

## **"Current regulatory approaches to Net Zero are ineffective in addressing the climate crisis."**

### **Introduction**

On December 12 2015, in Paris's State De France, UN Secretary-General Ban Ki-Moon declared the COP21 Climate Summit closed. The crowd leapt to their feet, strangers embraced, and an outpouring of emotion more typical of a sports event was seen.<sup>1</sup> Delegates jubilation came from the belief the Paris Agreement they crafted through weeks of negotiations would end the risk of climate change. In short, they believed they had rescued our planet from global warming by committing to the goal of "Net-Zero". These celebrations however were premature.

While the goal of achieving Net-Zero by 2050 was agreed as vital prior to COP21,<sup>2</sup> it has since become clear meeting this is at best unlikely, at worst impossible. Both academics recording the worsening climate crisis,<sup>3</sup> and policy makers attempting to implement the 2050 goal have acknowledged how improbable it truly is.<sup>4</sup>

The principal cause of temperatures continuing to rise despite the supposedly historic agreement, is that regulatory approaches to Net-Zero by the Paris Agreement and national legislation flowing from it are conceptually flawed. By accident or design they merely uphold the status-quo while proposing unrealistic fixes or non-existent technologies to deal with environmental issues, and provide zero oversight. Until these points are recognised and efforts are made to truly address climate change we face an uncertain and dangerous future.

### **What is Net-Zero Anyway?**

In the most reductive analysis Net-Zero means zero emissions. This leads to asking, 'what emissions and why?' The answer CO2 comes from a series of research papers showing the impact of fossil carbon emissions, and the linear relationship of anthropogenic CO2 emissions and CO2-induced surface warming.<sup>5</sup> The science tells us that when anthropogenic CO2 emissions halt, CO2 induced warming will also.<sup>6</sup>

The need to prevent a rise in temperature is urgent. Extreme weather already observed is only one of the effects of climate change. A failure to keep to the Paris Agreements target of no greater than a 2 degree increase in global temperature by 2050 has the potential to cripple food production causing potential famine, drought, and death. It could result in destruction of property, infrastructure and transportation, and have far-reaching economic consequences.<sup>7</sup>

---

<sup>1</sup> Joshua Melvin - "Tears, cheers and selfies as climate pact sealed in Paris" - (*Agence France-Presse, 12 December 2015*) TRANSLATED FROM ORIGINAL < <https://news.yahoo.com/tears-cheers-selfies-climate-pact-sealed-paris-231205305.html> > accessed 19 April 2022

<sup>2</sup> See for example Eric Haites, Farhana Yamin and Niklas Höhne, "Possible Elements of a 2015 Agreement to Address Climate Change", (2014) - *Carbon & Climate Law Review 2014* - Vol. 8 No. 1 Special Issue on Process Principles and Architecture of the Post-2020 Climate Regime - Part II - (2014), pp. 3-12 - page 3

<sup>3</sup> Carbon Brief Staff, "In-Depth: Experts assess the feasibility of 'negative emissions' (*Carbon Brief, 12 April 2016*) < <https://www.carbonbrief.org/in-depth-experts-assess-the-feasibility-of-negative-emissions> > accessed April 19 2022 - See also the report "The Global Energy Agenda" - Chapter III Climate Change, Decarbonisation, and The Energy Transition, Jan 1 2021, pp. 36-50, Page 40, Mary Nichols and Mohammad Al Ramahi - "Only 6 percent of those surveyed consider it very likely or certain that the world will reach net-zero by 2050" < <https://www.jstor.org/stable/resrep30949> > accessed April 20 2022

<sup>4</sup> See the statement of the Environmental Audit Committee Chairman, Rt Hon Phillip Dunne MP, in the article 'Net Zero impossible unless urgent action taken on energy efficiency this decade' (*UK Parliament - Environmental Audit Committee, 22 March 2021*) < <https://committees.parliament.uk/committee/62/environmental-audit-committee/news/152918/net-zero-impossible-unless-urgent-action-taken-on-energy-efficiency-this-decade/> > accessed 19 April 2022

<sup>5</sup> See Solomon, S., Plattner, G.-K., Knutti, R. & Friedlingstein, P. Irreversible climate change due to carbon dioxide emissions. *Proc. Natl Acad* pp. 1704-1709 (2009) < <https://www.pnas.org/doi/10.1073/pnas.0812721106> > accessed 20 April 2022, along with Archer, D. Fate of fossil fuel CO2 in geologic time. *Journal of Geophysical Research, Oceans* p 110, (2005) < <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2004JC002625> > accessed April 20 2022

