1 Introduction: Shame and Climate Change

In an era in which governments are grappling with climate change, could regulation by government-initiated shaming of corporations help meet the challenge? In a recent survey conducted by Yale University, most respondents said that they are willing to engage in consumer activism by punishing companies that contribute to climate change, but that they do not know which companies to punish (Leiserowitz et al., 2021b). Many respondents said that they would like to engage in such climate activism, but that no one has ever asked them to. This Element studies a nascent approach to climate-change regulation, titled "regulatory climate shaming" (RCS), which enables regulators to name and shame companies in order to exert public pressure on these companies to cut emissions and adopt climate-friendly policies.

Regulatory climate-shaming schemes have begun to emerge in various forms and jurisdictions worldwide. For example, the US Environmental Protection Agency (EPA) has recently launched a database that enables users to view data on companies' greenhouse gas emissions in maps, charts, and graphs and to compare emission trends over time.[1] The Swedish Energy Agency now requires companies to place labels on fuel pumps, displaying company-specific climate-impact ratings for different fuels (Swedish Energy Agency, 2021). The UK Environment Agency is naming all the companies that have breached climate laws and regulations in the past year on its website, with details of the infringements.[2] And the Israeli Ministry of Environmental Protection publicly scores and rates factories and companies in a league table, based on climate and environmental performance.[3]

Both public shaming and climate change feature prominently in today's public discourse, and the idea of a regulatory tool that uses one to address the other has recently emerged as a novel combination of these concepts. Consequently, scholarship on climate shaming is now beginning to develop in the behavioral and social sciences and in the humanities. However, the research literature on shaming largely discusses climate change only as a secondary issue to more general environmental concerns. Additionally, the discussion usually revolves around various types of shaming actors and targets, including individuals, NGOs, countries, and the media. Scholarship dealing with mandatory environmental disclosure also has limited relevance because this practice is mostly focused on providing information to support consumer decision-making, rather than on shaming companies into compliance by utilizing the social and economic

[1] https://ghgdata.epa.gov/ghgp/main.do.
[2] https://data.gov.uk/dataset/13c0893a-049a-4608-9f9b-7f268a71f15a/climate-change-civil-penalties.
[3] www.gov.il/en/Departments/publications/reports/environmental_impact_index_annual_reports.

power of various stakeholders. It also largely deals with particular environmental issues rather than climate change.

Thus, the intersection of climate-change regulation and government shaming of corporations remains largely underdeveloped. This Element aims to fill this gap by developing a theory of RCS, hoping to pave the path for meaningful climate regulation advances worldwide, and to open new research avenues in this field.

I use the term "regulatory climate shaming" to refer to information conveyed to the public by government regulators on harmful corporate behavior that is contributing to climate change, with the aim of inducing corporations to comply with climate laws, rules, and regulations, and also to adopt voluntary climate norms. This Element's primary mission is to examine whether RCS should and could become a viable tool in the fight against climate change. Thus, it offers both a descriptive and normative theory for RCS as well as policy recommendations for its use in practice.

The Element will explore such questions as: How do regulatory shaming (RS) theory, climate-change law, regulation and governance literature, and environmental disclosure scholarship support the conceptual framework of "regulatory climate shaming"? What role can shaming play in the current regulatory landscape to address the climate crisis? What can we learn from shaming strategies that are already being deployed in the environmental regulation arena (which I will refer to in this Element as "regulatory eco-shaming"), and from RS in the health sector, for the formulation of sound climate policies? What are the characteristics of existing RCS schemes in various jurisdictions in the United States and in Europe? Which RCS strategies might work best in the near future? What are the main concerns and opportunities presented by RCS, and how can policymakers mitigate these concerns and maximize such opportunities? And can shaming be justified as a legitimate regulatory tool in the fight against climate change?

