

---

# The Routledge Handbook of Differentiation in the European Union

*Edited by Benjamin Leruth,  
Stefan Gänzle and Jarle Trondal*

First published 2022

ISBN: 978-0-367-14965-9 (hbk)

ISBN: 978-1-032-18382-4 (pbk)

ISBN: 978-0-429-05413-6 (ebk)

## 21 Differentiated integration in EU climate policy

*Elin Lerum Boasson, Merethe Dotterud Leiren  
and Jørgen Wettestad*

---

CC BY-NC-ND 4.0

DOI: 10.4324/9780429054136-24

# Differentiated integration in EU climate policy

*Elin Lerum Boasson, Merethe Dotterud Leiren  
and Jørgen Wettestad*

---

## Introduction

The European Union (EU) has identified climate change as one of the greatest global challenges. In December 2019, the European Commission (hereafter: Commission) therefore launched the European Green Deal. ‘This is Europe’s ‘man on the moon’ moment,’ said Commission President Ursula von der Leyen, when announcing this ambitious strategy which aims to transform the EU into a zero-emission society (The Parliament Magazine 2019). The Green Deal addresses a broad array of environmental issues, putting climate neutrality at the heart of EU policy in general (Dupont et al. 2020: 1101). Even before the Green Deal was launched, the EU had more than 40 climate instruments in force, aimed at facilitating Europe-wide climate transitions (Jordan and Moore forthcoming). They include the EU Emission Trading System (ETS), the EU Renewable Directive and policy instruments targeting energy efficiency, fuel combustion in automobiles, and a range of other societal activities. As climate policy touches upon most other sectors in society, the Green Deal will require actions in all sectors in the EU economy. However, member-state ambitions in setting climate targets, adopting policies and achieving cuts in carbon emissions have varied considerably (CAN 2018; Commission 2020).

This is one reason why it is relevant to study differentiated integration in EU climate policy. Research has shown that the degree of European integration varies across climate issue areas: in some areas, member states have delegated considerable policy authority to the EU; in other areas, the member states retain the upper hand (Boasson et al. 2021; Boasson and Wettestad 2013). Member states have implemented EU climate policies in different ways, creating divergence as well as greater coherence (Boasson et al. 2021; Solorio and Jörgens 2017). Furthermore, member states enjoy significant leeway as regards developing their own climate transition strategies, although the Commission (2020) has encouraged ‘climate laggards’ to consider additional measures. Thus, climate policy provides ample examples of differentiated integration, but the burgeoning literatures on both differentiated integration on the one hand and EU climate policy on the other do not (yet) speak to one another. With our contribution, we are confident to contribute to a change: in this chapter, we show how longitudinal studies of climate-policy development make it possible to capture how differentiated integration, as an uneven and multi-directional processes, is an important enabler for concerted action in EU climate policy.

Our conceptual approach to differentiation enables exploration of the varying nature of differentiation during the course of a policy cycle. Drawing on the classic concepts put forth by David Easton, we identify differentiated integration at three specific stages of EU policy development: policy output, policy outcome, and policy impact (Easton 1965; Underdal 1992). *Policy output differentiation* refers to differentiation as manifested in actual policy decisions: EU Directives and Regulations. *Policy outcome differentiation* captures how and to what extent member states activate the mechanisms and exception formulations in EU law in order to adapt EU policy to specific domestic circumstances. *Policy impact differentiation* captures variation in the actual societal transitions that follow from implementing the EU policy within a given area—more specifically, whether countries differ as to what extent their actions undermine or underpin the achievement of EU goals.

Against this background, we ask two interrelated questions: first, how does differentiated integration play out at different stages of climate-policy processes over time? Second, does such differentiation impede or facilitate concerted climate action in the EU? We study two key pieces of legislation within the EU climate-policy framework—the EU ETS and the Renewable Energy Directive—as regards the degree of differentiated integration. In the ETS, the same system of rules applies basically to all participants (with several types of differentiation), whereas the Renewable Energy Directive expects the member states to develop their own targets for achieving the transformation from fossil fuels to renewables.

