

Final Draft translation

**Memorandum of oral pleading, part I**

**R.H.J. Cox**

**in the case:**

**Urgenda Foundation**

**v.**

**Kingdom of the Netherlands**

**Regarding the failure of the Dutch State to take sufficient actions to  
prevent dangerous climate change**

**More information about the case can be found at:**

**[www.urgenda.nl/en/climate-case](http://www.urgenda.nl/en/climate-case)**

**For more information about this translation, please contact Dennis van Berkel  
at:**

**dennis.van.berkel@urgenda.nl**

**+31 6 4178 6101**

**District Court of The Hague**

Docket No.: C/09/00456689

Date: 14 April 2015

**MEMORANDUM OF ORAL PLEADING**

**regarding:**

The foundation **Stichting Urgenda**,  
on both its own behalf, and in its capacity as legal  
representative of the persons listed in Annex A to  
the writ of summons;  
Registered in Amsterdam;  
Plaintiffs;  
Hereafter also: 'Urgenda c.s.';  
Attorneys: R.H.J. Cox, Esq. and J.M. van den Berg,  
Esq.

**Versus**

The legal entity under public law **the State of the  
Netherlands**, more specifically the Ministry of  
Infrastructure and Environment;  
Registered in The Hague;  
Defendant;  
Hereafter also: 'the State';  
Attorneys: G.J.H. Houtzagers, Esq. and E.H.P. Brans,  
Esq.

---

Your honours,

**Introduction**

1. In this case, Urgenda has addressed the facts arising from climate science extensively.  
The State has not refuted these facts.
2. For both parties, the basic premise of this case is therefore that the earth is warming,  
that the climate is changing as a result of this warming, and that the consequences of

this change in climate are already noticeable and will become more severe and perhaps even catastrophic.

3. It is established between the parties that such warming is the consequence of the increased concentration of greenhouse gases in the atmosphere and that such increase results primarily from the combustion of fossil fuels.
4. It is similarly established between the parties that because humans are the chief cause of the warming, they are also in a position to prevent this warming.
5. Nor is there any debate between the parties regarding the need to prevent such warming. They are not even in disagreement about the principles to be applied in doing so.
6. These principles were briefly reiterated by the Netherlands Environmental Assessment Agency (Planbureau voor de Leefomgeving or PBL) in a press release on the first day of the 2009 Climate Summit in Copenhagen. We have entered the PBL press release into evidence as Exhibit U99 prior to counsel's oral arguments, because it concisely conveys part of Urgenda's account of the facts. It is known that the PBL provides the Dutch government with policy analyses concerning climate and environmental issues.
7. The PBL explains that limiting the rise in the temperature of the earth to 2 degrees will require reducing global emissions by 50% by 2050. Such a worldwide reduction is necessary to curtail the concentration of greenhouse gases in the atmosphere in the long run to a maximum of 450 ppm, a level that offers a 50% chance of remaining below the 2-degree threshold.
8. The PBL makes it clear that with the current climate policy, the average temperature of the earth will have increased by around 2 degrees by 2050. In 35 years it will be 2050, and this date is much closer than we may realize.

9. The PBL therefore emphasizes that global emissions will have to be reduced even before 2020 and that delaying this reversal until 2030, for example, will further diminish the likelihood of achieving the 2-degree objective.
10. To ensure that global emissions decline no later than 2020, the industrialized countries – known as Annex 1 countries – will need to achieve a reduction of 25% to 40% by 2020 according to the PBL. In addition, as both parties have mentioned in their pleadings, the industrialized countries will subsequently need to achieve a reduction of 80% to 95% by 2050.
11. To avoid any confusion, the importance of distinguishing between the 50% global reduction that is necessary by 2050 on the one hand and the 80% to 95% reduction that the industrialized countries will need to achieve by 2050 on the other hand is emphasized here once again. This greater effort by the industrialized countries by 2050 is necessary to achieve a 50% reduction globally in 2050: the one relates directly to the other.
12. Moreover, the stated reduction percentages all apply with reference to the emissions level of 1990. We will not keep mentioning that the reference year is 1990, as all reduction percentages to be indicated in this plea from counsel are consistently meant with respect to that reference year.
13. The PBL has also confirmed once again that the reduction tasks for 2020 and 2050 are attainable with available technology and available economic resources. The PBL notes that this may be realized mainly through energy savings, by using sustainable energy sources, and by changes in Western lifestyles.
14. During the Climate Summits in Copenhagen and Cancun it was universally determined that warming of 2 degrees is a dangerous level of climate change for humanity, that this should be prevented, and that Annex 1 countries will need to reduce their emissions by 25% to 40% by 2020 to achieve this.

15. The scope of 'dangerous climate change' has been discussed sufficiently in the briefs that were earlier submitted to the court, as well as the serious consequences of such climate change for the Netherlands, Europe, and the rest of the world according to science. It was also explained in those briefs that what happens elsewhere in Europe or in the world will also have serious negative consequences for Dutch society, for Urgenda, and for its co-plaintiffs. These sections have not been refuted by the State and are thus similarly established facts between the parties.
16. Urgenda and its co-plaintiffs are of the opinion that the consequences of global warming and more specifically the consequences of imminent warming by 2 degrees or more impacts their legitimate interests. They are therefore entitled to hold the Dutch State accountable for its contribution to global warming.
17. The role of Dutch emission levels in bringing about dangerous climate change is, according to Urgenda and its co-plaintiffs, unlawful toward them because of the nuisance, endangerment, hazardous negligence, and the human rights violations that will result, as well as the consequent violation of Urgenda's statutory interests.
18. The level of annual emissions of the Netherlands is too high and will remain so. The State is knowingly and wilfully contributing to the materialization of dangerous climate change and knowingly and wilfully continues to do so. Despite the acknowledged need for a 25% to 40% reduction by 2020, such a reduction is not policy in the Netherlands. Even the EU, with the reduction percentage established at 20% by 2020, does not apply climate policy dedicated to achieving a reduction target within the 25% to 40% bandwidth.
19. It is therefore an established fact that the State does not individually or in an EU context apply a policy aimed at reducing emissions by the necessary level by 2020. It is for this reason that the State is being held legally accountable by Urgenda for bringing about the necessary Dutch reductions, so that the Netherlands will do its part in avoiding dangerous climate change.

That concludes my introduction. I will now turn to the main part of the pleadings.

### **Structure of plea by counsel**

20. This plea by counsel is divided into two sections. In the second section, Mr Van den Berg, Esq., will explain that the State's actions are unlawful, will argue that the claims presented by Urgenda are admissible, and will address the State's defence that the climate issue is exclusively a political one.
21. The first section of the plea by counsel will be more concerned with factual matters. Essentially, the necessity, background, and feasibility of the reduction claims presented by Urgenda will be elaborated. The State's defences relating to EU policy, the ETS sector, and the phenomenon of carbon leakage will be discussed.
22. For the sake of convenience, I will hereafter in this plea by counsel refer to Urgenda and its co-plaintiffs jointly as Urgenda. Where necessary, Urgenda may be distinguished from its co-plaintiffs.
23. I will start by examining EU policies with respect to the obstacles that the State argues such policies present to carrying out a reduction order. It will become clear that pursuing a national climate policy in addition to EU policies is both necessary and possible.

### **National policy compared with EU policy**

24. In the Statement of Reply, it was explained<sup>1</sup> that countries such as Denmark, Germany, and the United Kingdom not only apply European climate policy, but above and beyond that, they apply their own more ambitious national climate policies. Whereas the EU maintains a target of a 20% reduction by 2020, Danish and German climate policies are based on a 40% reduction by 2020. Such national reduction targets are thus twice as much as the EU's. Sweden too has set a reduction target of 40% by 2020.

---

<sup>1</sup> See e.g. paragraphs. 405, 406, and 585.

The United Kingdom has a somewhat lower target, 35% by 2020, which is still well above the European target of 20%.

25. In the Danish climate report, which has been submitted as Exhibit U86, the Danish government actually states on p. 35 that *'Prudent climate policy is not limited to pursuing an ambitious European climate policy. It also involves pursuing a national policy in which climate change concerns are integrated into the actions and initiatives implemented in all sectors emitting greenhouse gases ...'*.
26. Unlike countries such as Denmark, Germany, and the United Kingdom, the Netherlands does not have a national climate policy. Or at least, it no longer has one. In the Clean and Thrifty [*Schoon en Zuinig*] national climate programme of 2007, the government under prime minister Balkenende did enact a national climate policy. This included a national reduction target of 30% by 2020, well above the European target of 20% and also above the 25% reduction target that Urgenda claims as an absolute minimum in this court case. A reference to this former Dutch climate programme is included in the pleading notes.<sup>2</sup>
27. The Clean and Thrifty programme and the 30% national reduction target were broadly supported within the government, as is clear, for example, from the involvement of all ministries relating to that subject in the programme: the Ministry of Infrastructure and Environment, the Ministry of Agriculture, the Ministry of Economic Affairs, the Ministry of Foreign Affairs, and the Ministry of Finance. At that time, the government considered a 30% reduction by 2020 to be necessary and feasible. Additionally, according to the programme report, the government seemed convinced that an ambitious climate policy would strengthen the Netherlands economically. The statement *"A low-carbon economy is ultimately a successful economy"* can be found in the report on page 10.

