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Fossil Free Zones: a proposal

Fergus Green

Department of Political Science, University College London, London, United Kingdom

ABSTRACT

This perspective paper proposes a new conceptual framework for bottom-up climate mitigation: the Fossil Free Zones (FFZs) framework. The aim of the framework is to facilitate grassroots, goal-driven climate action, and government policy at increasingly higher levels, with a view to ‘tipping’ social systems away from their reliance on fossil fuels. The paper outlines the framework and the theory of change on which it is predicated, after first introducing the historical precedent that inspired it – the system of Nuclear Weapon Free Zones. The FFZs framework offers two main advantages over other anti-fossil fuel initiatives – such as the Fossil Fuel Non-Proliferation Treaty Initiative – though it is intended and designed to complement these, not compete with them. First, the FFZs framework combines a unified and accessible discursive frame with a focus on practical decarbonising activities at multiple levels of governance. The discursive frame promotes the diffusion of anti-fossil fuel norms while the practical activities promote positive (reinforcing) social, technological, economic and other feedback effects. Second, the combined focus on supply and demand increases the political resilience of anti-fossil fuel initiatives in the face of fossil fuel price fluctuations, and promotes cooperation between producer regions and urban consumer centres.

Key policy insights:

- Anti-fossil fuel activism has become a global phenomenon, but fossil fuel production and combustion continue to rise, threatening climate objectives.
- A system of Fossil Free Zones is proposed to further mobilise grassroots and subnational action against fossil fuels, and build anti-fossil fuel norms.
- A Fossil Free Zone is a geographic area characterised by the absence of fossil fuel production and consumption, with intermediate statuses based on fuel types and activities, e.g. ‘coal supply free zone’.
- Motivated groups set zone-related goals and work toward them, cooperating with others and across different levels of government as necessary, and declare the zones they have achieved.
- Ultimately, Fossil Free Zones could become institutionalised at national and international level, as has occurred with Nuclear Weapon Free Zones.
- Fossil Free Zones combine discursive framing with practical decarbonising activities, and address fossil fuel production and consumption, improving on other anti-fossil fuel initiatives.

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Fossil fuels; norms; climate action; activism; social movements; political mobilisation

Introduction

This perspective paper proposes a new conceptual framework for bottom-up climate mitigation in fossil fuel-intensive sectors and activities: the Fossil Free Zones (FFZs) framework. The aim of the framework is to facilitate grassroots climate action, and government policy at increasingly higher levels, with a view to ‘tipping’ social systems away from their reliance on fossil fuels. The framework is inspired by an historical precedent – the

CONTACT Fergus Green  fergus.green@ucl.ac.uk; @fergusgreen  Department of Political Science, University College London, The Rubin Building, 29/31 Tavistock Square, London, WC1H 9QU, United Kingdom

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system of Nuclear Weapon Free Zones – which will be introduced first. The paper will then flesh out the FFZs framework, and the theory of change on which it is predicated, in more detail. The balance of the paper will explain the key advantages of the framework compared with similar anti-fossil fuel initiatives, such as the Fossil Fuel Non-Proliferation Treaty Initiative (FFNPTI),¹ though the FFZs framework is designed to complement such initiatives, not compete with or replace them.

The precedent: nuclear weapon free zones²

A NWFZ is a treaty-based arrangement in which a group of states establishes (i) a defined geographic area characterised by the absence of nuclear weapons and (ii) a system of verification and control to guarantee compliance.³ A NWFZ prohibits, within the defined zone, at least the possession, testing, deployment and use of nuclear weapons (Thakur, 1998, pp. 6–7). Developed and championed by nuclear arms control advocates during the cold war (see Goldblat, 1997), the idea has led to five NWFZs being established in populated regions – Latin America (1967), the South Pacific (1985), Southeast Asia (1995), Africa (1996), and Central Asia (2006) – and four additional treaties prohibiting the nuclearisation of, respectively, the Antarctic continent, the seabed, outer space and the moon.⁴

