated which scenarios are most attractive for oil and gas companies using models that simulate the international low-carbon transition.

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[578] Shell, 8 March 2017. 'Notice of Annual General Meeting – Royal Dutch Shell plc' (exhibit 097) p.7
[579] Shell, 8 March 2017. 'Notice of Annual General Meeting – Royal Dutch Shell plc'. (exhibit 097) p.7
[580] Shell, 8 March 2017. 'Notice of Annual General Meeting – Royal Dutch Shell plc'. pg. 7 (exhibit 097) p.7
[581] Shell 14 March 2018, Notice of Annual General Meeting – Royal Dutch Shell plc (exhibit 098)
[582] Beckman 2016, Energypost.eu, *Jeroen van der Veer, ex CEO Shell, Chairman ING "moving away from fossil fuels presents great opportunities for oil companies"*(exhibit 265)

817. According to their investigation report '*Crude Awakening: making oil major business models climate compatible*' it is in the interest of oil and gas companies to take a proactive stance in the energy transition.[583]

818. Of the five selected and investigated ways in which oil and gas companies can respond to the energy transition (there are more), two were found to be economically viable and profitable for oil and gas companies and their shareholders, namely (i) proactively stepping out of the fossil sector ('Early exit') and (ii) transitioning to a renewable energy company ('Planned transformation').[584]

819. 'First one out', or an early-exit, is an scenario in which an oil and gas company reduces investments in upstream oil and gas, reduces this department of the company and at the same time distributes profits to shareholders via dividend and the buy-back of shares. In this way, the company remains profitable during the phase-out of its fossil fuels activities. If projects are likely to miss out on profit targets, they will be divested, transferring the obligation to dismantle the existing oil and gas infrastructure to another party.[585]

820. 'Planned transformation' is a scenario in which a company not only moves away from oil and gas but also grows in renewable energy. Another variant may be that a private oil and gas company increasingly only provides services to public oil and gas companies that are state-owned and therefore no longer produces or trades oil and gas reserves themselves.[586]

821. The other scenarios, in which oil and gas companies do not act proactively, are all not attractive for oil and gas companies, according to the study. With reactive strategies or ostrich policies they will run into large losses.[587] This concerns the following strategies:

- Drift scenario: a strategy whereby a company adjusts its portfolio on an ad hoc basis to shrinking markets. The company is responsive and not anticipatory. Many oil and gas companies see opportunities for gas, while it is not obvious that gas will be able to or should compete with alternatives. It is a risky strategy in which sudden, ad hoc responses to changes in the market can lead to 'stranded assets'.
- Ostrich scenario: A scenario in which an oil and gas company assumes that the demand for oil and gas will continue to increase, oil prices will remain high, and climate goals will not be achieved. The company pays little attention to the energy transition.
- 'Last one standing' scenario: A scenario in which an oil company guesses that it will be the last company to produce oil and gas. This requires that all other oil and gas companies leave the market earlier ('first one out'). However, this scenario is by no means an option for a private company such as Shell. State-owned companies hold 80-90% of global oil and gas reserves and can produce oil and gas at the lowest cost. According to Oxford University and E3G, it is therefore unlikely that a private oil and gas company can successfully implement this strategy.

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583 Caldecott 2018, e3g, Crude awakening: Making Oil Major Business Models Climate Compatible p.4 (exhibit 266)
584 Caldecott 2018, e3g, Crude awakening: Making Oil Major Business Models Climate Compatible p.4 (exhibit 266)
585 Caldecott 2018, e3g, Crude awakening: Making Oil Major Business Models Climate Compatible p.16-18 (exhibit 266)
586 Caldecott 2018, e3g, *Crude Awakening: Making Oil Major Business models climate-compatible* p.21-24 (exhibit 266)
587 Caldecott 2018, e3g, *Crude Awakening: Making oil major business models climate-compatible* p.16-26 and p.60-64 (exhibit 266)

822. In short, according to this study by Oxford University and E3G, it is in the interest of oil and gas companies to take drastic steps proactively, to ensure that these companies do not risk large losses. It is in the interest of both private oil and gas companies and their shareholders that these companies either dissolve gradually but profitably (early exit) or make an early and complete transition to a renewable energy company (planned transformation).

