

## Conclusions and Ways Forward

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### 17.1 Introduction

During the few seconds it takes to open this page and read this sentence, fossil fuel production and consumption have been subsidised with tens of thousands of dollars. Although fossil fuel subsidies may make fuels affordable to the poor, they come at a significant cost. They strain public budgets, leaving less money for social welfare, infrastructure and other policy priorities. Consumer subsidies benefit richer people more than the poor. And by supporting fossil fuel production and use, subsidies contribute to climate change and local air pollution. This much we know. Yet, notwithstanding near-universal consensus among experts about the benefits of reforming fossil fuel subsidies, state leaders' repeated international commitments to eliminate such subsidies and valiant efforts by some countries to reform them, they continue to persist. What we can therefore observe is a significant gap between what many think ought to happen and what is happening in practice.

This book has sought to shed light on this conundrum by exploring multiple facets of the politics of fossil fuel subsidies and their reform. At the international level, we have been particularly interested in how, following the Group of 20 (G20) commitment to phase out inefficient fossil fuel subsidies, the issue has been addressed by some international institutions, but not others, and how a range of different international institutions and actors have exerted (or could exert) influence on countries to reform their subsidies. At the domestic level, we have been interested in explaining why reform has taken place in some countries and why other countries either have not succeeded in their reform attempts or have not even attempted such reform. To address these questions, this book has brought together a collection of essays that focus on different aspects and cases of the politics of fossil fuel subsidies and their reform.

The central theme uniting the various parts of this book is that advancing fossil fuel subsidy reform is not possible without a proper understanding of its political

dimensions. Only such a focus can help us understand why the concept of a fossil fuel subsidy has risen up international and domestic political agendas since the mid-2000s and how the consensus that fossil fuel subsidies should be reformed has translated into concrete action within some countries and some international institutions but not in others. All the chapters in this book underscore the added value of focusing on fossil fuel subsidies and their reform as political phenomena. While macroeconomic factors such as fossil fuel prices and reserves remain important contextual factors that can drive or hinder reform, their influence on the extent – and success – of reform depends on other prevailing political factors. The perpetual changes to fossil fuel prices influence any country, but how these price changes affect support for fossil fuels varies from government to government depending on political agency and structures.

Underpinned by theory and drawing on a variety of case studies, the chapters in this book have provided insights into the domestic and international political factors driving fossil fuel subsidies and their reform. By bringing together a diverse set of domestic and international case studies, guided by a common analytical framework, we can point to initial findings that could form the basis for further research by scholars of public policy, political science, international relations and international law. In this final chapter we discuss what the preceding chapters tell us about the factors included in our analytical framework. The first two sections that follow synthesise our findings on the politics of fossil fuel subsidies and their reform at the international and domestic levels. We then return to the core puzzle inspiring this book: given the consensus on the benefits of reform and the high-level commitments made, why do we see so little concerted action to address fossil fuel subsidies? We conclude by outlining elements of a future research agenda.

## 17.2 The International Politics of Fossil Fuel Subsidies

Regarding the international politics of fossil fuel subsidies, we first address the question of how and why international institutions and actors have started to address fossil fuel subsidies and then turn to the question of the influence of these actors and institutions at the domestic level. In both cases, we draw on the framework outlined in Chapter 1.

Concerning the first question, several chapters point to the importance of *individual actors* acting as ‘norm entrepreneurs’ (Finnemore and Sikkink 1998). The chapters highlight variously the roles played by staff at international organisations such as the International Energy Agency (IEA), the International Monetary Fund, the Organisation for Economic Co-operation and Development (OECD) and the World Bank; by governments such as the Obama administration and those

comprising the Friends of Fossil Fuel Subsidy Reform and by non-governmental organisations such as the Global Subsidies Initiative (Chapters 5, 6 and 10). As Van de Graaf and Blondeel point out in Chapter 5, without the entrepreneurship of actors within the Obama administration, the emerging norm of fossil fuel subsidy reform would not have been institutionalised through the game-changing G20 commitment. Prior to this commitment, individual actors had only been successful to a rather limited degree in promoting awareness of fossil fuel subsidies. The G20 commitment created an opportunity structure for existing organisations, such as the Global Subsidies Initiative (Chapter 10), to act as norm entrepreneurs and also encouraged new organisations and coalitions to enter the stage, notably the Friends of Fossil Fuel Subsidy Reform (Chapter 9).