NWFZs provide a useful precedent for the FFZs framework because they demonstrate how small groups of relatively weak actors can make a tangible contribution to a seemingly intractable problem over which they have little direct control. As well as preventing the proliferation of nuclear weapons within zonal states, NWFZs have had positive spill-over or ‘feedback’ (Pierson, 1993) effects: they generated precedents, ideas and evidence that increased the likelihood of other regions establishing similar zones; they strengthened *global* norms against nuclear weapons proliferation, testing, deployment and use; they helped to build confidence internationally in nuclear *disarmament* efforts; and more generally they helped to delegitimise nuclear weapons *per se* (see the chapters in Thakur, 1998a).

The FFZs framework and its ‘theory of change’

A FFZ would be a geographic area characterised by the complete absence of fossil fuel exploration, production, transportation, intermediate treatment, and consumption activities. The framework proposed here contains a scheme of intermediate zones covering each of these different activities, and for each of coal, oil and gas (see Table 1). For example, a ‘coal supply free zone’ would prohibit, and guarantee the absence of, coal exploration and production activities, but not necessarily its transportation, intermediate treatment and consumption, whereas a ‘coal free zone’ would prohibit all such activities. The idea is that participating groups work to achieve progressively greater degrees of freedom from fossil fuels, publicly declaring the fossil free goals they are working toward and the levels they have achieved.

The ultimate goal is for FFZs to be enshrined in national laws and international agreements and accompanied by measures to ensure an equitable distribution of burdens and benefits. But this will not happen without actions at smaller scales from which pressure on states can be built ‘from below’ (Brysk, 1993). Thus, the point of the FFZs framework is not to prescribe an ideal ‘blueprint’ for an international fossil fuel regime (cf. Burke & Fishel, 2020; Newell & Simms, 2020), but rather to inject a set of ideas into the public consciousness on which motivated

Table 1. The Fossil Free Zones framework.

	Coal	Gas	Oil	All Fossil Fuels
Exploration and Production/mining/extraction	Coal Supply Free Zone	Gas Supply Free Zone	Oil Supply Free Zone	Fossil Fuel Supply Free Zone
Transport, intermediate treatment & distribution	(e.g. ‘Coal Port Free Coastline’)	(e.g. ‘Pipeline Free Province’)	(e.g. ‘Pipeline Free Province’)	(e.g. ‘Fossil Free Port’)
Consumption	Coal Use Free Zone	Gas Use Free Zone	Oil Use Free Zone	Fossil Fuel Use Free Zone
All of the above activities	Coal Free Zone	Gas Free Zone	Oil Free Zone	Fossil Free Zone

groups might draw to actually bring this change about. Theoretically, it is an experimental form of governance aimed at steering motivated groups to take actions that, via positive spill-over and feedback effects, could eventually ‘tip’ whole systems into a new, more sustainable equilibrium (cf. Bernstein & Hoffmann, 2019; Farmer et al., 2019; Green, 2018a; Hale, 2020; Lenton, 2020; Otto et al., 2020). In line with this aspiration, participation in the scheme is not restricted to states, but rather is possible at multiple scales and open to non-state and sub-national actors. It is thus also a ‘polycentric’ form of climate governance (Ostrom, 2014).

Consider first how the decarbonising activities envisaged under FFZs, when undertaken by a single group, can deepen the capacity of *that group* to decarbonise over time. Essentially, achieving FFZs requires groups of people to work together to change material and social structures. Group-based climate actions focused on behavioural and structural change have been found to be effective in motivating pro-environmental behaviour change with positive feedback effects because they harness the power of social networks and norms, facilitate mutual learning and support, and provide a sense of identity, belonging and shared purpose (Climate Change Communication Advisory Group, 2010, pp. 8–9; Corner et al., 2014, p. 417; Grady-Benson & Sarathy, 2015; Vine & Jones, 2016). And because the FFZs framework entails a system of progressively more difficult achievements, it also facilitates the ‘small wins’ (Alinsky, 1971; Weick, 1984) that reinforce hope and the sense of efficacy that sustains participation in collective action over time, making larger goals – like international FFZs – seem more achievable (McAdam, 2017, p. 205).