XI.5.2 The Danish company Ørsted has divested from oil and gas and is on its way to 100% green energy

823. The Danish company Ørsted (formerly Danish Oil and Natural Gas Energy) shows that it is also possible for oil and gas companies to commit to the energy transition, to divest the polluting activities and to focus on renewable energy (the aforementioned 'planned transformation' strategy). In October 2017, this company, which is the largest energy company in Denmark, announced the name change after a ten-year process in which the company completely phased-out its investments in oil and gas and instead started to invest in renewable energy. The company expects to reduce greenhouse gas emissions by 96% by 2035 compared to 2006 emissions and to completely cease its coal activities in the same year. The CEO of the company has indicated that the company will focus entirely on renewable energy:

> *"Our focus going forward will be on green growth based on our existing business platforms in offshore wind, biomass, green customer solutions and advanced waste-to-energy solutions."*[588]

824. In this way the company wants to take the necessary action to create a world that runs entirely on green energy:

> "*Our vision is a world that runs entirely on green energy. We want to be a company that provides real, tangible solutions to one of the world's most difficult and urgent problems."*[589]

825. For the time being, Ørsted's strategy has proved successful. In an interview from July 2018, Matthew Wright, Ørsteds managing director, explains that the company is the fastest growing and most profitable energy supplier.[590]

> *"The leadership's strategy is to run a profitable and socially responsible business. They had to convince people that the future business could be as successful as the old one. Ørsted is now the fastest-growing utility company – and the most profitable, proving you can make decent returns from renewable energy."*
>
> *"People were sceptical about offshore wind … New technology is costly to develop – and we found that we were competing with established ways of generating and providing energy. To force*

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[588] Murray 2017 *Oil and gas is 'no longer who we are': DONG Energy seeks to rebrand as Orsted following fossil fuel divestment* (exhibit 267)

[589] Murray 2017 *Oil and gas is 'no longer who we are': DONG Energy seeks to rebrand as Orsted following fossil fuel divestment* (exhibit 267)

[590] Morris 2018, *From Fossil Fuels to Green Energy: The Orsted Story* (exhibit 268)

change, you have to deploy new tech and keep developing new iterations so it gets better. Wind farms are now as cost effective as using fossil fuels to generate energy, and far more efficient."

826. This example suggests that oil companies can actually transform.

XI.6 CONCLUSION

827. This chapter shows that global CO_2 emissions will have to be reduced to (net) zero by 2050 in order to do achieve the Paris climate goal to prevent dangerous climate change and that a 45% reduction in global CO_2 emissions by 2030 is necessary. In this scenario, the chance that global warming stabilises at 1.5˚C at the end of the century is 50% or more. This also gives a 85% chance that the global average temperature rise stabilises at well below 2˚C at the end of the century.

828. Any less far-reaching scenario reduces the chances of achieving the Paris goal and increases the reliance on the large-scale application of unproven CDR technologies to create so-called negative emissions to compensate for excess emissions if the required 45% reduction in CO_2 emissions by 2030 and 100% reduction by 2050 is not achieved.

829. That these emission reduction scenarios can be demanded from Shell has been by clarified Milieudefensie et al. by demonstrating that these scenarios are feasible, both globally and for Shell. If Shell contributes proactively to the climate objective, it can contribute to the prevention of dangerous climate change, while maintaining a profitable business model. Continuing to focus on fossil fuels and solely reacting to climate policy is expected to be accompanied by increasing financial risks and, as a result, to be loss-making and also to create unnecessary and dangerous thresholds for the energy transition in general due to the discussed lock-in effect. Moreover, it is already shown in practice that it is possible to move away from fossil fuels in a profitable manner.

