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Novel Net Zero Policy for SMEs:

Introducing Relationship-to-Carbon and Policy Congregations

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ABSTRACT

We are failing to make sufficient progress to reduce carbon emissions from business. The progress of small and medium sized enterprises (SMEs) to reach Net Zero is particularly slow, despite them being responsible for half of non-household emissions. Climate change policy is failing to reach most SMEs. We present a new typology based on relationship-to-carbon, which overcomes the challenge of SME heterogeneity to enable meaningful engagement with carbon reduction. Building on this we conceptualise a novel approach to climate policy beyond metaphorical *carrots, sticks* and *sermons*, to add *congregations*, a relational approach to policy. We argue that firms *entrained* in the carbon economy (rather than *intrinsic* or *extrinsic*) can be engaged in carbon reduction through collaborative, dialogic and relational instruments drawn from feminist policy. We use the example of the UK construction sector to illustrate how the conceptual typology, and the extension of policy approaches, might operate in practice.

Keywords

Climate change; Construction industry; Feminist policy; Net Zero; Relationship-to-Carbon; Small and medium sized enterprises

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INTRODUCTION

Humanity is failing to avert catastrophic climate change impacts (temperature rise, sea level change, storm severity, and frequency) for many complex reasons (Spencer and Dowell, 2025). A scientific understanding of the path to Net Zero has yet to translate into the behaviours and practices needed to achieve it (Fankhauser 2022). While progress has been made in devising policy mixes to support emissions reduction (see Hannon et al, 2023), evidence shows that success is varied (Stechemesser et al, 2024). Reasons for this include the broad range of strategies needed to face complex problems, the influence of different contexts, and limited resources (Pacheco-Vega, 2020). In terms of business progress to Net Zero, we detect two key problems holding back innovation and adaptation in firms and thereby restricting progress towards the low carbon transition. First, policy designed for large firms fails to reach most business organisations, that is, small and medium sized enterprises (SMEs) (Gibb, 2000; Hampton et al, 2023). Second, the array of policy approaches considered and deployed is incomplete. Without addressing both problems, carbon emission reduction by business will not achieve Net Zero. Addressing these limitations is the purpose of our article

The first problem identified is the failure of extant carbon emissions governance to adequately reach SMEs. To illustrate the scale of the challenge, in the UK, which we use as an illustrative contextual focus of our conceptual work, SMEs account for £1 trillion of Gross Domestic Product, 50% of the economy, and over half of employment[1]. SME greenhouse gas emissions are concentrated in a few carbon-intensive sectors: the 14% of UK SMEs that operate in these sectors emit around 84% of total UK SME emissions (British Business Bank, 2025). SMEs are directly (‘scope 1’) responsible for 44% of non-household emissions – in 2021 this was 160million tonnes of CO_2 equivalent greenhouse gas emissions (Sage, 2022).

Defined as firms with fewer than 250 employees, SMEs are consistently identified as a source of solutions to economic and social challenges (innovation, productivity, digitalisation, employment), but as is well known, there is less of a focus when it comes to designing policies

[1] https://www.gov.uk/government/statistics/business-population-estimates-2025/business-population-estimates-for-the-uk-and-regions-2025-statistical-release

fit for this important organisational form. This is true both in general (Gibb, 2000) and in the specific case of carbon emissions (Eadson et al, 2024; Fawcett and Hampton, 2020). One reason is the difficulty of making policy-sense of such an extraordinarily diverse category of firms. To date, climate change policy has attempted to reach SMEs either by sectoral (e.g. particular SME professional service providers, retailers, or manufacturers), because of an expected similarity in carbon intensity, or geographically, because of assumed place-based commonality. We will return in the next section to why we consider these categorisations of SMEs to be insufficient. A key requirement of SME policy is that the dimensions and attributes that create a typology of firms should be relevant from the perspective of the objectives that policymakers pursue (Raes, 2021: 15). Our proposal is to understand SMEs in terms of their relationship to carbon as a productive means of targeting policy effectively.

The second problem identified is the limited forms of policy approach engaged with for reducing SME carbon emissions. Current policy approaches focus on economic (dis)incentives, regulation, or information provision, known metaphorically known as *carrots*, *sticks* and *sermons* (Bemelmans-Videc, Rist and Vedung, 2017). These, we suggest, fail to respond to the experiences of many SMEs, which base decisions on relational values and dialogue, and are often lacking in power and resources. To address this, we develop the policy approach metaphor of *congregations*, informed by feminist policy perspectives. Feminist research[2] is often, but not only, linked to explicit studies of gender (Kim et al, 2022). Importantly in the context of our study, feminist research recognises the disproportionate impact of climate change on women (Lau et al, 2021), and the greater proportion of women SME owner-managers compared to corporate Chief Executive Officers (Hutton, 2024). Researchers are, however, increasingly identifying the value of a feminist perspective across a wide range of topics (Bell et al, 2020; Benschop, 2021), including entrepreneurship (Calás, Smircich, and Bourne, 2009; Henry, Foss and Ahl, 2015; Rouse and Woolnough, 2018), and the productive possibility of decoupling the gendered subject, usually women, from feminist research (Coddington, 2015; Spence and Taylor, 2024). Feminist policy holds the promise of an inclusive approach, centring on embedded

[2] By feminist research we mean a broad range of scholarship which has at its heart a focus on challenging asymmetries of power and including the marginalized (Fotaki, 2021; Gherardi, 2010). There are many feminisms. We draw particularly on the psychoanalytic feminist perspective of an ethic of care (Held, 2016) because of its emphasis on the relational perspective and leading position in research on feminism and business responsibility (Bell et al, 2020).

relational and equitable goals which will enable better policy outcomes through amplifying the voices of people who are the intended targets of policy (Thompson, Ahmed, and Khokhar, 2021; Scheyer, and Kumskova, 2019). Hence in this article, we seek to respond to calls for governments to adopt "a new generation" of policies for SMEs; policies that are holistic, inclusive, and based on social dialogue (ILO, 2025). A policy approach of *congregations* offers new opportunities by leveraging dialogic approaches that work with, rather than against, the characteristics of SMEs.

In addressing the two identified problems with SME-relevant carbon emissions policy, our guiding research question is: *How can traditional policy approaches (carrots, sticks, sermons) be extended to support and enable small and medium sized enterprises in reaching Net Zero carbon emissions?* First, we outline a new typology that meaningfully identifies the heterogeneity of firms from a carbon emissions perspective, bringing into view businesses that are often overlooked; businesses we describe as *entrained* in the carbon economy, rather than extrinsic or intrinsic to it. Second, we introduce a feminist-informed policy approach of *congregations*. In combination, these ideas show conceptually how some problems in devising policy to support SMEs to innovate and achieve carbon reductions can be overcome. To help move these ideas out of the abstract realm, we use the UK construction industry to offer illustrations of what our conceptual proposal might mean in practice. The construction sector contains a high number of SMEs – in absolute and proportional terms (British Business Bank 2025). We go on to discuss the implications and limitations of our proposal.

