

Regulating net zero: from groundswell to ground rules

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Following a groundswell of voluntary net-zero targets by companies, regulators are increasingly mandating rules that require firms to align to the goals of the Paris Agreement. If governments can overcome the resulting barriers to rigor, coherence, and fairness, such mandatory "ground rules" have the potential to overcome the obstructionism that holds back a just climate transition.

15 From its origins in climate science, “net zero” has moved quickly to become a global goal as well as a target that individual countries, local governments, companies, and other actors have committed to achieve¹⁻³. Weighted by annual revenue, net-zero targets now cover nearly 80 percent of the largest 2000 publicly traded companies globally, up from less than 20 percent in 2020.^{4,5} However, the robustness of these targets varies significantly^{4,5}. Some represent serious efforts to decarbonize, others are vague or
20 dissembling. Perhaps the majority fall somewhere in between, as companies and financial institutions seek to align to social expectations, meet policy goals, and reap the benefits of the transition, while also minimizing cost and retaining flexibility in light of uncertainty around society’s transition pathway⁶. With implementation lagging ambition, net-zero regulations—understood here as rules that require firms to align to the mitigation goals in Articles 2 and 4 of the Paris Agreement by reducing emissions in the near
25 term to reach a long-term state of net zero—are a critical piece of the broader “implementation gap” identified in the first Global Stocktake under the Paris Agreement.

Mandatory rules address the limits of voluntary “net zero” targets

The widespread voluntary adoption of net-zero targets demonstrates both the social and political salience of climate action and the economic incentive to be a “winner” of the green transition. The flexibility of
30 voluntary targets has made them a useful tool to mobilize commitments for net zero, but it also comes with structural weaknesses. Mandatory rules bring at least three advantages.

First, they are less readily reversible⁶. Events that make, or can be argued to make, the transition more difficult may lead investors and firms to shrink from voluntary targets. When oil prices spiked following the

Russian invasion of Ukraine, for example, fossil fuel production companies that had made net zero commitments, such as Shell, Total, and BP, publicly backtracked on interim goals while also making record profits from high oil and gas prices. The risk of flip-flopping on climate commitments begets uncertainty, which frustrates efforts to unlock long-term private-sector investment in the transition.

Second, mandatory rules level the playing field. If one set of firms begins to decarbonize, there is no guarantee that other firms will follow suit. Indeed, climate laggards may simply take over dirty assets or increase market share in ways that substitute for the reductions achieved by more ambitious firms. Privately held companies, for example, are immune to some of the scrutiny and investor pressure (not to mention disclosure requirements) facing listed companies. Unsurprisingly, these firms have set fewer net zero targets and taken on a rising proportion of polluting activities^{6,7}.

Third, purely voluntary rules can struggle to assure quality. While mandatory rules can also be weak, they do create a possibility for legal enforcement, while voluntary systems largely rely on public scrutiny and reputational risk to drive action. While these tools can be effective, they face limitations in areas characterized by technical complexity or a lack of transparency. For instance, some carbon offsets large companies used to claim that net zero targets have been met now appear to be questionable, if not fraudulent.

Despite the benefits mandatory rules offer, strikingly, the vast majority of firms currently face no legal requirement to reach net zero. Exceptions are narrow in scope: they may be sector-specific, as is the case with the phasing out of internal combustion engine cars in several jurisdictions, or the result of a court-ordered injunction. As a result, despite country-level commitments to reduce emissions to net zero, including several legally binding national targets, corporate net-zero targets are almost all voluntary.

55 **A “conveyor belt” towards mandatory rules**

Despite their shortcomings, voluntary commitments can, under the right conditions, pave the way for mandatory rules. Indeed, in the climate realm, we are already beginning to see the beginnings of such a “conveyor belt”.⁸

By acting voluntarily, first-mover companies can help define and push forward the frontier of best practice. Indeed, several voluntary initiatives have emerged to mobilize firms toward net zero alignment, such as the Science Based Targets Initiative. These efforts have been both encouraged and steered by UN-related initiatives such as the Race to Zero campaign and the High-Level Expert Group on the Net-Zero Emissions Commitments of Non-State Entities. As those best practices become codified by standard-setting bodies like the International Organization for Standardization (ISO) or the International Sustainability Standards Board (ISSB), they give regulators a ready benchmark for how rules can best define and operationalize alignment to net zero. A recent report from the Financial Stability Board

<https://www.fsb.org/2023/10/progress-report-on-climate-related-disclosures-2023-report/>) highlights how regulators commonly design climate risk disclosure requirements around the ISSB standards, illustrating the potential of this pathway to translate voluntary action into regulation.

