

## **The Atmosphere and State Sovereignty: The Call for a Trusteeship Organisation**

David Weitz\*

*More than 30 years have passed since humankind found scientific proof that our greenhouse gas emissions are causing global warming that will have devastating consequences for all living beings on our planet. Unfortunately, our response during these 30 years can until now only be described as inadequate. This article will provide an overview of the most recent developments and examine the direction in which we are heading. Although some progress has been made in recent years, states still generally prioritise their own national economic interests over the global ecological interest in halting climate change. States often refer to their state sovereignty to legitimise these decisions. The article then proposes that the fiduciary relationship between a state and its citizens requires states to establish an Atmospheric Trusteeship Organisation. Although states are sovereign in determining which measures are in their citizens' best interests, this article follows John Locke in arguing that the consent of its people always requires a state to preserve its people. Since certain natural resources are a prerequisite for human existence, states are obliged to protect and preserve those natural resources which are essential for their peoples' survival. Seeing that the atmosphere is a resource shared by all states, the states have to be considered joint trustees, which obliges them to unite in protecting and preserving the atmosphere. Establishing an Atmospheric Trusteeship Organisation would be one way of meeting this obligation and the article will also provide a framework for such an organisation.*

\*The author is currently studying law at the University of Freiburg. The article was written during his exchange visit to Auckland University and submitted as a research paper. The author is grateful for the professional support of Professor Dr Klaus Bosselmann. Email address: DavidWeitz@web.de.

## 1. INTRODUCTION

The atmosphere is a set of gas layers surrounding our planet which coincidentally also is a precondition for life on earth. The atmospheric pressure allows for liquid water and the ozone layer to protect us from harmful ultraviolet radiation. And most importantly in our context, the atmosphere also provides us with the greenhouse effect. The sun's radiation can pass through the atmosphere on its way to earth but the atmosphere traps a portion of the earth's outbound radiation.<sup>1</sup> The greenhouse effect is the heating system of the planet. Without this trapped energy the average temperature on earth would be  $-18^{\circ}\text{C}$ .<sup>2</sup> Without the greenhouse effect, human life, as we know it, would not exist.

Unfortunately, humankind can interfere with this heating system by emitting so-called greenhouse gases (GHGs). Since the 1980s, there has been a scientific consensus that these GHGs reinforce the greenhouse effect and, if their emission is not curbed, will cause a global warming with potentially catastrophic consequences. Despite these findings, anthropogenic GHG emissions increased in 27 out of the last 30 years.<sup>3</sup> Global temperatures have already risen by approximately  $1^{\circ}\text{C}$  compared to pre-industrial levels and their rise is likely to reach  $1.5^{\circ}\text{C}$  if we do not reduce our GHG emissions drastically.<sup>4</sup> The consequences of global warming have been outlined in the *Global warming of 1.5°C* special report by the Intergovernmental Panel on Climate Change (IPCC) in 2018.<sup>5</sup> A higher likelihood of extreme weather events, rising sea levels and the substantial loss of biodiversity are just some of the projected negative impacts that climate change will have.<sup>6</sup> It is evident that preventing a further rise in temperatures is in the best interest of humankind as a whole. Considering that we have been aware of the threat for 30 years, we have to ask ourselves why have we let this happen in the first place? Why have we continued to pollute the atmosphere with barely any regulation at all?

From a legal perspective this failure can be attributed to the fact that we lack an authority which can represent and protect the atmosphere. In most legal

1 William Cline "Scientific Basis for the Greenhouse Effect" (1991) 101 TEJ 904 at 904.

2 At 904.

3 See Le Quéré and others "Global Carbon Budget 2018" (2018) 10 ESSD 2141 at 2160 and following.

4 Intergovernmental Panel on Climate Change [IPCC] "Summary for Policymakers" in *Global warming of 1.5°C: An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* (IPCC, Geneva, 2018) at 6.

5 At 10 and following.

6 At 10 and following.

systems this task would have to be exercised by the owner. Private property allows the owner “to determine how the object shall be used and by whom”.<sup>7</sup> If the atmosphere had one particular owner, they could use this right to protect the atmosphere from any further pollution, but they could also use it to do the complete opposite and exploit the atmosphere for their personal gain. It is probably for the best that the atmosphere does not have one particular owner. Instead the atmosphere is considered to be one of the global commons.

The concept of global commons can be traced back to Roman law and is based on the firm belief that certain areas cannot be possessed by an individual or state: they belong to everyone.<sup>8</sup> Under Roman law “the things which are, by natural law, common to all are these: the air, running water, the sea and therefore the seashores”.<sup>9</sup> Over the centuries, states have strongly limited this original understanding to strengthen their own position by excluding others from exploiting the resources within these commons. Nowadays, there are only two areas which are uncontested global commons: the high seas and the atmosphere.<sup>10</sup> The fact that these areas belong to humankind as a whole, however, does not imply that decisions affecting the atmosphere require a global consensus. States do not assume any legal obligation to protect or preserve these areas. Instead, they are treated as open-access areas which can be exploited by anyone.<sup>11</sup> The consequences of treating a commons as an open-access area have been discussed by Garrett Hardin in his famous article “The Tragedy of the Commons”.<sup>12</sup> According to Hardin, in an open-access area all members of society will try to maximise their own profit from exploiting the resources therein. Since any resource on earth is limited, this will eventually lead to the resource depletion in that area. Ultimately, “Freedom in a commons brings ruin to all”.<sup>13</sup>

Regarding the governance of local commons, Hardin’s theory has been disproved by Elinor Ostrom.<sup>14</sup> Local communities around the world have managed to govern their commons in a sustainable way and for the profit of all. However, the overfishing of the high seas or the pollution of the atmosphere indicate that, on a global level, Hardin’s theory still holds true. This can mainly

7 Jeremy Waldron “What is Private Property?” (1985) 5 OJLS 313 at 327.

8 See Justinian *Institutes* (trans JAC Thomas, Amsterdam, 1975) 2.1.1 at 65.

9 At 65.

10 The other two areas which are often named are outer space and Antarctica but their current status is controversial. See Christy Collis “Territories beyond possession? Antarctica and Outer Space” (2017) 7 TPJ 287 at 287.

11 Klaus Bosselmann *Earth Governance: Trusteeship of the Global Commons* (Edward Elgar, Cheltenham, 2017) at 73.

12 Garrett Hardin “The Tragedy of the Commons” (1968) 162 Science 1243.

13 At 1244.

14 See Elinor Ostrom *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge University Press, Cambridge, 1990).

be attributed to the fact that states act in exactly the way that Hardin predicted people to act: as short-term profit maximisers that first and foremost care about their individual well-being,<sup>15</sup> which to a certain degree is understandable. The reasons why states are considered as sovereigns is based on the doctrine of popular sovereignty: “the notion that the ultimate source of all authority exercised through the public institutions of the state originates in the people”.<sup>16</sup> Since a state’s authority relies on the collective consent of its citizens, the primary responsibility of states is to ensure the well-being of these citizens. From a commons perspective this mindset was unproblematic during medieval times because states did not have the means to overexploit the global commons, even if they wanted to. Nowadays, the negative impacts from interfering with the composition of the atmosphere are already apparent, and if states refrain from establishing a global governance structure for the atmosphere, we will witness what “Freedom in a commons brings ruin to all” means on a global scale.

This article argues that each state is in a fiduciary relationship with its citizens, which as a by-product obliges states to preserve the atmosphere. Due to their inability to protect the atmosphere individually, this fiduciary duty translates into an obligation to establish an institution which can perform the fiduciary duty regarding the atmosphere in their stead. Therefore, states should establish an Atmospheric Trusteeship Organisation which safeguards and protects the atmosphere and which can regulate human emissions in a responsible manner.

Scholars who have written about the fiduciary relationship between a state and its citizens in recent years have often argued that states are fiduciaries of humanity in general.<sup>17</sup> They either derive this result from a Kantian theory

15 See Klaus Bosselmann “Reclaiming the Global Commons: Towards Earth Trusteeship” in Betsan Martin, Linda Te Aho and Maria Humphries-Kil (eds) *ResponsAbility: Law and Governance for Living Well with the Earth* (Routledge, Oxon, 2019) 35 at 43.

16 David Lee *Popular Sovereignty in Early Modern Constitutional Thought* (Oxford Scholarship, Oxford, 2016) at 1.

17 Eyal Benevisti “Sovereigns as Trustees of Humanity: On the Accountability of States to Foreign Stakeholders” (2013) 107 *Am J Int Law* 295; Evan J Criddle and Evan Fox-Decent *Fiduciaries of Humanity* (Oxford University Press, Oxford, 2016) at 14; Himmy Lui “A Fiduciary Perspective on the State’s Duty to Protect the Environment” (2014) 20 *Auckland U L Rev* 101. Fox-Decent has already outlined how their approach requires states to consider themselves as trustees of the atmosphere; see Evan Fox-Decent “From Fiduciary States to Joint Trusteeship of the Atmosphere: The Right to a Healthy Environment through a Fiduciary Prism” in Ken Coghill, Charles Sampford and Tim Smith (eds) *Fiduciary Duty and the Atmospheric Trust* (Ashgate Publishing, Farnham (UK), 2012) 253 at 271.

of trusteeship,<sup>18</sup> or from the concept of human dignity.<sup>19</sup> According to both approaches, the state owes this fiduciary duty not only to citizens but also to non-national subjects.<sup>20</sup> To come to this conclusion, they argue that the sovereignty of a state is not a product of the consent of its people, but rather is derived from the fiduciary duty that a state has towards the subjects under its care. At the current point in time, however, it seems at best questionable whether or not states are willing to accept such obligations towards non-nationals.<sup>21</sup> This article argues that even if the states' fiduciary duty is derived from the conventional theory of popular sovereignty and only encompasses their own citizens, it still obliges them to cooperate in protecting and preserving the atmosphere.

