

Carbon Crimes

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WHEN DOES A HARM BECOME A CRIME?

Social media users will no doubt be familiar with the increasingly familiar campaigns by cyclists in Dublin to highlight illegal parking on cycle-lanes or dangerous driving. Despite being chided by the Garda traffic bureau, the campaigners share videos and photographs that highlight non-compliance with traffic regulations that put cyclists and pedestrians at risk. Maybe Ireland is peculiar in this respect, but we have a selective attitude to complying with the law, and the Garda Síochána have a similarly selective approach to enforcing it when it comes to traffic violations. For instance, cars are not regularly confiscated when they block cycle lanes, unlike e-scooters. When put under public pressure, enforcement activities by the Gardaí increase. Otherwise, however, everyday hazards and offences go unpunished. We are used to this way of things. We put up with intolerable congestion and related social and environmental risks because our behavioural norms have not yet shifted to consider car-drivers as “deviant” rather than “normal”.

There’s no doubt that there are currently more cars than bikes on the road,¹ and that drivers hold more political clout as a result. But that, precisely, is the problem. The car-dependent paradigm is so normal it makes policy-makers and enforcement agencies reluctant, and sometimes unable, to act in the common interest of everyone, including the car-drivers themselves (we are all pedestrians at some point in our journey). Giving priority to public transport, cyclists and pedestrians over cars is viewed as such a radical proposition that in fact Dublin now boasts the title of being the 6th most congested city in Europe, and the 14th most congested in the world.²

Why do some crimes get punished but not others? Legal theorists define a crime within relatively narrow legal frameworks. A crime is whatever the law determines it is, but the law is also subject to the vagaries of prevailing attitudes and beliefs. Our ideas about what constitutes a crime have evolved

over time, and the definition of a crime is subject to regular revision by the courts, politics and demands for reform by civil society. Although hard to believe now, it used to be legal to physically beat school-children as punishment. Corporal punishment was finally made a criminal offence in 1996, having been outlawed as a practice in schools by 1982, some 14 years earlier.

CRIMES AGAINST THE ENVIRONMENT

The changing legal status of white collar crime, sexual practices and even street crime over time, reveal a cultural and legal bias where the State criminalises individual deviance from accepted social norms, yet in the main, turns a blind eye to crimes against society as a whole, or the environment, especially if they are committed by the powerful. The chief research interest of many academics who study the origins of crime is the explanation of “street crimes”. But as green and other criminologists point out, there are a range of additional “behaviours” that also cause much harm, often far more serious than that caused by street crimes and the bulk of offences before the criminal courts. These small but significant acts – from foregrounding private car transport as the primary mode of transport to normalising a national diet heavy with red meat – when aggregated together, contribute to climate change and “ecocide”, defined as the contamination and destruction of the natural environment in ways that reduce its ability to support life.³ What is striking about these “ordinary acts” is that they are normal and routine: they are widely and regularly performed by individuals in our society; they are generally viewed as acceptable, even desirable; and they collectively have a substantial impact on environmental problems.⁴

Not everyone is comfortable however with such a framing of our ecological and climate crisis. Individual actions such as avoiding meat, private transport and air travel, while morally justified, make a negligible difference in comparison to state or corporate action.⁵ The individual can only

1 The Society of the Irish Motor Industry (SIMI) report that there were 125,557 new vehicle registrations in 2018, of which just 1233 were electric vehicles. SIMI, “2018 New Car Registrations finish 4.4% down”, 2 January 2019, <https://www.simi.ie/en/news/2018-new-car-registrations-finish-4-4-down>.

2 According to TomTom, “Traffic Index, 2018,” 4 June 2019, https://www.tomtom.com/en_gb/traffic-index/ranking.

3 Polly Higgins, Damien Short, and Nigel South, “Protecting the Planet: A Proposal for a Law of Ecocide,” *Crime, Law and Social Change* 59, no. 3 (April 2013): 251–66.

4 Robert Agnew, “It’s the End of the World as We Know It: The Advance of Climate Change from a Criminological Perspective,” in *Climate Change from a Criminological Perspective*, ed. Rob White (New York, NY: Springer, 2012), 13–25.

5 Walter Sinnott-Armstrong, “It’s Not My Fault: Global Warming and Individual Moral Obligations,” in *Climate Ethics: Essential Readings*, ed. S.M. Gardiner (Oxford: Oxford University Press, 2010), 332–46.



concretely conceive of the environmental crisis in terms of their own personalised action, but the problem’s source is fundamentally collective. The relative power of motivated but highly dispersed individuals in comparison to that of centralised corporate and state actors, means that relying on behavioural changes alone to bring about the radical emissions reductions that are needed is a strategy doomed to fail. And by relying on individual behavioural change by consumers rather than whole-system change initiated by citizens, our analysis shifts from a macro, systemic perspective, to one which relies on the dubious effectiveness of “nudges”, and heroic levels of motivation rather than tackling the root of the problem upstream. After all, deaths from smoking were not prevented by educational campaigns and moralising. The tobacco industry had to be brought to its knees first by class actions, prohibitive taxes, and by limiting the advertising and sale of tobacco products.⁶

According to some research, nudges in the form of carbon taxes aimed at reducing carbon emissions could even have a pernicious indirect effect if they offer the promise of a

“quick fix” and thereby undermine support for policies of greater impact.⁷ Raising the price of cigarettes, while allowing the tobacco companies to continue pushing its drugs through advertising, or to avoid liability for deaths due to misinformation, would be an appropriate parallel here. Smokers would get angry, for sure, but not much else would change. To criminalise or at least stigmatise environmentally damaging behaviour may be counter-productive if it stimulates resistance to emission-reducing actions. At the very least, nudges may erode the democratic basis for radical emission reductions.⁸

The case for higher carbon prices may be overwhelming. So too is the case for removing all environmentally damaging subsidies. Relative prices do make a difference, and fossil energy is still too cheap for the addiction to be broken without a dramatic downward shift in energy demand. But while carbon pricing instruments can contribute to lower emissions and the adoption of cleaner technologies, by themselves they fail to keep fossil fuels in the ground or deter excessive consumption by the rich.⁹ Market mechanisms also deflect from

6 Erik M. Conway and Naomi Oreskes, *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming* (London: Bloomsbury, 2012).