---

<sup>2</sup> <http://www.rijksgovernment.nl/documenten-en-publicaties/reports/2007/09/01/nieuwe-energie-voor-het-climate-werkprogramma-schoon-en-zuinig.html>

28. At the start of the first government under the leadership of prime minister Rutte in 2010, however, the national 30% target was abandoned and no replacement was devised. Since then, the Netherlands has applied only the climate policy that 'Brussels' has imposed on the Netherlands. Since 2010, the government no longer acknowledges a greater individual responsibility. As a consequence, the current climate target for 2020 has been halved, compared with the original 30% target. The State expects that the total Dutch emissions will be reduced by only 14% to 17% by 2020.<sup>3</sup>
29. It can therefore be concluded that until a few years ago, the Netherlands, like Denmark, Germany, Sweden, and the United Kingdom, was a country in which the European targets did not prevail in deciding what individual responsibility was to be assumed.
30. These facts also make clear that European legislation and regulations do not prevent member states from applying a national climate policy extending considerably beyond that of the EU. Member states are even entitled, by virtue of the treaty, to apply a more ambitious environmental and climate policy. This derives from the Treaty on the Functioning of the European Union, the TFEU. Article 193 TFEU determines that protective measures adopted based on Article 192 (formerly Article 175 in the EC treaty) shall not prevent member states from implementing or enforcing more stringent national measures.
31. The EU climate policy, thus, sets only minimum requirements for member states. The member states are then free to independently assess how much further they wish to go in their national climate policies. Discretion of a member state to do more with regard to climate policies is unlimited and not subject to a maximum. A judgment ordering that more is to be done is, therefore, not prevented by EU law or EU climate policies.
32. However, in its Statement of Rejoinder, the State mentions the European Emissions Trading System (ETS), which according to the State would impede the carrying out of a

---

<sup>3</sup> See p. 18 Rejoinder.

possible reduction order by the court. It is argued that as a consequence of this, the State could carry out a reduction order only in the non-ETS sectors but not in the ETS sectors, although the latter include the coal-fired and gas-fired power plants as well as most energy-intensive industries.

33. While it is true that the State cannot adjust the reduction percentage that currently applies in the ETS sectors, such an adjustment is not necessary. What matters is whether that percentage in the ETS agreement prevents the State from doing more in the Dutch ETS sectors than it now intends to do. That is not the case, as will now be explained.

### **The ETS system is not an obstacle to good national climate policy**

34. That the ETS and the reduction percentage established do not impede extensive national climate policy is already clear from the fact that that percentage does not prevent the Danes, Germans, Swedes, and British from doing considerably more than that which the EU prescribes as the compulsory minimum.
35. Member states thus have several opportunities to influence the emissions taking place in their national ETS sectors. We will explain some of them.
36. Member states are, for example, free to sign covenants with operators of coal-fired and gas-fired power plants. The Netherlands intended to do so in the context of the aforementioned Clean and Thrifty climate programme from 2007. Signing covenants was identified in the programme as one of the methods to achieve the national target of a 30% reduction by 2020.<sup>4</sup> The following quote from the programme clearly illustrates this (p. 27 of the report):

*'The government reaches agreements with operators of new coal-fired power plants obliging them to perform to the best of their ability for the envisaged new coal-fired*

---

<sup>4</sup> <http://www.rijksgovernment.nl/documenten-en-publicaties/reports/2007/09/01/nieuwe-energie-voor-het-climate-werkprogramma-schoon-en-zuinig.html>

*power plants in addition to the ETS [...] These agreements should provide the council of ministers with certainty that the necessary reductions will be achieved. The investors need to demonstrate substantially how they will realize these reductions. By signing covenants, agreements are reached about capturing and storing CO<sub>2</sub> in the ground. This enables clean fossil fuels to be used as a transition technology toward a sustainable energy supply.’ [underlined by counsel] (end quote)*

37. Further, member states are also free, as Denmark already does, to increase the share of sustainable electricity at their discretion. This also influences the ETS sector. After all, the greater the share of sustainable energy introduced onto the national electricity grid, the less electricity the coal-fired and gas-fired power plants need to generate. Emissions by these ETS plants will then automatically diminish. This is another way for a member state to influence emissions in the ETS sector.
38. Another example: It is a public secret that since the ETS system was introduced in 2005, a surplus of unused emissions rights has been circulating, leading emissions to be structurally priced too low to achieve innovation and make the energy sector sustainable. The surplus now exceeds 2 billion unused rights and continues to rise. The price of an emissions right is consequently only a few euros and will remain at that level for quite a while, based on the impact assessment conducted by the EU in 2014.<sup>5</sup> [The link to the reference for this document is included in the pleading notes.] It reads (quote):

*‘Large surpluses are expected to persist on the ETS market, however, and are likely to diminish gradually only after 2020; even in the policy scenarios depicting the greatest emissions reductions, by 2030 the emissions rights surplus will still be circa 2 billion or more.’<sup>6</sup> (end quote)*

---

<sup>5</sup> [http://www.eerstekamer.nl/eu/documenteu/swd\\_2014\\_16\\_samenvatting\\_van\\_de/f=/vjh3jdttre2a.pdf](http://www.eerstekamer.nl/eu/documenteu/swd_2014_16_samenvatting_van_de/f=/vjh3jdttre2a.pdf)

<sup>6</sup> p. 14, paragraph 63

The impact assessment then concludes that this will keep prices low.<sup>7</sup>

39. Because of this structural underpricing, member states have developed their own instruments to boost emissions prices and thus make the ETS system more effective inside their national borders. One of these instruments involves introducing a national carbon tax on top of the price of an ETS emissions right. By introducing a carbon tax, member states influence their own ETS sector and their emissions that occur there. This enables member states to control the price payable by the national ETS sectors for their emissions. In this manner, the dysfunction of the ETS system may be adjusted at the national level. The United Kingdom is among the countries applying this system.
40. The United Kingdom has introduced what is known as the carbon price floor tax, especially for coal-fired and gas-fired power plants. As the name carbon price floor tax already suggests, taxation sets a price floor for every ton of CO<sub>2</sub> emitted within the United Kingdom. The floor price in 2015 is 18 GBP, which is about 25 euros per ton of CO<sub>2</sub>. The amount of an ETS emissions right is then subtracted from this 25 euro tax. If an ETS emissions right costs 5 euros, then the tax will decrease to 20 euros. If an emissions right costs 6 euros, then the tax will decrease to 19 euros. Regardless of the ETS price, all British ETS companies will thus pay a minimum of the floor price of 25 euros for emitting a ton of CO<sub>2</sub>. Over the years, the UK government will raise this floor price to about 30 GBP in 2030 (about 42 euros). This is how the British correct the dysfunction of the ETS system nationally to encourage British ETS companies to invest in clean technology and to contribute toward achieving the national target of a 35% emissions reduction by 2020.
41. And the United Kingdom is certainly not the only country to impose a carbon tax for those reasons. The map presented as Exhibit U102 reveals that not only the United Kingdom but also Sweden, Ireland, France, Finland, and Denmark have introduced or intend to introduce a national carbon tax in addition to the ETS system. Norway and

---

<sup>7</sup> p. 14, paragraph 64

Iceland do so as well; they are not EU member states but do participate in the European ETS system. Countries in which a carbon tax is implemented are shown in Exhibit 102 by the green/blue shading for these countries that means 'ETS and carbon tax implemented or scheduled'.

42. Whether by signing agreements, making the electricity grid sustainable, or introducing a carbon tax, these examples (and others are available) reveal that there are sufficient instruments at the disposal of a member state to set up its own national policy in the ETS sectors.
43. The ETS system is therefore not an obstacle to carrying out a reduction order that the court may issue to the State. The order may be carried out in both the non-ETS sector and the ETS sector.