830. In this chapter Milieudefensie et al. have demonstrated, in addition to what has already been discussed in Chapter VIII.2.1.6, that implementing what Milieudefensie et al. demands does not have to be objectionable for Shell and that in the long run, not taking action is certainly not risk-free for Shell. However, given the comprehensive nature of dangerous climate change, Milieudefensie et al. are of the opinion that Shell will also have to change its policy and take measures to align its business model with the Paris objective if the inconvenience thereof would be considerable for Shell. For the time being, however, it does not seem that there is such a considerable inconvenience. All the more reason to actually impose on Shell the emission reduction targets that called for by Milieudefensie et al.

XII. DEFENCE

831. As substantively discussed in the introduction (chapter I) and chapter III.5, Milieudefensie et al. sent two letters, dated 4 April 2018 and 12 February 2019, to the CEO of Shell, Mr Ben van Beurden.[591] For the sake of brevity, we refer to the discussion of these letters in the introduction.

832. The letters from Milieudefensie et al. are, in essence, a summary of this summons, culminating in the (principal) claim of Milieudefensie et al. that Shell will have reduced the emissions to zero in 2050, in order to contribute to achieving a "net-zero emissions world by 2050" (as Shell put it);[592]

833. In a letter dated 28 May 2018, Shell sent Milieudefensie a brief response. On 26 March 2019 Shell persevered in their response.[593] The essence of that reply is formulated as follows by Mr Ben van Beurden, on behalf of Shell in the letter of 28 May 2018[594]:

> *"I will not discuss your demands in detail. We are of the opinion they are unfounded. We are also of the opinion that courts are not the right forum to promote the global energy transition. However, I would like to inform you of the ambition of the Shell Group to align itself with society about a carbon-free future and about a number of the measures we will be taking with others in order to realise this ambition."*[595]

834. In its reply of 28 May 2018, Shell does not discuss the legal arguments of Milieudefensie but it does indicate that it has been acknowledging the climate issue for more than two decades and that it, 'strongly' supports the objective of the Paris climate agreement:

> *"Shell strongly supports the Paris Agreement. We subscribe to the objective for a net-zero emissions energy system and a world in which the rise in temperature is limited to less than 2°C."*[596]

835. Shell realises that the climate target automatically means that everyone, Shell included, has to make difficult choices and that all parties have their own roles to fulfil if we want this complex task to be a success:

> *"It is crucial for this scenario to assume a complex combination of measures taken by society, markets and governments that enhance each other. No organisation, sector or government can realise this transformation on its own. All of us will have difficult choices to make and we all have our own roles in that respect."*[597]

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591 Letter Milieudefensie to Shell d.d. 4 april 2018 (exhibit 017) and letter Milieudefensie c.s. to Shell d.d. 12 februari 2019 (exhibit 019)
592 Shell, 08 March 2017: *Notice of Annual General Meeting – Royal Dutch Shell plc* (exhibit 097)
593 Letter of Shell to Milieudefensie d.d. 28 May 2018 (exhibit 018)
594 Letter of Shell to Milieudefensie c.s. d.d. 26 March 2019 (exhibit 040)
595 Letter of Shell to Milieudefensie d.d. 28 may 2018 (exhibit 018)
596 Letter of Shell to Milieudefensie d.d. 28 May 2018 (exhibit 018)
597 Letter of Shell to Milieudefensie d.d. 28 May 2018 (exhibit 018)

836. The fact that Shell has to make difficult choices and that Shell has its own role to fulfil in the transition to an emission-free world is, therefore, not in dispute. Shell also says it very much understands how this transformation will affect the company:

> *"Although Shell mainly still is an oil and gas company and we expect global demand for oil and gas to continue to rise, we have invested billions of dollars in a series of carbon-free technologies, including carbon capture and storage (CCS), biofuels, hydrogen, solar energy and wind energy. In 2016, we set up the New Energies business unit, enabling us to make more targeted investments and explore new commercial options."*[598]

837. With this quote, Shell harks back to what it said twenty years ago in the same, even stronger words but which it failed to achieve. In 1999, they said *"Shell is playing a major part in the move from oil and gas, and now we are planting the seeds of renewable energy with Shell International Renewables, a new business committed to making renewable energy viable",* and in subsequent years, Shell explained that Shell was going to focus on, among other things, wind energy, solar energy, hydrogen, biofuels and CSS (see Chapter VIII.2.1.2.e). It again confirms that the company has known for twenty years that its energy portfolio needs a drastic sustainability makeover.