7 David Hagmann, Emily H Ho, and George Loewenstein, “Nudging out Support for a Carbon Tax,” *Nature Climate Change*, 13 May 2019, 484.

8 Michael E. Mann and Jonathan Brockopp, “You Can’t Save the Climate by Going Vegan. Corporate Polluters Must Be Held Accountable,” *USA Today*, 3 June 2019, <https://amp.usatoday.com/amp/1275965001>.

9 See for example: John Vidal, “Make the Rich Change Their Ways to Avoid a 2C Rise, Says Top Scientist,” *The Guardian*, 21 November 2013, <https://>

the need to shift the balance of economic and political power away from corporations to democratic institutions in the struggle for more transparent and accountable forms of climate governance.

CHAINS OR CIRCUITS?

Unsurprisingly therefore, other social scientists favour a systemic, “Treadmill of Production” approach popularised by the sociologist Allan Schnaiberg, which focuses on the increasingly dysfunctional exploitation of the natural world by mostly corporate actors for the sake of increases in output and profit.¹⁰ As both additions and withdrawals increase in terms of extractive industries and their waste by-products including emissions and pollution, the Earth’s ecosystem functions are put out of balance, and ultimately in jeopardy.

The problem, however, is that the global supply chain, and its extensive spatial and inter-temporal impacts, is rarely analysed as a system for its ecological or social impacts. Only its component parts are considered from a regulatory or criminological perspective. And the effect of globalisation is to make supply chains very, very, long; beyond the reach of any individual disgruntled consumer or even entire countries. In the idealised market of economic theory, the consumer exercises “voice” through “exit” – “I don’t like your product, so I am not going to buy it.” But the “market” for energy doesn’t work like that. We need it too much, and the suppliers and utilities need us to need it too. We are caught in a self-and-planet-destroying loop and the only way to exit is to cut ties with the source altogether, and to stigmatise and criminalise the pushers.

The scholar Michael Lynch observed as far back as 1990 that social scientists and legal theorists have failed to explain ecological destruction because they omit social economic factors that shape laws and the policy process, and instead rely on a piecemeal and narrow definition of

crime contained within the criminal code. Lynch now teaches courses at the University of South Florida with the compelling title “Crimes of the Powerful”. Lynch and other green criminologists argue that public policy and governmental action on climate change need to address the root causes of global warming and ecosystem destruction within a holistic or whole-of-system framework, rather than attempting to just deal with managing the symptoms by modifying public behaviours:

In many ways, and from the vantage point of future generations, present action and lack of action around climate change will most likely constitute the gravest of transnational environmental crimes. These harms grow more evident every day, yet the main protagonists continue to support policies and practices that contribute to the overall problem... Even with foreknowledge and scientific proof in hand, powerful interests continue to dominate the climate change agenda to the advantage of their own sectional interests..., and it is the poorest of the poor who currently experience the harbingers of things to come for the rest of us... Failure to act, now, is criminal. Yet, things continue much as they have, the status quo is maintained, and the harms mount up.¹¹

SO, WHO IS RESPONSIBLE FOR CLIMATE CHANGE?

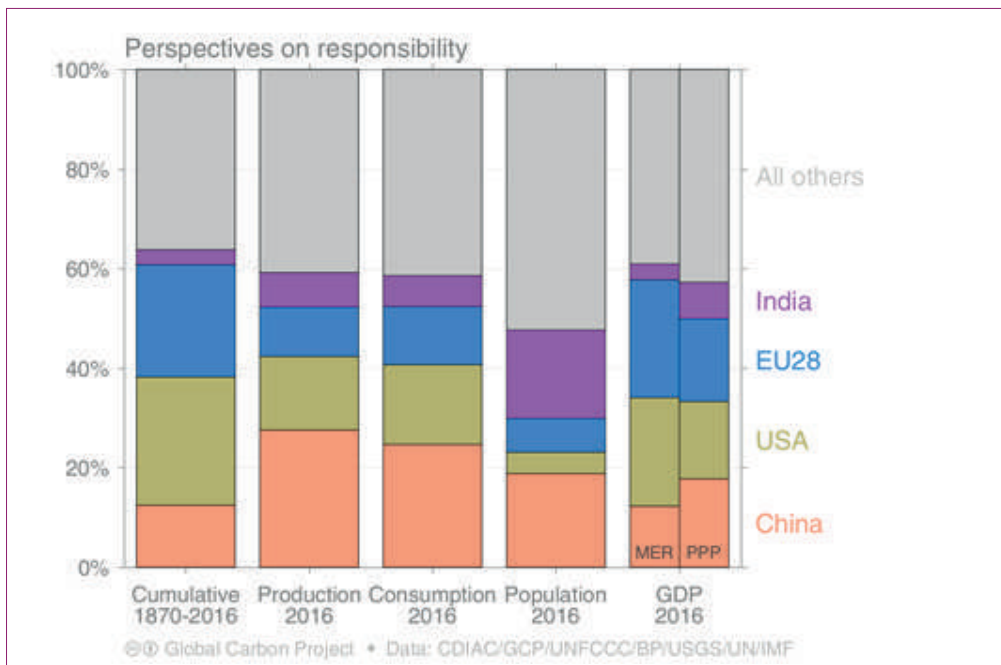
To bring those responsible for climate change to account, it is first necessary to think about what responsibility entails, from both a moral and legal perspective. Climate science is unequivocal: the extraction and combustion of fossil fuels, along with land-use change due to agriculture and deforestation are the main contributors to global warming.¹² Because CO₂ stays in the atmosphere for so long, however, and because of the systemic role of fossil fuels throughout the energy systems, the most rapid reductions in Greenhouse Gases (GHGs) can be achieved by reductions in fossil fuel

www.theguardian.com/environment/2013/nov/21/climate-change-2c-rise and Lucas Chancel and Thomas Piketty, “Carbon and Inequality: From Kyoto to Paris” (Paris: Paris School of Economics, 2015).