The article will be structured as followed. Although it proposes a global governance structure, part 2 will examine the climate change actions which are employed by local and national governments. These regimes give us an idea of the position of urban and national governments on their responsibility to halt climate change. Part 3 then discusses the fiduciary relationship between a state and its citizens and the implications this relationship has for the preservation of the atmosphere. Part 4 outlines a potential treaty draft for an Atmospheric Trusteeship Organisation and part V concludes the article.

## **2. NATIONAL AND LOCAL CLIMATE CHANGE POLICIES**

It is undisputed among scholars and politicians alike that global warming can only be halted if collective actions are taken, and these actions will undoubtedly be costly. According to the conventional theory of collective action, the concerned parties will either act collectively or not at all.<sup>22</sup> Parties will not take independent steps since these would not have a perceptible ecological impact and would undermine their short-term economic interests. Therefore,

18 Criddle and Fox-Decent, above n 17, at 23; Lui, above n 17, at 102.

19 Benevisti, above n 17, at 300.

20 The biggest difference between the approaches from a practical perspective is the fact that Benevisti (above n 17) assumes that states are obliged to take the interests of foreign stakeholders into account even if they are not within the jurisdiction of that state. Criddle and Fox-Decent (above n 17) also argue that states have fiduciary duties to non-national subjects, but they only extend this duty to foreign individuals who are within the jurisdiction of the respective state.

21 Merely consider the reactions of states around the world to the increasing numbers of refugees.

22 Geoffrey Brennan "Climate change: a rational choice politics view" (2009) 53 *AJARE* 309 at 310; Elinor Ostrom "Polycentric systems for coping with collective action and global environmental change" (2010) 20 *Glob Environ Change* 550 at 551.

a collective strategy is required. With regard to climate change, however, this theory does not seem to apply. Many local and national governments have implemented climate change policies notwithstanding the fact that states until now have not agreed on a collective strategy (unless one considers an agreement which leaves it to the individual state to determine its contribution as a collective strategy). In the following part, this article will provide an overview of these policies and the reasoning behind them with the purpose to examine in which direction the current development is heading.

## 2.1 Local Governments

In the last two decades, cities have appeared to be at the forefront of combating global warming, setting themselves ambitious reduction targets which often exceed the targets of their respective nations. For example, since September 2014 New York City has been committed to reduce its GHG emissions by 80 per cent by 2050,<sup>23</sup> and London established a 60 per cent emissions reduction goal in 2007.<sup>24</sup> The current Mayor Sadiq Khan decided to be even more progressive when enacting a new climate change plan in 2018, which aims for London to become a zero-carbon city by 2050.<sup>25</sup> The global impacts that these reduction measures can have should not be underestimated. In 2016 New York City produced 52 million tonnes of GHGs, which is comparable to Denmark's GHG emissions in 2012.<sup>26</sup> And if the government of London had not managed to decrease London's emissions by 39 per cent since the year 2000, its emissions would have been similar.<sup>27</sup>

While both of these cities are considered to be front-runners,<sup>28</sup> they are not the only cities which are actively trying to reduce their emissions. Several thousand cities, towns and regions are currently members of transnational municipal networks such as the Local Governments for Sustainability (formerly

23 New York City Mayor's Office of Sustainability *New York City's Roadmap to 80 x 50* (September 2016) <<https://www1.nyc.gov/site/sustainability/reports-and-data/publications.page>> at 5.

24 Greater London Authority *Action Today to Protect Tomorrow: The Mayor's Climate Change Action Plan* (2007) at 19.

25 Matthew Taylor "London mayor unveils plan to tackle 'climate emergency'" *The Guardian* (online ed, London, 11 December 2018).

26 See New York City Mayor's Office of Sustainability *Inventory of New York City Greenhouse Gas Emissions in 2016* (September 2017) <<https://www1.nyc.gov/site/sustainability/reports-and-data/publications.page>> at 2; and UNFCCC "Summary of GHG Emissions for Denmark" <[https://unfccc.int/files/ghg\\_emissions\\_data/application/pdf/dnk\\_ghg\\_profile.pdf](https://unfccc.int/files/ghg_emissions_data/application/pdf/dnk_ghg_profile.pdf)>.

27 See Greater London Authority *London Energy and Greenhouse Gas Inventory* (2016) at 2.

28 Jolene Lin *Governing Climate Change: Global Cities and Transnational Lawmaking* (Cambridge University Press, Cambridge, 2018) at 71.

known as International Council for Local Environmental Initiatives/ICLEI), the Covenant of Mayors (CoM) and the C40 Cities Climate Leadership Group.<sup>29</sup> These trans-local networks enable cities to share their experiences in establishing urban climate governance regimes.<sup>30</sup> Perhaps even more importantly, these networks enable cities to communicate at an international level without the interference of their national governments.<sup>31</sup> While state negotiations have often been derailed by distrust and sovereignty concerns, the urban trans-local networks promise to offer a platform where finding pragmatic and innovative solutions is the main focus.<sup>32</sup> Are these networks the first step towards a civil society which recognises the need for strong sustainability and which overcomes notions of nationality and sovereignty as indicated by Barber?<sup>33</sup>

At the current point in time, it seems premature to draw this conclusion. When we examine the reasons for the ambitious targets of urban governments, it becomes clear that cities do not act out of altruistic motives either. Firstly, cities are major contributors of GHG emissions with their share amounting to an estimated 80 per cent.<sup>34</sup> At the same time, however, cities have a high population density and are also often situated in coastal areas, which puts them at high risk of flooding given the rising sea levels and the increase in powerful storms.<sup>35</sup> This vulnerability provides local governments with a very strong incentive to act. Secondly, urban climate change policies are also desirable from an economic standpoint. One of the larger sources of GHG emissions in most cities is buildings which require heat and electricity. Cities can reduce their emissions by constructing energy-efficient buildings and by renovating the inefficient ones, which can be done at a net-cost benefit.<sup>36</sup> Reducing GHG emissions is suddenly not only profitable from an ecological but also from an economic standpoint. These economic benefits played an important role for cities to become active in the early 2000s. In 2003 Kousky and Schneider interviewed officials from 23 municipalities, varying in size and location, and

29 Jeroen van der Heijden "City and Subnational Governance" in Andrew Jorden, Dave Huitema, Harro van Asselt and Johanna Forster (eds) *Governing Climate Change: Polycentricity in Action?* (Cambridge University Press, Cambridge, 2018) at 88.

30 At 88.

31 At 88.

32 See Benjamin Barber *If Mayors Ruled the World* (Yale University Press, Yale, 2013) at 5.

33 At 5.

34 PlaNYC *A Greener, Greater New York* (April 2011) <[http://www.nyc.gov/html/planyc/downloads/pdf/publications/planyc\\_2011\\_planyc\\_full\\_report.pdf](http://www.nyc.gov/html/planyc/downloads/pdf/publications/planyc_2011_planyc_full_report.pdf)>.

35 Lamia Kamal-Chaoui and Alex Robert (eds) *Competitive Cities and Climate Change* (OECD Regional Development Working Papers No 2, OECD, 2009) at 9.

36 See van der Heijden, above n 29, at 84.

found that the economic benefits had been considered as important factors in the decision-making by 18 out of the 23 cities.<sup>37</sup>

Although the growing public awareness of climate change might alter the results of this study if it were conducted today, the importance that economic considerations still have cannot be ignored because so far most local governments have avoided taking steps that have strong tangible impacts on the daily lives of their citizens as much as states have and, if put under closer scrutiny, their ambitions are not as progressive as they appear to be. All but two states under the United Nations Framework Convention on Climate Change (UNFCCC) formulate their targets by comparing them to their emissions in 1990, several years before their emissions peaked.<sup>38</sup> Similarly, some cities, such as London, Stockholm or Seattle, also use 1990 as their base year, while others, such as Paris, Tokyo or New York, have chosen years in the early 2000s, around the time when the emissions in their respective countries peaked.<sup>39</sup> Applying 1990 as the base year for the reduction targets of cities, Bansard, Pattberg and Waldberg found that only two out of the 13 larger transnational municipal networks, the Climate Alliance and the CoM, had higher targets on average than states under the UNFCCC.<sup>40</sup> Moreover, these networks only provide limited information on global urban commitments since the vast majority of cities in these networks are European cities.

The purpose here is not to discredit the efforts of cities or to downplay the important role that cities will have to play in reducing our emissions. The article simply states that the willingness of cities to take progressive steps strongly varies. In 2014, over 70 American mayors were interviewed and asked whether climate change measures should be adopted even if they have negative effects on the economy. Nearly 90 per cent of the larger cities' officials, which are predominantly Democrats, said that they should; with the smaller cities, the share of officials taking that stance dropped to 50 per cent.<sup>41</sup> Less than 30 per cent of the Republican mayors supported the statement.<sup>42</sup> This survey demonstrates that, with local governments, the willingness to act depends as much on their respective circumstances — most importantly on

37 Carolyn Kousky and Stephen H Schneider "Global Climate Policy: Will Cities Lead the Way?" (2003) 3 *Clim Policy* 359 at 361.