<sup>6</sup> Comprehensively addressed by Matthews, H., Gillett, N., Stott, P. *et al*. The proportionality of global warming to cumulative carbon emissions. *Nature* 459, 829-832 (2009). < <https://doi.org/10.1038/nature08047> > accessed 20 April 2022

<sup>7</sup> Observed by Janković, V., & Schultz, D. M. (2017). Atmosfear: Communicating the Effects of Climate Change on Extreme Weather. *Weather, Climate, and Society*, 9(1), 27-37. < <https://www.jstor.org/stable/26388194> > accessed on April 21 2022

However, while Net-Zero includes the word 'zero', its prefix 'net', represents a parity between carbon emitted into the atmosphere, and that removed from it, meaning Net-Zero is not *actual* zero emissions.<sup>8</sup> This approach is based on the principle that no matter how much we attempt to cut emissions, there will be small amounts of CO<sub>2</sub> from sources such as agricultural processes.<sup>9</sup>

### **The Fundamental Problem With (this) Net-Zero**

Scientific evidence agrees there will always be some sort of CO<sub>2</sub> output.<sup>10</sup> Unfortunately though, the Paris Agreement has permitted the use of carbon trading to combat emissions.<sup>11</sup> The problem with carbon trading, where government and corporate entities buy and sell carbon 'units' to offset their emissions, is that it is not workable in the context of Net-Zero. Simply, if one entity continues producing carbon, there are no emission reductions.<sup>12</sup>

We also know from scientific evidence that decarbonisation and converting industry to renewable energy sources is not enough, and that legacy Greenhouse Gas emissions must be removed from the atmosphere.<sup>13</sup> Here the current approach to Net-Zero displays its second major issue, as the approach proposed to eliminate extant emissions are Negative Emissions Technologies (NET's).<sup>14</sup> Sadly these are not plug and play devices. Rather they are a range of technologies that cumulatively *can* assist with removal of atmospheric carbon, by solutions such as afforestation, none of which exist at scale yet.<sup>15</sup> With half the NET's incorporated into accepted Net-Zero calculations not having been invented.<sup>16</sup>

For further demonstration of how unrealistic NET's and Net-Zero pledges are at the current law, we can look towards Shell Oil's Net-Zero goals by afforestation. The land required to meet them is three times the size of the Netherlands, and there is not enough land available on the face of the Earth for all "Nature Based Solutions".<sup>17</sup>

### **The Regulatory Problem With (this) Net-Zero**

A macro assessment of the Paris Agreement identifies the overriding objective that countries tackle rising temperature. More formally the Agreement, sets the goal of staying "well below" a 2 degree temperature increase.<sup>18</sup>

Yet qualifying terms give parties flexibility and discretion on how, or indeed if, they should implement provisions, and the Agreement gives no legal weight to enforcing its goal. Rather, the only obligation on States is to prepare and present a Nationally Determined Contribution (NDC), and update and enhance it at five yearly intervals.<sup>19</sup> These are in effect detailed plans of how a treaty-party will meet

---

<sup>8</sup> Paris Agreement, 2015, Article 4, section 1

<sup>9</sup> See the IPCC report on this, IPCC, 2018: 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 [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. World Meteorological Organization, Geneva, Switzerland, 32 pp, page 27

<sup>10</sup> see IPCC 2018 report (footnote 9), page 4

<sup>11</sup> Paris Agreement, 2015, Article 6

<sup>12</sup> See "Chasing Carbon Unicorns: The Deception of carbon Markets and Net Zero" *Friends of The Earth* February 2021 < <https://www.foei.org/wp-content/uploads/2021/04/Friends-of-the-earth-international-carbon-unicorns-english.pdf> > accessed 23 April 2022

<sup>13</sup> See IPCC 2018 report (footnote 9) - page 10

<sup>14</sup> Sabine Fuss et al. 'Betting on negative emissions' (2014) *Nature Climate Change* 4, 850-853

<sup>15</sup> See "BECCS deployment: a reality check" *Grantham Institute Briefing Paper No 28, January 2019*, < <https://www.imperial.ac.uk/media/imperial-college/grantham-institute/public/publications/briefing-papers/BECCS-deployment---a-reality-check.pdf> > accessed 23 April 2022

<sup>16</sup> John Kerry admitted this at a press conference in 2021 - Jessica Murray, 'Half of emissions cuts will come from future tech, says John Kerry'; (*The Guardian* 16 May 2021) < <https://www.theguardian.com/environment/2021/may/16/half-of-emissions-cuts-will-come-from-future-tech-says-john-kerry> > accessed 24 April 2022

<sup>17</sup> The report by Action Aid showed this reporting on Shell Oil's 2030 goal < [https://actionaid.org/sites/default/files/publications/Not-Their-Lands\\_Media%20Briefing.pdf](https://actionaid.org/sites/default/files/publications/Not-Their-Lands_Media%20Briefing.pdf) > (17 May 2021) accessed 22 April 2022