A RELATIONSHIP-TO-CARBON TYPOLOGY FOR SMES

Notwithstanding the slow move to a low carbon economy, it is no surprise that SMEs are left-behind in the Net Zero transition. A range of reasons, including a lack of expertise, exemption from regulation directed at large firms, poor fit of relevant regulation and support, and low engagement in industries outside those with greatest carbon intensity focus (e.g. oil and gas) hamper SME progress (Conway, 2015; Fawcett and Hampton, 2020; Hampton et al, 2023). When addressing SMEs, policy often treats them as a single sector, such as in the UK's SME

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Climate Hub (which is 'designed specifically for SMEs[3]', no differentiation is indicated); thinks in regional terms and works through local governments, for example with the UK Green Skills for Business programmes; or takes a sector-based approach. Sector approaches tend to fall into two broad categories - carbon intensive industries which require innovation to adapt, and 'green growth' firms whose raison d'être comes from deploying low carbon innovation. There is no doubt that carbon intensive businesses – typically heavy industry – need different support for distinct kinds of climate action compared to low carbon businesses – such as renewable energy generation. But the sector focus ignores the businesses which are not, in their own direct operations, carbon intensive, although those firms rely on continuation of carbon intensive businesses. It is this lacuna that our work addresses.

To ground our conceptual ideas in empirical observations, we illustrate our discussion with examples from the UK construction sector. The construction sector is responsible for 37% of greenhouse gas emissions globally (UNEP, 2023). The industry is dominated by SMEs, with SMEs generating 73% of the GDP associated with the construction sector in 2021 (Sage, 2022). The sector also has the second highest number of enterprises in the UK (ONS, 2025) so is strategically important to the economy (384,830 firms in 2025, only professional, scientific, and technical sectors have more firms). It has a full range of enterprise sizes from micro (0-9 employees) to large (500+), is prevalent across the UK regions, and while highly varied, is impactful in terms of carbon emissions through raw material supply, manufacture, repair, and usage (DESNZ, 2024). Carbon intensity alone is of limited use in reaching construction industry SMEs: the SME which fits gas central heating is not a carbon intensive firm, but they are reliant on the high carbon economy. Similarly, the electrician who services domestic solar energy installations is not a low carbon firm per se, but they rely on the growth of low carbon economic activity. In short, if carbon emission reduction policy can be effective for SMEs in the construction industry, it is likely to have efficacy across the board. Construction activity on buildings also configures future energy demand by determining what options are available for building users (Killip and Owen, 2020). Thus, the construction sector offers a double dividend in potential carbon emissions reduction.

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[3] https://faq.smeclimatehub.org/hc/en-us/articles/17679207537810-What-is-the-SME-Climate-Hub

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Our starting point is the role that SMEs play in the carbon economy, and in particular their relationship to it. We develop a three-category typology, summarised in Table 1, of SMEs whose purposes are *intrinsic* to the carbon economy, SMEs that are *extrinsic* to the carbon economy, and finally, SMEs that are *entrained* in the carbon economy. The table illustrates the types of firms whose main purpose sits within each category. It is our contention that the first two categories are recognised by existing policy approaches. Policy seeks to restrict the emissions of the heaviest carbon producers (intrinsic) through regulation and economic instruments such as emissions trading. There is also a body of policy enabling the expansion of contributors to the low carbon economy (extrinsic) through fiscal instruments enabling tax rebates or through innovation support

The third category, where firms are entrained in the carbon economy, we suggest are overlooked in terms of policy targeting, since they are neither the worst offenders nor the focus of hopes for a low carbon future. While this is a new typology and hence related data is difficult to identify, we anticipate that logically this is the largest numerical group of SMEs of the three categories. Certainly, very recent global data and analysis by the OECD suggests that two thirds of SMEs with websites show no indication of being environmentally engaged (Wildnerova et al, 2024). Analysis of climate policy for SMEs by the ILO (2025) confirms that serious governance and coordination gaps remain, pointing to "little or no consultation with MSMEs (micro, small and medium sized enterprises), workers and vulnerable groups. This lack of inclusive governance undermines implementation effectiveness and cross-policy coherence." Hence, we direct our conceptualisation to SMEs *entrained* in the carbon economy as underserved by existing policy and turn to identify approaches which will address this gap.

We acknowledge complicating factors surrounding the overlapping nature of typologies (Gibb, 2000), and that it is unlikely that all the operations of any single firm will sit clearly within a single category. Nevertheless, we present the new typologies separately here for clarity. We do not mean to imply that policy approaches map directly and neatly onto any single category of SME.

Table 1: SME Typology according to relationship to carbon – with illustrative examples from the construction sector

Type	Description	Illustrative example from the construction sector
Intrinsic to the Carbon Economy	SMEs for which core business, success, or even survival, is entirely dependent on carbon intensive energy sources, materials, or processes	Builder using traditional concrete, blockwork, or brick construction Gas heating engineers
Extrinsic to the Carbon Economy	SMEs for which climate action provides the basis for success. These SMEs are reliant on the low carbon transition happening – ideally in a rapid but planned way – for their future	Renewable energy installation firms e.g. photovoltaic panel installation Heat pump installation firms
Entrained in the Carbon Economy	SMEs that are embedded in the carbon-intensive economy because of the characteristics of supply chains, the vehicles they use or the premises they occupy. Carbon emissions are a by-product of their core service offering	Joiners – using diesel vans and selecting timber based on cost/function criteria e.g., for flooring Kitchen or bathroom fitters – also using diesel vans and installing electrical appliances with varying energy efficiency

Source: Developed by the authors

SME Type One: Intrinsic to the Carbon Economy

Here, the carbon economy underpins core business, with the firm's operations entirely dependent on carbon-intensive energy sources, materials, or processes. For these SMEs, stringent carbon reduction policy might generate an existential crisis of their very survival, and retirement or firm closure could be the most attractive option. Using the domestic construction sector to illustrate the SMEs that this category could encompass, a gas heating engineer's livelihood is dependent on the continued installation and use of gas central heating systems. There is no zero-carbon way to operate the business and using fossil fuels, with their associated greenhouse gas emissions, is unavoidable. The gas heating engineer's only option is to retrain and support the installation and use of domestic low carbon heating options, an area full of innovation and uncertainty. Perhaps less obviously, a 'general builder' – or 'contractor' in North American terms – using traditional concrete, blockwork or bricks to create a structure, is also locked in to playing a role in ongoing greenhouse gas emissions because of the embodied carbon in the conventional construction materials they are using, that is, the emissions arising from manufacture of those materials. There are options to switch to materials with much lower embodied carbon, such as timber, but this is only feasible if building designs are amended to specify those materials, in parallel with significant changes in construction skills to handle those materials and turn a design into a building (Fyhn and Soraa, 2017).

SME Type Two: Extrinsic to the Carbon Economy

A common celebratory focus for policymakers is the growing group of SMEs for which the low carbon transition is a core part of their business purpose, even fostering a name of eco-entrepreneurship. These businesses garner disproportionate attention, being the subject of inspirational case studies and highlighted as the focus of future growth prospects (Gast Gundolf and Cesinger, 2017). These so called 'green SMEs' contribute to the protection of the climate, environment, and biodiversity through their products, services, and business practices (Koirala, 2019). These SMEs are *extrinsic* to the carbon economy, in that their success depends on a shift away from a carbon-intensive economy. Such firms will have carbon emissions associated with their supply chain, but they are not reliant on the continuation of a carbon intensive economy. They are an important source of successful case examples to support and accelerate the low carbon transition, but they remain a minority of SMEs. Indeed, typologies of SMEs and environmental policy have tended to overemphasise these types of SME, by further subdividing eco-entrepreneurs (e.g. categorising by motivation, Bergset and Fichter, 2015) without recognising their small proportion overall. A more sensitive approach is taken by Labelle et al (2016), who develop a typology of SMEs based on entrepreneurial and sustainability orientation generating categories of traditionalist, strategic and reactive SMEs, but do not balance this with a clear understanding of the environmental impacts and the core purpose of the specific firm.