38 These two exceptions being Japan and Australia.

39 See Jennifer S Bansard, Philipp H Pattberg and Oscar Wildberg "Cities to the rescue? Assessing the performance of transnational municipal networks in global climate governance" (2017) 17 *Int Environ Agreements* 229 at 239.

40 At 239.

41 Katherine Einstein, David Glick and Katharine Lusk *Mayoral Policy Making: Results from the 21st-Century Mayors Leadership Survey* (Initiative on Cities, Boston University, 2014) at 25.

42 At 25.



the cities' vulnerability to climate change effects and their officials' political affiliations — as it does with national governments.

These findings leave us with a mixed picture. Due to their high emissions, cities have the potential to play an important role in halting climate change. Many cities have recognised this potential and have enacted progressive policies to reduce their emissions. Some even intend to become carbon-neutral by 2025 (Copenhagen) or fossil fuel-free by 2040 (Stockholm).<sup>43</sup> At the same time, however, these cities are not representative of all urban governments. The eagerness of local governments to implement climate change regimes strongly varies and depends on their respective circumstances. The main reason why cities might deserve to be considered as front-runners in combating climate change has less to do with their own actions than with the actions, or the lack thereof, of their respective national governments.

## 2.2 National Governments

While world leaders have not shied away from emphasising that “Man coexists with nature, which means that any harm to nature will eventually come back to haunt man”,<sup>44</sup> that climate change “will define the contours of this century more dramatically than any other”,<sup>45</sup> and that failing to address climate change is not an option since, “Let us face it, there is no planet B”,<sup>46</sup> these words have only partially been followed up by actions. Pursuant to art 3 of the Paris Agreement, “all Parties are to undertake and communicate ambitious efforts”, so-called nationally determined contributions (NDCs), to hold the “global average temperature to well below 2°C above pre-industrial levels and pursu[e] efforts to limit the temperature increase to 1.5°C above pre-industrial levels”. According to the Climate Action Tracker, which monitors the emissions of 31 states including all major emitters, two countries (Morocco and Gambia) have set NDCs which are compatible with achieving the 1.5°C target,<sup>47</sup> and only seven states have goals compatible with an increase of 2°C. Among these seven

43 C40 *Cities leading the way: Seven climate action plans to deliver on the Paris Agreement* <[https://assets.locomotive.works/sites/5ab410c8a2f42204838f797e/content\\_entry/5ab410fb74c4833febe6c81a/5b97d05514ad66062f99bd66/files/C40\\_Report\\_Cities\\_leading\\_the\\_way.pdf?1536675925](https://assets.locomotive.works/sites/5ab410c8a2f42204838f797e/content_entry/5ab410fb74c4833febe6c81a/5b97d05514ad66062f99bd66/files/C40_Report_Cities_leading_the_way.pdf?1536675925)>.

44 Xi Jinping, President of China “Work together to build a community of shared future for mankind” (speech at the United Nations Office, Geneva, 18 January 2017).

45 Barack Obama, former President of the USA “Remarks by the President at UN Climate Change Summit” (New York, 23 September 2014).

46 Emmanuel Macron, President of France (speech to the US Congress, Washington, 25 April 2018).

47 Climate Action Tracker *Climate crisis demands more government action as emissions rise* (Climate Action Tracker, Update, June 2019) <<https://>

there is only one (India) of the six countries which are currently responsible for two thirds of the global GHG emissions.<sup>48</sup> The NDCs of the other five, China, the United States, the European Union (EU), Russia and Japan, are quite underwhelming. If all states had NDCs similar to the NDCs of the EU, China and Japan or the United States and Russia, the temperature would be likely to increase by between 2 to 3°C, above 3°C and above 4°C respectively.

Although these NDCs paint a grim picture, the recent development has also shown a positive trend. During the past years, several countries have either set out policy positions or enacted laws which aim for the countries to be carbon neutral by 2050 or earlier. These countries feature smaller nations like Bhutan, Costa Rica<sup>49</sup> or Fiji<sup>50</sup> and medium-sized states like Sweden,<sup>51</sup> Finland<sup>52</sup> and Iceland but also include two G7 countries, France<sup>53</sup> and the United Kingdom (UK).<sup>54</sup> Another noteworthy development is that of California, which is not technically a country, but if it were, would have the fifth largest economy in the world. On 10 September 2018 Governor Edmund Brown first approved the 100 Percent Clean Energy Act of 2018,<sup>55</sup> which commits California to 100 per cent use of zero-carbon electricity by 2045, and then proceeded to sign an executive order proclaiming that California shall become carbon-neutral by 2045.<sup>56</sup> Although one has to bear in mind that all these states either have very low emissions to begin with or are not reliant on coal as an energy source,<sup>57</sup> such plans nevertheless indicate a shift in national policy-making. For in order to become zero-carbon countries, these states will have to implement policies that address emissions sources that most national governments so far have not

[climateactiontracker.org/documents/537/CAT\\_2019-06-19\\_SB50\\_CAT\\_Update.pdf](https://climateactiontracker.org/documents/537/CAT_2019-06-19_SB50_CAT_Update.pdf) >.

48 See Henrik Müller “Die schmutzigen Sechs” *Der Spiegel* (online ed, Hamburg, 22 September 2019).

49 Government of Costa Rica *National Decarbonization Plan 2018–2050* (24 February 2019).

50 Government of Fiji *Fiji Low Emission Development Strategy 2018–2050* (13 December 2018).

51 Government of Sweden *The Swedish Climate Policy Framework* (Government Offices of Sweden, June 2017).

52 Jon Henley “Finland pledges to become carbon neutral by 2035” *The Guardian* (online ed, London, 4 June 2019).

53 Bate Felix “France sets 2050 carbon-neutral target with new law” (28 June 2019) Reuters <<https://www.reuters.com/article/us-france-energy-idUSKCNITS30B>>.

54 Climate Change Act 2008 (UK) 56 Eliz II c 27.

55 The 100 Percent Clean Energy Act of 2018 PUC §454.53.

56 Governor Edmund Brown, Executive Order B-55-18.

57 See “France’s Overall Energy Mix” Planète Énergies <<https://www.planete-energies.com/en/medias/close/france-s-overall-energy-mix>>; “Electricity Generation” Energy UK <<https://www.energy-uk.org.uk/our-work/generation/electricity-generation.html>>.

dared to regulate because they have a tangible impact on their citizens' daily lives: transportation and agriculture.

We witnessed the consequences of what can happen if a government enacts such a policy in France. The outrage over two fuel taxes which were supposed to finance environmental policies and cumulatively would have increased the petrol price by 7 cents caused the formation of the yellow vest movement in November 2018.<sup>58</sup> On 17 November nearly 300,000 citizens protested against these changes and blocked motorways throughout the country.<sup>59</sup> After four weeks of violent protests, the French Government had to put the tax on hold and increased the minimum wage.<sup>60</sup> Even though their size decreased, the protests went on. After two months of holding local debates with his citizens, the French President, Emmanuel Macron, responded with plans for significant cuts in income tax and more decentralised government in April 2019.<sup>61</sup> During the protests the approval rating of President Macron fell under 30 per cent, and it took nearly a year to get back to 40 per cent.<sup>62</sup> Ultimately, the progressive steps taken by the French Government backfired.

Although many factors had contributed to the formation of the yellow vest movement, its deterrent effect on countries considering more progressive climate change laws has already shown in Germany. The CDU, a centre-right liberal-conservative party, has continuously referred to the protests when justifying their reluctant approach.<sup>63</sup> The new climate change policy that the governing coalition agreed on in September 2019 was immediately deemed highly insufficient by scientists.<sup>64</sup> The German Chancellor, Angela Merkel, defended the policy by saying: "Politics is [doing] what is possible".<sup>65</sup> So can we expect more "business as usual" in the years to come: on the one hand politicians who do what is "possible" and on the other hand scientists who warn them that their conception of "possible" is not enough?

58 "France fuel protest: One dead in 'yellow vest' blockades" BBC News (online ed, London, 17 November 2018).

59 "France fuel protest", above n 58.

60 "France yellow vest protests: Macron promises wage rise" BBC News (online ed, London, 10 December 2018).

61 "France's Macron responds to yellow vest with promise of reforms" BBC News (online ed, London, 25 April 2019).

62 Robert Zaretsky "The remarkable comeback of Emmanuel Macron" *The Washington Post* (online ed, Washington DC, 13 September 2019).

63 "AKK fordert 'nationalen Klimakonsens'" NTV (online ed, Cologne, 12 August 2019).

64 "Großer Wurf? Wissenschaftler kritisieren deutsches Klimapaket" *Frankfurter Allgemeine Zeitung* (online ed, Frankfurt, 21 September 2019).

65 Frank Jordans "German government agrees \$60 billion climate change package" *The Washington Post* (online ed, Washington DC, 20 July 2019).