As a basis for developing the concept of RCS, this section will first look at several building blocks that may be more familiar to the reader: climate-change regulation (Section 1.1), climate shaming (Section 1.2), and shaming more generally (Section 1.3). These are intended to provide a broad perspective for examining the use of climate shaming of companies as part of governmental regulation – which is the focus of this Element – by also discussing various other actors and aspects of law, regulation, and governance pertaining to the topic. Section 1.4 will then briefly outline the Element's intended contribution.

1.1 Climate-Change Regulation

Climate-change regulation is currently one of the world's greatest challenges. It involves efforts on local, national, and international scales to mitigate global warming and its current and predicted extreme impacts on weather patterns and

human lives. Generally, climate change refers to systemic long-term changes in climatic elements, such as temperature, precipitation, and wind (Dessler, 2021).

It is now well established that since the industrial revolution, the earth's temperature has risen markedly, mostly due to the burning of fossil fuels such as oil, coal, and natural gas (Maslin, 2021). This process releases greenhouse gases – primarily carbon dioxide (CO_2) – into the atmosphere, warming the globe through a "greenhouse effect" (Archer & Rahmstorf, 2009). As a result, the eight years from 2015 to 2022 have been the warmest on record, and the global mean temperature in 2022 was around 1.15 °C above pre-industrial levels (WMO, 2023). The World Meteorological Organization predicts a 50:50 chance of the increase in global mean temperature reaching the 1.5 °C threshold in the next five years (WMO, 2022). Without immediate large-scale reductions in greenhouse gas emissions, global warming is predicted to climb to 2 °C above pre-industrial levels by 2040 (IPCC, 2021; IPCC, 2022b).

These changes pose a severe threat to air and water quality, biodiversity, and natural ecosystems (Dessler, 2021; IPCC, 2022a). Yet climate change is far from being merely an environmental issue, and its implications go well beyond changes to weather. It also holds dramatic implications for public health, food and housing security, infrastructure integrity, economic stability, national security, and various other fundamental aspects of our lives (Dessler, 2021; Future Earth, 2022). Extreme heatwaves, fires, storms, droughts, and floods are predicted to lead to increased water shortages, hunger and malnutrition, spread of infectious diseases, migration, conflicts over resources, poverty, and mortality (Maslin, 2021; McDonald, 2021).

These phenomena are already being experienced around the globe and are predicted to escalate in the near and far future (IPCC, 2021). In fact, the number of extreme weather events has increased fivefold over the past fifty years, causing some two million deaths, economic losses totaling more than $3.5 billion (WMO, 2021b), and a worrying increase in the number of climate refugees (Wennersten & Robbins, 2017). Against this background, it is not surprising that the UN secretary-general has recently referred to the situation as a "code red for humanity" (UNFCCC, 2021) and a "highway to climate hell" (van der Zee & Horton, 2022).

Climate change and its impacts have been known to the scientific community since the nineteenth century, yet it was not until recent decades that they attracted public and political attention (Archer & Rahmstorf, 2009; Dessler & Parson, 2019). Since the 1980s, climate-change regulation has been introduced on an increasing scale at the international, national, and subnational levels (Dessler & Parson, 2019). In the remainder of this section, I review these levels

of regulation from a broad-brush perspective in order to underscore the dire need for effective climate regulation.

At the international level, several landmarks can be pointed out, chief among them are the 1992 Rio agreements, the 1997 Kyoto Protocol, and the 2015 Paris Agreement (Dessler & Parson, 2019). Notably, one of the 1992 Rio agreements, the United Nations Framework Convention on Climate Change (UNFCCC), serves as the parent treaty to subsequent international climate agreements (Carlarne et al., 2016). These agreements, achieved by some 150–200 nations in various UN summits, have evolved over time, from adopting general principles and vague obligations to setting concrete targets, most importantly for the reduction of greenhouse gas emissions (Benoit, 2022).