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While this work advances useful categorisations of SMEs, it fails to take the step of disaggregating forms of carbon consumption as the necessary lens that we propose.

Turning back to the construction industry to illustrate this category, in contrast with the gas heating engineer who relies on continued use of fossil fuels, an SME which installs renewable energy technologies in homes relies on fossil fuels being displaced by renewable energy. In 2010, when, following successful initiatives in Germany, the UK implemented a 'Feed in Tariff' to provide financial incentives to householders by paying them for renewable energy generated, the UK saw a surge in the number of SMEs providing solar photovoltaic installations on roofs, with those SMEs investing in training and obtaining the accreditations that enabled them to provide this service to households. The rapid policy changes with a new national Government and a shift towards a 'Green Deal' policy package saw domestic renewable installations collapse (Rosenow and Eyre, 2016), taking with them the business aspirations of many SMEs who had invested in this area. In the UK, caution about building a business in domestic renewable energy remains. This now impedes the UK's stated policy aim to move from fossil fuel domestic central heating to the widespread deployment of heat pumps. A small number of heat pump installation SMEs are unable to meet demand, and there is a reluctance among SMEs who could enter this market to invest again in re-skilling and persuading customers who may not themselves be convinced of the need for change.

SME Type Three: Entrained in the Carbon Economy

These two categories could be considered as two ends of a spectrum, but in a separate category not part of that spectrum sit a huge swathe of SMEs which are *entrained* in the carbon-intensive economy because of the characteristics of supply chains, the vehicles they use or the premises they occupy. Carbon emissions are a by-product of their core service offering; hence they are neither *intrinsic* nor *extrinsic* to the carbon economy but remain indirectly reliant upon it. We find this typology of SMEs most interesting, because it is this group which carbon reduction policy is failing to reach, and this group whose support and action is essential if we are to achieve the low carbon transition.

Turning again to domestic construction to illustrate the kinds of SME that can be found in this *entrained* category, joiners or carpenters play a vital role in several aspects of domestic construction including being involved in structural works, in making or installing doors and windows, and in creating ceilings, floors and partitions. The timber and other materials they select for these activities may be specified by a design into which the joiner has had no input, or they may be selected by the joiner as part of project management based on cost and functional criteria, e.g. laying a floor with solid wood floorboards, particulate board or a material which combines the two ('engineered wood boards'). Each choice carries with it a different level of embodied carbon. Similarly, a kitchen fitter will make material selections, albeit constrained by client specifications, for worksurface or cabinet materials with different levels of embodied carbon, but the kitchen fitter will also install appliances which lock the kitchen user into a level of energy consumption or fuel type, such as a gas cooker hob or a less energy efficient, but cheaper, refrigerator. Both the joiner and the kitchen fitter, together with many of the array of SMEs found in construction, are also using vans or small trucks to move themselves, their tools, and materials, to and from a project site. These vehicles will often run on fossil fuels (diesel) with electric vehicles available at a price premium and therefore much less likely to be purchased while profit margins in construction are tight. Thus, there are greenhouse gas emissions associated with the SMEs' work on construction projects, which are a by-product of the construction project itself.

For SME operations *intrinsic* and *extrinsic* to the carbon economy, the decisions that the SME can take lie in business plan choices. The policy support to aid decarbonisation of these firms will align with the SME's purpose, to generate value outside the carbon economy (*extrinsic*) or to find ways of market transformation away from carbon dependence (*intrinsic*). The decisions and behaviours that guide the activities with associated greenhouse gas emissions of SME activities *entrained* in the carbon economy will cover more varied aspects. Delivery vehicle choices may change when regulation – such as low emissions zones - restricts site access for some vehicles or when there are economic benefits in investing in low carbon vehicles. Changing the selection of materials to reduce embodied carbon will require information sharing, for example through labels and product declarations, coupled with conversations between manufacturers, merchants, and users about how all the desired product characteristics in terms of affordability, usability, and environmental impact can be achieved. Finally, to alter the routine choices made in selecting appliances might require mandating high levels of energy efficiency performance or excluding fossil fuels.

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This leads us to the second contribution of this article, considering the policy approaches to support innovation and achieve carbon emissions reduction, and how these might align with the three types of SME described above.

POLICY APPROACHES FOR SME CARBON EMISSIONS REDUCTION

To find productive ways of deploying the relationship-to-carbon typology outlined above, we now revisit standard approaches to policy in terms of carbon emissions. These are framed as *carrots* and *sticks*, though increasingly the notion of *sermons* is added. Hence, we start by reflecting on *carrots*, *sticks* and *sermons* then add a focus on an SME-relevant approach of peer learning and dialogue, which we call congregations. This approach has a particularly strong presence in feminist foreign policy research and has applicability, we argue, in the case of small and medium sized enterprises. The four policy approaches are summarised in Table 2. Again, we use the UK domestic construction industry to illustrate the different forms of carbon emissions reduction policy.

Traditional policy approaches: *Carrots*, *Sticks* and *Sermons*

Despite changing contexts and sophistication in policy development, three broad approaches have remained dominant since the 1980s (Bemelmans-Videc et al, 2017; Pacheco-Vega, 2020). Vedung (1998) articulated these in a manner which has remained in place in the intervening years, arguing for the appealingly named policy groupings of *carrots*, *sticks*, and *sermons*.

A note before proceeding on our extension of the metaphors of *carrots*, *sticks*, *sermons* to add *congregations*. There is a long tradition of use of metaphor in the social sciences. Schlesinger and Lau (2000) note the value of policy metaphors in communicating broad approaches to both political elites and the public who may not be familiar with the complex institutions of government and governance. They argue that the benefit of metaphors outweighs any imprecision. Morgan (1980), the leading scholar on metaphors in organisation theory, argued for their value in solving puzzles and conveying different paradigms. We develop the policy approach through metaphors because of their communication value. It is readily understood even by those without a detailed knowledge of carbon reduction policy, that a policy framed as *carrot* is intended to tempt change, as much as a *stick* is intended to penalise if you do not change, and *sermon* suggests you will be given information that might persuade you to change. Our metaphor of *congregation* as a policy approach – like the *sermon* metaphor – has a religious overtone that we appreciate could be misleading. This is the risk of metaphors (Morgan, 2006; 2011). As we explain, the emphasis here is not religious, but implies that people congregate where and when they have a common interest. In line with the guiding lens of feminist policy, the *congregation* emphasises community, relationships, dialogue, iterative exchanges over time, and inclusion. If a sermon is delivered from a pulpit, dialogue in a congregation is among more equal members of a collective. We value the contribution of policy approach metaphors to articulating and generating fresh ways of framing thinking and new research trajectories (Cornelissen et al, 2008).