#### **Carbon leakage and the waterbed effect**

44. In addition to the ETS, the State has invoked the carbon leakage phenomenon and the waterbed effect as a defence intended to deter the court from issuing a reduction order. The State does not properly clarify which legal consequences it envisages with this defence, but the following explanation reveals that it is untenable.
45. The following may be said about the waterbed effect: The fifth IPCC report (specifically, the report by Working Group III from 2014, Chapter 5, on p. 386) addresses the 'carbon leakage' phenomenon, which has the same meaning as the waterbed effect.<sup>8</sup> The IPCC explains that carbon leakage may occur at various levels, for example, between countries as well as between provinces, between regions, or globally, and may result from different causes. The IPCC lists some examples:
46. If a country applies a rigid climate policy, it uses less fossil fuel, which reduces the demand for fossil fuel and causes the price to drop. The drop in price that is the

---

<sup>8</sup> <http://mitigation2014.org/report/publication/>

consequence of a stringent climate policy in one country may then possibly encourage other countries to start using more fossil fuel.

47. Another example: if a country applies a rigid climate policy, this could lead a company to leave that country and move to another country that applies a less stringent climate policy. The greenhouse gases then transfer from one country to the other.
48. Still another example: if within a regional context, such as the EU ETS system, an emissions cap has been agreed, a more rigid climate policy in one country may free up extra emissions space in another country. The State calls this phenomenon the waterbed effect.
49. After setting out the different manifestations of carbon leakage, the IPCC then refers to a study from 2012, comparing the outcomes of 12 different computer models for carbon leakage. The conclusion is that the carbon leakage in those models ranges between 5% and 19%, with an average of 12%. Typically, for every 100 units reduced in one country, 12% leaks away to other countries. In some circumstances this percentage could be higher and would then average 18%. Based on those findings, it is argued in the IPCC report that a unilateral, national climate policy should not be assumed to be ineffective because of carbon leakage.
50. The practice in Europe even shows that the climate policy applied to date has not led to carbon leakage to countries and regions outside the EU. This is evident, for example, in the impact assessment on which the EU Commission has based its climate policy for 2020 to 2030. A link to that document has been included in the pleading notes. In that document it is stated on p. 2 that no indications are available to date that the European climate policy has led to carbon leakage or to the relocation of companies.<sup>9</sup>
51. Nor has – as far as Urgenda has been able to ascertain – the more stringent climate policy in the United Kingdom, Denmark, Germany, and Sweden led companies to leave those countries. Alongside a stringent climate policy, those countries are apparently

---

<sup>9</sup> [http://www.eerstekamer.nl/eu/documenteu/swd\\_2014\\_16\\_samenvatting\\_van\\_de/f=/vjh3jdttre2a.pdf](http://www.eerstekamer.nl/eu/documenteu/swd_2014_16_samenvatting_van_de/f=/vjh3jdttre2a.pdf)

able to sufficiently compensate multinational corporate industry based there through other tax and financial incentives. Moreover, the capital assets of operators of gas-fired and coal-fired power plants, for example, are embedded in the country of origin, ruling out departure of these operations to another country in such cases.

52. It can therefore be concluded that the waterbed effect or carbon leakage does not have the effect that the State attributes to it.
53. The State's argument that the court should rule against the State, because companies might then shift their operations to other countries, is a defence unworthy of imitation in other respects as well. Arguing that the danger of companies departing would be a reason not to have to apply good climate policy is tantamount to saying that Dutch corporate industry need not comply with employee protection regulations because companies might otherwise move to Bangladesh, where they can run sweatshops and pay virtually no employers' charges. Nobody will accept that as an excuse for applying unlawful employment policies in the Netherlands. Why should this argument then be acceptable with respect to climate policies?
54. Nor can the waterbed defence be taken seriously with respect to the ETS, considering that there is already a surplus of over 2 billion unused emissions rights and this will certainly last until 2030. A country that is unwilling to implement its own emission reductions does not need to rely on a few extra Dutch emissions rights for that purpose. The enormous surplus of emission rights has various causes, for example the fact that with the ETS, EU emissions are below the level allowed based on the ETS. This too shows that the waterbed effect does not have the effect that the State associates with it.
55. The carbon leakage phenomenon therefore cannot be an argument for the State to shed its responsibility for applying adequate climate policy. The United Kingdom, Germany, and Denmark do not view the alleged waterbed effect as an impediment to reducing far more than their European obligations require of them. Those countries base their actions on the need to do what may be demanded of them. They are guided

by the necessity of climate protection. This corresponds with the individual responsibility that the countries have accepted in the UN Climate Convention, thus conveying that they are aware that countries cannot wait to take measures until it is certain that the other countries are doing their own share as well. In its Statement of Rejoinder at 1.12, the State emphasizes that awareness again. The State notes that the climate problem is a global one, adding (quote): *'The State certainly does not mean that the Netherlands should wait to take measures until other countries have done so [...]'*.(end quote)

Urgenda would like to hold the State to that.

### **Some remarks about the Dutch non-ETS emissions**

56. In its Statement of Rejoinder, the State has invoked arguments concerning both the ETS sector and the non-ETS sector. This includes the emissions from buildings, transport, agriculture, smaller industries, and waste processing.
57. Climate policy in the non-ETS sector is determined by each member state, thus nationally. The State maintains that it has discretion in this sector, without encountering relevant impediments from the EU.
58. The State argues that in these non-ETS sectors it is on track to achieve a reduction of 24% to 25% in 2020 compared to 2005. The State is not revealing all the relevant details, however, as a substantial part of this reduction is unrelated to averted emissions. This is because certain non-ETS activities have been recategorized as ETS activities. These emissions have therefore not been reduced but have simply been recategorized for administrative purposes. The emissions in the non-ETS sector have merely been shifted to the ETS sector.
59. In the National Energy Survey (Nationale Energieverkenning) report submitted by the State as Exhibit 25, this is explained on page 74 (quote).

*'Non-ETS greenhouse gases have declined between 2005 and 2013 from 129 to 105*

*megatons of CO<sub>2</sub> equivalents (Figure 3.12). Emissions have declined here mainly because of the economic recession, combined with the fact that more companies qualify as ETS since 2008. Expanding ETS in 2013 is estimated to have led about 8 megatons of CO<sub>2</sub>-eq to transfer from non-ETS to ETS emissions.'* (end quote)

60. In 2013 alone, 8 megatons shifted from non-ETS to ETS. If one adjusts for those 8 megatons, it turns out that the State will have reduced emissions by only 18.5% in the non-ETS sector by 2020, with respect to the level in 2005.
61. The calculations are easy to check in Table 8A pertaining to the National Energy Survey (Exhibit 25 of the State), in which all the relevant figures appear on line 8.
62. Urgenda c.s. are bringing this inaccuracy to the attention of the court because the State appears to be combining its arguments regarding the ETS and the non-ETS sectors to convey the following impression to the court. First, the State is suggesting that it is above reproach in the ETS sector as its hands are tied by the EU. Second, the suggestion is that wherever the State is able to exert its influence, its climate policy is good, because it is on track toward achieving a 25% reduction in the non-ETS sector. Both arguments, however, are manifestly incorrect. Nor is the distinction between ETS and non-ETS reductions important, because all that matters is the total emissions reduction that will be achieved in the Netherlands by 2020. According to the State, it will not amount to more than 14% to 17% below the level in 1990 (Statement of Rejoinder, p. 18).

I will now address the State's arguments regarding the EU reductions for 2020:

### **EU reductions for 2020**

63. The State has mentioned in its Statement of Rejoinder that there is a chance that the EU might exceed the 20% target if all member states carry out their intended policies for 2020. The total EU reduction might then amount to 24% in 2020 (Statement of Rejoinder, p. 10). What the State aims to convey here is not clear, but if the State

means that Urgenda has no interest in the case as long as there is a chance that the overall EU outcome might be somewhere near 25% in 2020, then Urgenda contests this.

64. The State is well aware of how ephemeral climate policy can be. In early 2010, after all, the Dutch State had a national climate policy with a reduction target of 30% for 2020. Several months later, at the start of the Rutte government in October 2010, this target was abandoned. Now the Netherlands will, as stated, achieve a reduction of between 14 and 17% by 2020, which is half the target intended.
65. Other reasons as well make it uncertain that the 20% objective will be exceeded within the EU. A warning to this effect also appears in the report from the European Environmental Agency that the State has submitted as Exhibit 21. On page 11 it is explained that the economic recession is a major cause of the drop in emissions in recent years and that this jeopardizes achieving additional emission reductions in the near future. The threat is twofold: the resulting surplus in emission rights might decrease reductions in the future, and investments in renewable energy are down because of the recession. Additionally, the Environmental Agency mentions the risk that the recession might also send the misleading signal that the climate targets could be attained with less forceful policy efforts.
66. This same report indicates that many member states will indeed find it difficult in the coming years to maintain the reductions already achieved and to continue to improve on them. On this subject, the report actually states on p. 91 that for the EU overall, reductions are already close to the 2020 targets but that most member states expect they will have difficulty achieving their non-ETS targets.
67. In this light, it is worth considering that, as the State has also indicated,<sup>10</sup> up to 50% of the emission reductions since 2008 are the consequence of the economic recession, meaning that up to 50% are not policy related. While the extent to which these 'coincidental' emission reductions will be reversed the moment the economy picks up

---

<sup>10</sup> Rejoinder pp. 8-9

again remains unclear, this will certainly impede achieving the additional reductions assigned.