10 “The idea at the base of the theory is humans are dependent upon a constant flow of energy from nature and that each of us is in a constant state of interaction with the world around us.... In this process humans create withdrawals, which are the extractions of raw materials from nature, and similarly create additions, which are the waste and by products created through the production of human consumed goods. Many additions like nuclear waste, toxic chemicals, and greenhouse gasses create profound ecological disruptions.” Nathan Palmer, “Why I am Okay With Being Eaten by a Bear,” *Sociology in Focus*, 2 December 2013, <http://sociologyinfocus.com/tag/the-treadmill-of-production/>.

11 Rob White, “Introduction,” in *Climate Change from a Criminological Perspective* (New York, NY: Springer, 2012), 2.

12 Other contributors include: industrial F-gases, cement production, landfill and black carbon.



Source: *The Global Carbon Project 2018*. <https://www.globalcarbonproject.org/>

extraction (supply) and use (demand).¹³ Again, this is undisputed.¹⁴ When the United Nations (UN) crafted the first Convention on Climate Change in 1992, there was a concerted effort by fossil fuel interests, who by this point had spent years undermining and attacking Intergovernmental Panel on Climate Change (IPCC) scientists, to shape the definition of responsibility very clearly in terms of states, rather than industrial emitters or producers of fossil fuels. The sustained impact of this campaign is evidenced by the fact that the Paris Agreement, adopted 23 years after the Convention was signed does not even mention the words “fossil fuel”, “oil” or “coal” once throughout the entire accord.

To be fair, nation states do have the primary duty to protect their citizens from the harms of climate change. This is essential to the social contract. Only governments can coordinate and regulate domestic policies to reduce emissions. In terms of legal opportunity structures, it is the claims of citizens, however, against their governments in courts that have

seen success to date. Nonetheless, the efforts of the carbon majors, including oil-producing countries, have thus far succeeded in making the duties of states in respect of reducing the supply of, and demand for, fossil fuels as vague as possible. Any treatment of the causes of climate change are couched in terms of inaccessible jargon such as “contributions” and “radiative forcing” rather than language which points to the true causes of climate destruction. And even these references are balanced against an imagined future where Carbon Capture and Storage (CCS) and other inventive schemes create a future for fossil energy in a decarbonised world. (If you think that’s a contradiction, well you’re right, it is). Since 1988, the year which saw the establishment of the IPCC, the contribution of fossil fuels to greenhouse gas emissions has risen such that half of the total emissions between 1750 and 2014 are reckoned to have been emitted after 1988.¹⁵

¹³ “Emissions of CO₂ from fossil fuel combustion and industrial processes contributed about 78% of the total greenhouse gas emissions increase from 1970 to 2010, with a similar percentage contribution for the increase during the period 2000 to 2010.” “Climate Change 2014: Synthesis Report” (Geneva: IPCC, 2014), 5, https://www.ipcc.ch/site/assets/uploads/2018/05/SYR_AR5_FINAL_full_wcover.pdf.

¹⁴ “Near-term reductions in energy demand are an important element of cost-effective mitigation strategies, provide more flexibility for reducing carbon intensity in the energy supply sector, hedge against related supply-side risks, avoid lock-in to carbon-intensive infrastructures, and are associated with important co-benefits.” “Climate Change 2014: Synthesis Report,” 29.

¹⁵ B. Ekwurzel et al., “The Rise in Global Atmospheric CO₂, Surface Temperature, and Sea Level from Emissions Traced to Major Carbon Producers,” *Climatic Change* 144, no. 4 (October 1, 2017): 579–90; Peter C. Frumhoff, Richard Heede, and Naomi Oreskes, “The Climate Responsibilities of Industrial Carbon Producers,” *Climatic Change* 132, no. 2 (September 2015): 157–71.

THE “FIRST WORLD” BEARS THE PRIMARY RESPONSIBILITY

It will be argued, of course, that much of this increase can be traced to the dramatic increase in coal-fired electricity in China and India in this time period. But that would be a distortion of the facts: many of these investments have been based on western technology, finance and business models which have been exported with the assistance of Western governments to developing countries. In the US and EU, while emissions have begun to decline, this is largely due to a switch from coal to gas and a small but growing share of renewables. And according to the Global Carbon Project’s 2018 estimates, the contribution of India and China to climate change is still small relative to that of the US and EU combined.

Scientific research carried out by major fossil fuel companies as far back as the 1960s showed that steady increases in greenhouse gases emitted to the atmosphere would lead to global warming, and that this warming would be detectable by the 1990s.¹⁶ The companies were aware of this information at a high level, but chose to suppress it and actively work to undermine efforts to regulate their sectors in the US. This set both technological and regulatory progress back decades. As philosopher Henry Shue puts it,

the simple and merely negative responsibility to “do no harm” required [these companies] to reduce that harm rapidly either by modifying the product in order to capture its dangerous emissions or by developing safe substitutes to perform the same function, that is by developing non-carbon-based forms of energy. The seriousness of the harms brought by climate change made this responsibility especially compelling. Ceasing to contribute to harm includes ending exploration for additional fossil fuels.¹⁷

Shue argues that responsibility can be conceptualised in both backward-looking and forward-looking directions. The responsibility

not to inflict avoidable harm is a forward-looking responsibility: and anything that has already occurred in the past is backward-looking of the form “clean up your own mess.” But crucially, ‘do no harm’ and ‘clean up your own mess’ are the two sides of the same coin: those who fail to fulfil the first responsibility ordinarily incur the second responsibility. If one does contribute to harm, in violation of the negative responsibility, it becomes one’s positive responsibility to correct it—and perhaps compensate for it as well.¹⁸

Industrial carbon producers have done all this not only to be able to exploit existing reserves of oil, gas, and coal, but also to develop new ones. The depletion of older, accessible forms of oil and gas has led industry to develop new oil fields and more carbon-intensive unconventional fossil resources, all of which are associated with a recent spike in methane emissions.¹⁹ The oil and gas industry has also been dramatically expanding production of natural gas from shales in the United States, Canada, and elsewhere, despite the knowledge within the industry itself of the harms caused by such activities, and the risks to their shareholders’ investments as a result of stranded assets or liability claims. And there is no doubt that gas is nearly as bad as coal. The energy companies’ promotion of gas as a so-called “bridge” fuel to fill the gap between a fossil fuel-based economy and an economy based on renewable energy sources is like a drug pusher offering crack cocaine to people addicted to heroin.