Second, the *constellation of member state interests* within institutions appears to have played an important role, particularly in the institutions that have so far not addressed fossil fuel subsidies. As Chapters 7 and 8 demonstrate, these institutions – particularly trade institutions and the United Nations Framework Convention on Climate Change (UNFCCC) – can have an impact on the international politics of fossil fuel subsidies through their inaction or ‘ungovernance’, as Newell and Johnstone term it (Chapter 4). Both institutions are obvious candidates to address fossil fuel subsidies: the global trade regime given its strong dispute settlement system and existing subsidies disciplines, the global climate regime given the significant impacts that fossil fuel subsidies have on greenhouse gas emissions and both regimes given their wide participation of both developed and developing countries, including major fossil fuel producers and consumers. Yet both trade institutions and the UNFCCC have only addressed the issue to a limited degree, strengthening the hand of actors opposed to fossil fuel subsidy reform. To the extent that there has been activity in these institutions, it has often been at the initiative of a handful of countries – in some cases involving, as Chapters 9 and 10 make clear, entrepreneurial activities by the Friends and the Global Subsidies Initiative. But while we see continued efforts by New Zealand and other countries to raise the issue in the World Trade Organization’s (WTO’s) Committee on Trade and Environment, we also see continued pushback from other countries, including developing country oil producers such as Saudi Arabia and Venezuela (e.g. WTO 2017). And while we see that some countries have started to include fossil fuel subsidy reform in the nationally determined contributions (NDCs) submitted under the Paris Agreement, we also see that fossil fuel production considerations remain almost completely absent in the NDCs of the world’s largest emitters (Piggot et al. 2017). Thus, while the broad membership of and the WTO and the UNFCCC may make them appealing venues for governing fossil fuel subsidies in theory, their decision-making processes – often relying on consensus – make it challenging to move forward in practice.

Third, various chapters point to the importance of ideational factors, notably the emerging international norm of fossil fuel subsidy reform (see particularly Chapter 5). This norm can be seen as a specific type of ‘anti-fossil fuel norm’ that can help to effect change through political mobilisation as well as international socialisation or peer pressure (Green forthcoming). The most important way international institutions have advanced this norm is by identifying the reform needed to counter the adverse effects of fossil fuel subsidies. However, the contestation over the interpretation of the norm, including over the definition of fossil fuel subsidies (Chapter 2), makes it more difficult to identify violations of the norm (Chapter 5). Moreover, although some international institutions help to articulate the norm, it is also notable that norms developed under existing regimes – notably those regulating trade (Chapter 7) and climate change (Chapter 8) – are hardly, if ever, used to address fossil fuel subsidies.

Finally, institutions can be induced to address fossil fuel subsidies through their interaction with other institutions. The G20 and Asia-Pacific Economic Cooperation (APEC) commitments, as well as the communiqué by the Friends of Fossil Fuel Subsidy Reform, successfully placed fossil fuel subsidy reform on the agenda of other international institutions, particularly the IEA, OECD, the Organization of the Petroleum Exporting Countries and the World Bank (see Chapters 5 and 9). The information-gathering activities of these organisations have facilitated, to varying degrees, the peer-review process taking place under the auspices of the G20. Efforts by the Friends of Fossil Fuel Subsidy Reform – supported by the Global Subsidies Initiative (Chapter 10) – have further raised the issue on the agenda in the United Nations climate regime and have likely encouraged some countries to take up fossil fuel subsidy reform as part of their NDCs (Chapter 8).