68. Therefore, an EU reduction of more than 20% by 2020 is highly uncertain for many reasons, all the more so – or perhaps mainly – because no policy is focused on exceeding 20%. The interest of Urgenda is precisely to apply a focused and irrevocable policy to achieve the necessary reduction targets that are claimed. Moreover, Urgenda’s principal claim is a percentage considerably higher than 25% by 2020. Since the principal claim by Urgenda is a 40% reduction, projections about what reductions the EU could achieve under ideal circumstances do not neutralize Urgenda’s interest.

#### **A 40% reduction by 2030**

69. I will now address the State’s argument that the targets for 2020 and the claims connected to them by Urgenda c.s. are superfluous because of the intended reduction target of the EU to achieve a 40% reduction by 2030.
70. Just as the European 20% target for 2020 does not qualify as adequate climate policy based on scientific principles, the intended European 40% target for 2030 does not qualify as such either. Urgenda c.s. will explain this below, making clear that the State cannot hide behind the European target for 2030 either and must therefore improve its own national climate policy.
71. The European Commission had its internal scientific service investigate in 2010/2011 whether a 40% reduction by 2030 would suffice as an intermediate step on track to 2050. This service confirmed in a report that a 40% reduction would work as an intermediate step on track to 2050. Based on that, the European Commission in 2011 then issued what was known as the *Roadmap for moving to a competitive low carbon economy*.<sup>11</sup> The EU commends the 40% target for 2030 here as highly ambitious. The State supports this commendation by the EU. The reality, however, is otherwise, because all other reports known to Urgenda denounce this EU target.

---

<sup>11</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011SC0288&from=EN>

72. In the Statement of Reply (paragraph 497), Urgenda c.s. have already mentioned the criticism from the Environmental Assessment Agency (Planbureau voor de Leefomgeving or PBL) of this 40% target. For a quick sense of what adequate climate policy for 2030 entails, consider briefly the target that Germany has set for 2030: not 40% but 55%.<sup>12</sup>
73. With a 55% reduction target by 2030, the Germans apply a national climate policy that, once again like the Danish and the British, also deviates considerably from the EU target for 2030. The need these countries sense to reduce by 50% or more by 2030 is made perfectly clear in the analysis drafted by the UK government, which aims for a 50% reduction by 2025.<sup>13</sup> This analysis by the UK government was entered into evidence as Exhibit U100 prior to this plea from counsel. This reveals that based on multiple perspectives and recalling several reports issued on this subject, a 50% reduction is necessary by 2030 and that the EU reduction of 40% is insufficient. The report discloses some interesting findings, starting with Table 1:

**Table 1:** EU 2030 GHG mitigation target in various 2 degree effort share scenarios<sup>1</sup>

<b>Effort share approach</b>	<b>Resultant EU target for 2030</b>
Income grouping based allocation <sup>2</sup>	-50%
Income grouping based but with no separate Annex I grouping <sup>3</sup>	-57%
Equal per-capita emissions by 2050 <sup>4</sup>	-50%
Equal relative costs <sup>5</sup>	-54%

74. Table 1 reveals that depending on different scenarios, the reduction scope for 2030 is between 50% and 57% according to the UK government. This range of 50% to 57% depends on how the reduction efforts are distributed between the Annex 1 countries and the developing countries. The various distribution scenarios appear on the left side of the table. Selecting a distribution scenario that favours the Annex 1 countries requires a reduction of only 50% by 2030, whereas an unfavourable distribution scenario will require a 57% reduction.

<sup>12</sup> See Statement of Reply at 406.

<sup>13</sup> See Exhibit U96.

75. The UK government concludes that its findings generally agree with findings from other reports indicating slightly lower outcomes, that is, between 47% and 50%. The PBL report referenced above is mentioned as well. The UK government then concludes that a 50% reduction is a necessary basic premise for 2030. The government determines at the same time that a 50% reduction in 2030 is affordable and addresses this in Table 3, which merits discussion here as well.

**Table 3:** Estimates of the cost in 2030, and as equivalent annual reduction in growth rate to 2030 (all targets relative to 1990)<sup>13</sup>

EU 2030 target	European Union	Average non-Annex I
	Equivalent reduction in the 2014-2030 annual GDP growth rate	Equivalent reduction in the 2014-2030 annual GDP growth rate
40%	0.02%	0.06%
50%	0.04%	0.03%
60%	0.07%	-0.01% <sup>14</sup>

76. Adopting a 50% target for 2030 for the Annex 1 countries and consequently for the EU as well means according to Table 3 that economic growth in the EU will decline by an average of 0.04% until 2030. If in this scenario for 2030 the developing countries complement the policy of the Annex 1 countries by doing whatever is needed to keep the rise in temperature below 2 degrees, then this will cost the developing countries 0.03% of their annual growth until 2030.

77. The table also reveals that the 40% reduction will be cheaper for the EU and will cost only 0.02% of the annual growth. So that is cheaper than if the EU pursues the 50% scenario, at least for the EU. The opposite holds true for the developing countries. Costs will in fact rise considerably for the developing countries. They will forfeit 0.06% of their economic growth in that case, which is triple what a 40% scenario would cost the EU.

78. The UK government therefore concludes that a 40% reduction in the EU by 2030 will impose a disproportionate financial burden on the developing countries. In a 40% scenario, the EU would largely transfer and pass on the costs of achieving the 2 degrees objective to the developing countries. This sheds an entirely different light on the chest-thumping by the EU and the State about the ambitious nature of a 40%

target by 2030. It reverses the principle already discussed in the briefs that were submitted to the court concerning common but differentiated responsibilities, which holds that precisely the Annex 1 countries should take the lead in preventing dangerous climate change.

**Table 2:** EU emission reductions from the EU Roadmap analysis<sup>10</sup>

	<b>2005</b>	<b>2030</b>	<b>2050</b>
<b>Total GHG reductions compared to 1990</b>	-7%	-40 to -44%	-79 to -82%

79. Finally, the UK government makes another important point in its analysis, namely that according to Table 2 of the analysis, the EU has based its calculations for the 40% reduction percentage applicable to 2030 on a range of 79% to 82% to be achieved by 2050. The UK government notes that the target for 2050 is 80% to 95%, not 79% to 82%.
80. The EU has effectively reduced the necessary range of 80% to 95% to a single number, namely 80%. In doing so, the EU ignores the purpose and relevance of the range. As with the 50%-57% range mentioned above, the 80%-95% range in fact relates in part to how the distribution will be structured between the Annex 1 countries and the developing countries in the future. Very conceivably, therefore, the Annex 1 countries will need to achieve a greater reduction than 80% by 2050. This possibility should continue to receive consideration, and that is the purpose of the range of percentages.
81. For several reasons, 40% in 2030 is therefore not an ambitious target. It is downright insufficient. Moreover, whether the EU will indeed carry out the 40% target is far from certain.
82. The fact is, the 40% reduction target that the European Council set on 23 October 2014 was adopted in anticipation of the Climate Summit that will be held in Paris in December 2015. However, in adopting this reduction target, the Council included a reservation. This reservation has been described in the press as well, for example in the British newspaper the *Guardian*. The explanation about the 40% target for 2030 in the *Guardian* is followed by these words (quote):

*'But a clause was inserted into the text that could trigger a review of the EU's new targets if other countries do not come forward with comparable commitments in Paris.'*  
(end quote)