All of these activities assume that there will be no substantial constraints on the production and use of fossil fuels in the near to medium term, and the fossil fuel industry is determined to ensure that there will be no such constraints. Yet, none of these companies has accepted the proposition that accepting the science and understanding the risks of climate change implies the need to change their business plans.²⁰ On the contrary, they

16 For online documents relating to fossil fuel companies’ research and activities to promote denial and misinformation, see <http://www.climatefiles.com/> and <https://www.desmogblog.com/>.

17 Henry Shue, “Responsible for What? Carbon Producer CO₂ Contributions and the Energy Transition,” *Climatic Change* 144, no. 4 (October 1, 2017): 591.

18 Shue, 593.

19 According to the IPCC, the warming effect of methane is 87 times greater than CO₂ over a 20-year period and 36 times greater over a 100-year period. R. K. Pachauri, Leo Mayer, and Intergovernmental Panel on Climate Change, eds., *Climate Change 2014: Synthesis Report* (Geneva, Switzerland: Intergovernmental Panel on Climate Change, 2015), 87.

20 Frumhoff, Heede, and Oreskes, “The Climate Responsibilities of Industrial Carbon Producers,” 166.

argue that the world needs more fossil fuels rather than less. In Ireland, the local version of this message is based on a fallacious argument that our energy security depends on offshore oil and gas exploration, so that we do not enrich Sheikhs and oligarchs while we destroy the planet!²¹

CRIMINAL RESPONSIBILITY AND LIABILITY FOR CLIMATE DAMAGES

Holding greenhouse gas emitters and climate deniers responsible for their actions in response to climate change is not only a political challenge best addressed by international cooperation. The law may provide the opportunities to hold carbon polluters to account, and crucially, to make them stop, in ways that the political process at the UN has been singularly unable to do.²² Ironically, it is the growing body of scientific evidence that climate change is already occurring that provides the opportunity for litigation. The ability of scientists to attribute responsibility for extreme weather events to climate change means that the essential links in the causal chain that connects the climate-related harms suffered by identifiable plaintiffs to the actions or inactions of identifiable defendants is now readily available.²³

At the time of writing, in early June 2019, proof had recently published that the 2018 summer heatwave in Japan, which resulted in over 1000 deaths, could not have occurred without climate change.²⁴ In the US,

homeowners in Houston, Texas, who have suffered three devastating flooding events since 2009 are suing their city,²⁵ and further lawsuits are likely over the failure by climate-denying city officials to prevent further storm damage in the wake of Hurricane Harvey.²⁶ Here in Ireland, a coroner's inquest decided recently that the death of a Dublin woman from an asthma attack was partly attributable to Hurricane Ophelia,²⁷ which was an example of (if not definitive proof) of the indirect risks associated with increased frequency and magnitude of abnormal extremes as a result of climate change.²⁸ In the UK, a new inquest has been ordered into the death of a young girl due to chronic exposure to dangerously poor air quality.²⁹ An apparent paradox we need to confront is that the climate crisis is both apocalyptic and mundane.

Responsibility, and thus liability for death and damage due to climate change is difficult, but possible, to establish in law. Just consider for a moment the estimates by the World Health Organisation, that 250,000 people will die each year directly and indirectly as a result of climate change between 2030 and 2050.³⁰ That figure does not include people displaced by rising sea levels, or property losses. No responsible government or corporate entity engaged in fossil fuel extraction or use can continue to pay lip-service to the science and the Paris Agreement, while privately treating the climate crisis like a "hoax" however convenient it might be to its shareholders. On Planet Earth Inc., we are all shareholders, and we are in it for the long haul.

21 Marie O'Halloran, "Ireland Will Pay Saudi Sheikhs, Russian Oligarchs for Oil If Exploration Banned - Bruton," *The Irish Times*, 30 May 2019, <https://www.irishtimes.com/news/politics/oireachtas/ireland-will-pay-saudi-sheikhs-russian-oligarchs-for-oil-if-exploration-banned-bruton-1.3910068>.

22 Josephine van Zeben, "Establishing a Governmental Duty of Care for Climate Change Mitigation: Will Urgenda Turn the Tide?," *Transnational Environmental Law* 4, no. 2 (2015): 339–57.

23 Friederike E. L. Otto et al., "Assigning Historic Responsibility for Extreme Weather Events," *Nature Climate Change* 7, no. 11 (November 2017): 757–59, and; Stephanie C Herring et al., "Explaining Extreme Events of 2016 from a Climate Perspective (Special Supplement)," *Bulletin of the American Meteorological Society* 99, no. 1 (January 2018): S1–157.

24 <https://www.carbonbrief.org/japans-deadly-2018-heatwave-could-not-have-happened-without-climate-change>. Based on "The July 2018 high temperature event in Japan could not have happened without human-induced global warming", The Meteorological Society of Japan, *Scientific Online Letters on the Atmosphere* vol 15A, (2018): 8-11, https://www.jstage.jst.go.jp/article/sola/advpub/0/advpub_15A-002/_pdf-char/ja.

25 Frank Bajak, "Flooded homeowners sue Houston, alleging negligence", *AP News*, 26 May 2019, <https://apnews.com/fbb50ca4b94c4aca82e402f228ee2aed>.