There are reasons to believe the contrary. It was not a coincidence that the CDU came up with a new concept to halt climate change even though they had postponed it for the past 15 years. The “greening” of the liberal-conservative party occurred after the European elections in May 2019, in which green parties across Europe celebrated their strongest results ever.<sup>66</sup> This outcome strongly correlated with a development that had started a year earlier.

In 2018 Europe was hit by an unusually strong heat wave which lasted the whole summer. Temperature records were broken in several countries, Sweden appealed for international help to deal with over 50 wildfires — a dozen in the Arctic Circle — and the wildfires in Greece killed at least 74 people.<sup>67</sup> One of the causes: an extremely weak jet stream — a side effect of the temperature increase in the Arctic.<sup>68</sup> Climate change had had its first tangible impact in Europe. It has to be noted that despite a lot of scholarly attention, it remains disputed whether or not personal experience of climate change will change people’s opinion on the subject.<sup>69</sup> However, there is a consensus that personal experience increases the global warming risk perception if the individuals already believe in anthropogenic climate change in the first place,<sup>70</sup> and in Europe this correlation is rarely questioned.<sup>71</sup> The heat wave increased public awareness of climate change in Europe, which arguably enabled the ensuing movement to become a global one.

In late August 2018, 16-year-old Greta Thunberg from Sweden started to protest in front of the Swedish Parliament every Friday in order to express her dissatisfaction with the climate change response of her national government. Over time, more and more students identified with her concern and started to protest every Friday as well. The social movement “Fridays for Future” was formed, and the numbers of protesters has grown continuously ever since.

66 See Jon Henley “Greens surge as parties make strongest ever showing across Europe” *The Guardian* (online ed, London, 26 May 2019).

67 See Robin McKie “The big heatwave: from Algeria to the Arctic. But what’s the cause?” *The Guardian* (online ed, London, 22 July 2018); “Greece wildfires: Dozens dead in Attica region” BBC News (online ed, London, 24 August 2018).

68 See E Osborne, J Richter-Menge and M Jeffries (eds) “Executive Summary” in *Arctic Report Card 2018* NOAA <[ftp://ftp.oar.noaa.gov/arctic/documents/ArcticReportCard\\_full\\_report2018.pdf](ftp://ftp.oar.noaa.gov/arctic/documents/ArcticReportCard_full_report2018.pdf)> at 1.

69 Risa Palm, Gregory Lewis and Bo Feng “What Causes People to Change Their Opinion about Climate Change?” (2017) 107 *Ann Am Assoc Geogr* 883 at 885.

70 See Teresa A Myers and others “The relationship between personal experiences and belief in the reality of global warming” (2013) 3 *Nat Clim Change* 343 at 345; Peter Howe and Anthony Leiserowitz “Who remembers a hot summer or a cold winter? The asymmetric belief about global warming on perceptions of local climate conditions in the U.S.” (2013) 23 *Glob Environ Change* 1488 at 1488.

71 Katharine Steentjes and others *European Perceptions of Climate Change (EPCC): Topline findings of a survey conducted in four European countries in 2016* (Cardiff University, Cardiff, March 2017) at 19.

Nearly one year later, on Friday 20 September, four million people in an estimated 185 countries protested against the politicians' reluctance to take serious steps towards halting climate change.<sup>72</sup> While the size of the protests strongly varied from over 100,000 in Berlin, Melbourne or London to a few dozen to a hundred in Kabul, Nairobi and Tokyo, the protests show that young people all around the world call for more progressive climate change action. These protests are also unlikely to stop because to this generation the climate question is not just another topic. It is their future. Going back to "business as usual" is not an option for the protesters, as Thunberg's speech at the UN Climate Summit in September 2019 clearly demonstrated: "You have stolen my dreams and my childhood with your empty words. ... People are suffering. People are dying. Entire ecosystems are collapsing. We are in the beginning of a mass extinction, and all you can talk about is money and fairy tales of eternal economic growth. How dare you!"<sup>73</sup>

The importance of this movement should not be underrated. Climate policy actions by national governments depend on public awareness and on public support for these actions in their respective countries.<sup>74</sup> At least in Europe and the United States public awareness has risen exponentially, and politicians react to it. Since the emergence of the "Fridays for Future" movement, the EU nearly managed to commit itself to carbon neutrality by 2050 had it not been for the three conservative governments of Poland, Hungary and the Czech Republic,<sup>75</sup> and in the United States all major Democratic presidential candidates declared their intent to lead their country into carbon neutrality by 2050 at the latest.<sup>76</sup> The EU and the United States might take a leading role in combating climate change after all. How crucial this would be was showcased during the UN Climate Summit in 2019, where both China and India stated that their willingness to enact more progressive policies depended on the EU and the United States taking a leading role.<sup>77</sup>

In conclusion, national governments have so far failed to appropriately address climate change. Their commitments under the Paris Agreement,

72 See "Climate protests: Marches worldwide against global warming" BBC News (online ed, London, 20 September 2019).

73 Greta Thunberg "Address to the UN Climate Summit" (UN Climate Summit, UN Headquarters, New York, 23 September 2019).

74 Tien Ming Lee and others "Predictors of public climate change awareness and risk perception around the world" (2015) 5 *Nat Clim Change* 1014 at 1014.

75 See Jennifer Rankin "Central European countries block EU moves towards 2050 zero carbon goal" *The Guardian* (online ed, London, 20 June 2019).

76 See Aylin Woodward "What the 10 Democrats running for president each think the US should do about climate change" *Business Insider Australia* (online ed, Sydney, 7 September 2019).

77 See "China and India demand cash for climate action on eve of UN Summit" *Climate Home News* (online ed, London, 17 September 2019).

especially the NDCs of the larger emitters, are insufficient to limit the global temperature increase to under 1.5°C or 2°C. However, because of the pressure applied by the youth climate movement we are currently witnessing a political shift towards more appropriate policies. The movement forces national governments to recognise their obligation to protect and preserve the atmosphere for their citizens and future generations, an obligation which has to be derived from the fiduciary relationship between a state and its citizens.

### 3. STATES AS FIDUCIARIES

The assertion that states owe fiduciary duties to their citizens can be traced back to prominent philosophers of antiquity such as Plato,<sup>78</sup> and his pupil Aristotle,<sup>79</sup> who considered states to be “guardians” of the public good, or to Cicero, who argued that “the administration of the government, like the office of a trustee, must be conducted for the benefit of those entrusted to one’s care, not those to whom it is entrusted”.<sup>80</sup> While this conception was of minor importance in medieval times, when monarchs derived their right to rule from the will of God, it resurfaced when this authority was questioned during the Puritan Revolution in Britain.<sup>81</sup> After John Locke based his state theory on that concept, the Founding Fathers of the American Revolution referred to it regularly to support their republican democracy.<sup>82</sup> While the idea remained relevant in a US context during the early 19th century, it was only occasionally referred to during the late 19th and 20th centuries.<sup>83</sup>

In the following part, this article will first give an overview of the general characteristics of fiduciary duties and their justification; secondly, scrutinise the fiduciary relationship which arises from the concept of popular sovereignty from a Lockean perspective; thirdly, argue that future generations are also beneficiaries of the state; fourthly, examine the implications of this relationship regarding the governance of natural resources; and lastly, argue that the preservation of the atmosphere is covered by this obligation.

78 Plato *The Republic* (trans HDP Lee, Penguin Classics, London, 1961 (1955)) at 71.

79 Aristotle *The Ethics of Aristotle* (trans DP Chase, EP Dutton & Co, New York, 1950) at 123.

80 Cicero “Moral Goodness” in *De Officiis* (trans Walter Miller, Harvard University Press, Cambridge MA, 1913) I.XXV at 87.

81 See Criddle and Fox-Decent, above n 17, at 14.

82 At 14.

83 For a more extensive account of the historical roots of the concept see Robert G Natelson “The Constitution and the Public Trust” (2004) 52 *Buff L Rev* 1077.

### 3.1 Fiduciary Relationships

Fiduciary obligations arise from different mandates in private and public law. Parents are fiduciaries of their children, doctors of their patients, lawyers of their clients, and company directors of their firms. What all these relationships have in common is that “one party (the fiduciary) [is entrusted] with discretionary power over the legal or practical interests of another party (the beneficiary). A fiduciary’s discretionary power is a form of authority that entitles the fiduciary to exercise judgement on the beneficiary’s behalf in relation to her legal or practical interests.”<sup>84</sup> In this exercise of judgement the fiduciary is obliged to act in their beneficiary’s best interest, but has the discretionary power to decide what is in the beneficiary’s best interest. For example, in a parent–child relationship the parent is authorised to determine what is in their child’s best interest. This power, however, is only of a discretionary nature within the limitations of law. In a similar vein, a doctor’s discretion is limited by patient decrees. Their power is discretionary insofar as that fiduciaries can only exercise their power in the absence of more specific instructions.