83. In other words, if other countries do not match the EU's offer, the EU reserves the right to adjust its 40% ambition downward. The link to the article in the *Guardian* is provided in the note below.<sup>14</sup> Other news media published reports similar to the one in the *Guardian* about this clause, which is also known as the flexibility clause.<sup>15</sup>
84. The decision by the European Council to apply a reduction percentage of 40% for 2030 is therefore not necessarily irreversible. This uncertainty may be compounded by the other usual uncertainties, because negotiations have yet to be conducted in the EU regarding a new effort-sharing decision for the non-ETS sector, because a new climate and energy package will need to be negotiated, and because the European Parliament will have to be involved in the procedure as well.
85. Because the EU target for 2030 is much too low on the one hand and on the other hand remains far from certain, Urgenda has and maintains an interest in the alternative reduction claim filed against the State of 40% by 2030. This reduction claim is well below the 50% that the British apply and still further below the 55% that the Germans apply, so the Netherlands certainly does not face excessive demands here.
86. This takes me to a specific point in the EU roadmap that Urgenda deems immensely important to share with the court.
87. Although the roadmap concerns the 40% reduction by 2030, it is also highly relevant with respect to 2020. The roadmap states explicitly that achieving a 40% reduction by 2030 will require at least a 25% reduction by 2020. In addition to all other reasons that Urgenda has presented for this in this case, the roadmap thus reveals once again that

---

<sup>14</sup> <http://www.theguardian.com/world/2014/oct/24/eu-leaders-agree-to-cut-greenhouse-gas-emissions-by-40-by-2030>

<sup>15</sup> <http://climateobserver.org/eu-council-target-2030/>  
<http://www.euractiv.com/sections/eu-priorities-2020/eu-leaders-adopt-flexible-energy-and-climate-targets-2030-309462>

the EU target of 20% by 2020 is too low. A link to the roadmap is included in the pleading notes.<sup>16</sup>

88. The roadmap states on page 52 that reductions of 25% to 26% are needed by 2020 to be on a cost-effective path to 40% in 2030, and the conclusion on p. 94 reads (quote): *'Milestones of a cost-effective path towards -80% by 2050 are emission reductions by around 25% in 2020, around 40% in 2030 and around 60% in 2040.'* (end quote)
89. A minimum reduction of 25% by 2020 is therefore necessary to be on a cost-effective path to a 40% reduction in 2030.
90. The Questions and Answers that the EU Commission has drafted as an explanation to the roadmap clarify once again that this 25% by 2020 truly must concern domestic reductions and that these may not entail reductions that member states pay to have done outside the EU. I quote:  
*'The analysis shows that the cost-efficient pathway to an 80% "domestic" reduction in 2050 calls for cuts, through domestic action alone, of 25% in 2020, 40% in 2030 and 60% in 2040 (compared to 1990).'* (end quote)
91. A link to this document is included in the pleading notes, and the quote appears in the answer to Question 4, which reads: 'What emission reductions will be needed in the future?'<sup>17</sup>
92. Achieving a 40% reduction in 2030 will thus require reducing domestic emissions by at least 25% in 2020.
93. Regardless of the reduction scenario, a reduction of at least 25% is therefore necessary in all cases by 2020. There is not a single indication in these entire proceedings that provides a basis for refuting this argument. A 25% reduction in 2020 is therefore the bare minimum that the State should be required by the court to achieve.

---

<sup>16</sup> [http://www.eurosfairer.prd.fr/7pc/doc/1301390517\\_sec\\_2011\\_288\\_en.pdf](http://www.eurosfairer.prd.fr/7pc/doc/1301390517_sec_2011_288_en.pdf)

<sup>17</sup> [http://europa.eu/rapid/press-release\\_MEMO-11-150\\_en.htm](http://europa.eu/rapid/press-release_MEMO-11-150_en.htm)

94. The State has not argued and substantiated, either, that such a reduction would be disproportionate, given how serious the danger to be averted is. Nor has it been proven that such a national reduction task of 25% for 2020 is unfeasible or unaffordable for the State. Until a few years ago, even the State applied the higher percentage of 30% for 2020, and this was considered possible at the time. In that case, 25% should be feasible as well. The need for this exists, as even the State mentions in its Statement of Rejoinder that it will achieve no more than an overall Dutch emission reduction of 14% to 17% in 2020.
95. With the 25% reduction, Urgenda is in effect asking less from the State in the coming five years than what the State would otherwise have to achieve every five years from 2020 onward to achieve a minimum of 80% and a maximum of 95% in 2050, after starting with a 14% to 17% reduction by 2020. How the State could afford to postpone dealing with the climate problem for another five years is impossible to understand. The nature and scope of the climate danger to be averted are at odds with such a delay. The court should therefore not hesitate to impose a minimum 25% reduction by 2020 on the State.

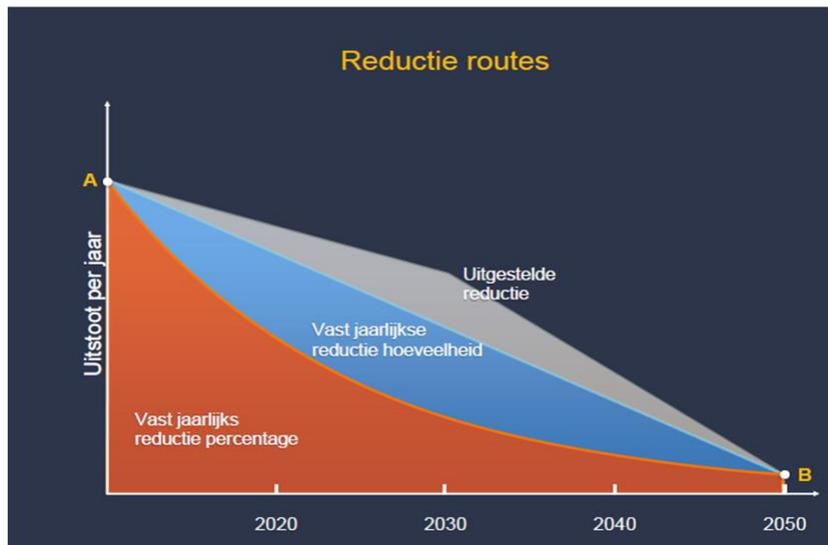
### **The mechanisms underlying the need for the highest possible reductions by 2020 and 2030**

96. But Urgenda is asking for more from the State than a 25% reduction. It is, after all, scientifically necessary to reduce the emission level as much as possible *before* 2020, which is why the principal claim is for a 40% reduction by 2020.
97. In the writ of summons it has already been explained<sup>18</sup> that a vast difference exists between a reduction route with a 25% target for 2020 on one hand and a reduction route with a 40% target for 2020 on the other. In the latter case, warming is far more likely to remain below 2 degrees.

---

<sup>18</sup> See e.g. paragraph 375 ff.

98. Of course merely achieving the 2020 target is not enough. Achieving the 2050 target is the next step. Emissions will therefore need to be reduced by between 80% and 95% by 2050. It would be a fallacy, however, to presume that achieving the 2050 target is all that matters, and that this would render the reduction level for 2020 less important or unimportant.
99. We are addressing this topic because the State is suggesting that any climate policy is good enough, even if the necessary target for 2020 is not achieved. As long as the prospect of achieving the target for 2050 is not lost, the State would have us believe that nothing is amiss. But that is wrong, as the State knows. Setting and achieving the right intermediate reduction target for 2020 is at least as important as achieving the target for 2050. The same holds true for the intermediate reduction target for 2030.
100. The targets for 2020 and 2030 will ultimately determine the cumulative emissions by the Netherlands until 2050. If the reduction targets for 2020 and 2030 are high, as in Germany, for example, then total emissions until 2050 will be far less than if the targets for 2020 and 2030 are low, as they are in the Netherlands. Therefore, although both reduction routes will achieve the same result in 2050, one route will contribute more to global warming than the other.
101. We will illustrate this in a graph (Sheet 1):



sheet 1

Sheet 1. Reduction routes.

102. Starting at a certain emission level, indicated as point A on this graph, with the aim of ending up at the much lower emission level at point B in 2050, there are basically three reduction routes for getting there.
103. The first reduction route is depicted in orange and features quantitatively greater reductions in the beginning than toward the end. In the first stage up to 2020, this concave line drops relatively sharply, while the drop at the end, in the stage from 2040, is far more moderate. Of all three scenarios throughout the period until 2050, this one has the lowest cumulative emissions, that is, no more than the area of the orange surface.
104. This orange reduction route seems to impose a disproportionately onerous reduction effort at the beginning and then to require far too little effort at the end. In this case, however, appearances are deceptive, since in each year between A and B the effort demanded is the same. The orange line reflects the constant annual reduction percentage necessary to start from point A and get to point B in 2050, after starting from A.