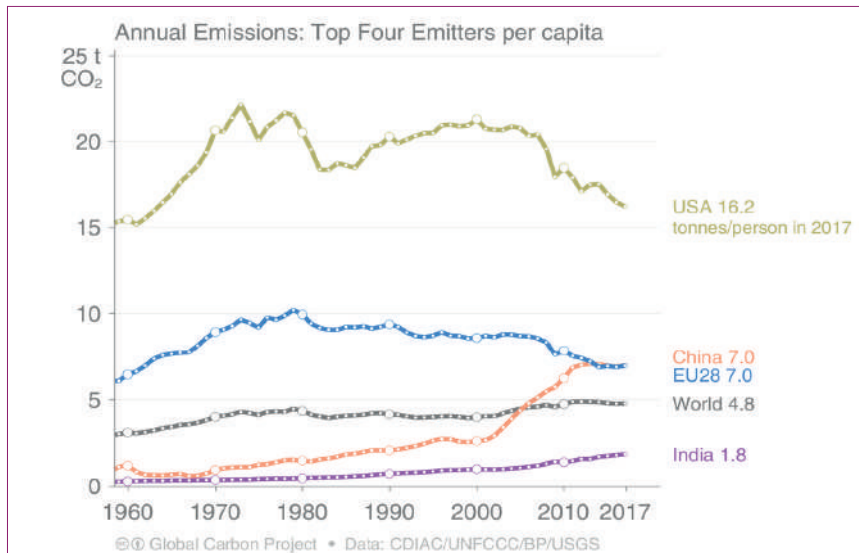
26 Brian Merchant, "Climate denial should be a crime", *The Outline*, 1 September 2017, <https://theoutline.com/post/2202/climate-change-denial-should-be-a-crime?zd=2&zi=qkof7gu5>.

27 Louise Rosingrave, "Woman with no inhaler died of asthma as Storm Ophelia closed chemist", *The Irish Times*, 6 June 2019, <https://www.irishtimes.com/news/crime-and-law/courts/coroner-s-court/woman-with-no-inhaler-died-of-asthma-as-storm-ophelia-closed-chemist-1.3917211>.

28 Chanh Kieu, "Do hurricanes feel the effects of climate change?" *The Conversation*, 13 September 2018, <https://theconversation.com/do-hurricanes-feel-the-effects-of-climate-change-83761>.

29 Sandra Laville, "Ella Kissi-Debrah: new inquest granted into 'air pollution' death", *The Guardian*, 2 May 2019, <https://www.theguardian.com/uk-news/2019/may/02/ella-kissi-debrah-new-inquest-granted-into-air-pollution-death>.

30 World Health Organisation, Factsheet "Climate Change and Health", 1 February 2018, <https://www.who.int/en/news-room/fact-sheets/detail/climate-change-and-health>.



Around the world, there is an explosion in climate litigation as the legal tests for accountability and liability may be met as more extreme weather events are attributed to climate change. One such landmark case is underway between a Peruvian farmer, Saúl Luciano Lliuya, and the Germany utility-giant RWE in the German courts. Lliuya's case (currently in the appeal courts) alleges that RWE, having knowingly contributed to climate change by emitting substantial volumes of GHGs, bears some measure of responsibility for an acute threat to the town from a glacial lake. Lliuya argued that RWE's emissions were a nuisance that resulted in compensable costs to mitigate. Acknowledging that RWE was only responsible for 0.47% of the annual global greenhouse gas emissions contributing to climate change, Lliuya asked the court to order RWE to reimburse him for a similar portion of the costs that were spent to establish flood protections. While the case is currently under appeal, and certain facts have still to be adjudicated, the Sabin Centre for Climate Law notes that "the [Lower Saxony] court's recognition that a private company could potentially be held liable for the climate change related damages of its greenhouse gas

emissions marks a significant development in law."³¹

Holding corporate emitters and producers of fossil fuels to account is vital, since many of the world's top oil and coal producers are responsible for the bulk of all emissions, either because the emissions flowed from the companies directly, or from the combustion of their products:³² they are also responsible for decades of climate misinformation and denial.³³ They have continued to lobby in favour of continued fossil fuel extraction in contradiction with the scientific evidence for keeping 80% of known fossil reserves in the ground.³⁴ Some of these American "Big Oil" companies withheld scientific evidence of the link between GHGs and global warming, and engaged in massive public relations campaigns designed to confuse and distort public understanding of climate science.³⁵ Political lobbying, and the corporate donations associated with such activities, have delayed or blocked many climate policy initiatives in the US and across the world, leading to estimates of additional climate and social damages running into tens of billions of dollars directly as a result.³⁶ In the face of seemingly negligent behaviour by some top

31 Climate Case Chart, *Lliuya v. RWE AG*, No. 2 O 285/15 (District Court of Essen, 15 December 2016).

32 Carroll Muffett and Steven Feit, "Smoke and Fumes: The Legal and Evidentiary Basis for Holding Big Oil Accountable for the Climate Crisis" (Washington DC: Center for International Environmental Law, 2017).

33 Conway and Oreskes.

34 Christophe McGlade and Paul Ekins, "The Geographical Distribution of Fossil Fuels Unused When Limiting Global Warming to 2 °C," *Nature* 517, no. 7533 (January 8, 2015): 187–90.

35 Matt Hope and Karen Savage, "Global Climate Coalition: Documents Reveal How Secretive Fossil Fuel Lobby Group Manipulated UN Climate Programs", 24 April 2019, <https://www.desmogblog.com/2019/04/25/global-climate-coalition-documents-secretive-fossil-fuel-lobby-un-programs>.

36 Kyle C. Meng and Ashwin Rode, "The Social Cost of Lobbying over Climate Policy," *Nature Climate Change* 9, no. 6 (June 2019): 472.

officials charged with a duty of care, it is no wonder that a number of commentators argue that climate denial ought to be considered a crime.³⁷

These examples of climate denial and recklessness are not limited to the USA, or other exporting countries. Any business interest associated with further exploitation of fossil fuel resources, regardless of where it is located is facing “endgame”³⁸ sooner rather than later, as global energy systems shift inevitably, and possibly abruptly, out of fossil energy. Developed countries nonetheless have particular moral obligations to reduce their emissions quickly, and more steeply, for the sake of climate equity.³⁹

It cannot be forgotten that fossil fuel extraction companies are not required to account for the full social costs of their activities, and licensing regimes do not currently consider the downstream impacts of emissions after combustion.⁴⁰ It is no surprise then that in the US, some of the biggest energy companies have recently joined forces to promote a carbon tax, with the condition that they receive immunity from lawsuits.⁴¹ Capitalism’s defenders claim to trust markets, but what we currently have in place is a market that systematically ignores real costs, and where the rules of the game favour polluters rather than victims. While the average price of a barrel of oil remains at about \$60, or just about high enough to warrant the continued fracking of shale oil and gas, the true social cost of climate damages is somewhere between \$200-800 per tonne of carbon, depending on location.⁴² But because carbon dioxide remains in the atmosphere forever,⁴³ it is arguable that profit-driven calculations should no longer play a part in decision-making today about

impacts that will extend far into the future.⁴⁴ If this debate is dominated by financial considerations, it will be devastating. What is already upon us is far more damaging than profit-warnings. At this stage, it is about lives, and survival.