According to Vedung's analysis, policy-based *carrots* are not compulsory regulations, but rather cause the intended actors to take an action that will be met with an economic, material incentive such as a grant or discount (Vedung, 1998: 32). *Carrots* are intended to guide actors to behave in the desired manner. Vedung summarises the approach of *carrots* as "economic incentives [that] neither prescribe nor prohibit the actions involved but make them less expensive" (op cit 32). The incentives that have been available in the UK for individuals and organisations to adopt electric rather than petrol or diesel vehicles, for example, fall squarely into the *carrots* category (Nunes, Woodley and Rossetti, 2022). Notably for our analysis, this example is often coupled with a *stick* such as a city-level Low Emissions Zone or Clean Air Zone. Any individual organisation may be directly –or indirectly via supply chains – influenced by the combination of policy approaches, the policy mix, which inevitably interact with one another. The coupling of *carrot* and *stick* policies is an important recognition of the complexity of reaching diverse actors which we will pick up again in our discussion.

The default approach available to governments for governing behaviour is given the moniker of *sticks*. This is the category for regulations where the governed are obliged to follow the directive of the government or risk some form of sanction (Vedung, 1998: 31). Regulation may take a range of forms from legislation being an instance of 'hard' law, that is, legally binding, through to 'soft,' voluntary, law such as commitment to standards or an intended direction of progress. In the context of environmental regulation, Skjærseth, Stokke, and Wettestad, (2006), argue that soft law complements hard law. In practice, soft law allows for few sanctions apart from naming and shaming those who have not met their own voluntary commitments and relying on reputational damage effects. However, the example of companies being delisted from the United Nations Global Compact database after failing to meet the low-level requirements, suggests that it is unclear to what extent stakeholders pay attention to such soft sanctions, given that 3,000 or more have been delisted, and the membership runs at about 10,000. Thus, the inevitable assessment of soft law is that it 'lacks teeth' (Rasche, Waddock and McIntosh, 2013).

On the basis that having the necessary knowledge to enable good decision-making is an alternative means of guiding behaviour, Vedung (1998: 33) suggests a third approach of *sermons*. He captures this as being equivalent to 'moral suasion' or exhortation, seeking to influence through transferring knowledge, communicated with argued reason. Mole and Rai (2023) have suggested that the right information being available is a vital ingredient for SMEs transitioning to Net Zero. Others have extended this idea to include more subconscious, behavioural economics, and psychological persuasion in the form of nudging. Nudging, originally called asymmetric or libertarian paternalism, is a collection of psychologically informed approaches to influencing behaviour (Thaler and Sunstein, 2008; Andersson and Almqist, 2022). One might draw a comparison here to hard and soft law in the form of hard information and soft information in line with similar approaches in accounting and finance relating to types of financial disclosure (Liberti and Petersen, 2019). The sharing of peer reviewed scientific statistical data on climate change damage and risks from government sources would be hard information (i.e. precise, objective, verifiable). An example of soft information is the inclusion of climate impacts in online games such as Civilization VI: Gathering Storm, which incorporates a player's response to climate change as part of the player's performance, promoting understanding through play. Researchers have shown that both approaches raise climate awareness and can have an impact on climate positive action though this may be indirect through changes such as voting patterns (Kwok, 2019; Venghaus, Henseleit and Belka, 2022).

While *carrots*, *sticks*, and *sermons* represent important approaches to carbon emissions policy and governance, they have failed to enable all businesses to innovate and reduce carbon emissions, not least SMEs that are *entrained* in the carbon economy. We do not dispute that each of these approaches – *carrots*, *sticks* and *sermons* – covers a range of policy instruments which can be combined into an effective policy mix (Flanagan, Uyarra and Laranja, 2011). In seeking to understand what these policy approaches have in common, and what they lack, we identify an emphasis on hierarchical systems to deliver the desired policy to the SME (Scheyer and Kumskova, 2019: 59) – whether via government, corporate customers, or business intermediaries. The SME *entrained* in the carbon economy is the object rather than the subject of climate policy and lacks agency and recognition of their contribution to resolving climate challenges. These factors must be a consideration in how policy mixes are developed, drawing on instruments across a range of policy approaches, and in particular, *congregations,* to which we now turn.

Feminist policy: Congregations as an additional policy approach

Running in parallel to contemporary perspectives on climate and carbon emissions policy is a literature on feminist approaches to policy in arenas such as foreign policy (Aggestam, Bergman Rosamond and Kronsell, 2019; Cohn, 2023) and healthcare (Eger et al, 2024). Fawad, Collins and Craik (2022) argue that feminist foreign policy needs to expand its purview and incorporate climate policy to increase its adoption. Benschop (2021: 11) argues that climate change is an inherently feminist issue: "Feminist theories challenge the reduction of climate change to an environmental scientific problem, showing how rational, technological and scientific solutions for mitigation or adaption do not suffice, making the case for an affective, moral and political project instead". While others also detect something inherent in climate policy and feminism (Alonso-Epelde, García-Muros and González-Eguino, 2024; Bee, Rice, and Trauger, 2015). In the current work we are not focusing on a gender lens. While a sensitivity to gender is critically important to understanding both small business (Rosa, Carter and Hamilton,1996) and climate change (Lau et al, 2021), with women being systematically disadvantaged in both cases, few studies move beyond a gender lens to consider feminist, rather than gender, approaches (Bee et al, 2015; Fawad et al, 2022). Indeed, the body of work on feminist approaches related to climate change is growing (see Buckingham et al, 2025), and it is our contention that this study offers a novel perspective on the usefulness of the perspective beyond gender inequalities (Spence and Taylor, 2024). Thus, it is the potential of feminist perspectives per se to support effective climate change policy for SMEs that is of interest.

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Given our concern that SMEs are inadequately served by widely used policy approaches that emphasise hierarchical delivery of policy requirements on carbon emissions, we advocate for consideration of a feminist perspective which "includes whole populations, appreciates diversity, inspires comprehensive analysis, and leaves no one behind" (Scheyer and Kumskova, 2019, p. 58). This approach offers an alternative to market based and technological levers (Foster, 2021). Rooted in the ethics of care, a moral framework which emphasises relationships, community perspectives and dialogue (Held, 2006), a feminist approach makes the global and political, personal (Blackmore, 1995, p. 304), rather than being couched in regulation, standards, and codes. Researchers have noted the value of this orientation in understanding SMEs from an ethics perspective, in contrast to hierarchical and codified corporate ethics (Morsing and Spence, 2019; Spence, 2016; von Weltzien Hoivik and Melé, 2009). While, as we have taken care to emphasise, SMEs are not homogeneous, a potential alignment arises between a feminist policy framing and acknowledging the tendency of SMEs to operate not on a hierarchical, but a relational and networked basis (Bedford, Crand and Iatridis, 2025).