838. The essence of Shell's defence, therefore, seems to be that Shell does acknowledge its business has to change, that is has to be sustainable, that it has to make difficult choices, that it has to fulfil its role in the energy transition, etc. but that this cannot be considered a legal obligation of Shell as long as there is no legislation that would specifically make Shell change.

839. From Shell's letter we can deduce that the ball to achieve the climate target, therefore, does, ultimately, lies in the governments' court:

> *"Shell [continues to] urge for effective, government-led carbon pricing mechanisms that encourage all sectors of the industry and consumers to improve energy efficiency and to reduce carbon emissions."* [599]

840. However, for the reasons set out in this summons, Milieudefensie et al. believe that Shell cannot hide behind a lack of *"effective, government-led carbon pricing mechanisms that [cover] all sectors"*. The essence of the social standard of care in endangerment situations is that one *can* have a duty to take measures even when specific rules are lacking. That same essence applies to the duty of care and the precautionary principle to be applied, as ensues from Articles 2 and 8 of the ECHR.

841. Again, according to Milieudefensie et al., Shell cannot hide behind a lack of rules because with its (lobbying) practices that were discussed in Chapter VIII.2.1.3.e, Shell is clearly obstructing regulation initiatives.

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[598] Letter of Shell to Milieudefensie d.d. 28 May 2018 (exhibit 018)
[599] Letter of Shell to Milieudefensie d.d. 28 May 2018 (exhibit 018)

842. It also begs the more general question of what we can expect from Shell at this stage of regulating its activities and products when the company's management, despite extensive knowledge on climate change and the actions needed to avert dangerous climate change, started its most fossil course imaginable in 2007 and when Shell executives still make statements such as that Shell will pump us as many fossil fuels as possible in order to meet demand; that the world should not believe Shell is going soft about the future of oil and gas; and that industry peers and Shell have to start lobbying en masse in order to turn gas into the energy source of the future.

843. This means it is obvious that Shell's priority is not to protect the climate. Instead, Shell's priority is to maintain the activities it is good at and which earn it a lot of money, namely extracting, producing and selling fossil fuels.

844. On a closing note, Shell's reply shows that Shell has control over the emissions of its products and that it can proactively reduce them but that Shell decides not to do this and that it only aspires to a degree of emission reductions that is in line with the performance of the global community as a whole, a community which Shell does form a part of and an ambition which Shell can and will influence with its own actions:

> *"We've explained it is our ambition to reduce the net carbon intensity of the energy products we sell in line with the community. We estimate it to be halved by 2050, which means we have to change the portfolio of products we sell."*[600]

845. Following the movements of the global community will never be enough to prevent dangerous climate change, as we extensively explained in Chapter VI.2.4. Shell does, for that matter, not claim that this would result in realising the Paris target, so that does not seem to be a point of debate either. Shell's reply also confirms that Milieudefensie et al. have taken up the right position by demanding that Shell has to reduce whatever the global community has to reduce if we want to be able to realise the Paris target. That principle does not seem to be in dispute either.

846. Given the fact that the important key issues of this case do not seem to be in dispute between the parties, the discussion with Shell will most likely concentrate on the question of Shell's legal obligations in relation to climate change – in absence of a sufficiently effectively regulating global framework that forces Shell to reduce its emissions - to such an extent that Shell makes a proportional contribution to achieving the global objective of preventing dangerous climate change. Milieudefensie et al. feel that this summons sufficiently substantiates their argument why Shell has such a legal obligation on the basis of both liability law and human rights law.