WAVES OF LITIGATION

Our regulatory and pricing policies may not yet have caught up with climate impacts, but our legal systems will be under increasing pressure to interpret the precautionary principle in almost every area of environmental law where fossil fuel exploration licensing and exploration is at stake.

Recently published research by the Centre for International Environmental Law (CIEL) building on the ground-breaking research by Richard Heede of the Climate Accountability Initiative in 2017, showed that when measured at the point of production, just 100 active fossil fuel producers are linked to 71% of industrial greenhouse gas emissions since 1988. While “linked” might not imply direct liability, CIEL argues that a robust and growing body of documentary evidence proves that big oil companies were aware of climate risks, and that they had numerous opportunities to highlight these risks to the public and to avoid or reduce those risks. According to CIEL, “evaluated under the laws of tort, the law of non-contractual liability in civil jurisdictions, and international human rights law, there are ample grounds to hold companies responsible for [their] choices.”⁴⁵ If an actor is able to foresee a harm, and has the ability and opportunity to avoid or minimise that harm, they can be considered liable for those harms, subject to standard tests under the law of tort.⁴⁶ The liability of fossil fuel companies for

37 See Merchant, B. (2017) *supra* n.10. Merchant makes the case that elected officials who continue to deny climate science to avoid addressing the policy implications of climate change mitigation and adaptation should be held criminally responsible in the event of extreme weather events such as flooding.

38 Dieter Helm, *Burn Out: The Endgame for Fossil Fuels* (New Haven, CT: Yale University Press, 2017).

39 Alex Lenferna, “Can We Equitably Manage the End of the Fossil Fuel Era?,” *Energy Research & Social Science* 35 (January 1, 2018): 217–23.

40 Irish Statute Book, *Petroleum and other Minerals Development Act*, 1960, <http://www.irishstatutebook.ie/eli/1960/act/7/enacted/en/print.html>.

41 Umair Irfan, “Exxon is lobbying for a carbon tax. There is, obviously, a catch,” *Vox*, 18 October 2018, <https://www.vox.com/2018/10/18/17983866/climate-change-exxon-carbon-tax-lawsuit>.

42 Katharine Ricke et al., “Country-Level Social Cost of Carbon,” *Nature Climate Change* 8, no. 10 (October 2018): 895–900.

43 Mason Inman, “Carbon Is Forever,” *Nature Reports Climate Change* 2 (November 20, 2008): 156–58.

44 Simon Caney, “Climate Change, Intergenerational Equity and the Social Discount Rate,” *Politics, Philosophy & Economics* 13, no. 4 (November 2014): 320–42.

45 Muffett and Feit, 1.

46 The Learned Hand formula is one such test. It is an algebraic formula ($B = PL$), according to which liability turns on the relation between investment in precaution (B) and the product of the probability (P) and magnitude (L) of harm resulting from the accident. If PL exceeds B , then the defendant should

climate harms will be successfully argued in the courts, sooner or later.⁴⁷

Most of the prominent climate litigation is taking place in the US, where a number of states are suing companies such as ExxonMobil for damages. Earlier this year the environmental group Milieudefensie/Friends of the Earth Netherlands and co-plaintiffs lodged a case against Shell Plc arguing that it is violating its duty of care under Dutch law and human rights obligations. The plaintiffs seek a ruling from the court that Shell Plc must reduce its CO₂ emissions by 45% by 2030 compared to 2010 levels and to zero by 2050, in line with the Paris Climate Agreement. The plaintiffs base this duty of care argument on Dutch law and Articles 2 and 8 of the European Convention on Human Rights (ECHR), which formed the basis for the Dutch supreme court's judgment in the landmark *Urgenda vs the government of the Netherlands* decision. Shell's reaction is worth quoting:

Tackling climate change—whilst also meeting growing demand for energy—is a complex challenge requiring inclusive action and collaboration. All of society has a role to play in tackling climate change and action must come from all sectors of the global economy. Tying up individual companies in a lengthy court process cannot replace policies that will encourage lower-carbon choices by all business and consumers. *Sound policy, not litigation, is what's needed to allow the energy transition to progress rapidly and at scale* (emphasis added)⁴⁸

This defence, that courts should not dictate energy policy, is the go-to defence that pops up time and time again, whether the defendant is a corporation or a government. We will see it again in the *Urgenda* and Irish climate cases below.

URGENDA STANDS FOR “URGENT AGENDA”

There is an inevitable lag between the recognition of a harm or a wrong, and an

effective legal response which provides statutory protection and relief. Under “normal circumstances” wealthy liberal democracies might be capable of responding to the climate challenge, and the benefits of technological and social progress would eventually diffuse to developing nations in turn. The problem is that climate change is such an urgent problem that it represents a challenge to both our idea of human progress as measured by ever-increasing gross domestic product per annum, and our institutional and collective capacity to act as fast as the science is telling us to act. The emissions curve, as Marjan Minnesma of the Urgenda Foundation likes to put it, must begin to bend downwards. It should have turned twenty years ago. There is no more time to wait, as the remaining global carbon budget is likely to be rapidly used up within a couple of decades. Failure to act in a timely manner to prevent avoidable, but irreversible climate change puts the lives of millions of people at risk from death and injury.⁴⁹ To have a reasonable chance of remaining below 2°C under the Paris Agreement, developed nations that are responsible for the largest share of cumulative emissions, should be reducing their emissions dramatically from today to the order of about 5-15% per annum. To remain below 1.5° of warming, the IPCC state that global emissions need to reduce by around 45% by 2030.

SO, HOW SHOULD THE LAW RESPOND TO THE CHALLENGE?