105. Assuming that this constant annual reduction percentage is 5%, then the orange line shows what happens if every year the emission level is 5% lower than it was the previous year. If at starting point A the emission amount equalled 100 emission units, then in the first year it will be reduced by 5% of 100, that is, by 5 emission units. After one year, the emission level will thus have dropped to 95. In the second year the emission level will drop by 5% of 95 and will thus be reduced by only 4.75 units. Consequently, after two years the emission level would have decreased to 90.25. The third year, another 5% of 90.25 is calculated, which would leave only 4.51 emission units, and so on. The percentage remains the same each year, namely 5%, but the annual reduction decreases from 5 to 4.75 to 4.51 and so on. The line therefore reflects the steepest drop in the first year and then progressively tapers off. Because percentagewise the same needs to be accomplished every year, this approach therefore distributes the reduction effort required evenly over the entire period until 2050. This reduction system corresponds to emission reduction scenarios in actual practice, in which major progress is made at the outset because of the easier achievements, and the reduction task grows progressively more difficult along the way.
106. The blue straight line indicates a second possible reduction route. This is a linear line from A to B. In this case, emission units are reduced by the same number each year, continuing until Point B is reached in 2050. This is a second way to distribute the efforts evenly over the entire period.
107. In this linear scenario, emissions will clearly be considerably higher until 2050 than in the orange scenario. In the linear scenario, the quantity of emissions released equals the sum of the orange and the blue surface areas combined.
108. The reason more is emitted is that in the blue scenario, emissions in 2020 and 2030 are much higher than in the orange scenario. Both routes culminate at the same Point B in 2050, but the cumulative emissions are far greater in the blue scenario, because too little is reduced in 2020 and 2030. This shows why it is important to maintain the right

reduction percentages for 2020 and 2030, and it is clear that achieving a reduction percentage in 2050 cannot be the sole focus.

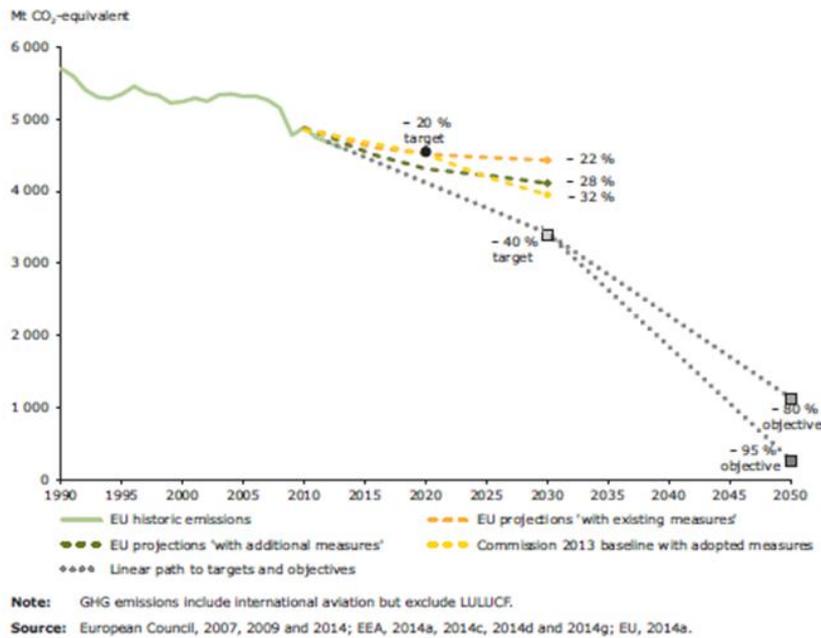
109. In the Exhibit submitted as U96, the UK government states briefly and concisely: *'[I]t is not simply the level of emissions in a future target year that we should be concerned about. It is cumulative emissions over the whole period that matter.'*

It is therefore the cumulative emissions that matter and not merely achieving a specific target for a specific year.

110. This brings me to the third scenario, which is the convex grey line in the graph. In the period up to 2030, manifestly less is done in this scenario than in the blue one. The reduction effort seems to be delayed here. Cumulative emissions are therefore still higher. This makes the delayed reduction scenario the most dangerous and the most negligent reduction route. And this is precisely the scenario the EU has chosen and the one the State is defending in these proceedings.

111. The decision by the EU to apply this delayed reduction scenario is clear from the report by the European Environmental Agency, which the State has entered into evidence as Exhibit 21. This is specifically made clear in Figure 4.11 in the report on page 61 (Sheet 2):

**Figure 4.11 EU GHG emission trends and projections, and long-term targets**

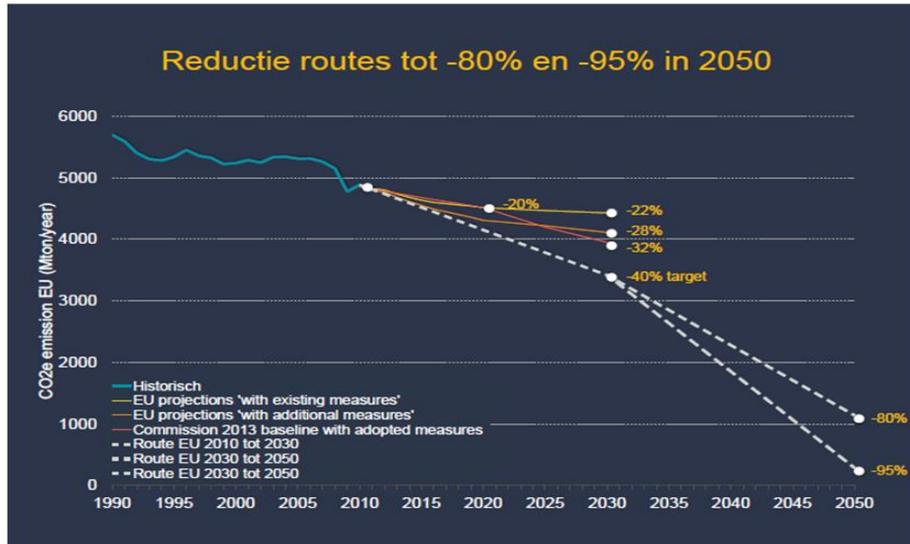


sheet 2

Sheet 2. EU GHG emission trends and projections, and long-term targets.

112. The green line from 1990 depicts the historic emissions of the EU through 2010. From 2008, the emissions dropped sharply, which is of course a consequence of the economic recession. What matters in this graph, however, is the black dotted line, which reaches 40% in 2030 and then continues to 80% in 2050. That is the intended policy of the EU. For reference purposes, the Environmental Agency also depicts the route from 2030 if it were to culminate at 95% in 2050.

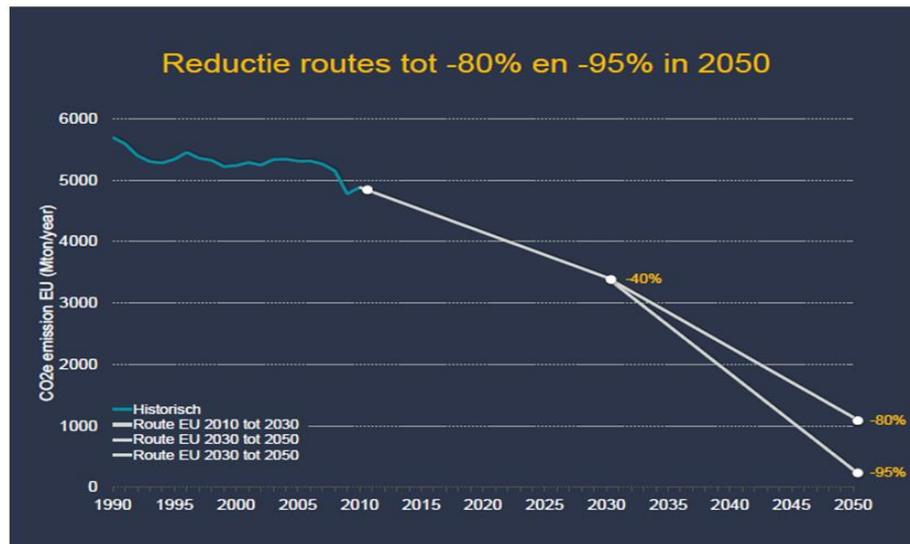
113. The kink in the lines at 2030 shows that these are the delayed reduction routes. To clarify this, we have devised an exact replica of the graph of the Environmental Agency (Sheet 3), with a view to adding the aforementioned orange and blue reduction routes in a moment:



sheet 3

Sheet 3. Reduction routes to -80% and -95% in 2050.