<sup>18</sup> Paris Agreement, 2015, Article 2 (1)

<sup>19</sup> Paris Agreement, 2015, Articles 4.2 and 4.12, paras 22 and 29

the Net-Zero goal. Yet, the Agreement does not specify content of, or adherence to, NDC's, meaning these self-generated documents are not legally binding.<sup>20</sup>

This regulatory approach was shown to be a failure at COP26 in 2021, the deadline for the first round of NDC's. Plans from China showed they would ramp up coal production, forced the summit to water down language from 'phasing-out', to 'phasing-down' emissions.<sup>21</sup> This final point caused tears, not of joy as at COP21, but rather deep sadness.<sup>22</sup>

Beyond the treaty, at the national level, aside from hyperbolic press-releases, little action on climate change is being taken. Of the 193 countries that adopted the Paris Agreement, to date only 14 have passed legislation binding them to Net-Zero targets.<sup>23</sup> A state of affairs yet more problematic when significant parties discredit it by withdrawing and rejoining the Paris Agreement for political clout.<sup>24</sup> Further some governments even appear to resent decisions made in line with their own Net-Zero legislation.<sup>25</sup> While, other State's claim to be committed to Net-Zero yet refuse to regulate use of fossil fuels.<sup>26</sup>

The evidence by way of continued increase in emissions, and temperature rises, is clear, current Net-Zero regulation is incapable of halting climate change.<sup>27</sup> This fact has not gone unnoticed by groups interested in preventing climate change. Some have taken action directly, initiating legal challenges against Net-Zero plans called 'pie-in-the-sky' and 'greenwashing'.<sup>28</sup> With others merely levelling criticism, such as Friends of the Earth who called the current form of Net-Zero "deceptive".<sup>29</sup>

## **A Solution?**

Even voices as loud as that of activist Greta Thunberg accept Net-Zero targets are not the problem, but rather the weak regulation and usage of these as an excuse to postpone real action. What is first needed is, as Dr Foley suggested 'better climate pledges'.<sup>30</sup> The current Net-Zero pledges are largely meaningless, or worse represent accounting tricks for public-relations purposes.<sup>31</sup> Until a mechanism truly holds State and corporate actors accountable it may be better to call it "Not-Very-Likely-Zero". In the case of corporate emissions measures forcing compliance and accountability is particularly important, as just 100 companies are responsible for 71% of global emissions since 1988.<sup>32</sup>

---

<sup>20</sup> See Bodle, R., Donat, L., & Duwe, M. (2016). The Paris Agreement: Analysis, Assessment and Outlook. *Carbon & Climate Law Review*, 10(1), page 13 5–22. < <http://www.jstor.org/stable/43860128> > accessed on 24 April 2022

<sup>21</sup> See the Institute of Energy Research - December 14 2021 - "the failure of Cop26" < <https://www.instituteforenergyresearch.org/climate-change/the-failure-of-cop26/> > accessed April 25 2022

<sup>22</sup> COP23 - (the Guardian Sunday 14 November 2021) < <https://www.theguardian.com/environment/video/2021/nov/14/i-am-deeply-sorry-alok-sharma-fights-back-tears-as-watered-down-cop26-deal-agreed-video> > accessed 25 April 2022

<sup>23</sup> See the Energy and Climate Intelligence Unit "Net Zero Emissions Scorecard" < <https://eci.net/netzerotracker> > accessed April 24 2022

<sup>24</sup> As the United States formally did under the Trump administration - Matt McGrath, "Climate change: US formally withdraws from Paris agreement" (*BBC News*, 9 December 2015) < <https://www.bbc.co.uk/news/science-environment-54797743> > accessed 24 April 2022 - rejoining under the Biden administration in 2021 - US Department of State - Press Release - < <https://www.state.gov/the-united-states-officially-rejoins-the-paris-agreement/> > accessed 24 April 2022

<sup>25</sup> See the Heathrow judgment of February 2020 where the Court of Appeal ruled that the governments policy statement in favour of Heathrow expansion was unlawful in line with the Climate Change Act 2019, which was then criticised by the Government as 'undemocratic judicial activism' - Institute for Government - Comment - Raphael Hogarth - 27 February 2020 - < <https://www.instituteforgovernment.org.uk/blog/court-appeal-heathrow-unlawful> > accessed April 24 2022

<sup>26</sup> See Australia which has refused to legislate its coal industry - Reuters - October 26 2021 - < <https://www.reuters.com/business/cop/australia-unveil-2050-net-zero-target-ahead-un-climate-summit-2021-10-26/> > accessed 24 April 2022