Group-based decarbonising activities also have greater potential for positive feedback effects *beyond the group* undertaking the activity – both horizontally (to similar kinds of groups) and vertically (to lower- or higher-level entities). For any significantly sized group to attain FFZ status, its members will not only need to work together to change their own practices or policies; they will also need to influence subordinate and superordinate groups whose own policies or practices constrain the first group’s ability to achieve that status. Horizontal and upward spill-overs can occur through direct engagement (e.g. persuasion, lobbying), modelling new practices, social influence (norms, esteem, peer pressure) and even rivalry (Climate Change Communication Advisory Group, 2010, pp. 8–9; Grady-Benson & Sarathy, 2015; Vine & Jones, 2016). Meanwhile, legal and policy changes at higher levels can enable and, if necessary, force change at lower levels.

For example, imagine a town that does not produce fossil gas, but that currently uses large quantities of it for space-heating and cooking; some of its electricity is also supplied from gas-fired power generators located in a different region. A pioneering group of households, companies, religious congregations, football clubs and schools in the town decides to go ‘gas free’. They take steps to retrofit buildings to make them more energy efficient, and replace gas stoves and boilers with electric stoves and heat pumps. Attaining ‘gas free’ status soon becomes a marker of collective pride and social esteem in the community, which motivates other groups to take similar action. However, some households cannot afford to take these measures, and others hit regulatory barriers. Together, these groups pressure the local council to provide subsidies to retrofit the homes of low-income households, and to remove the relevant regulatory barriers. The local council then pressures neighbouring councils to do the same, and together they lobby the provincial government to phase out gas-fired power plants and gas production in the province, and so on. The logic applied in this hypothetical subnational scenario applies equally at higher levels (Bernstein & Hoffmann, 2019; Green, 2018a; Hale, 2020). Hence we can imagine how polycentric actions of this kind could lead national governments to eventually enact FFZs, and to adopt equitable international measures that support poorer, fossil fuel-dependent countries to phase-out their fossil fuels, too – reinforcing existing initiatives such as the Powering Past Coal Alliance and Beyond Oil & Gas Alliance.

How FFZs compare with similar initiatives

Social activism is proving to be a powerful source of resistance to the dominance of fossil fuels (Cheon & Urpelainen, 2018; Green, 2018a; McAdam, 2017; Piggot, 2018). Organisations such as 350.org, the FFNPTI, and SAFE Cities⁵ are making invaluable contributions to this effort. Yet, powerful opponents and countervailing incentives have ensured that, globally, fossil fuel production and consumption continue to expand (SEI et al., 2021). In this challenging environment, social innovation and experimentation will be essential to accelerating progress (Bernstein & Hoffmann, 2019). A new initiative to promote the FFZs framework will have to reckon with these headwinds, too, but it has two advantages over existing initiatives, which make it a worthy addition. These are discussed below.

1. A combined focus on discursive framing and multi-level practical decarbonising activity

The FFZs framework combines the benefits of discursive framing, which generates positive spill-over effects through the diffusion of norms, with the benefits of practical decarbonising activities, which generate positive spill-over effects through various other social, economic, technological and political mechanisms explored above.

Much anti-fossil fuel activism is geared toward changing moral norms about the legitimacy of fossil fuels and the fossil fuel industry (Cheon & Urpelainen, 2018; Green, 2018a, 2018c). But building new moral norms requires not only taking actions to prevent the harmful status quo that one is opposing (in this case, producing and burning fossil fuels). It also requires discursive change: proponents must engage in a deliberate process of '(re)framing' so that the conduct they desire becomes seen as normal, and so displaces the conduct they oppose (Finnemore & Sikkink, 1998). Given this link between discourse and norms, the cause of building anti-fossil fuel norms will be strengthened by having a common discursive frame with which to link anti-fossil fuel activities around the world (Green, 2018a).