While fiduciary relationships play a substantive role in our modern world, the legal justification of fiduciary duties is still unresolved.<sup>85</sup> Some scholars derive fiduciary duties from other bases of private liability instead of considering them to be distinctive. Supporters of the contractual approach, for example, argue that fiduciary duties are merely implicit obligations which arise from contracts in which non-experts hire experts.<sup>86</sup> Other scholars offer instrumentalist justifications which regard fiduciary obligations as desirable for moral or public policy reasons.<sup>87</sup> Paul Miller identified the descriptive and normative shortcomings of both these schools and offered a more convincing justification.<sup>88</sup> Miller argues that “the exercise of *power* by one person over another is the object of the fiduciary relationship”.<sup>89</sup> This power has to be understood as authoritative power which is “derived from capacities that are constitutive of the *legal personality* of another individual or group of

84 Criddle and Fox-Decent, above n 17, at 18.

85 At 18.

86 See, for example, John H Langbein “The Contractarian Basis of the Law of Trusts” (1995) 105 Yale LJ 625; Frank H Easterbrook and Daniel R Fischer “Contract and Fiduciary Duty” (1993) 36 J L & Econ 425.

87 See, for example, Paul Finn: “The true nature of the fiduciary principle is revealed in this. It originates self-evidently in public policy. To maintain the integrity and utility in relationships in which the (or a) role of one party is perceived to be the service of the interest of the other, it insists upon a fine loyalty in that service.” Paul Finn “Contract and the Fiduciary Principle” (1989) 12 UNSWLJ 76 at 84.

88 Paul Miller “Justifying Fiduciary Duties” (2013) 58 McGill LJ 969.

89 At 1012 (emphasis in original).

individuals”.<sup>90</sup> The doctor–patient relationship is well suited to exemplify what Miller has in mind. Ordinarily, individuals have the exclusive right to make decisions regarding their own health and physical integrity. Other individuals are prohibited from interfering with this right. In the doctor–patient relationship, however, the doctor is authorised to make decisions regarding the health and physical integrity of the beneficiary on their behalf. This authority is derived from the individual’s consent to the medical treatment and it is limited to that specific patient. Therefore, the doctor’s authority is derived from their patient’s legal capacities.

If the authority is derived “from capacities constitutive of the legal personality of another person, [the power] cannot but be understood as an extension of that other person’s personality. ... Fiduciary power ... is thus properly understood as a means — that is, a way of effectuating one’s purposes — belonging rightfully to the beneficiary.”<sup>91</sup> As such, the fiduciary power can only be used for the advancement of the beneficiary’s interests and their interests alone. Thus, the fiduciary is prohibited from having conflicting interests and in particular from pursuing their personal interest, which does not mean that the fiduciary must necessarily act out of altruistic motives. Doctors and lawyers need an income as much as anyone else. This personal interest is allowed to play a role while negotiating the contract which creates the fiduciary relationship. In the fiduciary relationship itself, however, the fiduciary has to solely pursue the beneficiary’s goals.

This justification of fiduciary duties is preferable since it recognises the importance of human rights. When Miller refers to “capacities constitutive of the legal personality of another person”, these capacities are derived from human rights. The most commonly affected rights are property rights,<sup>92</sup> but as we have seen, capacities might also arise from other rights such as the right to health and physical integrity in the doctor–patient relationship or from children’s rights in the parent–child relationship. Usually the exercise of any capabilities which are derived from these human rights is strictly limited to the respective individual. Fiduciary relationships constitute an exception to that rule. By arguing that the fiduciary can only exercise their given authority to pursue the beneficiary’s goals, it is ensured that the capacities which are derived from the beneficiary’s human rights cannot be abused by the fiduciary. Therefore, a fiduciary relationship should be seen as a relationship in which the fiduciary is enabled to act on the beneficiary’s behalf and in their interest only, since the fiduciary’s authority is directly derived from the beneficiary. Bearing

90 At 1013 (emphasis in original).

91 At 1019–1020.

92 Which inspired some scholars to argue that fiduciary duties are solely derived from private property rights. See, for example, Larry E Ribstein “Are Partners Fiduciaries?” (2005) 1 U Ill L Rev 209 at 215.



this framework in mind, we will now turn to examining the concept of popular sovereignty.

### 3.2 States as Fiduciaries

*The will of the people shall be the basis of the authority of government ...*

*Universal Declaration of Human Rights, art 21(3)*<sup>93</sup>

As showcased in the Universal Declaration of Human Rights, it is the contemporary belief that states derive their authority from their peoples' consent: hence the term "popular sovereignty". This concept originates from the social contract theories of the 17th and 18th centuries.<sup>94</sup> According to these theories, a state's authority stems from the collective consent of its citizens. This article will scrutinise the social contract theory that John Locke offered in his *Second Treatise of Government*.<sup>95</sup>

As was common in his times, Locke starts by imagining the state of nature in which "A man ... is absolutely free to dispose of himself or his possessions".<sup>96</sup> This "absolute" freedom is only restricted by the law of nature. "The state of nature is governed by a law that creates obligations for everyone. And reason, which is that law, teaches anyone ... that because we are all equal and independent, no-one ought to harm anyone else in his life, health, liberty, or possessions."<sup>97</sup> Since the freedom of men is not restricted in any other way and since a man cannot use their freedom to restrict the freedom of others, states cannot be formed without the consent of all individuals. "Men all being naturally free, equal, and independent, no-one can be deprived of this freedom etc. and subjected to the political power of someone else, without his own consent."<sup>98</sup> While the consent of its people is initially required to form the state, Locke recognises that reaching universal agreement on each decision would be "virtually impossible".<sup>99</sup> Therefore, by consenting to form a state, the individual

93 Universal Declaration of Human Rights GA Res 217 A (III), A/RES/3/217 A (10 December 1948), art 21(3).

94 Even though their approaches differ substantially. See, for example, Thomas Hobbes *Leviathan* (Broadview Press, Peterborough, 2002 (1651)); John Locke *Second Treatise of Government* (Alex Catalogue, Raleigh, 2001 (1690)).

95 Locke, above n 94.

96 At §4.

97 At §6.

98 At §95.

99 At §98.

“puts himself under an obligation to everyone in that society to submit to the decisions of the majority, and to be bound by it”.<sup>100</sup>

When we remind ourselves of the characteristics of a fiduciary relationship, in which one party is entrusted with discretionary power over the legal or practical interests of another party, the similarity is apparent. In the state–citizen relationship, we have the state which is entrusted to act on behalf of its citizens. The power of the state is discretionary insofar as that the state can only exercise this power within the boundaries set by the consent of its people. Locke saw this connection, too, and famously assumed that “this is only a fiduciary power to act for certain ends, so that the people retain a supreme power to remove or alter the legislature when they find it acting contrary to the trust that had been placed in it”.<sup>101</sup>

Although Locke identifies four limits to a state’s authority, in the context of this article only his first limitation has to be considered, since his second<sup>102</sup> and fourth<sup>103</sup> restrictions are of a procedural nature and his third limitation, albeit of a substantive nature, is based on such a different framework that it cannot be properly translated into our modern context.<sup>104</sup> His first limitation is that states cannot “have absolutely arbitrary power over the lives and fortunes of the people”.<sup>105</sup> Since a state’s power is derived from the people, the state can only have such power as the people had in the state of nature. Therefore, the state is bound by natural law which “enjoins the preservation of mankind,

100 At §98.

101 At §149.

102 At §136: “the legislature or supreme authority cannot give itself a power to rule by sudden, arbitrary decree”.

103 At §141: “the legislature cannot transfer the power of making laws to any other hands”. This restriction is not necessarily supported nowadays as proven by supranational institutions such as the European Union.

104 The third restriction is that (§138) “the supreme power can’t take from any man any part of his property without his consent”. This limitation has to be viewed in its broader context. In his deliberations regarding the natural law, Locke had assumed that (§31): “The very law of nature [...] sets limits to that property. [...] Anyone can through his labour come to own as much as he can use in a beneficial way before it spoils; anything beyond this is more than his share and belongs to others.” Regarding things which cannot spoil, land and natural resources, the individual could only own as much as there is “enough and as good” left for others. Under this framework, his proscription for states to interfere with the property rights of their citizens makes sense. Since the law of nature already restricts the property rights of the individual, the state should not interfere with these rights. These restrictions of private property have not been adopted by modern societies, and instead the individual is free to own as much as he/she desires (as long as there is no overriding public interest). Due to this fundamentally different framework, Locke’s third limit cannot properly be translated into our modern context.

105 At §135.

and no human sanction can be valid against it”.<sup>106</sup> Notably, Locke did not only formulate this duty to preserve humankind negatively in the sense that the state has to refrain from actions which endanger the preservation. Instead the state has the obligation to actively promote the preservation as it is the “only purpose” of its power.<sup>107</sup>

In our modern context, this limitation is best translated as a duty which proscribes the arbitrary violation of the three core human rights: the right to life, the right to health, and the right to food.<sup>108</sup> Regarding the formulation of these three rights, this article will apply the most minimalistic definitions possible as the preservation of humankind does not require more. Accordingly, the right to life reaffirms that everybody has the right not to be “arbitrarily deprived of his life”.<sup>109</sup> The right to health prohibits others (including the state) from threatening the health of the individual.<sup>110</sup> The right to food is the right to have access to food which is sufficient to satisfy dietary needs.<sup>111</sup> If an individual enjoys these three rights, the individual will be able to survive. Although Locke derived the obligation to preserve these rights from his Christian belief, this does not invalidate his claim. Despite their different cultural heritages, there is no state which actively proclaims that it has the authority to arbitrarily deprive its citizens of these rights.<sup>112</sup> This shows that there is a shared global consensus that states shall not arbitrarily violate the rights to life, health and food of their citizens.

