



Introduction: What next for supply-side policy?

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From the margins of climate governance, supply-side policies which seek to restrict the production of climate warming fossil fuels are gaining greater prominence. From bans and phase-out policies to divestment campaigns and the creation of ‘climate clubs’ such as the Beyond Oil and Gas Alliance, there is growing recognition that the temperature goal of the Paris Agreement cannot be achieved without leaving large swathes of fossil fuel reserves in the ground.

Where do we take supply-side policy next? What does the experience of first mover countries to date suggest about the prospects for second and third movers? How can key business and financial actors be engaged in efforts to restrict supply? What form might regional and multilateral forms of cooperation on supply-side take? These are among the questions addressed by contributors to this special issue on an increasingly critical new frontier in climate governance.

In this introduction, we first clarify what we mean by supply-side policies and provide some historical background to their emergence to provide some context and locate the significance of the contemporary developments discussed in the papers which we briefly summarise before concluding with some reflections on research gaps and where this agenda might evolve next.

1 Situating the turn towards supply-side policy

Supply-side policies can involve economic, regulatory, and informational approaches (Lazarus et al., 2015) and take numerous different forms. Some researchers focus on a range of policy measures, such as bans, divestments, blockades, litigation, and emissions trading schemes (Gaulin and LeBillon 2020), while others focus specifically on bans, moratoria, and phase-out policies that explicitly cease production (Carter 2020). The papers in this special issue cover many of these approaches, from bans (Slevin and Barry; Greene and Carter) to divestment and bailout mechanisms (McDonnell; Kroll and Kühne). The

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papers highlight a plethora of approaches from Payments for Ecosystem Services (PES) approaches perhaps epitomised by the Yasuní initiative explored in the paper by Alarcón, to financial mechanisms (McDonnell; Kroll and Kühne) and diplomatic strategies (Saha; van Asselt et al., Greene and Carter).

Yet, while forms of supply-side policy have flourished, progress towards foregrounding the need to phase out fossil fuels in international climate policy has been exasperatingly slow. More than three decades ago, communities at the front lines of oil extraction, joined by governments and civil society organisations, began calling for fossil fuels to be kept in the ground (Carter & McKenzie, 2020)—indeed, frontline activism by Indigenous land and water protectors and civil society advocates continues to be the primary driver of supply-side climate policy (IEN and OCI 2021; Gilio-Whitaker, 2019). By 1997, just as the world's first treaty to agree legally-binding cuts to greenhouse gas emissions was adopted (the Kyoto Protocol), Greenpeace documented that fossil fuel reserves, if extracted and consumed, would vastly exceed a global carbon budget limiting global warming to 2 degrees (Hare 1997). This would be the first of many subsequent analyses underscoring the incompatibility of climate safety and status quo fossil fuel extraction.

Yet, negotiators and civil society actors continued to struggle to insert the curtailment of fossil fuel production into national policy and international climate agreements. There have been international breakthroughs in very recent years, in great part the result of civil society pressure to centre this issue. Notable among them are the 2015 Lofoten Declaration calling for an end to fossil fuel expansion, and the 2021 inception of the Beyond Oil and Gas Alliance at the COP in Glasgow, the first international alliance to manage a phase-out of oil and gas production. Even so, it was not until the most recent COP in 2023 that the final text of the Global Stocktake called on countries to transition away from fossil fuels to limit global warming to 1.5 °C.

The fact it has taken over 30 years of climate negotiations to name the number one driver of the problem is testimony to the power of fossil fuel interests and their state allies in keeping the collective gaze away from their role in driving the climate crisis. Recent progress on supply-side climate policy was hard won, given the backlash by oil and gas firms (InfluenceMap 2022) and attempts by major producing governments to rebrand their oil and gas production as low carbon through the application of false solutions such as Carbon Capture and Storage (CCS) (often paid for by public subsidies and predominantly used thus far to enable further extraction).

This moment—marked by recent breakthroughs in supply-side climate policy, juxtaposed with mounting pressure to expand oil and gas production—is therefore a critical juncture to deepen the conversation around supply-side policies at the international level, centring the question of where next for supply-side policy.