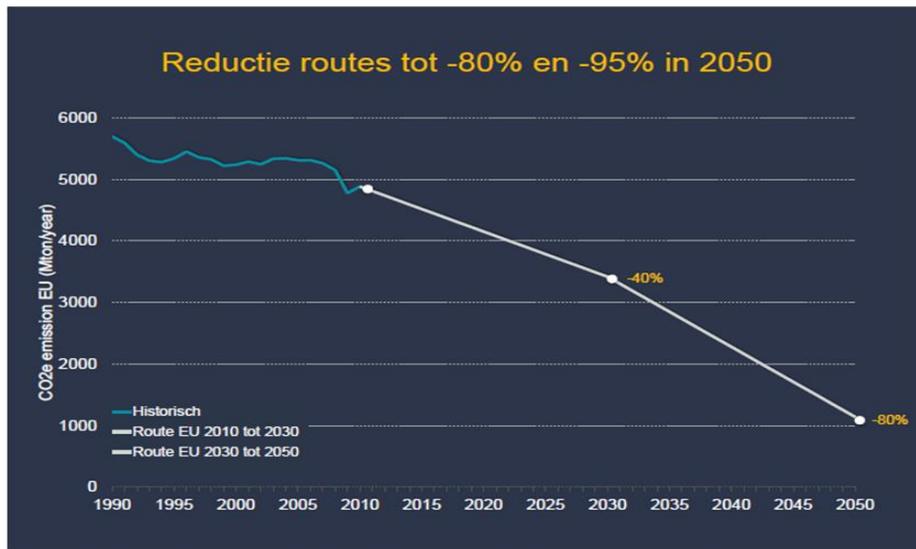
Because we do not need to use the top three lines, we will delete them (Sheet 4):



sheet 4

Sheet 4. Reduction routes to -80% and -95% in 2050.

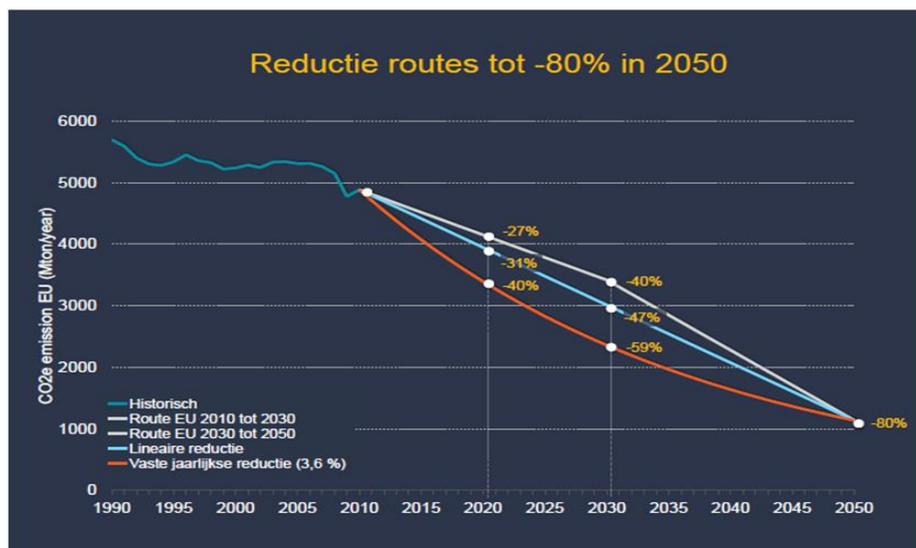
And because we want to focus on the EU policy, we will also delete for now the line that leads to 95% (Sheet 5):



sheet 5

Sheet 5. Reduction route to -80% in 2050.

114. We will now add the blue linear reduction route, as well as the orange reduction route in which a fixed annual reduction percentage is assumed. In the three different reduction routes that we now have, the reduction percentages achieved are stated at 2020 and 2030 (Sheet 6):



sheet 6

Sheet 6. Reduction routes to -80% in 2050.

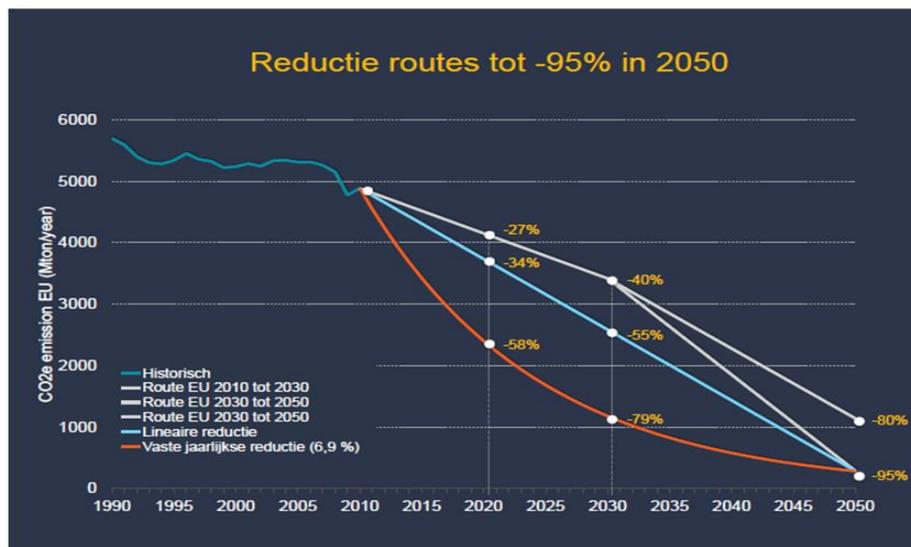
115. The stated reduction percentages in 2020 and 2030 are derived from the calculations entered into evidence as Exhibit U101 and thus convey them exactly. We will be happy to explain these calculations in the second round, should the State or the court feel the need for this. Please note for now that these calculations are based on data obtained from the Environmental Agency and may be retrieved from the agency website as well. A link to the relevant page of the agency has been included in the pleading notes and the page may, if desired, be viewed jointly online later today as well.<sup>19</sup>
116. The orange line in the graph reveals that applying a fixed annual percentage until 2050 will yield a 40% emission reduction in 2020 and a 59% reduction in 2030. This reduction route corresponds generally with the policy in Germany, namely a 40% reduction by 2020 and a 55% reduction by 2030. The difference between the orange and the grey lines obviously conveys the quantity of extra emissions that will be added to the atmosphere up to 2050 and that might be avoided.
117. With the blue linear approach, where the same amount of emissions tonnage is reduced annually until 2050, the reduction in 2020 equals 31% and in 2030 equals 47%. The original climate policy of the Netherlands targeted this 30% in 2020, and the 47% corresponds with the reduction target that the PBL has calculated for 2030.
118. This graph therefore shows that the EU is applying a delayed reduction scenario. It also shows that a 30% reduction in 2020 is the minimum necessary to remain on track to an 80% reduction in 2050. Urgenda believes that the court can also easily require the State to achieve this percentage. Doing less for the 15 years ahead and only starting to accelerate the reductions after 2030 is not the safe reduction path. The urgency and the threat of dangerous climate change are sufficiently serious to require at least an equivalent effort every year from now onward to avert the danger.

---

<sup>19</sup> [http://www.eea.europa.eu/data-and-maps/daviz/greenhouse\\_gas\\_trends\\_and\\_projections#tab-chart\\_1](http://www.eea.europa.eu/data-and-maps/daviz/greenhouse_gas_trends_and_projections#tab-chart_1)

119. This graph is also interesting in that it makes clear once again that achieving 40% in 2030, as the grey line indicates, will require more than a 25% reduction in 2020. This highlights this important point once again.

120. In conclusion, I will emphasize once again that these delaying tactics by the EU are unacceptable, by comparing the intended 40% policy for 2030 with a 95% reduction in 2050. This is conveyed in the following graph (Sheet 7):



sheet 7

Sheet 7. Reduction routes to -95% in 2050.

121. In that case, according to the orange reduction route, an emissions reduction of no less than 58% would need to be achieved in 2020, followed by an emissions reduction of 79% in 2030. With the linear blue reduction route, this would be 34% in 2020 and 55% in 2030, respectively. The graph reveals that the difference in cumulative emissions between the orange and blue lines on the one hand and the 80%-reduction line of the EU on the other hand increases to the extent that more than 80% needs to be reduced in 2050.

122. It has been demonstrated that, although the different reduction paths reach the same point in 2050, one route contributes manifestly more to global warming than the other one. The reduction routes therefore also merit different legal assessments.

123. As is clear from the IPCC reports and is undisputed in this case, the relation between the accumulation of greenhouse gases in the atmosphere and global warming is linear. So the greater the emissions by the Netherlands on the path to achieving a reduction target in 2050, the more the Netherlands will continue adding to the greenhouse gases already accumulated in the atmosphere and the more the Netherlands will contribute to global warming. The route chosen therefore determines how much is contributed to the danger. And given the proximity of dangerous climate change, the Netherlands has a legal duty to do everything possible to curtail its contribution to the warming as much as possible and therefore to opt for the highest possible reduction percentages for 2020 and 2030 within the ranges provided, thereby following the example of Denmark, Germany, Sweden, and the United Kingdom. That is what Urgenda and the co-plaintiffs are claiming.