Regarding the influence of international actors and institutions on the domestic level, it appears limited and rather indirect when it comes to fossil fuel subsidy reform. Influence through the pathway of providing incentives has been non-existent in the cases surveyed (with the exception of Indonesia; see Chapter 6). The second pathway, coercion, has not been a common, let alone successful strategy. Nonetheless, IMF conditionalities have played a role, such as in the case of Indonesia (Chapter 6). The third pathway, ideational influences, is more difficult to gauge. Although we can observe a nascent norm of fossil fuel subsidy reform (see earlier), the concrete influence of this norm on the domestic politics of fossil fuel subsidies has been difficult to identify: the norm has been part of a trend placing fossil fuel subsidies on domestic policy agendas, but it does not appear to have been the primary driver of reform in any of the cases studied (see particularly Chapter 6). The influence of the norm is limited by its contested nature (Chapter 5), which makes it possible to call into question whether it applies to a particular

country. As a result, countries – including Australia, Saudi Arabia and the United Kingdom – can claim that they do not have any inefficient fossil fuel subsidies (Kirton et al. 2013: 62–69); as we saw in the case of South Africa (Chapter 13), this normative ambiguity also plays a role in the domestic discourse. But the lack of clarity about the contents of the norm can also affect the success of strategies by norm entrepreneurs, as Rive (Chapter 9) underscores in his discussion of the Friends of Fossil Fuel Subsidy Reform. However, when it comes to more hands-on learning about fossil fuel subsidies and how to best reform them, institutions such as the World Bank and the Global Subsidies Initiative have influenced how fossil fuel subsidy reform has been carried out at the domestic level (Chapters 6 and 10).

### 17.3 The Domestic Politics of Fossil Fuel Subsidies

The chapters analysing the politics of fossil fuel subsidies in individual country cases display a significant level of diversity. They cover countries from different regions – including Africa, Latin America and the Caribbean and South and East Asia – and include both exporters and importers of coal, gas and oil. The case studies place their emphasis on explaining fossil fuel subsidy reform – as in the cases of Egypt (Chapter 15), India (Chapter 12) and Indonesia (Chapter 11) – or the factors that uphold fossil fuel subsidies – as in the cases of Colombia (Chapter 14), South Africa (Chapter 13) and Trinidad and Tobago (Chapter 16). Two of the country cases focus on production subsidies (Colombia and South Africa); the other four focus mainly on consumption subsidies.

Several of the chapters centre on the *role of individual actors* in explaining fossil fuel subsidy reform. Some point to the involvement of high-level actors. For instance, Chapter 12 highlights the role of the Prime Minister's office and the Minister of Petroleum and Natural Gas in helping make the subsidy benefit transfer scheme in India a success, and both Chelminski (Chapter 11) and Moerenhout (Chapter 15) discuss how subsidy reforms in Indonesia and Egypt were heavily influenced by the various political leaders in power in these countries. In this context, timing has been important too. Windows of opportunity arose in the form of economic crises (Chapter 11) or 'honeymoon periods' following elections (Chapter 15), with actors making use of these windows to push for reform. Furthermore, actors have sought to frame fossil fuel subsidies and their reform in ways that resonated with wider audiences to promote their objectives. For instance, for the case of Colombia, Chapter 14 documents how coal mining companies opposed to reform sought to frame the subsidies as a key instrument to achieving the country's development goals. Likewise, in the case of Trinidad and Tobago, employing a development narrative was one way in which actors opposed to reform

(including transport companies and associations) sought to gain support for their positions. At the same time, actors in favour of reform have underscored the benefits of removing fossil fuel subsidies. For instance, in Trinidad and Tobago, government agencies and the IMF emphasised the fiscal and economic benefits of reform (Chapter 16), and in Egypt, President Sisi sought to gain support for reform by calling on sentiments of national pride (Chapter 15).

The chapters identify private and private-public actors and institutionalised economic interests – particularly extractive industries, trade associations and national oil companies (Chapters 11, 14 and 16) – as playing a key role in resisting fossil fuel subsidy reform. These companies and associations often have close ties to powerful actors within the state, such as political parties (Chapter 14) and/or the military (Chapter 15). In the case of South Africa, for example, a powerful ‘minerals-energy complex’ comprising the government, state-owned enterprises and industry makes it difficult to challenge subsidies (Chapter 13; see also Fine and Rustomjee 1996). Organised groups of actors that benefit from fossil fuel subsidies but have a less close relationship with the state – such as minibus owners in the case of Trinidad and Tobago (Chapter 16) – can also be influential in resisting reform. To gain support for reform from certain groups of actors – such as the poor or the middle class – several chapters find that strategies involving direct benefit transfers (Chapter 12) and other compensation are necessary and can help to ensure success of the reform (see also Chapters 11 and 15). This finding resonates with the existing literature on conditions for successful reform (Chapter 3; Rentschler and Bazilian 2017).