In conclusion, every state’s authority is derived from the people and states thus act as fiduciaries of their citizens. Since this authority is derived from the people, a state is prohibited from using this authority against the interests of its citizens and from arbitrarily depriving them of their rights to life, health and food.

106 At §135. To clarify, Locke supported the death penalty as a punishment for breaking the natural law. See §8.

107 At §135.

108 See Simon Caney “Climate Change, Human Rights and Moral Thresholds” in S Humphreys (ed) *Human Rights and Climate Change* (Cambridge University Press, Cambridge, 2009) at 76; Derek Bell “Does Anthropogenic Climate Change Violate Human Rights?” (2011) 14 *Crit Rev Int Soc Political Philos* 99 at 103; Peter Lawrence *Justice for Future Generations* (Edward Elgar, Cheltenham, 2014) at 38.

109 International Covenant on Civil and Political Rights 999 UNTS 171 (opened for signature 16 December 1966, entered into force 23 March 1976), art 6.1.

110 See Caney, above n 108, at 79.

111 Similar but more extensive see Committee on Economic, Social and Cultural Rights “General Comment 12” XX session (12 May 1999) at 3.

112 See Lawrence, above n 108, at 30.

### 3.3 Future Generations and the Fiduciary Relationship Between a State and its Citizens

*What is the meaning of our life if our decision, our conscious decision, is to reduce the opportunities for our children and grandchildren?*<sup>113</sup>

Ever since our realisation that we might overexploit our natural resources in the 1970s, international environmental agreements have referred to our obligation to preserve our planet for future generations. It is most prominently featured in the definition of sustainable development provided by the Brundtland Report in 1987: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”<sup>114</sup> Since then, national lawmakers have also reacted to this trend and at least 23 states have amended their constitution to feature a reference to future generations.<sup>115</sup> While there appears to be a mutual understanding that humankind has some sort of moral obligation towards future generations, the question whether these obligations are also of a legal nature is controversial. There exist many different approaches to what sort of obligation we have towards future generations and as many objections to each of them.<sup>116</sup> For example, the proposal that future generations enjoy human rights is countered with such concerns as the non-existence problem (can people who do not exist have rights?),<sup>117</sup> the very philosophical non-identity problem (if we make decisions based on one policy, certain people might never exist, but they would have if we had chosen the other policy),<sup>118</sup> or the assumption problem (we might make invalid assumptions about the values of future generations).<sup>119</sup> There is no need to discuss these problems here as this example merely showcases how

113 Adam Wentworth “Macron tells Trump and Congress: ‘There is no Planet B’” (26 April 2018) Climate Action <<http://www.climateaction.org/news/macron-tells-trump-and-us-congress-there-is-no-planet-b>>.

114 World Commission on Environment and Development *Our Common Future* (Oxford University Press, Oxford, 1987) at 41.

115 See Joerg Chet Tremmel “Establishing intergenerational justice in national constitutions” in Joerg Chet Tremmel (ed) *Handbook of Intergenerational Justice* (Edward Elgar Publishing, Cheltenham, 2006) at 187 at 192.

116 See, for an overview, Lawrence, above n 108, at 29–66; Szilárd Tattay “Making Sense of a Nonsense: Representation of ‘Rights’ of Future Generations” (2016) <<https://core.ac.uk/download/pdf/42946505.pdf>>.

117 See, for example, Wilfred Beckerman “The Impossibility of a Theory of Intergenerational Justice” in Joerg Chet Tremmel (ed) *Handbook of Intergenerational Justice* (Edward Elgar Publishing, Cheltenham, 2006) 53 at 55.

118 See Derek Parfit *Reasons and Persons* (Clarendon Press, Oxford, 1984) at 361.

119 See Lawrence, above n 108, at 43.

abstract and formalistic the discussion of a very simple question has become: Should the current generation be allowed to infringe the ability of future generations to live on this planet?

There is presumably a consensus that the answer to this question is “No”. The thought that we have to ensure the well-being of our descendants is inherent in the thinking of all peoples.<sup>120</sup> The difficulties we face when addressing this issue from a legal standpoint result from our human rights system. During the Enlightenment, when our human rights system was established, the priority was to limit a state’s power to negatively impact upon the individual.<sup>121</sup> Therefore, the whole system is designed to empower the individual, which makes it difficult to address collective problems. Our attempts to fix a collective problem, ensuring that our generation leaves this planet in a habitable state for coming generations, in this individualistic system have led to the unproductive abstract discussions we have seen above. That their individualism might eventually threaten our ability to ensure our self-preservation was not envisioned by Enlightenment philosophers. Locke and Rousseau both consider self-preservation to be every human being’s most fundamental desire.<sup>122</sup> For Locke, a people’s consent always implies that the state has to preserve humankind.<sup>123</sup> In a similar vein, the Supreme Court of the Philippines asserted in *Oposa v Factoran* that:

[E]very generation has a responsibility to the next to preserve that rhythm and harmony for the full enjoyment of a balanced and healthful ecology. ... [This] belongs to a different category of rights altogether for it concerns nothing less than self-preservation and self-perpetuation ... the advancement of which may even be said to predate all governments and constitutions.<sup>124</sup>

Under this conception, it is implicit in its peoples’ consent that states also have a fiduciary obligation towards future generations and that future generations are also beneficiaries of the state. This sentiment is widely shared among countries around the world, such as India, the United States or Kenya.<sup>125</sup>

120 Lothar Gündling “Our responsibility to Future Generations” (1990) 84 Am J Int Law 207 at 209; for a comprehensive overview of different justifications thereof see Edith Brown Weiss “The Planetary Trust: Conservation and Intergenerational Equity” (1984) 11 ELQ 495 at 499.

121 Klaus Bosselmann *When Two Worlds Collide: Society and Ecology* (RSVP Publishing Company, Auckland, 1995) at 71.

122 See Jean Jacques Rousseau *Discourse on Inequality* (trans GDH Cole, Digireads.com Publishing, 2018) at 19; Locke, above n 94, at §7.

123 See Locke, above n 94, at §135.

124 *Oposa v Factoran* [1993] PhSC 101083 at 9 (Philippines).

125 See, for example, *Oposa v Factoran*, above n 124; *Reliance Natural Res, Ltd v Reliance Indus, Ltd* [2010] INSC 374 at 97–98 (India); *Peter K Waweru v*

It is the simple recognition of the basic human self-preservation instinct. A people's consent implies that the state has to act in a way that ensures that self-preservation. Therefore, future citizens have to be regarded as beneficiaries of the state and states have to act in their best interest.

### 3.4 A State's Fiduciary Obligation to Preserve Natural Commons

The belief that certain natural resources are of such high importance to the public good that any restriction of their availability, whether it be through privatising or damaging the resource, would be against the best interest of the people can be found in countries around the world.<sup>126</sup> In common law countries this belief is expressed in the public trust doctrine. Trusts are a certain kind of fiduciary obligation in which one party (the trustee) manages the trust property for the benefit of another party (the beneficiary). In the case of the public trust doctrine, a state (trustee) is required to hold certain natural resources which are essential for the survival and welfare of the people (trust property) as a trust for the public beneficiaries, both present and future generations.<sup>127</sup> As trustee, the state has a duty to protect and preserve the natural resources which are encompassed by the doctrine.<sup>128</sup> The resources which are part of the trust property differ in every jurisdiction, but commonly the trust covers at least the navigable waters and the land below.<sup>129</sup>

Whether or not the public trust doctrine also encompasses the atmosphere has been the subject of much controversy, in particular in the United States, where youth organisations initiated legal proceedings in every single state, claiming that the government has a fiduciary duty to protect the atmosphere.<sup>130</sup> In these proceedings, the government persistently opposed the extension of the public trust doctrine to encompass the atmosphere on the grounds that

*Republic* [2006] KeHC 188 (Kenya); *Pub Interest v Hassell* 837 F 2d 158 (Ariz Ct App 1991) at 169 (United States of America).

126 See Charles F Wilkinson "The Headwaters of the Public Trust: Some Thoughts on the Source and Scope of the Traditional Doctrine" (1989) 19 *Envtl L* 425 at 429.

127 Mary Christina Wood and Charles W Woodward "Atmospheric Trust Litigation and the Constitutional Right to a Healthy Climate System: Judicial Recognition at Last" (2016) 6 *Wash J Env'tl L & Pol'y* 633 at 647.

128 See Mary Christina Wood "Advancing the Sovereign Trust of Government to Safeguard the Environment for Present and Future Generations (Part II): Instilling a Fiduciary Obligation in Governance" (2009) 39 *Envtl L* 91 at 94.

129 In the US jurisdiction the doctrine has mainly been applied to water resources but in India or Pakistan nature as a whole is encompassed by the doctrine. For a more extensive overview of the different approaches see Michael C Blumm and Rachel D Guthrie "Internationalizing the Public Trust Doctrine: Natural Law and Constitutional and Statutory Approaches to Fulfilling the Saxion Vision" (2012) 44 *UC Davis L Rev* 741.

130 Wood and Woodward, above n 127, at 643.

the concept had not been extended so far.<sup>131</sup> That these grounds can barely be considered grounds at all becomes evident when we identify the legal basis of the public trust doctrine.