Feminist policy allows relational perspectives, including collectivism, dialogue at the political level, inclusion, and the building of a like-minded empathetic community, alongside deconstruction of power relations. The foregrounding of low hierarchy, equity, and an empowering of all voices, particularly the marginalised, releases a different approach to policy (Scheyer and Kumskova, 2019), appropriate to tackling shared problems and responsibilities (Bok et al, 2021) like climate change. Thus, unlike *carrots*, *sticks* and *sermons*, *congregations* allow SMEs to move beyond being straightforward policy-takers to being collectively engaged in policy interpretation and collaborative navigation, echoing recent work on collective action among entrepreneurs (Ben-Hafaïedh et al, 2024; Weiss et al, 2023). A policy approach of *congregations* aligns with existing ideas of policy-as-process rather than a series of instruments, highlighting the idea of policy as non-linear, interactive, and iterative, rather than a bureaucratic tool that is presented by policymaker and implemented onto the policy-recipient (Blackmore, 1995). Work on multi-stakeholder governance has some similar elements to a *congregations* approach through the intended interactive and collaborative elements, though researchers have found tensions in varied responsibilities and power differentials that are not properly acknowledged, and the conflation of collaborative and competitive processes (Cao et al, 2024; Elia, , Margherita and Petti, 2020). This differs from feminist policy, where a pronounced focus on dialogue invites the inclusion of values and the personalisation of the political, requiring not only the capacity for all to contribute, but the necessity for empathetic engagement, requiring dominant voices to listen, avoiding the 'dialogue of deafness' (Blackmore, 1995, p. 301). In side-lining power difference, the distinction between policymakers and policy-takers is reduced in a process of shared dialogue and co-creation of policy outcomes through mutual respect and exchange. The *congregations* approach is participatory in perspective but is not an instance of citizen participation; it relates to SME participation, though this could include other relevant stakeholders (Newig et al, 2023). Examples of *congregations* for SMEs *entrained* in the carbon economy might include interest groups of a trade association, specially convened town hall meetings, virtual spaces such as LinkedIn groups, or others providing training and capacity building such as the Supply Chain Sustainability School for the UK construction industry.

While it is notoriously difficult for SMEs to find the time, motivation or resources to be directly involved in policy development and navigation, there is some cross-over here with the emphasis on SME networks (Burch et al, 2013; Bedford et al, 2025) and processes of relationship and trust in SME management (McAdam et al, 2014). Feminist policy moves beyond this, however, with a social and political foregrounding of relational perspectives.

Table 2: Carbon Emissions Reduction Policy Approach Metaphors – illustrative examples from the construction sector

Policy approach metaphor	Description	Illustrative policy example from the UK construction sector
Carrots	Economic means and (dis)incentives that support desirable behaviour	Financial: e.g. Renewable Heat Incentive and now Boiler Upgrade Scheme providing an incentive for homeowners to install e.g. heat pumps, or a Feed in Tariff which pays householders to generate renewable electricity and export this to the electricity network
Sticks	A rule or guidance made and maintained by an authority. May be hard (law, regulation) or soft (guidance, voluntary targets).	Regulation: e.g. Building Code / Regulations (Part L – Energy Efficiency – in the UK) which requires specific levels of thermal insulation in construction projects
Sermons	Normatively directed persuasive information dissemination to encourage desirable behaviour. May be explicit (e.g. education), or implicit (e.g. nudging through behavioural economics tools)	Information based: e.g. Appliance Energy labels Product Environmental Declarations
Congregations	Mutual exchange and dialogues, in low hierarchy peer-to-peer dyads, loose networks, trade associations or more formal collectives to develop shared understanding and trust through discussion, exchange and relationship building	Relationship based: e.g. Information exchange and learning through builders' merchants or product suppliers (e.g. boiler manufacturers, insulation suppliers)

Source: Developed by the authors with inspiration from Hannon et al (2023); Scheyer and Kumskova (2019)

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ADDRESSING THE POLICY GAP FOR SME CARBON EMISSIONS REDUCTION: CONTRIBUTIONS AND RESEARCH AGENDA

We highlight and extend our arguments here, with a particular look at implications for future empirical research, given the conceptual nature of our proposal. We discuss the wider potential for climate impact; opportunities for innovation; the wider potential of *congregations* as a policy approach, including membership; and policy mix dynamics. We conclude that empirical work is needed to verify our conceptual proposal.

First, the wider implications of our contributions for the important work on climate action and the Net Zero transition. Without *all* organisations and individuals taking part in the transition to a low carbon economy, there is little hope of success. A tendency to target policy on large firms in the most carbon intensive sectors has a logic in terms of maximising impact but results in a substantial group of left-behind firms. Climate action must be unlocked across all businesses, whether they have carbon at their core or not. While policymakers clearly acknowledge and celebrate the growing green economy, it remains a minor part of the economy overall (Cojoianu et al, 2020). By devising a new typology, we have distinguished between firms in terms of their relationships to the carbon economy. We dub firms for which carbon is embedded in core business as *intrinsic* to the carbon economy, and low carbon use firms which pursue a sustainable path as part of their core mission as *extrinsic* to the carbon economy. In our view, these are catered for by current policy approaches. Delineating a third group – those which are *entrained* in the carbon economy - is the novel element of our typology. In doing so we articulate a way of understanding SMEs which is productive for policymakers and business intermediaries in supporting carbon reduction in SMES, enabling them to be part of the Net Zero transition.

This brings us to the second point: the role that our conceptualisation can play in enabling innovation for carbon reduction. This might entail identifying the ways in which SMEs are dependent on the carbon intensive economy. For instance, under what conditions can SMEs exercise individual agency (e.g. purchasing of materials with lower carbon impacts) and when do they have limited direct agency but might be able to act in concert with others (such as asking landlords to switch energy tariffs; make changes to rented buildings or; shared purchasing agreements for energy or vehicles)?

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Taking inspiration from prior research on feminist foreign and health policy, we have proposed a relational policy approach in the form of *congregations* of stakeholders for a sustainable transition. Further research is needed to establish the value of the policy instruments of *congregations*, delivered in conjunction with other approaches (*carrots, sticks, sermons*) as part of a policy mix. Notably, a *congregation* approach is not likely to be effective when there is a dyadic exchange between policymakers and businesses, that is, a *congregation* of only two parties on a single issue. Further reflection is needed as to which actors should be involved in a more wide-ranging congregation exchange in order to achieve lasting change. It would be helpful to consider the social structures and mechanisms that enable dialogue between organisations *entrained* in the carbon economy at different scales, locations, across sectors, and along supply chains. Lessons may be drawn from participative governance (Newig et al, 2023; Pek, Mena and Lyons 2023)) and multi-stakeholder initiatives in keeping with the soft law element of *sticks*, in which deliberative approaches (Cao et al, 2023) and feminist approaches have been considered (Grosser, 2016). However, the *congregations* policy approach, in tandem with the relationship-to-carbon typology, offers potential for policy innovation. Where firms do not have direct individual agency to act, we see a space for *congregations* as a novel policy approach – working across supply chains, sectors or within a locale. This policy approach is also in line with increasing interest in local and place-based governance for action on climate change (Garcilazo and McCann, 2025).

Further consideration is needed on the boundaries and membership of a *congregation*; who is in, and who is out? Flanagan et al (2011) identify five archetypal actors in policymaking:(i) policy principals mobilising government resources, (ii) policy entrepreneurs promoting a solution, (iii) targets of policy, (iv) implementation agents and (v) beneficiaries. Research on inclusion and the drawing of boundaries using actor networks and social capital theory (Dolfsma and Dannreuther, 2003; Iskandarova, 2017) would be valuable. From the perspective of gathering and creating *congregations*, SMEs with a similar relationship-to-carbon would be critically important participants. Thus, while there is an echo of multi-stakeholder initiatives, some homogeneity of participants in terms of their relationship-tocarbon is expected. Inclusion, voice, and opportunity for impact require attention and, in line with feminist thinking, acknowledging power differentials rather than presuming equal power and influence, would underpin effectiveness of the *congregation* policy approach and its place in the policy approach mix.