### Differentiated integration across policy stages

Rather than regarding differentiated integration as an encompassing theory that can explain how the EU develops and changes over time, we aim at examining how differentiated integration as a phenomenon manifests itself within a complex, encompassing, and dynamic policy area (see Leiren 2013, 2015). We focus on what Schimmelfennig et al. (2015) refer to as the ‘vertical’ dimension of differentiated integration and subsequently examine how climate-policy areas have been integrated at different speeds and reached different levels of centralization over time. We also pay attention to the geographical (or ‘horizontal’) dimension of differentiation, understood as divergence as to which states follow differing EU policies. We aim at capturing variations in differentiated integration across climate issue areas and over time.

As noted, we identify differentiated integration at three distinct stages of EU policy development: policy output, policy outcome, and policy impact. We operationalize these concepts by integrating elements from the literature on differentiated integration. When Easton introduced these stages, he focused on just one politico-administrative level: we have adjusted them to fit the EU’s multilevel political system. The EU is dependent on member states implementing its policies, and member states frequently enjoy considerable leeway in this process.

*Differentiated policy outputs* concern the features in legislation in EU decisions that allow for and foster differentiation across member states, such as geographical, temporal, and functional opt-in and opt-out clauses, delegation of target-setting to the member states, and major exceptions to the main rules. All these elements help to differentiate the importance of EU steering, giving individual member states significant leeway in determining the importance of differing policy elements (Schimmelfennig and Winzen 2019: 1172). Whether a state will use the freedom to bend the rules, overfulfil, or otherwise reinterpret EU policies depends largely on policy outcomes and implementation processes at the domestic level.

*Differentiated policy outcomes* refer to how member states apply the differentiation clauses as provided for in EU legislation (the policy outputs) and how this variation creates differentiation across states. It is also connected to the fact that institutions and actors in the member states

‘refract the same impulse of harmonization’ (Radaelli and Salter 2020: 36). Many factors come into play here, such as the member states’ policy practices and political systems (Héritier et al. 2001) or whether (and which) policy entrepreneurs succeed in reinterpreting a given EU policy (Boasson 2015). Many other social, economic, and technical factors may be involved in determining whether differentiation also characterizes the actual impact of an EU policy.

*Differentiated policy impact* eventually relates to variation in the EU policy’s actual effect on the issue it is seeking to influence. Here we focus on its effectiveness, in terms of underpinning EU-wide efforts to reach the targets set within the policy area in question. Whether differentiation at the output and outcome levels also causes differentiated impact is an empirical question. Some have argued that there is often a reversed relationship: for instance, flexibility, or legal differentiation, may be a way to overcome deadlock and enable agreement on an EU-wide policy (see Kölliker 2006; Holzinger 2011). In such a case, differentiated outputs contribute to goal attainment for the EU as such. The idea is that the diversity of actors’ interests would lead to stalemate or the ‘joint decision trap’ (Scharpf 1988) unless differentiation can provide escape routes. However, differentiation may also have the opposite effect. Alkuin Kölliker (2006) has investigated the dynamics of flexible European integration across EU policies and member states, distinguishing between centrifugal and centripetal effects of differentiation which create dynamics of further integration or disintegration. Such effects may either hinder or enable goal achievement and create differences in the ability and willingness of member states to work for the societal changes that the policy was created to achieve.

We regard harmonization as the opposite of differentiation. Hence, differentiation is deemed low if we find uniformity in policy output, outcome, and impact across member states. However, harmonization is rarely an aim in itself. Table 21.1 shows how we operationalize the extent to which policies are differentiated or harmonized at the different policy stages. We view differentiated integration as a matter of degree rather than dichotomous categories, but for the purpose of illustration, the extremes are presented in Table 21.1. Concerning policy outputs, differentiation is larger the higher the number of opt-out possibilities, exceptions from rules and the fewer the restrictions on domestic practices that undermine EU policy are. Outcome differentiation is higher, the more countries apply the differentiation elements in the policy output or depending on how legislation is refracted differently. Lastly, impact differentiation is greater, the more goal achievement varies across member states: in terms of climate policy, this means emissions reductions and sectoral effects and transitions.