70 Importantly, this “conveyor belt” between voluntary action, standards, and regulation does not just work by codifying best practice. It also can, over time, change the political economy around net zero alignment. Once firms undertake voluntary decarbonization, they gain an incentive to make sure their competitors also align to net zero, lest they lose a competitive advantage. The same logic applies when specific firms are forced to adopt more stringent climate targets, either because of regulation or litigation. In 2021, the
75 Hague District Court in the Netherlands ordered Royal Dutch Shell plc, an oil major, to rapidly accelerate its CO₂ emission reductions (*Milieudefensie et al. v Royal Dutch Shell plc*). Shell’s competitors, meanwhile, face no such obligation. If Shell is compelled to comply with the ruling, it would have an incentive to support actions that level the playing field. As such incentives spread across the economy, they create growing political pressure to turn voluntary pledges into mandatory rules. In this way, voluntary action and
80 targeted litigation can work to erode the obstructionism that has blocked more ambitious climate policy in many jurisdictions.

Increasing regulatory activity around net zero

There is some evidence that net zero regulation is increasingly complementing voluntary targets. Tracking this trend is not easy; a first barrier to effective regulation is simply understanding the current state of net
85 zero alignment across a multi-level, multi-domain, multi-jurisdiction governance ecosystem. Evaluating the quality and impact of regulation requires detailed assessment, but a simple stock take reveals a growing quantity of regulatory activity around net zero (**Box 1**).

Box 1: Tracking regulatory action around net zero

We examined the spread of regulations in G20 countries that seek to align private sector actors to net zero (see Supplementary Material). Across four economy-wide regulatory domains—climate-related claims and product standards, climate risk disclosure, public procurement, and corporate transition plans—the number of regulatory instruments related to net zero has grown ten-fold across the G20 since the signing of the Paris Agreement (**Table 1**). Importantly, this growing regulatory activity does not necessarily imply that the rules are rigorous or effective, but rather suggests that regulators are increasingly entering what has primarily been a realm of voluntary governance. Notably, such regulatory activity can be found in developed and developing countries, and at different levels of climate ambition.

Table 1 – Number of regulatory instruments related to net zero in the G20, 2016-2024 (2024 figures include instruments due to come into effect).

		Year									
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Regulatory domain	Claims and financial product standards	0	0	0	0	4	9	12	19	22	22
	Disclosure	0	3	5	5	5	5	10	24	27	29
	Procurement	1	2	2	2	3	4	7	8	10	10
	Transition Plans	0	2	2	2	2	2	8	13	15	16
Total		1	7	9	9	14	20	37	64	74	77

90 Importantly, regulating net zero is not simply an exercise in adding new regulations. It also requires updating existing regulations to reflect climate goals and prevent inconsistencies. For example, the wave of voluntary climate action has been attacked by anti-climate political actors arguing that it could violate anti-trust regulations, which seek to protect consumers from corporate collusion. In response, the Dutch and UK competition authorities have adopted guidelines that exempt voluntary sustainability coalitions that are deemed indispensable for the reduction of greenhouse gases from competition laws.⁹

95 In other cases, aligning regulation to climate goals can involve deregulation. For example, in several jurisdictions the rapid buildout of renewable generation and transmission infrastructure needed for the energy transition is being held back by complex or restrictive permitting rules, outdated and siloed regulation, and constraining contractual protections that lock in fossil fuel reliance^{10,11}.

Net zero governance challenges: rigor, coherence, and fairness

100 The net zero “conveyor belt” towards mandatory rules holds enormous promise to anchor both national and corporate net zero targets. However, the rise of net zero regulation will only deliver these benefits if regulations are rigorous, coherent, and fair across jurisdictions.