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Schmidt and Sewerin (2019) have argued for the importance of policy mix dynamics. Deeper theorisation and finer grained analysis of how the four policy approaches might be combined into policy mixes for highest impact would be valuable. Given the critical timescales of carbon reduction for the Net Zero transition, further research is also needed on the temporal implications of *carrots*, *sticks*, *sermons,* and *congregations* in achieving the best policy mix. *Congregations* are, by design, long term iterative processes in which hearts and minds are collectively won through mutual exchange rather than a top-down delivery of policy. This takes time that the climate emergency does not have. Lessons can be drawn from analysis by Rogge and Stadler (2023) on participatory approaches to social innovation in the energy sector in Germany. Combining bottom-up policy approaches in the form of *congregations* with top-down approaches of *carrots*, *sticks* and *sermons* could meet the need for innovative policy mixes to transition systemically to a low carbon economy. Ideally, *congregations* would be a part of the policy mix *throughout* the relevant sustainability transition, with the intensity of a *congregation's* activity waxing and waning, ideally becoming redundant once the innovation or adaptation has been normalised for SMEs. Resource constraints and urgency are likely to dictate the policy mix deployed, with further research needed to develop a pattern of policy lamination and sequential progression for maximum impact on climate action, innovation, and transition.

Finally, we call for empirical research to investigate the validity of our *entrained* relationship-to-carbon typology and *congregation* policy approach to adequately serve SMEs. In this theoretical article we have used the construction industry for illustrative purposes, but more systematic study of construction and other sectors is necessary. Research should focus on the boundary conditions, nature, and dynamics of policy, and highlight any unintended consequences of the approach. Investigating which datasets can help with identifying and analysing firms by relationship-to-carbon, and whether in practice there are other important sub-categories is also important. Empirical perspectives would help to establish *congregation* as a policy approach and the value of dialogue as a policy instrument under its umbrella, and how this may be delivered in conjunction with other approaches. If, as might be expected, dialogue is ineffective when it is a dyadic exchange between policymakers and businesses, further reflection is needed on which actors should be involved in a more wide-ranging dialogue to achieve lasting change.

IMPLICATIONS FOR POLICY AND PRACTICE

In practical terms, our conceptual ideas have important implications for SMEs and those who seek to support them to work towards a low carbon economy. If SMEs and intermediaries understand their relationship-to-carbon, they can better focus on how to engage with policies and initiatives that serve their purpose. The *congregation* policy approach requires openness to engage, and this is a fraught area for SMEs. Support and training may be needed, as well as consideration of how to resource engagement so that SMEs can be active members of a carbon emissions reduction *congregational* approach.

In policy terms, the inclusion of *congregations* as a more relational and dialogic approach to policymaking may have wider possibilities. The *congregation* policy approach could have impact and achieve policy goals elsewhere, especially where the subjects of policy are often sidelined in policy processes. Beyond environment, foreign and healthcare policy, this might include feminist inclined areas such as education, youth employment, or community safety. Second, designing policy mixes which fit the target audience in terms of the express goals of the policy – relationship-to-carbon in our case – is another framing with wider applicability. For example, policy designed to reduce labour exploitation might be organised around businesses categorised according to their reliance on cheap labour (*intrinsic*, *extrinsic,* and *entrained* in the low wage economy). This would be productive in the textile industry, for instance, where despite global value chain complexity the industry is treated as having uniform labour problems.

CONCLUSION

Our motivation is that we are failing to make sufficient progress in policy innovation to reduce carbon emissions from business. We asked the question: How can traditional policy approaches (carrots, sticks, sermons) be extended to support and enable small and medium sized enterprises in reaching Net Zero carbon emissions? Our response argues that two steps are needed. First the way in which we delineate types of SMEs needs changing. Second, a wider range of policy approaches is needed to reach SMEs that are often overlooked.

Our contributions relate to the Net Zero literature and the SME policy literature. First, we present a new typology based on relationship-to-carbon, which differentiates SMEs overcoming the challenge of their heterogeneity for the purposes of meaningful engagement with carbon reduction. Second, we conceptualise a new approach to climate policy beyond *carrots, sticks* and *sermons*, to add *congregations*, a relational approach to policy which draws on feminist perspectives. These interlinked contributions show how nuanced understanding of SMEs opens up new opportunities for policy impact for SMEs, leveraging a differentiated approach in terms of relationship-to-carbon and the impact of relational influence on smaller firms.

We are not the first and will not be the last to note that small and medium sized enterprises are often overlooked in carbon emission reduction and other strategic approaches, academic research studies, and policies. This enduring blind spot for the majority business form, which is so important in all economies and societies, remains a curiosity. Given previous failures, we seek to engage productively with this challenge by offering meaningful, effective, novel solutions to facilitate the pursuit of Net Zero carbon emissions. While our approach is focused on the goal of carbon emissions reduction, we expect the proposals to have wider environmental applications, such as in relation to biodiversity loss, pollution, or soil degradation.

We conclude that action to achieve carbon emissions reduction is a global goal of the utmost importance. To meet expectations and requirements, we must go beyond the low hanging fruit of targeting carbon intensive and green economy firms through standard carrot, stick, and sermon approaches. We offer relationship-to-carbon and *congregation* policy approaches as a productive way forward to adequately serve SMEs in a novel, compelling, and impactful way.

References

Aggestam K, Bergman Rosamond A and Kronsell A (2019) Theorising feminist foreign policy. *International Relations* 33: 23-39.

Alonso-Epelde E., García-Muros X and González-Eguino, M. (2024) Climate action from a gender perspective: A systematic review of the impact of climate policies on inequality. *Energy Research & Social Science*, 112, 103511.

Andersson P and Almqvist G (2022) *Carrots*, *sticks*, *sermons* or nudges? Survey evidence of the Swedish general public's attitude towards different public policy tools. *Behavioural Public Policy,* pp. 1–26.

Bedford P, Crane A and Iatridis K (2025) Small business political responsibility. *International Small Business Journal*, 43: 679-702.

Bee BA, Rice J and Trauger A (2015) A feminist approach to climate change governance: Everyday and intimate politics. *Geography Compass* 9: 339-350.

Bell E, Meriläinen S, Taylor S and Tienari J (2020) Dangerous knowledge: The political, personal, and epistemological promise of feminist research in management and organization studies. *International Journal of Management Reviews* 22: 177–192.

Bemelmans-Videc L, Rist R and Vedung E (2017) *Carrots, Sticks and Sermons: Policy Instruments and Their Evaluation*. London: Routledge.

Ben-Hafaïedh C, Champenois C, Cooney TM and Schjoedt, L (2024) Entrepreneurship as collective action: The next frontier. *International Small Business Journal* 42(1): 3-13

Benschop Y (2021) Grand challenges, feminist answers. *Organization Theory*, 2: 26317877211020323.

Bergset L and Fichter K (2015) Green start-ups-a new typology for sustainable entrepreneurship and innovation research. *Journal of Innovation Management* 3: 118-144.