The conventional standards of current international climate regulation include keeping global warming well below 2 °C above pre-industrial levels (preferably 1.5 °C), reaching significant reductions in greenhouse gas emissions by 2030, and achieving net-zero greenhouse gas emissions by 2050 (Burck et al., 2021: 23; Dessler & Parson, 2019: 32; IPCC, 2022b). These standards are mostly based on the scientific reports of the Intergovernmental Panel on Climate Change (IPCC), the UN body tasked with assessing the science related to climate change.

Other central topics in international climate regulation include financial and technological assistance to developing countries (which was at the center of the COP27 summit in Sharm el-Sheikh), state pledges on deforestation, and the adoption of renewable energy technologies (Meckling & Allan, 2020). For example, during the 2021 COP26 summit in Glasgow, more than 100 countries pledged to halt deforestation by 2030, and around fifty states committed to a transition away from coal-generated power in the 2030s and 2040s (COP26, 2021).

Climate-change regulation at the national level has developed both as a derivative of international climate regulation and independently of it (Huang, 2021; Scotford et al., 2017). European Union member states have also developed climate law and regulation in accordance with EU legislation. Indeed, in recent years many states have passed climate-change mitigation laws, which address the root causes of climate change (such as coal-generated power) and seek to reduce their scope and impact (Burck et al., 2021: 23; European Environment Agency, 2022; Huang, 2021; World Bank, 2020). States are also advancing policies of climate-change adaptation, focused on providing better responses to current and expected impacts and implications of climate change, such as natural disasters, mass migration, and financial instability (Mayer, 2021; McDonald & McCormack, 2021; UNEP, 2022). The Grantham Research Institute's Climate Change Laws of the World database contains more than

2,400 laws and policies from some 200 countries on topics such as carbon pricing, low-carbon energy, industry emissions, fossil-fuel restrictions, deforestation, low-carbon construction and transportation, and natural disaster risk management.[4]

Many of these climate laws, rules, regulations, orders, decisions, programs, and guidelines are initiated, devised, implemented, and enforced by national administrative regulators, such as regulatory agencies and governmental ministries. For example, environmental agencies set greenhouse gas emission standards for vehicles and aircraft, implement programs to promote renewable fuels, and propose regulation to reduce emissions in the fossil-fuel sector (European Environment Agency, 2022; Freeman, 2020; World Bank, 2020). Other national regulators – in fields such as energy, transportation, health, planning, agriculture, security, commerce, and finance – also take part in climate-change regulation.[5] While international climate regulation is usually directed at countries (though corporations are also starting to engage in international climate agreements), governmental climate regulation tends to target corporations, facilities, businesses, industries, markets, and sectors (McDonald & McCormack, 2021).

Generally, government climate regulation harnesses a range of different types of tools (European Environment Agency, 2022; Gupta et al., 2007). These include various limitations, standards, permits, and prohibitions; cap-and-trade systems, which limit companies' permitted emissions through allowances and enable companies to purchase and sell unused allowances; disclosure schemes, which require that information on emissions and climate action is reported and publicized; voluntary public–private programs, which usually aim to achieve standards that transcend compliance with legally binding obligations ("beyond-compliance") (Hsueh, 2020; Hsueh & Prakash, 2012; Potoski & Prakash, 2009); regulatory agreements with companies and industries, which may address compliance or commitments to go "beyond-compliance" and typically include some form of regulatory leniency or commitment; and a variety of subsidies, financial incentives, charges, and taxes, which are worth mentioning here even though they are sometimes considered nonregulatory instruments (Fankhauser et al., 2010).

Climate regulation tools can be categorized, among other ways, according to their level of coerciveness: for example, pollution output requirements that are imposed via regulatory permits, rules, and regulations are generally considered hard, mandatory, command-and-control-style regulation; while other tools, such as regulatory agreements and disclosure schemes, are generally considered

[4] climate-laws.org.
[5] See, for example, Columbia University's US Climate Regulation Database, https://climate.law.columbia.edu/content/us-climate-regulation-database.

forms of soft regulation (Hsueh & Prakash, 2012). However, both hard and soft climate regulation tools may be based on administrative, criminal, or civil sanctioning, such as civil penalties and fines. For example, regulatory agreements, which companies can choose to enter voluntarily, often include provisions for the imposition of penalties upon infringement (Hsueh, 2020). Similarly, failure to produce or publicly present a building climate rating (a type of disclosure scheme) can result in penalties.