However, the vast majority of anti-fossil fuel initiatives are focused on local actions against fossil fuels and are therefore framed around local identities, which makes them less likely to diffuse to other regions with differing identities, or to scale to higher levels of action. Undoubtedly, for groups that have a unique, locally-rooted identity, this can be an asset in local political conflicts over fossil fuels (Cheon & Urpelainen, 2018; Green, 2018a). That is why the FFZs framework is not intended to be hegemonic or to displace existing group identities. The point is that such groups, by *also* adopting the language of FFZs, can simultaneously adopt a more general identity in common with others fighting for compatible goals, and thereby contribute to wider discursive and normative shifts. By positioning fossil fuels as a source of oppression from which liberation is desirable, the FFZs framework offers a simple and compelling frame based on the widely appealing liberal values of freedom and harm-avoidance (Corner et al., 2014; Finnemore & Sikkink, 1998; Leiserowitz et al., 2006).

Other anti-fossil fuel initiatives face the opposite limitation: they focus largely on discursive shifts with insufficient attention to decarbonising activities. An example here is the movement behind 'climate emergency' declarations (Ruiz-Campillo et al., 2021). Another is the FFNPTI, which builds political momentum by encouraging sympathetic groups publicly to declare their support for a treaty. Declarations matter: they spread, normalise and legitimise an idea; and the work that is done behind the scenes to persuade the members of an organisation to make such a declaration can shape the views of individuals and influence the organisation's wider agenda (Ruiz-Campillo et al., 2021). Still, declarations have their limits. A declaration does not necessarily involve any additional decarbonising activities by the relevant organisation (Patterson et al., 2021; Ruiz-Campillo et al., 2021). An example of an initiative that successfully combines declarative and decarbonising activities is Stand.Earth's SAFE Cities initiative,⁶ though it is inherently limited to cities.

Under the FFZs framework, civil society and subnational actors not only declare the zonal statuses they have achieved and those that they are working toward, but also undertake decarbonising activities to achieve those goals.⁷ Moreover, the framework's flexibility enables participating groups to experiment in order to work out the best way of achieving freedom from fossil fuels within their particular context. For example, they might make changes to infrastructure, technologies, policies, practices or social/political relations. Accordingly, group-level actions under the framework can tap into a wider range of positive feedback mechanisms beyond norm change, and can operate at multiple levels, as explained and illustrated in the previous section.

2. A combined focus on supply and demand

The second advantage of the FFZs framework is that it encompasses not only the production of fossil fuels but also their consumption. Consequently, compared with anti-fossil fuel initiatives that exclusively focus on either consumption (like the Powering Past Coal Alliance) or production (like the Beyond Oil and Gas Alliance and the FFNPTI), the FFZs framework is more resilient and less divisive. This can be illustrated with reference to the FFNPTI.

First, because the FFNPTI focuses exclusively on curtailing fossil fuel supply, it is politically vulnerable at times of high fossil fuel prices, such as those prevailing at the time of writing, following Russia's invasion of

Ukraine. With fossil fuel prices so high, consumers and public officials want to bring prices down; they tend to be averse to arguments for limiting supply (which would increase prices). Moreover, such conditions are favourable to fossil fuel producers, who find a more receptive audience when lobbying for new exploration and production licences, and against supply-side climate mitigation measures (InfluenceMap, 2022). Initiatives that target both supply and consumption of fossil fuels, like the FFZs framework, are more politically resilient to such price shocks and cycles. For instance, when prices are high, anti-fossil fuel proponents can focus on energy efficiency, renewable-powered electrification, and other measures that reduce demand for fossil fuels, offering a powerful counter-narrative to that of fossil fuel producers.