### **Emissions Gap**

124. In my closing remarks in this case, I will address the global emissions gap already discussed, that is, the observation that the worldwide reductions up to 2020 are insufficient to limit the warming to 2 degrees. On this subject, UNEP has written the well-known Emissions Gap reports, which have already been discussed extensively in this case.

125. In the writ of summons it has already been mentioned that UNEP expects that the Annex 1 countries will average an 18% reduction in 2020, well below what is needed. Based on this disappointing expectation, UNEP has provided new calculations in its Emissions Gap report of 2014.

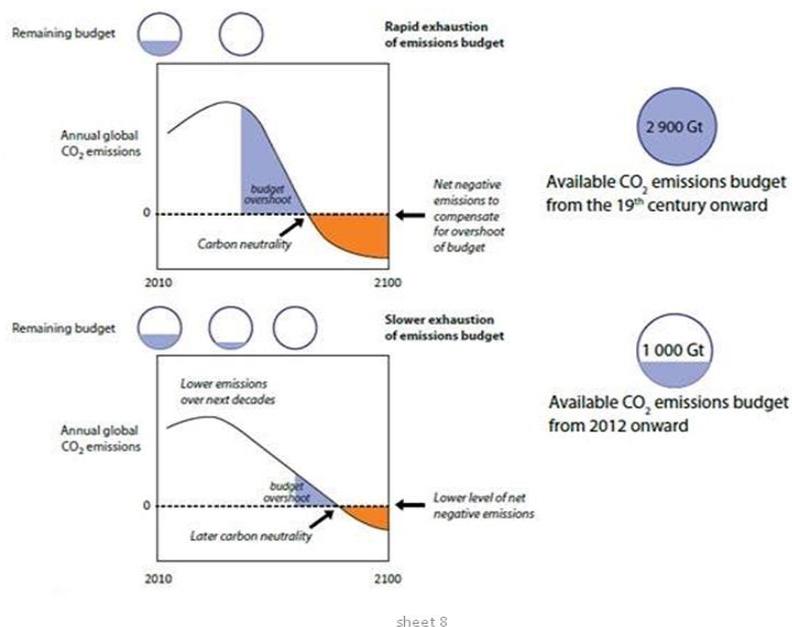
126. These calculations are based on this disappointing expectation and try to mitigate the damage as much as possible through steep drops in emissions from 2020. This effort is unsuccessful. Sadly, UNEP concludes that none of these calculations manages to stabilize the concentration of greenhouse gases in the atmosphere at a level compatible with a maximum warming of 2 degrees. Unless a greater reduction than

expected is realized before 2020 after all, the lost ground will have become too great to be able to catch up after 2020. This shows once again that whatever is reduced before 2020 matters all the more.

127. The picture becomes even grimmer if we realize that the countries that are members of the UNFCCC recognise that based on the best available scientific knowledge, it may be necessary to limit global warming to 1.5 degrees.
128. If we do not reduce what is needed before 2020, then the only solution to stay below 2 degrees of warming will lie in technological advances enabling us to purge greenhouse gases from the atmosphere, and doing this without relevant negative consequences for humankind and the ecosystems, and at costs that are affordable to society. This will mean negative emissions, and Urgenda has already explained in the Statement of Reply that the IPCC is highly sceptical of these unproven technologies.<sup>20</sup>
129. Urgenda has submitted a figure from this UNEP Emissions Gap report of 2014 as Exhibit U103, illustrating the message from UNEP that the new calculations from 2020 all rely to a certain extent on negative emissions to restrict the warming to 2 degrees after all (Sheet 8):

---

<sup>20</sup> See paragraph 502 ff., Statement of Reply.



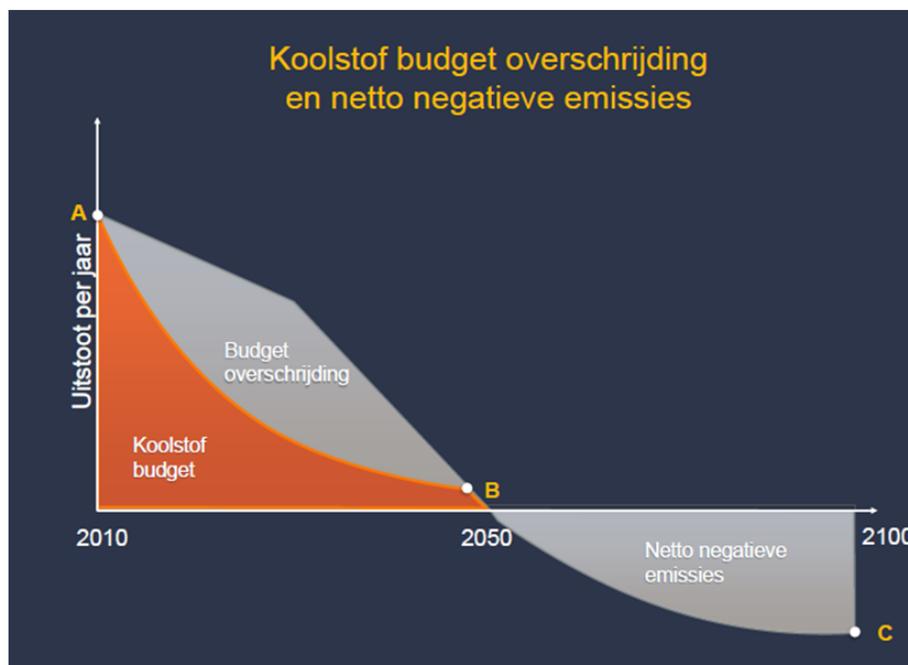
Sheet 8. Available CO<sub>2</sub> emissions budgets.

130. The bubble at the right numbered 2,900 gigatonnes makes clear that since the start of the 19th century, a maximum of 2,900 gigatonnes may be added to the atmosphere to stay below 2 degrees. At present, 1,000 gigatonnes are left.
131. In this case, Urgenda has argued repeatedly, without being contested, that at the current emission level, this budget will last us about another 20 years. That means that we will need to be carbon neutral by around 2035. But those 20 years will not give us enough time to phase out all CO<sub>2</sub> emissions. Precisely for that reason, achieving the greatest possible emissions reductions as quickly as possible is absolutely essential. This takes us to the orange scenarios, because everything we manage to save on the carbon budget in the coming twenty years will be available for use after 2035. This approach will buy us more time to phase out emissions.
132. The top image at the left reveals what happens if we continue at the current pace and do not ensure any reductions. The budget will then indeed be exhausted by around 2035, and, from that moment onward, all emissions for decades will be a carbon debt that will increase global warming (depicted in the blue area) and will need to be

compensated by negative emissions in the second half of this century (depicted in the orange area).

133. The bottom image shows what will happen if we *do* start saving carbon immediately by reducing emissions considerably. This will give us more time before the carbon budget is exhausted. Here too, however, the budget will be insufficient, thereby necessitating negative emissions at the end of the century, albeit to a lesser extent.

134. What holds true for the world holds true for the Netherlands and for the EU as well: our carbon budget will also last us only about another 20 years, and, given the 2-degree objective, we will need to manage this as carefully as possible in order to ensure that some budget still remains after 2035. As mentioned, this requires the greatest possible reductions in the briefest possible time frame, as the threat of having to rely on the possibility of negative emissions as a last resort against a warming that exceeds 2 degrees is already very real. And that takes me to the final sheet (Sheet 9):



sheet 9

Sheet 9. Carbon budget and net negative emissions.

135. Every day that the State fails to follow the orange scenario, a carbon debt accumulates. Only if we achieve major reductions, thereby extending the budget over a longer period, will we have until 2050 or maybe even longer to change our energy system. As long as the State continues to apply a delayed reduction policy, we are living beyond our budget and thus are already increasing our carbon debt, day after day. We are burdening ourselves and our children and grandchildren with this debt, and nobody knows whether and to what extent this debt can ever be repaid and what price will have to be paid for this in both actual and metaphorical terms. Considering the scepticism of the IPCC, it should be assumed that this debt cannot be repaid, rendering a warming of more than 2 degrees self-evident.

136. The consequences of such a warming are a serious threat to humankind and to the legitimate interests of Urgenda and its co-plaintiffs. And it is these interests that they wish to defend and protect here in court today, and they hope, pray, and expect that the court will also protect them from this immeasurably great danger, and that the court will order the State to ensure the necessary and extremely urgent emissions reductions.

R.H.J. Cox, Esq.