<sup>27</sup> See Compagnon, D. (2019). Governing a Mirage? False Promises of Negative Emissions Technologies. *Carbon & Climate Law Review*, 13(2), page 106 104–112. < <https://www.jstor.org/stable/26739657> > accessed 22 April 2022

<sup>28</sup> The Good Law Project have launched a case to challenge the legality of the Climate Change Act 2019 and the Government's Net Zero commitment < <https://goodlawproject.org/news/net-zero-we-have-a-court-date/> > and ClientEarth have done the same < <https://www.clientearth.org/latest/press-office/press-clientearth-sues-uk-government-over-pie-in-the-sky-climate-strategy/> > accessed 24 April 2022

<sup>29</sup> See footnote 12 FOTE report - page 1

<sup>30</sup> Project Drawdown, Dr Jonathan Foley, June 16 2021 - "The World needs Better Climate Pledges: < <https://globalecoguy.org/the-world-needs-better-climate-pledges-4c3d969790d3> > accessed 25 April 2022.

<sup>31</sup> See journalism of Matthew Vincent reporting on this, for example HSBC's net-zero 'ambition' - (The Financial Times) - November 30 2020 < <https://www.ft.com/content/83edfedd-77e7-4877-a016-b00b6b6d0307> > accessed 25 April 2022

<sup>32</sup> Tess Riley - (The Guardian) - Monday 10 July 2017 - "Just 100 companies responsible for 71% of global emissions, study says" < <https://www.theguardian.com/sustainable-business/2017/jul/10/100-fossil-fuel-companies-investors-responsible-71-global-emissions-cdp-study-climate-change> > accessed on 25 April 2022

Secondly, the use of carbon offsets must either be completely abandoned, or heavily regulated within a holistic framework, front loading emissions reduction, cautiously using CO2 removal technologies, and aligning with broader socio-ecological objectives.<sup>33</sup> As they currently stand carbon offsets are little more than a money-making vehicle with the added benefit of a green coloured smokescreen.<sup>34</sup>

Finally, an unpopular economic reality must be faced by administrations and individuals collectively. This will get expensive fast. One estimate suggests meeting Net-Zero by 2050 will cost £1.4 trillion.<sup>35</sup> However, the cost of doing nothing is far greater, with reports suggesting a 4 degree temperature rise by 2100 would result in a 23% per-capita fall in GDP globally,<sup>36</sup> and debt spiralling to 290% of GDP.<sup>37</sup> Viewed through this lens, a cost of 0.4% of GDP to meet Net-Zero is remarkably low.

## **Conclusion**

Net-Zero as applied through the current regulatory approach is conceptually flawed, possibly intentionally, and is being utilised by States and corporations to greenwash their carbon emissions, and is incapable of addressing the climate crisis.

This is entirely predictable, as the lack of accountability the Paris Agreement provides, along with dubious mechanisms it permits, leave the door wide open for “business as usual”. A sentiment which filtered down to instruments at national level.

We must face the frightening reality that if we do not pay the price in the short-term in pursuit of carbon reduction we cannot avoid destruction of the environment. This should be ‘sold’ to climate-change deniers whose market-based mindset is responsible in large part for much of the carnage as a least-worst-case scenario. Because as a simple practical consideration, if CO2 emissions are not reduced meaningfully the long-term economic cost will certainly be far higher.

**Word count : 1,460**

---

<sup>33</sup> See for example Fankhauser, S., Smith, S.M., Allen, M. *et al.* The meaning of net zero and how to get it right. *Nat. Clim. Chang.* **12**, 15–21 (2022). < <https://doi.org/10.1038/s41558-021-01245> > accessed April 25 2022

<sup>34</sup> Tess de la Mer - Evening Standard - “Carbon offsetting a ‘smokescreen’ to avoid real climate action – rights groups” < <https://www.standard.co.uk/news/uk/carbon-actionaid-cop26-greenpeace-glasgow-b964966.html> > accessed 25 April 2022

<sup>35</sup> See the Office for Budget Responsibility - Fiscal Risks Report - July 2021 - < [https://obr.uk/docs/dlm\\_uploads/Fiscal\\_risks\\_report\\_July\\_2021.pdf](https://obr.uk/docs/dlm_uploads/Fiscal_risks_report_July_2021.pdf) > - page 107 - accessed 25 April 2022

<sup>36</sup> Researched extensively and found at Burke, M., Hsiang, S. & Miguel, E. Global non-linear effect of temperature on economic production. *Nature* 527, 235–239 (2015). < <https://doi.org/10.1038/nature15725> > accessed April 25 2022

<sup>37</sup> See footnote 35 - page 88