2 Key insights from the special issue

Taken together, these articles demonstrate how a multitude of actors and agendas are converging around the call for supply-side policies. From investors and multilateral lenders anxious about being left with stranded assets, governments being held to account (by movements and through the courts) for the incompatibility of plans to expand fossil fuels with their climate goals, to cities and regions supporting supply-side policies and initiatives such as the Fossil Fuel Non-Proliferation Treaty and signing up to be fossil-free SAFE cities, through to social movements and NGOs employing a range of strategies to accelerate

moves away from fossil fuels, there is growing consensus about the need for this governance turn in approaches to addressing climate change. Around how best to consolidate and accelerate this turn, opinions differ. These differences reflect different theories of change and strategic preferences (address all fossil fuels or just coal), theoretical and ideological differences (about the role of the state and markets for example) and the fact that uneven levels of development, diverse systems of governance and different degrees of civil space mean that entry points for advancing this agenda limit the applicability of one-size fits all models of change.

Recognising this complex political landscape, as well as the value of drawing on diverse strands of literature to build interdisciplinary approaches to the study of supply-side policies, Newell and Carter draw on political-economic, sociocultural, and global governance perspectives to provide conceptual resources for understanding (and advancing) supply-side policies. This first piece also includes an overview of the development and spread of supply-side climate policy to date.

With this framework in place, the issue then turns to state-led efforts to limit fossil fuel extraction. We begin with Slevin and Barry's analysis of the case of Ireland, one of the first states to adopt 'keep it in the ground' legislation. Consistent with the multi-scalar approach advocated for by Newell and Carter, they examine the multi-level drivers of supply-side policies, where external shocks like the war in Ukraine intersect with domestic politics to prompt the state to reconsider where and how it sources hydrocarbons, leading to a reconsideration of LNG imports and the exploitation of indigenous offshore hydrocarbons. Alarcón's piece then shifts our attention to the Global South and Ecuador's Yasuní initiative, announced in 2007, to secure international cooperation for leaving oil reserves in the ground. While the government ended the effort to secure financial support for the initiative in 2013, it was revived in 2023 given new energy transition pressures and opportunities. Alarcón places Ecuador's reengagement with supply-side policy in the context of "reloaded extractivism" for the green transition. This reflects ongoing tensions in many resource-rich countries of the Global South, between national development and global sustainability imperatives, and between their low capacity to enact an energy transition yet high vulnerability to shifts in global energy markets.

Heras's piece deepens this focus on low and middle-income countries (LMICs), developing a neo-Gramscian account of developing country engagement with supply-side climate policy. By analysing different developing countries and how they have portrayed their development trajectories in the last 30 years, he shows how some LMICs are 'organically' aligned with hegemonic discourses around fossil fuel-based economic development articulated by the incumbent fossil fuel historical bloc, while others express more agency and leadership in addressing the issue, challenging the bloc with counter-hegemonic opportunities for moving beyond fossil fuels as part of an inclusive and just energy transformation. Saha's article then focuses specifically on the Least Developed Countries (LDCs), revealing the power dynamics and economic interdependencies that result in LDCs such as Bangladesh being caught in a paradox of being reliant on fossil fuels themselves while advocating in the climate negotiations for richer countries to accelerate the phase-out of their own fossil fuels. Their ability to publicly articulate these demands is compromised by dependence on aid from fossil fuel exporting countries and close ties to regional partners such as India that are actively resisting calls to phase-out coal, for example.

Next the issue pivots to consider multilateral efforts to advance supply-side climate policy. Greene and Carter analyse how Denmark, inspired by early state-level movers like Ireland, transitioned from being the largest oil producer in the European Union to implementing a policy to phase-out oil production as part of its ambitious climate policy—an

effort it then leveraged globally to boost international supply-side climate policy via its co-leadership of the Beyond Oil and Gas Alliance. Following this, van Asselt et al. combine qualitative insights on climate clubs with quantitative analysis based on integrated assessment general equilibrium modelling to help identify which groups of countries are most likely to lead the formation of an international supply-side coalition, and which groups of countries are likely to follow. This type of analysis and scenario work assumes ever greater importance as action plans begin to be articulated about how to carry forward emerging supply-side policy commitments and the call in the COP text to ‘transition away from fossil fuels’.