[600] Letter of Shell to Milieudefensie d.d. 28 May 2018 (exhibit 018)

XIII. EVIDENCE

847. Milieudefensie et al. provide the evidence for their arguments by means of the exhibits submitted with this summons. A full list of the exhibits is appended to this summons as **Appendix B**.

848. Milieudefensie et al. feel they have satisfactorily and sufficiently proven their arguments by means of this submitted (documentary) evidence, but they hereby offer to further prove their arguments - to the extent they are obliged to do so under Article 150 of the Dutch Code of Civil Procedure - by offering additional documents, including submitting more scientific evidence about the causes and consequences of climate change for (the objectives of) Milieudefensie et al., as well as evidence regarding the need to take the necessary reduction measures and the requested emissionreduction order, as well as by hearing relevant expert witnesses.

849. Without prejudice to this evidence, Milieudefensie et al. feel that, given the amount of evidence for their arguments and with a view to the violation of the law that is at issue, it is now up to Shell to prove why, in light of the arguments in this summons, it cannot be obliged to do what Milieudefensie et al. demand it should do.

XIV. CLAIMS

850. As set out in the previous chapters, Milieudefensie et al. come to the conclusion that Shell will have to follow with immediate effect a worldwide CO_2 emission reduction scenario that has been provided by the IPCC. This particular scenario gives a more than 50% chance to limit warming to 1.5˚C. At the same time, this scenario gives a 85% chance of limiting the temperature rise to less than 2˚C.

851. Specifically translated into the emission reduction task applicable to Shell, this means that Shell will immediately have to reduce the CO_2 emissions associated with its business activities and energy products in an, at minimum, linear way, such that Shell will have reduced these CO_2 emissions by (net) 45 % by 2030, by (net) 72% in 2040 and by (net) 100% by 2050. All compared to 2010 emission levels.

852. In the event that the court considers that these reduction targets, in part, are too far away in time, Milieudefensie et al. will limit their claim to the 2030 emission reduction target, so that in any case a reduction will be achieved by 2030 which still makes the Paris objective feasible.

FOR THESE REASONS:

May it please this Court to, where possible declared to have immediate effect:

1. Deliver a declaratory judgment:

   stating that Shell acts unlawfully towards the claimants if:
   - Shell has not reduced, at the latest by 2030, the combined volume of all CO_2 emissions associated with its business activities and fossil fuel products by (net) 45% compared to 2010 levels;
   - Shell has not reduced, at the latest by 2040, the combined volume of all CO_2 emissions associated with its business activities and fossil fuel products by (net) 72% compared to 2010 levels;
   - Shell has not reduced, at the latest by 2050, the combined volume of its CO_2 emissions associated with its business activities and fossil fuel products by (net) 100% compared to 2010 levels;

   In any case:
   stating that Shell acts unlawfully towards the claimants if:
   - Shell has not reduced, at the latest by 2030, the combined volume of all CO_2 emissions associated with its business activities and fossil fuel products by (net) 45% compared to 2010 levels;

2. To order:

   To order Shell to limit the joint volume of all CO_2 emissions associated with its business activities and fossil fuel products in such a way that the joint volume of those emissions:
   - is reduced by (net) 45% by 2030 compared to 2010 levels;
   - is reduced by (net) 72% by 2040 compared to 2010 levels;
   - is reduced by (net) 100% by 2050 compared to 2010 levels;

   In any case:
   To order Shell to limit the joint volume of all CO_2 emissions associated with its business activities and fossil fuel products in such a way that the joint volume of those emissions:
   - is reduced by (net) 45% by 2030 compared to 2010 levels;

3. Ordering Shell to pay the costs of these proceedings, to be paid within fourteen days after the judgment to be given in this case and against proper proof of discharge, including the salary of the lawyers and the disbursements, to be increased by the subsequent at the liquidation rate, with the stipulation that the statutory interest will be due on court order to pay the trial costs if the order is not met within fourteen days of the date of the judgment to be given in this judgment.

4. At any case such decision as your court may consider to be met and proper.

5. The costs of this writ for me, bailiff, are €

The bailiff mentioned above.