Turning to *ideational factors*, one finding is the relative absence of the norm of fossil fuel subsidy reform in domestic debates over fossil fuel subsidies. Even when present, this norm has to compete with existing development norms (Chapter 16). This absence is closely related to fossil fuel subsidies generally not being framed in environmental terms. In other words, the debate about keeping or removing fossil fuel subsidies does not commonly invoke their negative environmental impacts (e.g. by referring to their impacts on greenhouse gas emissions). Whereas the framing of fossil fuel subsidies in environmental terms has been either absent or rather unimportant (Chapter 16) in all cases studied, actors’ framing of fossil fuel subsidies as macroeconomic or fiscal liabilities has proven to be much more important for the limited reform of fossil fuel subsidies in Trinidad and Tobago (Chapter 16) as well as in India and Indonesia (Chapter 6). Importantly, framing fossil fuel subsidies and their reform in terms of their development impacts and their social and redistributive consequences has been used both to argue for reform and against it. As the chapters on Colombia (Chapter 14), South Africa (Chapter 13) and Trinidad and Tobago (Chapter 16) testify, it is possible to define fossil fuel subsidies as

crucial for national development (often drawing on relatively interventionist notions of the developmental state; see Woo-Cummings 1999). However, reforming these subsidies can also be framed as freeing up resources for developing infrastructure, as was the case with reforms in Indonesia (Chapters 6 and 11). Likewise, the very common framing of fossil fuel subsidies as a tool for poverty alleviation (Chapters 11 and 16) may be countered by framing their reform in terms of economic revival benefiting the poor and the unemployed (Chapter 15).

In addition to framing, knowledge about the existence and the effects of fossil fuel subsidies has been an important precondition for public acceptance of fossil fuel subsidies. The citizens of a country are often not aware that fossil fuels are being subsidised or of the extent of such subsidies (e.g. Chapters 13, 15 and 16). Increasing such awareness – such as through information campaigns – is key for ensuring durable reform (Chapters 3, 11 and 15). Obviously, characterising a given policy as a fossil fuel subsidy depends on the definition being used (Chapter 2), as exemplified by the public debates about whether government policies can be defined as fossil fuel subsidies in industrialised countries such as Denmark and the United Kingdom (Chapter 6).

Regarding *structural factors*, the chapters show that fossil fuel subsidies are shaped by the socio-political characteristics of the country, including the country's level of development, its fossil fuel reserves (or absence thereof), the state's governance capacity (Chapter 12) and its political system. As Moerenhout points out in Chapter 15, large-scale consumption subsidies constitute a key element of the social contract between the state and its citizens. Consequently, reforming these subsidies will be interpreted as a change to the social contract, which may make reform difficult. At the same time, a change in the social contract spurred by exogenous factors – in the case of Egypt, a revolution – can also open up a window for reform. Likewise, other changes to the socio-political and economic characteristics of a country may constitute windows of opportunity. For instance, improvements in a state's governance capacity may allow for new compensatory measures, as could be observed in India, where the new Indian personal identification number (Aadhar) allowed for direct cash transfers compensating for the costs of reform (Chapter 12). When it comes to macroeconomic factors such as global fuel prices, several chapters point out that lower oil prices made the liberalisation of fuel prices more palatable to the public (Chapters 6, 11 and 15). At the same time, high oil prices increase the economic and fiscal costs of fossil fuel subsidies, adding to the incentives for governments to reform them (Chapters 15 and 16). Finally, structural power relations often constitute lock-in dynamics that can make it more difficult to reform subsidies. As Chapters 13 and 14 suggest, structural power relations that bind powerful extractive industries closely to the state apparatus, and

political parties are an important factor in maintaining production subsidies (see also Chapter 4).