Climate regulation is also being conducted on the subnational level, by local governments and municipalities. These bodies advance, for instance, greenhouse gas reduction policies and energy efficiency schemes (such as "green building" policies), using various types of regulatory tools – similar to those deployed at national levels – applied via local laws, codes, ordinances, and the like (Moffa, 2020; Sørensen & Torfing, 2022). These also incorporate varying degrees of coerciveness, using hard and soft regulatory approaches and legal styles, and they are often directed at local businesses.

Yet, by and large, climate regulation at all three levels of governance[6] has produced disappointing results (Dessler & Parson, 2019; IPCC 2022b; Lyster, 2016). Countries are lagging behind their Paris Agreement goals, and even if the 2021 Glasgow COP26 pledges are fulfilled, the earth's temperature is expected to rise well above the 1.5 °C threshold (CAT, 2021; IEA, 2021; UNEP, 2021). While the COVID-19 pandemic resulted in a slight decrease in greenhouse gas emissions in 2020 (Le Quéré et al., 2021), 2021 has seen a noticeable rebound (IEA, 2021), continuing an unmistakable trend of emission growth over recent decades (UNEP, 2021).

Some attribute the failures of international climate law to a lack of enforcement mechanisms (Huggins, 2021), while others underscore the lack of participation of major emitting countries in UN Conference of the Parties (COP) summits and international agreements, alongside the highly politicized and consensus-based nature of the process, which involves dozens of nations (Genovese, 2020). Other explanations focus on emission targets being overly optimistic, unattainable, and set for up to three decades in the future (Burck et al., 2021: 24), as well as on the language of commitments being too soft and vague (Lyster, 2016).

National climate regulation is also considered insufficient, as some countries are only now beginning to legislate climate laws while others are still lacking any real legally binding domestic frameworks for climate mitigation and adaptation (IPCC, 2022b: ch. 5; Scotford et al., 2017; UNEP, 2022). Some researchers point to national climate policies that are legislated but not implemented *de facto*, or

[6] Alongside international, national, and subnational climate regulatory schemes, the private sector has also developed climate self-regulation mechanisms. These will be discussed briefly in Section 2.2, though generally, this subject is beyond the scope of this Element.

which include merely aspirational statements that affect greenhouse gas emissions only marginally (Eskander & Fankhauser, 2020). Many consider these regulatory failures to be the result of the fossil-fuel industry's efforts to actively deny climate change and thwart regulatory endeavors (see Section 2.2). Still, there is clearly a regulatory momentum on the national level across jurisdictions.[7] The subnational level of climate regulation also shows great promise (Moffa, 2020), though as it tends to thrive under climate regulation deficiencies at the national level (Carlarne, 2019), it might dwindle as the current momentum of national regulation continues.

Against this background, there seems to be a consensus that innovative new policies are desperately needed on the climate-change front (Carlarne et al., 2016; Coen et al., 2020; Dessler & Parson, 2019; IPCC, 2022b). There also currently appears to be a considerable degree of openness to implementing innovative regulatory tools at the national and subnational levels of climate regulation, and increasing opportunities to do so (IPCC, 2022b; Leiserowitz et al., 2021c).

1.2 Climate Shaming

Generally, "climate shaming" refers to the act of publicly denouncing or condemning individuals, business organizations, and countries for acts, omissions, and decisions that contribute, on a large or small scale, directly or indirectly, to climate change. The concept is most closely associated with "flight shaming," "meat shaming," and other types of "carbon shaming," and with shamers such as environmental activists, environmentally conscious individuals, NGOs, the media, and intergovernmental bodies, rather than government regulators and administrative agencies. Climate shaming should be differentiated from the more general term of "eco-shaming," which relates to shaming in response to various types of activities that are considered harmful to the environment.