In 2015 the Urgenda Foundation, frustrated with the poor performance of the Dutch government on climate action launched a legal case under Dutch contract law against the government. In conjunction with 886 individuals Urgenda argued that the Dutch government was “recklessly negligent” by failing to bring emissions down to the levels agreed to by the international community in 2007 that would be necessary to avoid

be liable. If B equals or exceeds PL, then the defendant should not be held liable. See, for example: Emily Lynch Morissette, *Personal Injury and the Law of Torts for Paralegals* (New York, NY: Aspen, 2009), 31.

47 A search of the Sabin Centre for Climate Law shows many cases against fossil fuel companies in the US, most notably *People of the State of New York v. Exxon Mobil Corporation* (see <http://climatecasechart.com/case/people-v-exxon-mobil-corporation/>). These cases get easily bogged down in procedural arguments over access to documents and emails. The attorney general alleges that Exxon deceived investors about its management of climate change risks.

48 A Shell spokesperson, quoted in, Dana Drugmand, *Climate Liability News*, 12 February 2019, <https://www.climateabilitynews.org/2019/02/12/shell-netherlands-lawsuit-climate-change/>.

49 David Wallace Wells, *The Uninhabitable Earth* (New York, NY: Tim Duggan, 2019), 28.

dangerous climate change. It was a bold, almost audacious argument. The Netherlands, while hardly a climate leader by any standards, had committed to cut emissions by 16% by 2020 under the EU Effort Sharing Decision, but Urgenda were seeking the court to order cuts of between 25-40%. The court's decision to order a reduction of 25% by 2020 provided a unique and procedural interpretation of the precautionary principle, "whereby the onus of proving adequacy and effectiveness of climate policy is shifted on to the State."⁵⁰

Due to the details of the Dutch civil code, and the Dutch rules on legal standing which made it possible for Urgenda to take the case as a class action in the first instance, the liability established in the Urgenda case may not be reproduced easily in other jurisdictions. Nevertheless, the 2015 judgment and the even stronger judgment of the Appeal Court in 2018 highlight the direction of travel in legal thinking around a number of important debates in public law. One of the important questions that arises in any climate litigation is the standing of the applicant and the court's resulting ability to hear such a case: to what extent is it necessary for the plaintiff to be at direct risk of the harms that are alleged? It is not enough to be subject to a general threat of global warming. The law generally requires that a more specific and direct causal chain be established linking those at risk of harm to the perpetrators of the harm. However, Urgenda shows that such requirement can be satisfied.

Secondly, a key issue that arose during the Urgenda case was the status of an order mandating reductions, and whether such an order might contravene the doctrine of separation of powers. This doctrine usually entails a strict division between the role of the courts and the policy process except under very exceptional circumstances. In October 2018, the Court of Appeal of The Hague rejected all of the Dutch State's objections, including the alleged infringement of the balance of powers principle. The court confirmed that courts are obliged to assess

government actions (including policies) against human rights obligations. Quite strikingly, the court found that failure to act to reduce emissions in line with climate science was a breach of human rights set down in the ECHR:

the State has a positive obligation to protect the lives of citizens within its jurisdiction under Article 2 ECHR, while Article 8 ECHR creates the obligation to protect the right to home and private life. This obligation applies to all activities, public and non-public, which could endanger the rights protected in these articles, and certainly in the face of industrial activities which by their very nature are dangerous. *If the government knows that there is a real and imminent threat, the State must take precautionary measures to prevent infringement as far as possible* (emphasis added).⁵¹

A question remains as to whether a legally mandated reduction order is likely to be sufficient to drive ambitious climate policies, especially in the context of the EU Effort Sharing Decision. Under EU law, any reductions made by the Netherlands may be credited instead to other countries, thus resulting in no net reductions at all if one country over-achieves.⁵² By 2019, it is not yet clear what the actual impact of the Urgenda decision will be on Dutch emissions by 2020. Since the case is a dispute in contract law, the government will owe compensation to Urgenda and the other plaintiffs if the order is not complied with.

The Urgenda victory has resulted in a wave of climate litigation around the world. It has inspired a new generation of activists who are turning to the courts in frustration at their governments' slow response to the climate crisis. The original Dutch 2015 decision was startling in its depth and breadth, signalling that where sometimes political opportunity structures to shift climate action forward may be absent, legal opportunities may open up. The Court found that the Dutch government has a far-reaching duty of care which satisfied all of the tests under Dutch civil law, as the risk of dangerous climate change is high and the related damage severe. Furthermore, the increased risk of future harm established by Urgenda with reference to the scientific

⁵⁰ Suryapratim Roy and Edwin Woerdman, "Situating *Urgenda v the Netherlands* within Comparative Climate Change Litigation," *Journal of Energy & Natural Resources Law* 34, no. 2 (April 2, 2016): 165.

⁵¹ The State of the Netherlands v Urgenda Foundation, The Hague Court of Appeal (9 October 2018), case 200.178.245/01 (English translation), <https://uitspraken.rechtspraak.nl/inziendocument?id=ECLI:NL:GHDHA:2018:2591&showbutton=true&keyword=Urgenda>, para 43.

⁵² van Zeven, 342.



consensus represented by IPCC reports was enough to trigger the duty of care without the harms having yet materialised. The lack of individual responsibility for climate change did not negate the government's duty of care or break the chain of causation.

THE IRISH CLIMATE CASE

Readers of Working Notes will be familiar with Ireland's poor track record on climate-related policy.⁵³ Even the Taoiseach Leo Varadkar admitted as much in 2018 to the European Parliament when he stated that Ireland was a "laggard" on climate change. Despite targets, plans and pronouncements, Irish emissions have not yet fallen below their 1990 levels despite the commitment made when signing the 1992 UN Convention on Climate Change, and after a decline during the recession, are now increasing again, and are projected to accelerate over the next decade.