#### 17.4 Explaining the Limited Concerted Action on Fossil Fuel Subsidies

The chapters in this book do not provide us with a definitive answer regarding the core puzzle outlined in Chapter 1: why is the level of concerted action on fossil fuel subsidies relatively low in spite of expert consensus on the benefits of, and high-level commitment to, reform? As should be evident from the contributions to this volume, on both the international and domestic levels, several of the most potentially relevant actors for fossil fuel subsidy reform have not addressed fossil fuel subsidy reform. Furthermore, those which address the subject (especially at the domestic level) mainly act individually rather than as part of a concerted effort. Nevertheless, on the basis of the chapters in this book, we can identify tentative explanations that operate at both levels. As outlined in the final section of this chapter, further research can help to determine their exact influence on the level of concerted action.

Some of the explanations concern the lack of concerted action at both the international and domestic levels. Others, however, focus on why a higher level of international concerted action has seemingly not affected the level of domestic concerted action. A high degree of concerted action at one level (e.g. with incentives for fossil fuel subsidy reform coming from many or all relevant international institutions) would arguably lead to more concerted action at the other level, especially if the political factors leading to concerted action at one level are also present at the other. Thus, focusing on the disconnect between the levels may help to explain the low level of concerted action both between levels and within them.

As several chapters underscore, the definition of fossil fuel subsidies is a crucial component of the politics of fossil fuel subsidies at both the international and domestic levels. Opposition to fossil fuel subsidy reform rarely takes the shape of advocating *for* fossil fuel subsidies but rather is carried out by ignoring the issue altogether or by using a definition of fossil fuel subsidies that excludes certain support measures from scrutiny (Chapter 6).<sup>1</sup> Which definition of fossil fuel subsidies is used at the international level can influence the politics of fossil fuel subsidies on the domestic level. Debate over the definition of fossil fuel subsidies (see, for example, the analysis of the debate about fossil fuel subsidies in the United

<sup>1</sup> At the international level, another strategy to oppose fossil fuel subsidy reform is questioning a forum's competence to address the issue; this strategy plays out both in the context of the WTO (Chapter 7) and the UNFCCC (Chapter 8).



States in Chapter 2) limits the precision of the norm of fossil fuel subsidy reform (Chapter 5). This does not mean, however, that there needs to be one definition of fossil fuel subsidies on which all actors agree. Aside from being unrealistic, the diversity of definitions allows various countries to come forward with what they deem to be ‘inefficient’ subsidies (as evidenced by the self-reviews of China and the United States for the G20). Moreover, as Koplou observes in Chapter 2, there are significant levels of convergence in the existing definitions used.

Second, the limited concerted action on fossil fuel subsidies can be explained in part by the continuing dominance of what Newell and Johnstone term the ‘global fossil fuel regime’ (Chapter 4). This regime operates within wider power structures at both the international and the domestic levels. According to this view, fossil fuel subsidies are locked in because they help sustain the prominence of fossil fuel producers and industries. This regime is reflected both in the global ‘ungovernance’ of energy issues and in the lack of consistent effort to address fossil fuel subsidies at the domestic level. Even if there was full agreement on what constitutes a fossil fuel subsidy and the need for reform, it would be difficult to reform subsidies without tackling the underlying reasons for the technological, institutional and behavioural lock-in of fossil fuels (Unruh 2000; Erickson et al. 2015; Seto et al. 2016; see also Chapter 10).

Turning to the disconnect between international and domestic levels, the differences in framing between the two levels is one reason why there is limited concerted action. Although many countries have used public money to support fossil fuels for decades – and have even from time to time reduced such support – the very act of framing such support as fossil fuel subsidies has opened new spaces for actors and actor coalitions opposed to these policies. However, while fossil fuel subsidies are often framed as an environmental issue at the international level (including in the G20 commitment) – due to their impacts on public health, air pollution and global warming – reform is often connected to macroeconomic and fiscal frames at the domestic level (Chapters 6, 11 and 16). At the same time, framing fossil fuel subsidies as instruments for development and poverty reduction in developing countries has been an important factor in maintaining them. This divergence in framing may make it more difficult to connect efforts and actors promoting fossil fuel subsidy reform on the two levels, as well as in different countries. The inclusion of fossil fuel subsidy reform in some of the NDCs under the UNFCCC (see Chapter 8) could be a starting point for linking the international environmental framing with domestic reforms undertaken mainly for economic reasons. But it should be kept in mind that this environmental framing may not resonate strongly with relevant actors at the domestic level. This may suggest that at the national level it is more sensible to build across-the-board coalitions with stakeholders in the health, education and other sectors, with the main argument

being that fossil fuel subsidy reform will help make public funds available for realising other policy priorities.