Shifting to emphasise the role of non-state actors, McDonnell’s paper urges caution about relying on investors to drive supply-side policies. She finds that while many of the largest pension funds have been considering climate change in their investment and stewardship strategies since the early 2000s, their strategies have remained centred around improving transparency and disclosure from companies, with little increase in the ambition of their strategies. Despite growing evidence of the scale of the crisis, most do not have a comprehensive approach to addressing their fossil fuel investments. Central banks, on the other hand, could play a far more proactive role in providing an enabling landscape for financing the shift away from fossil fuels. Meanwhile, Arcuri et al. explore the obstacles posed to effective supply-side climate policies by international investment treaties that protect corporations against state interventions through investor-state dispute settlement (ISDS). Such mechanisms enable companies to claim lost future profits from states enacting supply-side policies, potentially creating a ‘chilling effect’, particularly in countries in the Global South that lack the resources to defend their policies before arbitration panels. More hopefully, Kroll and Kühne present a new “climate bailout” tool which would enable fossil fuel industry actors to sell what would otherwise be stranded assets to central banks upon committing themselves to invest the received money into new and additional renewable energy. This would involve central banks taking long-term, low-yield green climate assets onto their balance sheets in a process supported by multilateral development banks and other development finance institutions.

The fate of global action on supply-side policies will depend heavily on their ability to adequately deal with complex issues of justice in how targets and timetables are set for the phase-out of fossil fuels. The last contribution to the special issue by Gupta et al. returns to the early days of international climate policy development, specifically how limits on global temperature rise were set. The piece underscores the injustice of limits exceeding 1 degree and focuses responsibility squarely on undue influence of the fossil fuel industry as well as the largest historical emitters in the Global North. The future success of supply-side approaches—nationally, regionally and globally—will depend on political actors navigating complex justice questions within global governance arrangements. As Gupta et al. show, using an Earth System Justice framework can inform the advancement of a more justice-aligned energy transition.

3 Next steps

The extent to which and the ways in which supply-side policies get adopted going forward will undoubtedly reflect the shifting geopolitics of energy and the associated turbulence this produces in energy markets. This greatly impacts how states seek to reconfigure their energy systems to enhance their competitiveness, resilience to shocks and ability to

strengthen energy security. The degree to which the climate crisis will reshape or impinge upon these calculations remains unclear, but the human, social, economic and ecological costs of climate change are transforming states and societies—within and beyond the energy sector. Indeed, one of the entry points for advancing policies which limit fossil fuel production is precisely the many co-benefits of doing so beyond their climate benefits: around human health, biodiversity protection, protection of rights to land and livelihood etc. As Daley and Lawrie show (2022), without supply-side policies it will be impossible to meet the 17 SDGs states signed up to in 2015.

Future areas of research might include the development of comparative frameworks for analysing how, when and why supply-side policies get adopted and by whom. In other words, drawing on the sorts of insights provided in the papers in this special issue on national level supply-side policies to infer broader lessons about enabling conditions for the adoption and sustainability of supply-side policies. This type of research could also inform and support the sort of scenario building and horizon-scanning work undertaken by van Asselt et al. to anticipate countries and blocs most likely to move this agenda forward. It would also help to enrich and underpin the interdisciplinary conceptual Newell and Carter propose aimed at identifying those features of political and economic systems most conducive to supply-side policy adoption.

The paper by Arcuri et al. also underscores the importance of attending to the global governance of supply-side policies, not just proposals for what form this might take (Van Asselt, 2021; Newell et al. 2022; Newell & Simms, 2019; Burke & Fishel, 2020), but how current configurations of power and authority between global bodies might enable and frustrate the pursuit of supply-side policies. There is plentiful scope and a critical need for engaged critical scholarship which supports political, legal and advocacy strategies aimed at creating openings for supply-side policies in the current global governance architecture. Given both the complexity and entrenched nature of fossil fuel assemblages across so many social and economic domains, and the immense power of the fossil fuel industry, as scholars and activists we need to raise our game by producing applied, co-produced and conceptually and methodologically innovative work to tackle this challenge from all disciplinary and strategic angles. We hope this special issue can contribute to that work by providing diverse insights on opportunities for amplifying supply-side policies.

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