Various reasons have been proffered for Ireland's weak and unambitious policy, for example weak legislation and governance frameworks, the lobbying power of agri-

food and exporting industries, and the shock of the financial crash and associated fiscal crisis which focused the attention of policy elites on economic recovery to the detriment of everything else.⁵⁴ But with full knowledge and endorsement of the scientific assessments of the IPCC and the risks of climate change, the Irish government's poor performance is morally, politically and legally irresponsible. While the 2015 Climate Action and Low Carbon Development Act was weak and disappointing, the government's National Mitigation Plan (NMP) of 2017 did not offer any meaningful departure from Business-As-Usual and was not backed up with tangible policy measures or instruments to effect meaningful emission reductions from agriculture, buildings and transport, nor does Fine Gael's flagship infrastructure plan Project Ireland 2040 even quantify the emissions implications of capital investments. Repeatedly criticised by the Climate Change Advisory Council, the NMP was the subject of a legal challenge by Friends of the Irish Environment (FIE) launched in 2017. Inspired by the *Urgenda* case, the on governmental organisation launched a Judicial Review of the

53 See: Sadhbh O'Neill, "Ireland and Climate Change: Looking Back and Looking Ahead", *Working Notes* 82 (2018), 13-19, <https://www.workingnotes.ie/images/stories/Issue82/Ireland-and-Climate-Change-Looking-Back-and-Looking-Ahead.pdf>.

54 Conor Little and Diarmuid Torney, "The Politics of Climate Change in Ireland: Symposium Introduction," *Irish Political Studies* 32, no. 2 (3 April, 2017): 191–98; Diarmuid Torney, "If at First You Don't Succeed: The Development of Climate Change Legislation in Ireland," *Irish Political Studies* 32, no. 2 (3 April, 2017): 247–67. Also, the 2019 European Semester Country Report for Ireland highlights the continuing deficiencies in Irish climate policy and governance. See: Office of the European Commission, "Common Report Ireland, 2019," Commission Staff Working Document (Brussels: European Commission, February 2019), https://ec.europa.eu/info/sites/info/files/file_import/2019-european-semester-country-report-ireland_en.pdf.

Plan in the High Court over the government's failure to comply with the provisions of the 2015 Act, along with EU and international human rights obligations.⁵⁵ Unlike the Dutch case, the Irish climate case was argued under administrative law provisions. What this means is that the case is based on the claim that the government did not follow proper procedure under the law when adopting the NMP, rather than challenging the substantive content of the Plan. If the challenge is successful, the court may order the Minister to redraft the NMP in accordance with the law, and represent it to the Oireachtas. FIE did not ask the Court to specify any emission reduction target, or specific climate policies.

However, the outcome of the case will likely have important implications for climate law in terms of clarifying the precise requirements of the Minister under the 2015 Act, and under constitutional law. For instance, the case may clarify the precise test under which an organisation like FIE, established as a company limited by guarantee, may take an action out of concern for risks posed by climate change to the public at large. FIE was established with the purpose of highlighting failures in Irish environmental law and its implementation and has a long track record in taking on both polluters and enforcement agencies in the courts.

In 2017, the organisation took another Judicial Review in the High Court over Fingal County Council's authorisation of an extension to a planning permission for a new runway at Dublin airport, arguing inter alia, that the runway would give rise to additional climate inducing greenhouse gases which impacted on the unenumerated constitutional right of Irish citizens to an environment. While the challenge failed, the Court did agree that there was indeed a right to an environment that is consistent with the human dignity and well-being of citizens at large... [Such a] right is an essential condition for the fulfilment of all human rights. It is an indispensable existential right that is enjoyed universally, yet which is

vested personally as a right that presents and can be seen always to have presented, and to enjoy protection, under Article 40.3.1° of the Constitution'. [Furthermore, it] is not so utopian ... that it can never be enforced...⁵⁶

Despite some criticisms of the unenumerated rights doctrine generally,⁵⁷ the interpretation and impact of the Barret, J. judgment in the runway case is not yet clear. The State in its defence during the climate case argued that the judgment in the airport case was "obiter" or not strictly relevant. FIE's counsel argued that the decision to approve a plan that allows for short term emissions increases is a "flagrant breach" of the rights of Irish citizens from the potential impacts of climate change, namely: the constitutional right to life, the right to bodily integrity, and the unenumerated right to an environment consistent with the human dignity and well-being of citizens, as well as a violation of ECHR rights, including the right to life, and the right to private and family life and the home. However, counsel for the State argued that it is not clear that the court is obliged to act to protect those rights.

The legal issues involved here are complex and potentially far-reaching. The court is being asked to intervene in the policy process over a failure to adhere to what are, after all, rather vague commitments and "soft law" set down in the Paris Agreement around a set of scientific facts that do not yet have the status of legal facts. Regardless of the outcome however, the climate case is meeting a deep public need for environmental justice and for holding our government to account at a critical juncture. Political and policy progress will happen, eventually. The youth climate strikers, along with the new Extinction Rebellion movement show that the public appetite for change is growing, and that it is quite rationally motivated as much by a heuristic of fear as by a desire for progress. These new offshoots of the environmental movement, by articulating a frustration with incremental change, speak truth to power to all parts of the system that together are thwarting progress. Because their

55 See www.climatecaseireland.ie for details.

56 FIE v Fingal County Council [2017] IEHC 695 para.245.

57 Orla Kelleher, "The Revival of the Unenumerated Rights Doctrine: A Right to an Environment and its Implications for Future Climate Change Litigation in Ireland," *Irish Planning and Environmental Law Journal*, vol. 25, no. 3 (2018), pp. 97-103.

demands – zero-emissions by 2025⁵⁸ - are supposedly “unreasonable”, they challenge the dogma of least-cost incrementalism which constitutes orthodox public policy. No longer content with moving at the pace dictated by the political economy of insiders and captured elites, this new movement articulates the simplest and yet most radical of demands: to survive, and to have a future.

As Dale Jamieson puts it, moral progress is often “tentative and contingent, and as likely to lurch into reverse as to go full speed.”⁵⁹ In the face of climate breakdown, we need a moral revolution and we cannot afford reversals. Just like the movement to abolish slavery and to secure women’s right to vote, only moral outrage can overrule the nihilistic propaganda of fossil fuel interests that tell us that “their selfless work producing electricity makes civilization possible”⁶⁰ and that we need more rather than less fossil fuels to secure a decent future. If we believe that, we are on course to have no future at all.

58 This is one of the demands of the Extinction Rebellion group.

59 Dale Jamieson, “Slavery, Carbon, and Moral Progress,” *Ethical Theory and Moral Practice* 20, no. 1 (February 2017): 179.

60 Jamieson, 180.