Second, organised actors with an interest in fossil fuel subsidies constitute a key factor in maintaining fossil fuel subsidies at the domestic level (Chapters 11, 13 and 14) but are not particularly influential at the international level. Organised special interests not only have more at stake at the domestic level, where fossil fuel subsidies are adopted or reformed, but they also have fewer possibilities to influence decision-making at the international level. At the international level, special interests seeking to reform fossil fuel subsidies have been more vocal than those seeking to maintain it – perhaps further explaining why the norm of fossil fuel subsidy reform has played a larger role at the international level than at the domestic level.

Third, the sensitivity of timing for fossil fuel subsidy reform, particularly for consumption subsidies, constitutes another possible explanation of the limited concerted action to reform fossil fuel subsidies (see especially Chapters 11 and 15). If the possibilities for successful reform depend on using a window of opportunity and carefully convincing key constituencies of the necessity and benefits of reform, it may be risky to let the timing of such reform depend solely on international commitments, especially as external pressure may alienate some constituencies. The time sensitivity and dependence on macroeconomic factors of reform, such as fuel prices, may also partly explain why some countries have undertaken reform and others have not: perhaps the timing was not right in the latter group, although agency – as highlighted in several of the country case studies – also plays an important role. Altogether, this could explain why fossil fuel subsidy reform has been rare, even if its economic and environmental benefits are clear.

### **17.5 The Road Ahead**

Although this book has sought to introduce the reader to the complex politics of fossil fuel subsidies, it has perhaps raised as many questions as it has answered. Due to the ongoing political salience of fossil fuel subsidies, we believe that there is an urgent need to ensure that important policy decisions are grounded in robust research on the politics of fossil fuel subsidies. Below we outline what we consider to be major themes for future studies.

First and foremost, the provisional findings explaining the lack of concerted action in spite of expert consensus and high-level commitments on fossil fuel subsidies need to be further explored in order to deliver more definitive answers. The role of definitional contestations, the global fossil fuel regime, framing differences, domestic special interests and the timing of fossil fuel subsidy reform all

deserve to be studied in more detail, individually or – preferably – together to compare their respective influence.

Second, comparative research constitutes another fruitful avenue for further enquiry. Although comparative and large-*n* studies exist (e.g. Cheon et al. 2013; Ross et al. 2017), these analyses rarely compare the influence of a set of political factors across cases (but see Inchauste and Victor 2016). The focused comparison of different cases could uncover whether there are political factors that either promote or hinder reform that could apply across (a subset of) countries and therefore form a basis for more informed recommendations on how to carry out such reforms. The cases could be selected so as to compare cases of successful reform with cases of absent or unsuccessful reform (thus addressing the current bias towards the former group), developing and industrialised countries (addressing the bias, also present in this book, towards the former group), production and consumption subsidies, countries with stable democracies in place and countries facing political turmoil, countries with state-owned enterprises and countries without and so on. Bringing together larger samples of countries could allow for the testing of further hypotheses as to why fossil fuel subsidies are put in place, why they persist and why reform does or does not succeed, hence providing a firmer foundation for policy recommendations.

Third, although this volume has provided new insights into the under-researched issue of the international politics of fossil fuel subsidies, further work is needed, especially on the influence of international institutions on domestic subsidy reform. For instance, in the context of the international climate regime, it would be worth exploring how countries that have included fossil fuel subsidy reform in their NDCs follow up on their commitment. This would not only offer concrete insights into the extent to which this particular institution exerts influence on subsidy reform but could also help to show whether the framing of fossil fuel subsidies as an environmental problem matters at the domestic level.