Mandatory rules must be sufficiently ambitious and robust to ensure firms align to global climate goals. There is no guarantee that this will be the case. Indeed, the quality of a jurisdiction’s regulation on net zero will be shaped primarily by its political economy. Obstructionism from incumbent interest groups is therefore a primary barrier to effective net zero regulation.

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Indeed, weak or counterproductive rules, or lackadaisical enforcement, will do little to drive the transition and may in fact retard voluntary action relative to a situation without mandatory rules. For example, EU and South African regulatory taxonomies for green financing, by including fossil fuels under certain conditions, risk sending counterproductive market signals to investors to continue investment in fossil infrastructure, even though new upstream fossil fuel infrastructure is highly constrained in scenarios that achieve the Paris Agreement's temperature goals.

As the "conveyor belt" logic highlights, voluntary rules can help to shift this political economy to the extent they give leading firms incentives to push for general rules that apply to all. To promote rigor, policymakers should therefore continue to promote high-quality voluntary targets as a building block toward mandatory rules, while ongoing climate litigation generates further binding decarbonization obligations.

The second challenge is coherence across both domains and jurisdictions. In the United States, proposed procurement rules would require large firms selling goods and services to the government to report both direct and indirect emissions. But proposed disclosure rules, currently being debated by the American securities regulator (<https://www.sec.gov/news/press-release/2022-46>), might ultimately include only direct emissions and emissions from the purchase of energy, missing other value chain emissions which often account for the majority of a company's climate impact, despite Californian regulation requiring disclosure of scope three emissions from 2027 onwards.

This example illustrates a broader problem. No government today has set up an office or process to ensure that a common definition and operationalization of net zero applies across all regulatory domains, although the European Sustainability Reporting Standards (ESRS) represent a step in that direction for EU financial regulation. For companies operating across borders, the problem becomes even more acute in the face of regulatory fragmentation across a multitude of different countries and, in many cases, sub-national jurisdictions. Several US states, for example, are threatening anti-trust action against companies doing exactly what the US federal government or the EU are requiring. Governments will need institutional innovation to strengthen domestic and international coordination to build coherence. Promisingly, at COP28 the UN Secretary General announced the creation of a new Net Zero Policy Taskforce to help coordinate across domains and across jurisdictions, recognizing the severity of the challenge (<https://www.unpri.org/news-and-press/leading-international-agencies-form-taskforce-on-net-zero-policy-to-further-hleg-recommendations/11967.article>).

To be clear, globally uniform regulations are neither necessary nor desirable.¹² Local contexts and institutional complementarities suggest optimal structures and strategies are likely to differ across countries. However, it is critical that overarching net zero targets and the regulations that operationalize them have common science-based "guardrails" and processes to ensure comparability and

140 complementarity. Again, voluntary action and international standards can play a critical role by defining a frontier of best practice that all regulators can aim toward.

Finally, developing net zero regulation raises acute and unresolved questions around fairness.¹³ Countries have not established a consensus on what a fair distribution of the emissions budget between countries might be.¹⁴ Current NDCs, when aggregated, are not consistent with pathways towards the Paris Agreement's temperature goal.¹⁵ As countries move to regulate firms in line with differing nationally-determined targets, complex questions of fairness arise, particularly for firms operating across multiple jurisdictions. In addition, many new rules, such as carbon border adjustment measures, preferential subsidies for domestic production, or reporting requirements that include a company's global value chain, have extra-jurisdictional impacts.

150 At the international level, many regulatory domains lack governance structures that ensure that those affected by a regulation but based in a different country have some voice of influence on it. Domestically, many governments and firms lack the personnel and resources to implement complex rules on, for example, carbon accounting. For these reasons net zero regulation will require both more inclusive and better resourced governance structures to be effective. International organizations and donor governments have a critical role to play in funding the capacity needed for all countries to successfully regulate for net zero.

155 Ultimately net zero will need to be woven through the rules that structure the economy, an unprecedented regulatory challenge. To meet it, policymakers, regulators, and companies will need to turn the "groundswell" of voluntary action into rigorous, cohesive, and fair "ground rules" for the economy.

160 **Data availability:** Data supporting the table is available through the 2023 Net Zero Regulation Stocktake at <https://netzeroclimate.org/regulation-tracking/>.

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