The concept of public trust is ultimately rooted in the fiduciary relationship between a state and its citizens. As seen above, a people's consent always limits a state's power insofar as that a state is never authorised to act in a fashion that jeopardises current or future generations. It is the purpose of the state to ensure the preservation of its citizens. That certain resources are indispensable for our survival is common knowledge: the importance of water in particular has been recognised throughout the ages. It is therefore no surprise that public trust concepts for water can be traced back to the ancient societies of Europe, Africa, Asia and Native America.<sup>132</sup> People have recognised that without access to water, their survival would be threatened and, thus, they have tasked the state to govern it. The public trust doctrine essentially only outlines an aspect of every state's obligation to ensure the preservation of its people. Therefore, the public trust embodies an inherent limit to any state's sovereignty and states are obliged to protect and preserve the natural resources which are essential for their peoples' survival as a trust.<sup>133</sup>

### 3.5 The Public Trust and the Atmosphere

As a consequence, the question whether the atmosphere is encompassed by the public trust depends on whether or not the preservation of the atmosphere is necessary to ensure the well-being and survival of the people. This article will assess the impacts of climate change on the rights to life, health and food by examining the effects climate change has on our food security and on human health.

Apart from the effects of natural disasters which are caused by climate change, recent scientific reports also point out that climate change generally threatens to undermine our food security,<sup>134</sup> and that it has negative impacts on human health "by increasing exposure and vulnerability to climate-related

131 See, for example, *Juliana v United States* 217 F Supp 3d 1224 (D Or 2016) at 1250; *Foster v State Dep't of Ecology* No 14-2-25295-1 SEA (Wash Super Ct, 19 November 2015).

132 See Mary Christina Wood "Advancing the Sovereign Trust of Government to safeguard the Environment for Present and Future Generations (Part I): Ecological Realism and the Need for a Paradigm Shift" (2009) 39 *Envtl L* 43 at 69; Wilkinson, above n 126, at 429.

133 See, similarly, Wood "Advancing the Sovereign Trust ... (Part I)", above n 132, at 45; Gary D Meyers "Variations on a Theme: Expanding the Public Trust Doctrine to Include Protection of Wildlife" (1989) 19 *Envtl L* 723 at 729; *Juliana v United States*, above n 131.

134 RK Pachauri and LA Meyer (eds) *Climate Change 2014: Synthesis Report*.

stresses”.<sup>135</sup> The morbidity and mortality rate is projected to increase as a consequence.<sup>136</sup> The particular risk for each country naturally depends on several factors such as geographic location and levels of development and vulnerability. In the developed, colder, higher-latitude countries the temperature increase will even have some “positive” impacts such as longer crop-growing seasons and a decrease in cold-related mortality. However, these benefits will be heavily outweighed by the negative impacts. Regarding the decrease in cold-related mortality, the subsequent rise of heat-related mortality is generally expected to exceed the lower cold-related mortality.<sup>137</sup> With regard to the longer crop-growing seasons, the Canadian Government points out that “[a]n increase in climate variability and the frequency of extreme events would adversely impact the agricultural industry. A single extreme event (later frost, extended drought, excess rainfall during harvest period) can eliminate any benefits from improved ‘average’ conditions.”<sup>138</sup> It is exactly these impacts that can already be observed in Russia, a country where the belief in positive climate change effects has been quite popular.<sup>139</sup>

Modern technology cannot eliminate these negative impacts, which can be seen from the fact that in Sweden the 2018 heat wave caused the worst harvest since the late 1950s,<sup>140</sup> and it increased the mortality rate by 8.2 per cent compared to its usual level during these months.<sup>141</sup> Although food security in Sweden was not threatened by the heat wave due to imports, this strategy only works as long as other countries have the capacity to export their food. Whether this capacity will still exist in 30 years’ time seems questionable, considering that northern states like Sweden should be the ones whose agriculture suffers the least from climate change.

*Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC, Geneva, 2014) at 13.*

135 O Hoegh-Guldberg and others “Impacts of 1.5°C Global Warming on Natural and Human Systems” in *Global warming of 1.5°C: An IPCC Special Report*, above n 4, at 241.

136 At 241.

137 Wood and Woodward, above n 127, at 241.

138 Donald Lemmen, Fiona Warren, Jacinthe Lacroix and Elizabeth Bush (eds) *From Impacts to Adaptation: Canada in a Changing Climate 2007* (Government of Canada, Ottawa, 2008) at 149.

139 See Nikolai Dronin and Andrei Kirilenko “Climate Change, food stress, and security in Russia” (2011) 11 Reg Environ Change 167 at 167.

140 See “Sweden’s 2018 crop harvest worst since the late 1950’s” (26 October 2018) Bioenergy International <<https://bioenergyinternational.com/feedstock/swedens-2018-crop-harvest-worst-since-the-late-1950s>>.

141 Christofer Åström, Pär Bjelkmar and Bertil Forsberg “High mortality during the 2018 heatwave in Sweden” (21 May 2019) <<https://www.ncbi.nlm.nih.gov/pubmed/31192425>>.



If even the most developed countries located in the most favourable geographical position cannot eliminate the negative impacts on the rights to health, life and eventually food, it can be assumed that climate change will adversely affect the core rights of citizens of all countries. These impacts can already be felt and states are already unable to adapt to these changes. The general projections become even worse with any further increase in temperature. Therefore, it seems more than unlikely that mere adaptation will enable states to ensure that their citizens can enjoy their three core rights. Climate change threatens the survival of citizens of all states. To ensure the well-being of their respective citizens all states have a fiduciary obligation to halt climate change, which requires them to preserve the atmosphere. Thus, the atmosphere is part of the public trust of every state and it is part of a state's fiduciary duty towards its citizens to preserve the atmosphere.

#### 4. ESTABLISHING AN ATMOSPHERIC TRUSTEESHIP ORGANISATION

It is apparent that no individual state can preserve the atmosphere on its own, as the GHG emissions' sources are located all around the world. It would also be presumptuous for one state to assume ownership over something that all people depend on. The atmosphere intuitively belongs to humankind as a whole. As such it has to be considered as a shared resource of all sovereigns. By drawing analogies from private trust law, courts and scholars alike have argued that, regarding shared resources, sovereigns have to be considered as joint trustees.<sup>142</sup> As such they hold the fiduciary powers "jointly and all must unite in their exercise".<sup>143</sup> This elevates the fiduciary obligation from the national to the international level and provides a strong framework for an international obligation for a joint state trusteeship for the atmosphere.<sup>144</sup> In the following part, this article provides a framework for an Atmospheric Trusteeship Organisation (ATO) by (1) proposing a governance structure; and

142 See *United States v 1.58 acres of land situated in the city of Boston, County of Suffolk, Commonwealth of Massachusetts* 523 F Supp 120 (D Mass 1981); Mary Christina Wood *Nature's Trust: Environmental Law for a New Ecological Age* (Cambridge University Press, New York, 2014) at 213; Mary Christina Wood, Stephen Leonard, Daniel Bartz and Nicola Peart "Securing Planetary Life Resources for Future Generations: Legal Actions Deriving from the Ancient Sovereign Trust Obligation" in Michael Gerrard and Gregory Wannier (eds) *Threatened Island Nations: Legal Implications of Rising Seas and a Changing Climate* (Cambridge University Press, Cambridge, 2013) 531 at 543.

143 See Wood *Nature's Trust*, above n 142.

144 See Wood *Nature's Trust*, above n 142.

(2) a mechanism which ensures global participation. By staying as close to state practice as possible, this framework shows that an ATO would not be a revolutionary step but rather the effective implementation of already existing policies.

#### 4.1 Governance Structure

States have already enacted many different policies to reduce their emissions such as employing carbon taxes or establishing emissions trading schemes (ETSs). ETSs in particular have become more and more popular around the world in recent years.<sup>145</sup> Due to its perceived economic efficiency, many countries such as China, Japan or New Zealand, several US states and the European Union as a supranational body have an operating ETS.<sup>146</sup> In an ETS a regulating body caps the total permissible amount of GHGs which can be released within its jurisdiction, divides the cap into small units and distributes these units so they can be bought and sold by emitters. The concept promises to benefit the low-emitting actors since they can sell their units to high-emitting actors. By reducing the cap gradually, the concept will also set an incentive for all industries to reduce their emissions in the long term since the price will rise and it will eventually become unprofitable to buy the units.

There have been many problems with these schemes. For example, the longest-running ETS, the European scheme, not only sets the cap so high that the emissions reduction has been minimal, but also excludes certain sectors from it and permits the offset of emissions if a party invests in projects in developing countries which purportedly cut emissions.<sup>147</sup> However, if the cap is set appropriately and no sectors are excluded, an ETS provides an efficient structure for preserving the atmosphere as a public trust.<sup>148</sup> The precondition thereof is that the caps cannot be set by parties which have an incentive to promote the interests of certain industries which are allocated within their respective states. Politicians' inability to prioritise the preservation of the atmosphere and ultimately the well-being of their own people over short-term economic interests has been showcased in the past 30 years. Therefore, the

145 See Karl Coplan "Public Trust Limits on Greenhouse Gas Trading Schemes: A Sustainable Middle Ground?" (2010) 35 Colum J Envtl L 287 at 296.

146 See International Carbon Action Partnership [ICAP] *Emissions Trading Worldwide: International Carbon Action Partnership (ICAP) Status Report 2018* (ICAP, Berlin, 2018).