Blackmore J (1995) Policy as dialogue: Feminist administrators working for educational change. *Gender and Education* 7: 293-314.

Bok S, Shum J, Harvie J and Lee M (2021) We versus me: Indirect conditional effects of collectivism on COVID-19 public policy hypocrisy. *Journal of Entrepreneurship and Public Policy* 10: 379-401.

British Business Bank (2025) SMEs and Net Zero: UK Net Zero Business Census Report. SMEs and Net Zero: UK Business Consensus Report 2025. https://www.british-business-bank.co.uk/about/research-and-publications/smes-and-net-zero-report-2025 (accessed 1 June 2026)

Buckingham S, Hultman M, Magnusdottir GL, and Morrow K (Eds.). (2025) *Feminist Climate Policy in Industrialised States: A Gender-Just Climate Emergency Response*. Routledge, London.

Burch S, Schroeder H, Rayner S and Wilson J (2013) Novel multisector networks and entrepreneurship: The role of small businesses in the multilevel governance of climate change. *Environment and Planning C: Government and Policy* 31: 822-840.

Calás, M, Smircich, L and Bourne, K (2009) Extending the boundaries: Reframing “entrepreneurship as social change” through feminist perspectives. *Academy of Management Review* 34: 552-569.

Cao D, Puntaier E, Gillani F, Chapman D and Dewitt S (2024) Towards integrative multi-stakeholder responsibility for net zero in e-waste: A systematic literature review. *Business Strategy and the Environment*, 33(8), 8994-9014.

Coddington K (2015) Feminist geographies “beyond” gender: De-coupling feminist research and the gendered subject. *Geography Compass* 9: 214-224.

Cohn C (2023) What does the “feminist” in FFP (Feminist Foreign Policy) mean, and how does that constrain FFP’s approach to the climate crisis? *International Studies Review* 25: 13-16.

Novel Net Zero Policy for SMEs

Cojoianu T, Clark G, Hoepner A, Veneri P and Wójcik D (2020) Entrepreneurs for a low carbon world: How environmental knowledge and policy shape the creation and financing of green start-ups. *Research Policy* 49: 103988.

Conway E (2015) Engaging small and medium-sized enterprises (SMEs) in the low carbon agenda. *Energy, Sustainability and Society* 5: 1-9.

Cornelissen J, Oswick C, Christensen L and Phillips N (2008) Metaphor in organizational research: Context, modalities and implications for research. *Organization Studies* 29: 7-22.

DESNZ (Department for Energy Security and Net Zero) (2024) *2023 UK Greenhouse Gas Emissions*, https://assets.publishing.service.gov.uk/media/6604460f91a320001a82b0fd/uk-greenhouse-gas-emissions-provisional-figures-statistical-release-2023.pdf (accessed 1 June 2026).

Dolfsma W and Dannreuther C (2003) Subjects and boundaries: Contesting social capital-based policies. *Journal of Economic Issues* 37(2): 405-413.

Eadson W, Hampton S, Sugar K, Blundel R, and Northall P (2024) *Seven Principles of Place-based Net Zero Policy for SMEs.* South Yorkshire Sustainability Centre and UKERC. https://ukerc.rl.ac.uk/publications/policy_briefing_paper/UKERC_Seven-Principles-SME-Net-Zero.pdf (accessed 1 June 2026).

Eger H, Chacko S, El-Gamal S, Gerlinger T, Kaasch A, Meudec M, Munshi S, Naghipour A, Rhule E, Kanaka Sandhya Y and López Uribe O (2024) Towards a feminist global health policy: Power, intersectionality, and transformation. *PLOS Global Public Health 4(3):* e0002959.

Elia G, Margherita A and Petti C (2020) Building responses to sustainable development challenges: A multistakeholder collaboration framework and application to climate change. *Business Strategy and the Environment*, 29(6), 2465-2478.

Fankhauser S, Smith SM, Allen M, Axelsson K, Hale T, Hepburn C, Kendall JM, Khosla R, Lezaun J, Mitchell-Larson E, Obersteiner M, Rajamani L, Rickaby R, Seddon N and Wetzer T (2022) The meaning of net zero and how to get it right. *Nature Climate Change* 12: 15–21.

Fawad A, Collins AM and Craik N (2022) A feminist climate policy? Examining Canada's climate commitments. *Environmental Politics* 32(5): 815–837.

Fawcett T and Hampton S (2020) Why and how energy efficiency policy should address SMEs. *Energy Policy* 140: 111337.

Flanagan K, Uyarra E and Laranja M (2011) Reconceptualising the 'policy mix' for innovation. *Research Policy* 40(5), 702-713.

Foster E (2021) Ecofeminism revisited: Critical insights on contemporary environmental governance. *Feminist Theory*, 22: 190-205.

Fotaki M (2021) Feminist research changing organizations and societies: Taking stock and looking to the future. *European Journal of Work and Organizational Psychology*, 30:3, 390-399.

Fyhn H and Soraa R (2017) Craftsmanship in the machine: Sustainability through new roles in building craft at the technologized building site*. Nordic Journal of Science and Technology Studies,* 5: 71 - 84.

Garcilazo E and McCann P (2025) The case for place-based policy: economic divergence, governance integrity and climate change mitigation. *Regional Studies,* 59(1), 2485126.

Gast J, Gundolf K and Cesinger B (2017) Doing business in a green way: A systematic review of the ecological sustainability entrepreneurship literature and future research directions. *Journal of Cleaner Production*, 147: 44-56.

Gherardi S (2010) Feminist theory and organization theory: A dialogue on new bases. In H. Tsoukas and C. Knudsen (eds), *The Oxford Handbook of Organization Theory.* Oxford: Oxford University Press, pp.210–236.

Gibb A (2000) SME Policy, academic research and the growth of ignorance, mythical concepts, myths, assumptions, rituals and confusions. *International Small Business Journal* 18: 13-35.

Grosser K (2016) Corporate social responsibility and multi-stakeholder governance: Pluralism, feminist perspectives and women's NGOs. *Journal of Business Ethics* 137: 65-81.

Hampton S, Blundel R, Eadson W, Northall P and Sugar K (2023) Crisis and opportunity: Transforming climate governance for SMEs. *Global Environmental Change* 82: 102707.

Hannon M, Cairns I, Braunholtz-Speight T, Hardy J, McLachlan C, Mander, S and Sharmina M (2023) *Carrots*, *sticks* and *sermons*: Policies to unlock community energy finance in the United Kingdom. *Energy Research and Social Science* 100: 103086.

Held V (2006) *The Ethics of Care: Personal, political, and global*. Oxford: Oxford University Press.

Henry C, Foss L and Ahl H (2015) Gender and entrepreneurship research: A review of methodological approaches. *International Small Business Journal* 34(3), 217-241.

Hutton, G. (2024) *Business statistics.* House of Commons Library Research Briefing. Number CBP 06152.

ILO 2025. *What policy mix works for MSMEs. Just Transition Policy Brief.* Geneva 27 November. https://doi.org/10.54394/FYRM5365.

Iskandarova M (2017) From the idea of scale to the idea of agency: An actor-network theory perspective on policy development for renewable energy. *Science and Public Policy* 44(4): 476-485.

Killip G and Owen A (2020) The construction industry as agents of energy demand configuration in the existing housing stock. *Energy Policy.* 147, 111816.