As is evident from the discussion of climate-change regulation in the previous section, climate change is a complicated topic. Consequentially, climate shaming is not an easy task, especially when it takes as its audience the general public and not professionals. This is a major challenge for climate shamers, who in order to be effective need to be able to communicate their message clearly and persuasively. For example, they need to explain succinctly how certain industrial or consumer activities are bad for the environment. As the causal link between the shamed behavior and climate change becomes less immediate and

[7] See, for example, the Sabin Center for Climate Change Law's Climate Reregulation Tracker, https://climate.law.columbia.edu/content/climate-reregulation-tracker.

obvious – as in the case of financial investments in carbon-intensive sectors, for example – climate shaming becomes more challenging.

Climate shaming can be carried out in various ways, all of which ultimately publicly highlight a socially undesirable behavior, with the aim of provoking feelings of shame in those who are considered as contributing to climate change, or of provoking sufficient public outrage to force them to change their ways. Whatever the chosen mechanism, climate shaming is fundamentally based on the anthropogenic characteristics of climate change (Aaltola, 2021) – that is, since climate change is caused by human actions (IPCC, 2021), people can be held morally responsible for their contribution to climate change.

While levels of condemnation of climate-related behaviors may vary from mild to harsh, public expressions of condemnation generally signal that an important value has been harmed (Lamb, 2003) – in this case, our safety, our health, our well-being, our very future. In this regard, successful climate shaming is perhaps less challenging a prospect because it focuses on a natural and obvious moral cause. Of course, there are still those who question the science behind climate change, expressing doubt as to whether climate change is attributable to human actions or even exists, but these opinions are becoming less and less dominant (Bell et al., 2021; Leiserowitz et al., 2021a).

Another core problem with climate shaming is that the public may care more about local pollution they can observe and feel the effects of, like sewage in a river or smog, than about more distant pollution that contributes to climate change on a global level (Ansolabehere & Konisky, 2014; Cohen & Viscusi, 2012; Downar et al., 2021). In addition, the gradual rate of escalation of climate change makes it difficult to effectively communicate information about the threat it poses (Teichman & Zamir, 2022).

However, recent research points to an increase in people's concern about climate change after experiencing extreme weather events (Hughes et al., 2020; Konisky et al., 2016; Leiserowitz et al., 2019), which unfortunately are now becoming more and more frequent (WMO, 2021a). In this vein, a recent Pew Center survey of 16,000 people in seventeen countries found that the majority of respondents, especially young adults, are now greatly concerned about climate change (Bell et al., 2021). According to the survey, most people are worried that they will suffer from the effects of climate change during their lifetimes and are willing to take personal steps, such as lifestyle changes, in response. Another international Pew Center survey, from 2018, found that majorities in most countries perceive climate change as a major threat to their country and as the greatest international threat today (Poushter & Huang, 2019).

Certainly, climate change has received greater public attention and recognition in recent years and has become the subject of much rightful concern.

Accordingly, people are now more open to government implementation of various climate policy and regulatory tools (Bergquist et al., 2020; Leiserowitz et al., 2021c). They are also engaging in climate actions such as demonstrations, marches, strikes, consumer boycotts, public expressions of criticism and disapproval, and personal behavioral changes (IPCC, 2022b: ch. 5; Leiserowitz et al., 2021b). The COVID-19 pandemic may have also contributed to our understanding that "invisible threats" can give birth to very real global health and environmental crises with very real impact on our lives (Geiger et al., 2021).