147 Friends of the Earth Europe *The EU Emissions Trading System: failing to deliver* (Friends of the Earth Europe, Brussels, nd) <[https://ec.europa.eu/clima/sites/clima/files/docs/0005/registered/9825553393-31\\_friends\\_of\\_the\\_earth\\_europe\\_en.pdf](https://ec.europa.eu/clima/sites/clima/files/docs/0005/registered/9825553393-31_friends_of_the_earth_europe_en.pdf)>.

148 Regarding the compatibility of the public trust doctrine and emissions trading schemes see Coplan, above n 145, at 336.

emissions cap has to be set by an independent body — for example, by an executive board consisting of independent experts.

States have already set up similar bodies after they realised that it was in their interest. Within the World Health Organization (WHO), tasked with attaining the highest health level for all people,<sup>149</sup> the Executive Board consists of health experts, and art 28(i) of the WHO constitution arguably empowers this board to override the decisions of states to suspend the services of the WHO to a certain country in cases of emergency.<sup>150</sup> States have furthermore established the World Trade Organization (WTO), entrusted with providing security and predictability of global trade for the benefit of all states.<sup>151</sup> The decisions of the Appellate Body of the WTO become binding on states if the Dispute Settlement Body adopts them. The adoption of these decisions, however, is the norm since not adopting them requires a unanimous decision of all members.<sup>152</sup> In both examples, independent bodies have the ability to either override the decisions of states or to make binding judgments. They showcase that states are quite capable to empower independent organisations if they recognise that safeguarding certain objectives is in their own interest and only possible through cooperation. In the case of climate change, we find ourselves in the same situation.

Admittedly, the potential economic impact of an ATO's decision would be far more detrimental than those attributable to the WTO's or the WHO's decisions. However, apart from the fact that, from a legal perspective, economic reasoning does not exempt states from their fiduciary obligation and that, from a moral perspective, economic reasoning should generally not play a role in a discussion about our own survival, climate change will also negatively affect our global economy.<sup>153</sup> The Stern Review from 2006 highlights that unabated climate change will decrease global GDP by at least 5 per cent.<sup>154</sup> Since then, the potential damages have only increased although the cost of reducing our carbon emissions has significantly decreased.<sup>155</sup> Ten years after its release, its author Nicholas Stern reiterates that a low-carbon future “is the only one available”

149 Constitution of the World Health Organization 14 UNTS 185 (opened for signature 22 July 1946, entered into force 7 April 1948), art 1.

150 So far the Executive Board has never exercised this power; see Bosselmann, above n 11, at 223.

151 Understanding on Rules and Procedures Governing the Settlement of Disputes, Marrakesh Agreement Establishing the World Trade Organization, Annex 2, 1869 UNTS 401, 33 ILM 1226 (1994), art 3.2.

152 Article 17.14.

153 See Nicholas Stern *The Economics of Climate Change* (Her Majesty's Treasury, London, 2007).

154 At vi.

155 Damian Carrington “10 years from the Stern report: a low-carbon future is the ‘only one available’” *The Guardian* (online ed, London, 27 October 2016).

that leads to prosperity.<sup>156</sup> An ETS in which an independent executive board sets the caps could ensure that we have such a low-carbon future. However, the only way for such an ETS to be effective would be for it to be joined by all states.

## 4.2 Global Participation

Reaching a global agreement has historically been the biggest problem in international environmental law. The susceptibility of governments to short-term economic reasoning has jeopardised many negotiations for environmental treaties, which only show their effect in the long term.<sup>157</sup> One can be assured that the establishment of an ATO would face similar issues.<sup>158</sup> Although this short-term economic thinking has been very problematic in the past, it also hints at the solution. Given that states prioritise their own economic interests, the treaty has to ensure that free-riding is disadvantageous to anyone.

One way of achieving this objective was showcased by the Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol). The Montreal Protocol was enacted in 1987 and has so far been very successful in achieving its goal, phasing out ozone-depleting substances (ODSs). To prevent free-riding, art 4 enacted a trade ban for ODSs with countries which are not party to the treaty.<sup>159</sup> ODSs were predominantly produced in the developed countries which negotiated the treaty, but at the same time every state required them.<sup>160</sup> Furthermore, the Protocol did not only wield a powerful stick but also offered carrots by providing technical (art 10) and financial (Multilateral Fund)

156 Carrington, above n 155.

157 See Klaus Bosselmann and J Ronald Engel "Introduction" in Klaus Bosselmann and J Ronald Engel (eds) *The Earth Charter: A Framework for Global Governance* (KIT, Amsterdam, 2010) 15 at 15.

158 The United States and Brazil currently doubt the need for climate change action and the United States in particular has historically blocked any advancement towards trusteeship governance unless it recognised a personal economic benefit. See Editorial Board "Without the Amazon, the planet is doomed" *The Washington Post* (online ed, Washington DC, 6 August 2019); Klaus Bosselmann and Pushpa Lakshmanan "The Atmosphere as a Global Commons and Cleansing it with New Energy Options" in Usha Tandom (ed) *Energy Law and Policy* (Oxford University Press, New Delhi, 2018) at 161.

159 Montreal Protocol on Substances that Deplete the Ozone Layer 1552 UNTS 3 (opened for signature 16 September 1987, entered into force 1 January 1989), art 4.

160 See Duncan Brack "The Use of Trade Measures in the Montreal Protocol" in Philippe G Le Prestre, John D Reid and E Thomas Morehouse Jr (eds) *Protecting the Ozone Layer: Lessons, Models, and Prospects* (Springer Science+Media, New York, 1998) 99 at 102; Elizabeth DeSombre "The Experience of the Montreal Protocol: Particularly Remarkable, and Remarkably Particular" (2000) 19 *UCLA J Envtl L & Pol'y* 49 at 69.

assistance. As a consequence, free-riding became unattractive and the cost-benefit analysis required states to become parties to the treaty.<sup>161</sup> The Montreal Protocol has thus been implemented by almost all states.

This concept naturally only works in a constellation with an asymmetric distribution of power.<sup>162</sup> The states promoting such a treaty need the leverage to provide a powerful stick while being able to offer convincing carrots. With regard to climate change, such a constellation does not exist. The major GHG emitters which would have the power to enforce such a treaty, like the United States, the EU, Russia and China, currently suffer the least under the consequences of their inaction.<sup>163</sup> Instead, the consequences are primarily borne by developing countries which are the least responsible for climate change.<sup>164</sup> It is therefore no surprise that most developing nations have urged more immediate climate change action. Unless the major emitters recognise their responsibility to act, however, the establishment of an ATO is more than unlikely since free-riding would still be a feasible option. On the other hand, if three or four of them decided to act, a trade ban could most likely even force the other major emitters to join in. This consensus would be imperative for the success of the ATO, as it could hardly be effective if it does not operate on a global level.

## 5. CONCLUSION

Climate change will, as Barack Obama phrased it, undoubtedly “define the contours of our century more dramatically than any other”.<sup>165</sup> Whether or not states will eventually react appropriately to this threat is currently still uncertain. From a legal perspective, states are obliged to act and cooperate. Even if one approaches the question from the perspective of the smallest common

161 Brack, above n 160, at 102.

162 Scott Barrett *Environment and Statecraft: The Strategy of Environmental Treaty-Making* (Oxford University Press, Oxford, 2003) at 351; Andrew Pfluger “Why the Montreal Protocol Is Not a Template for Multilateral Environmental Agreements” (2010) 43 *Middle States Geographer* 96 at 100.

163 With the exception of India which is also the most progressive among the major emitters; see Climate Action Tracker, above n 47.

164 A study estimated that the historical greenhouse gas emissions until 2012 from the United States of America, China and the European Union (EU) alone will be responsible for 50 per cent of global warming in 2100. Marcia Rocha and others *Historical Responsibility for Climate Change — from countries emissions to contribution to temperature increase* (Climate Analytics Report, November 2015) at 3.

165 Barack Obama “Remarks by the President at UN Climate Summit” (UN Climate Summit, UN Headquarters, New York, 23 September 2014).

denominator, which is that states only have to take their own citizens into consideration, this obligation is apparent. States owe a fiduciary duty to their citizens, which requires them to ensure the self-preservation of their peoples. As climate change ultimately threatens the self-preservation of all peoples, all states owe their respective citizens more effective climate change policies at a national level. At an international level, their joint trusteeship requires them to cooperate and unite their efforts to halt climate change. Establishing an ATO would be one way of meeting this obligation.

The time to act is limited by now, but it is not yet too late, and there remain reasons for hope. The youth climate movement is unlikely to stop unless feasible results can be shown, and it has already had a positive influence on the political landscape in many states. With the US presidential election in 2020 providing a political change, the United States and the European Union might finally assume the leadership that they owe to the world. China and India have generally shown willingness to act as long as the developed countries take this leadership and even Russia has recently shown a slight shift in policy.<sup>166</sup> Although 30 years too late, the powerful nations might finally come to realise that the time for action has come.

166 Russia officially joined the Paris Agreement and it is furthermore expected that the government will introduce a new emissions law within 2019; see Leonid Bershidsky “Even Putin is Now Worried About Climate Change” Bloomberg (Bloomberg online, 24 September 2019).