Kim, L Smith DS, Hofstra B and McFarland DA (2022) Gendered knowledge in fields and academic careers. *Research Policy,* 51: 1, 104411.

Novel Net Zero Policy for SMEs

Koirala S (2019) *SMEs: Key Drivers of Green and Inclusive Growth*, OECD Green Growth Papers, 2019-03, Paris: OECD Publishing.

Kwok R (2019) Can climate change games boost public understanding? *Proceedings of the National Academy of Sciences.* 116: 7602-7604.

Labelle F, Spence M and Courrent, J (2016) A practice-based typology of sustainable SMEs: development of a sustainability compass, *Revue de l'Organisation Responsable,* 11: 5-23.

Lau J, Kleiber D, Lawless S and Cohen P (2021) Gender equality in climate policy and practice hindered by assumptions. *Nature Climate Change*, 11: 186-192.

Liberti J and Petersen M (2019) Information: Hard and soft. *Review of Corporate Finance Studies.* 8: 1-41.

McAdam M, McAdam R, Dunn A and McCall C (2014) Development of small and medium-sized enterprise horizontal innovation networks: UK agri-food sector study. *International Small Business Journal* 32(7), 830-853

Morgan G (1980) Paradigms, metaphors and puzzle solving in organization theory. *Administrative Science Quarterly*, 25: 605-622.

Morgan G (2006) *Images of Organization.* 3rd edition. London: Sage.

Morgan G (2011) Reflections on images of organization and its implications for organization and environment. *Organization and Environment*, 24(4): 459-478.

Mole K and Rai A (2023) Actionable information enables SMEs to journey towards net zero. *Enterprise Research Centre Paper No 109.*

Morsing M and Spence, LJ (2019) Corporate social responsibility (CSR) communication and small and medium sized enterprises: The governmentality dilemma of explicit and implicit CSR communication. *Human relations*, 72(12): 1920-1947.Newig J, Jager N W, Challies E and Kochskämper E (2023) Does stakeholder participation improve environmental governance? Evidence from a meta-analysis of 305 case studies. *Global Environmental Change*, 82, 102705. https://doi.org/10.1016/j.gloenvcha.2023.102705

Nunes A, Woodley L, and Rossetti P (2022) Re-thinking procurement incentives for electric vehicles to achieve net-zero emissions. *Nature Sustainability* 5: 527-532.

ONS (Office for National Statistics) (2025) *UK Business: Activity, Size and Location Dataset.* https://www.ons.gov.uk/businessindustryandtrade/business/activitysizeandlocation/datasets/ukbusinessactivitysizeandlocation (accessed 1 June 2026).

Pacheco-Vega R (2020) Environmental regulation, governance, and policy instruments, 20 years after the stick, carrot, and sermon typology, *Journal of Environmental Policy and Planning*, 22: 620-635.

Pek S, Mena S and Lyons B (2023) The role of deliberative mini-publics in improving the deliberative capacity of multi-stakeholder initiatives. *Business Ethics Quarterly* 33(1): 102-145.

Raes S (2021) Understanding SME heterogeneity: Towards policy relevant typologies for SMEs and entrepreneurship: An OECD strategy for SMEs and entrepreneurship, *OECD SME and Entrepreneurship Papers*, No. 28, Paris: OECD Publishing.

Rasche A, Waddock S, and McIntosh M (2013) The United Nations Global Compact: Retrospect and prospect. *Business and Society* 52: 6-30.

Rogge KS and Stadler M (2023) Applying policy mix thinking to social innovation: from experimentation to socio-technical change. *Environmental Innovation and Societal Transitions* 47: 100723.

Rosa P, Carter S and Hamilton D (1996) Gender as a determinant of small business performance: Insights from a British study. *Small Business Economics* 8: 463-478.

Rosenow J and Eyre N (2016) A post-mortem of the Green Deal: Austerity, energy efficiency, and failure in British energy policy. *Energy Research and Social Science* 21: 141-144.

Rouse J and Woolnough H (2018) Engaged or activist scholarship? Feminist reflections on philosophy, accountability and transformational potential. *International Small Business Journal* 36: 429-448.

Novel Net Zero Policy for SMEs

Sage (2022) *The Climate Impact of SMEs: Evidence from the UK and South Africa*. Oxford: Oxford Economics.

Scheyer V and Kumskova M (2019) Feminist foreign policy: A fine line between 'adding women' and pursuing a feminist agenda. *Journal of International Affairs* 72: 57-76.

Schlesinger M and Lau R (2000) The meaning and measure of policy metaphors. *American Political Science Review*, 94(3): 611–626.

Schmidt TS and Sewerin S (2019) Measuring the temporal dynamics of policy mixes–An empirical analysis of renewable energy policy mixes' balance and design features in nine countries. *Research Policy,* 48(10): 103557.

Skjærseth J, Stokke O and Wettestad J (2006) Soft law, hard law, and effective implementation of international environmental norms. *Global Environmental Politics* 6: 104-120.

Spence LJ (2016) Small business social responsibility: Expanding core CSR theory. *Business and Society*, 55: 23-55.

Spence LJ and Taylor S (2024) Feminist corporate social responsibility: Reframing CSR as a critical force for good. *British Journal of Management* 35: 1198-1208.Spencer B and Dowell A (2025) We've failed to stop climate change *The Times,* https://www.thetimes.com/uk/environment/article/climate-change-adaptation-decarbonisation-times-earth-93jln78vd (accessed 1 June 2026).

Stechemesser A, Koch N, Mark E, Dilger E, Klösel P, Menicacci L, Nactigall D, Pretis F, Ritter N, Schwarz M, Vossen H and Wenzel A (2024) Climate policies that achieved major emission reductions: Global evidence from two decades. *Science* 385(6711): 884-892.

Thaler R and Sunstein C (2008) *Nudge: Improving Decisions about Health, Wealth, and Happiness*. London: Penguin Books.

Thompson L, Ahmed S and Khokhar T (2021) *Defining Feminist Foreign Policy: a 2021 Update.* Washington DC: International Center for Research on Women.

UNEP (United Nations Environment Programme, and Yale Center for Ecosystems + Architecture) (2023) *Building Materials and the Climate: Constructing a New Future*. https://wedocs.unep.org/20.500.11822/43293. (accessed 1 June 2026).

Vedung E (1998) Policy instruments: Typologies and theories. In M. Bemelmans-Videc, R. Rist, and E. Vedung, *Carrots, Sticks and Sermons.* London: Routledge, pp.21-58.

Venghaus S, Henseleit M, and Belka M (2022) The impact of climate change awareness on behavioral changes in Germany: changing minds or changing behavior? *Energy, Sustainability and Society,* 12(1): 8.

von Weltzien Hoivik H and Melé D (2009) Can an SME become a global corporate citizen? Evidence from a case study. *Journal of Business Ethics* 88: 551-563.

Weiss J, Anisimova T, Shirokova G and Durst S (2023) The entrepreneurial gender gap: The role of in-group support and national embeddedness values in young women's entrepreneurship. *International Small Business Journal* 41(8): 843-872.

Wildnerova L, Menon C, Dehghan R, Kinne J and Lenz D (2024) *Which SMEs are greening? Cross-country evidence from one million websites.* OECD Publishing.