Another area for research on the international politics of fossil fuel subsidies could draw more explicitly on the theories and typologies put forward in the literature on institutional interplay (e.g. Stokke 2001; Oberthür and Gehring 2006). Doing so could shed further light on the causal mechanisms through which different international organisations and forums interact with each other and foster a better understanding of the effects of such interactions. Cases of interactions could focus on the transparency of fossil fuel subsidies; for instance, they could examine whether improved transparency achieved through one institution (e.g. the G20's peer reviews or the OECD's data-collection efforts) influence action through another institution (e.g. the WTO or UNFCCC). Another case of interactions could focus on whether and how regional or club-like approaches to fossil fuel subsidies – e.g. through regional

trade agreements (Chapter 7) or through the Friends of Fossil Fuel Subsidy Reform (Chapter 9) – spur multilateral action.

Fourth, while the fossil fuel subsidy literature is rich in detail, we should not forget to place fossil fuel subsidies and their reform in a wider political, social and economic context. Thinking of fossil fuel subsidies as an example of fossil fuel incumbency that needs to be overcome to achieve a transition to a low-carbon economy, as Newell and Johnstone have proposed in Chapter 4, is one way of framing the problem – one that we believe is useful and powerful. However, fossil fuel subsidies can equally be framed as a site of broader energy politics, in which multiple goals – energy security, energy access and sustainable energy – need to be carefully balanced. And fossil fuel subsidy reform can ultimately be seen as an example of policy reform; lessons thus can be drawn from existing studies on the political economy of such reforms (e.g. Rodrik 1996), particularly on why certain kinds of reforms may be driven by international factors (Chwieroth 2007).

Fifth, one of the most challenging aspects concerning fossil fuel subsidies is the general lack of transparency surrounding them. While existing studies (e.g. Bast et al. 2015; OECD 2015; Whitley et al. 2017) – as well as the ongoing work of international and non-governmental organisations such as the OECD, IEA and Global Subsidies Initiative – have made large strides in bridging the knowledge gap, there is still a need for more empirical knowledge and data on concrete fossil fuel subsidies. Several knowledge gaps can be pointed to in particular. First, while much information has been made public on subsidies for fossil fuel consumption, the transparency of production subsidies has lagged behind – though that is slowly changing (e.g. Bast et al. 2015; Erickson et al. 2017; Gerasimchuk et al. 2017). This book's chapters on Colombia (Chapter 14) and South Africa (Chapter 13) have begun to address this gap by both compiling nationally available data on subsidies to fossil fuel producers and linking these data to the political economy of the subsidies. Such case studies can be extended to other countries that continue to provide production subsidies. Indeed, even in countries that have production subsidies in place, the focus of studies tends to be on consumption subsidies (Chapter 11). The politics of production subsidies are different from those of consumption subsidies (Victor 2009). Different actors and actor coalitions oppose reform (e.g. extraction companies in the case of production subsidies (see Chapter 14) and transport companies and parts of the middle class in the case of consumption subsidies (see Chapter 15)), different frames and discourses are employed and influences of macroeconomic factors (such as changing fossil fuel prices) point in diverging or even opposing directions. To better understand how fossil fuel subsidy reform could work in certain contexts, it is necessary to have greater clarity on how and why production subsidies – not just consumption

subsidies – are provided. Moreover, studying the politics of successful cases of production subsidy reform (e.g. Germany; see Whitley and van der Burg 2015; van der Burg 2017) could reveal how such reform could work in other countries. Second, while many studies have focused on the politics of fossil fuel subsidies in developing countries, it is equally important to understand the provision of subsidies (including their political dynamics) in industrialised countries. This ties in with the previous point, as the bulk of consumption subsidies are concentrated in developing countries in a way that production subsidies do not appear to be (with the caveat that the scope of production subsidies in developing countries is still under-explored).

Finally, future research should also focus on the relationship between the likelihood of reform for different kinds of fossil fuel subsidies and their structural characteristics, such as the type of state (e.g. developmental, market-liberal, corporatist). A plausible hypothesis for further exploration is that corporatist, and even more so developmental states, are more prone to adopt fossil fuel subsidies than market-liberal ones (see also Lockwood 2015).

To conclude, we hope that this book has helped to affirm that the issue of fossil fuel subsidies is worthy of further investigation, not just because of its political salience but also because of its intrinsic academic value. The benefits of subsidy reform are clear. What is needed now is improving our understanding to make it happen.

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