In recent years, shaming has become an increasingly prominent element of social and political efforts to mitigate climate change. For example, the international community harnesses shaming to pressure states to commit to and achieve ambitious reduction goals for greenhouse gas emissions (Spektor et al., 2022). A case in point is the Paris Agreement, which is largely based on negative reputational consequences for countries that fail to fulfill their pledges (Jacquet & Jamieson, 2016; Lyster, 2021). Under the Agreement, countries report their progress and other countries, as well as local and global public opinion, hold them accountable (Tingley & Tomz, 2022).

NGOs, too, contribute to the climate shaming of nations, for example, by producing rankings of countries based on their pledges, energy use, climate policy, and greenhouse gas emissions. For instance, the Climate Action Tracker rates governments' climate policy responses in categories ranging from "critically insufficient" to "almost sufficient."[8] Similarly, the World Resources Institute presents all countries' nationally determined contributions (NDCs) to the reduction of greenhouse gas emissions in accordance with the Paris Agreement on an interactive map, highlighting countries that have only submitted initial, rather than new or updated, NDCs (Fransen, 2021). Another organization publishes the Climate Change Performance Index, which labels countries as "winners" or "losers" based on their climate policies and achievements (Burck et al., 2021). Similar publications and rankings are offered by various media outlets.[9]

Individual activists also work at shaming countries into better climate law, regulation, and policy. Notably, Swedish activist Greta Thunberg, who is considered by many as a climate-change icon, is well known for her shaming tactics directed at world leaders, especially surrounding COP meetings, when she calls out political leaders' passivism and charlatanism in connection with climate policies (Aaltola, 2021).

[8] https://climateactiontracker.org/countries.

[9] See, for example, the *Financial Times*'s ranking of states' emissions and pledges, www.ft.com/content/9dfb0201-ef77-4c05-93cd-1e277c7017cf.

Additionally, both individual activists and NGOs create a shaming effect via climate litigation, in which public attention is drawn toward countries that, for example, fail to legislate or implement climate laws or submit insufficient NDCs.[10] Such litigation can signal the moral flaws of the defendant, and a breach not only of a legal but also of a social norm (Carlarne, 2021; Haines & Parker, 2017; Shapiro, 2020).

Climate shaming is also happening on an individual, social level, as people attempt to shame others for their carbon footprint – that is, for performing various everyday activities that indirectly contribute to climate change, such as shopping, heating, driving, and flying. For example, one of the most familiar and arguably effective climate campaigns – launched by the then fifteen-year-old Thunberg – has prompted a phenomenon known as "flight shaming," in which people, especially public figures, are publicly disgraced for their contribution to the global carbon emissions problem through taking flights (Mkono & Hughes, 2020).

However, the climate shaming of nations, as well as individuals, remains limited in many respects. Despite NGO efforts to "track and shame" nations, international efforts to create shaming mechanisms that will nudge countries to do better, climate litigation against countries, and Thunberg's persistent shaming of world leaders, the world is still not on track to meet the 1.5 °C goal.

The effectiveness of shaming individuals is also questionable, as each individual's contribution to climate change through various everyday activities is extremely small in comparison to the fossil-fuel companies known as "carbon majors" (Jacquet, 2015). In fact, more than two-thirds of all greenhouse gas emissions are attributed to some 100 such carbon majors worldwide (Heede, 2014, 2020). To illustrate this point, a recent report has found that the annual total of greenhouse gas emissions produced by Australia's leading carbon major is equivalent to the estimated emissions of twenty-five million Australians for the same period (Moss & Fraser, 2019). The report further indicated that Australia's six carbon majors together emitted five times more CO_2 in 2018 than all domestic transportation in Australia.

Climate shaming between individuals is also the least accurate type of climate shaming, as it often relies on rumors, speculations, anonymous reports, and information taken out of context. Finally, as will be discussed in further detail in Section 1.3, shaming individuals, by any type of agent, arguably carries far greater moral jeopardy than the shaming of other kinds of targets, such as artificial entities (Jacquet, 2015; Nussbaum, 2004; Yadin, 2019a).

[10] See the Sabin Center for Climate Change Law's Climate Change Litigation Database, http://climatecasechart.com.