Second, the FFNPTI's exclusive supply-side focus risks entrenching political divides between places that do not produce fossil fuels and those that do. Cosmopolitan cities generate the bulk of their economic activity from service sectors and tend not to produce fossil fuels, making it politically easier for their political representatives to endorse initiatives aimed at restricting or phasing-out fossil fuel supply. It is thus no surprise that the cities that moved first to endorse the FFNPT were the likes of Vancouver, Toronto, Barcelona, Los Angeles, Sydney, and the Australian Capital Territory (Canberra). However, unless concerted efforts are made to ensure a just transition for the workers and communities who supply fossil fuels, climate action can stoke regional resentments and provoke political backlash (Vona, 2019).

Cosmopolitan cities do, however, *consume* a lot of goods and services produced using fossil fuels. For these places to become truly fossil fuel free under the FFZs framework, they will by definition need also to become fossil fuel *consumption* free. This means, at a minimum, that they will need to phase-out direct fossil fuel consumption from the urban environments in which their constituents live and work (e.g. buildings and vehicles). But it should also mean that they need to eliminate fossil fuels from electricity sourced from outside the jurisdiction, and, ideally, also from the agricultural and manufacturing supply chains on which their constituents' consumption-intensive lifestyles depend (Rice et al., 2020; Rode, 2019, pp. 8–9; Wachsmuth et al., 2016).⁸ As such, the FFZs framework encourages urban populations to reflect on the upstream fossil fuels 'embedded' in their consumption patterns and challenges them to work collaboratively with the companies, workers, communities and governments who supply those goods to equitably phase-out their production.

Conclusion

The purpose of this perspective paper has been to propose the FFZs framework and explain the unique contribution it could make in the increasingly crowded conceptual and political space of anti-fossil fuel climate action. This paper does not consider the operational details of such a system, such as guidelines for the achievement of zonal statuses for different kinds of groups, verification and certification standards, and so on. All of these details are currently being worked out as part of a nascent NGO campaign for FFZs in which the author is involved.⁹

As the campaign is rolled-out and the framework is taken up by different groups, opportunities for future research and policy analysis will abound. Initially, it would be valuable to put the arguments of this paper to the test through case studies of FFZ initiatives using qualitative methods. If the FFZ framework is adopted in sufficient numbers, quantitative studies could yield further insights about the correlates, causes and effects of FFZ initiatives. If the framework is adopted across diverse socioeconomic and cultural contexts (by similar types of entities at similar levels), comparative analysis could yield valuable insights as to how it is being adapted to fit unique contexts, and whether some of these contexts are more conducive to its uptake and effectiveness than others. Finally, if the framework attracts sufficient attention from governmental actors, the input of lawyers, policy experts and normative theorists will be needed to develop formal policy and legal proposals and to ensure that these are effective and equitable, within and between countries.

Notes

1. See <<https://fossilfuel treaty.org/home>> and <<https://campaign.fossilfuel treaty.org/>>.
2. For a more detailed discussion of the system of Nuclear Weapon Free Zones, upon which this section is based, see Green (2018b).

3. United Nations General Assembly Resolution 3472 B (1975).
4. The formal details of all treaties can be found at UNODA, “Nuclear-Weapon-Free Zones”, <https://www.un.org/disarmament/wmd/nuclear/nwzf/>.
5. SAFE stands for Stand Against Fossil Expansion.
6. See <<https://www.stand.earth/safe>>.
7. Many groups will be able to simply declare certain *intermediate* zonal statuses, such as “coal supply free zone”, without additional activities, but becoming entirely fossil free will require considerable effort for most industrialised communities.
8. It is beyond the scope of the present paper to consider which specific, fossil fuel-intensive activities occurring outside a group’s boundary would count towards the group’s consumption for the purposes of the FFZs framework.
9. See <<https://www.leave-it-in-the-ground.org/projects/fossil-free-zones/>>. The campaign is being led by the Leave It In the Ground Initiative (LINGO) and was inspired by the author’s earlier, less formalised articulation of the FFZs concept (Green, 2018b).

Disclosure statement

The author is an informal, unpaid advisor to both the Fossil Free Zones campaign, which builds upon the author’s proposal for a system of Fossil Free Zones, and the FFNPTI.

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