## **Evolving differentiation in two key EU climate-policy areas: EU Emission Trading System (ETS) and renewable energy policy**

In the following, we examine how differentiated integration characterizes certain EU climate policies and how this has changed over time. Our analysis focuses on the existing laws and policy development in the 1998–2021 period. At the time of writing, both the ETS and the Renewable Energy Directive are under revision, the aim being to facilitate achieving the more ambitious objectives of the European Green Deal. At the same time, member states are poised to implement a range of regulations and directives adopted by the EU in recent years.

### *The EU Emissions Trading System*

The ETS, launched in 2005 as the cornerstone of EU policy to fight global warming, was the first and remains the most comprehensive greenhouse gas (GHG) emissions trading scheme in the world (Wettestad and Gulbrandsen 2018). It includes the power and heat generation

Table 21.1 A dimension of differentiated integration and operationalization of differentiation in the three policy stages

	Harmonized	Differentiated
		
<b>Policy outputs</b>	<ul style="list-style-type: none"> <li>• EU targets are clearly defined and legally binding</li> <li>• Domestic targets are formulated and set at the EU level</li> <li>• No opt-out possibilities</li> <li>• No exceptions</li> <li>• Clear restrictions on domestic practices that undermine EU targets</li> </ul>	<ul style="list-style-type: none"> <li>• Member states formulate and set their own targets</li> <li>• Many and significant opt-out possibilities</li> <li>• Many and broad exemptions</li> <li>• Countries have leeway to introduce measures that may interfere with EU targets</li> </ul>
<b>Policy outcomes</b>	<ul style="list-style-type: none"> <li>• Few or no member states apply differentiation clauses. If they do, they all apply them in the same way</li> <li>• Many or all member states apply voluntary harmonization elements</li> </ul>	<ul style="list-style-type: none"> <li>• Many member states apply the differentiation elements, creating distinctive groups of countries or no common pattern across countries</li> <li>• Few or no countries apply voluntary harmonization elements</li> </ul>
<b>Policy impact</b>	<ul style="list-style-type: none"> <li>• Countries are rather similar in terms of speed and type of goal achievement</li> </ul>	<ul style="list-style-type: none"> <li>• Some countries excel in terms of what is required by the EU; others lag behind</li> </ul>

Source: Authors' own compilation.

sectors, energy-intensive industry, and commercial aviation in all the EU member states, plus Iceland, Liechtenstein, and Norway (as members of the European Economic Area). The installations regulated by the EU ETS are responsible for some 40 per cent of the EU's GHG emissions.

The EU ETS is based on the 'cap and trade' principle. The overall volume of CO<sub>2</sub> emissions allowed for a multi-year phase by the power plants, factories, and other companies in the sectors covered by the system is contingent on a cap set by policymakers at the EU level. Within this cap, companies receive or buy emission allowances which they can trade, if they so wish. The cap means that the level of emissions reductions is fixed, but the price of emitting is not. The price depends on the supply (determined by the cap) and the demand for allowances, which in turn hinges on a multitude of factors ranging from the weather (e.g. mild winters requiring less heating and hence less emissions from energy), other climate and energy policies (e.g. requirements that increase the production of renewables and reduce the demand for allowances), and technological developments (e.g. reduced costs of low-emission technologies reduce the demand for allowances).

The EU was initially sceptical to emissions trading at the global level, but after this became an integral part of the Kyoto Protocol in 1997, a small group of policy entrepreneurs in the Commission managed to effect a policy-turnabout in the EU (on the initiation and evolution of the ETS, see Skjærseth and Wettstad 2008; Wettstad and Jevnaker 2016, 2019; Jordan and Moore 2020). As emissions trading in practice until then had been tried out nationally only in the United States and in a different policy field (air pollution), the EU was entering uncharted regulatory territory. Rules and regulations would need to work in a setting consisting of a number of sovereign member states with differing energy systems, regulatory cultures, and material wealth.

EU enlargement to Eastern Europe in 2004 increased this diversity further. Indeed, analysts dubbed the EU ETS ‘the new grand policy experiment’ (Kruger and Pizer 2004).

The initial EU ETS Directive, adopted in 2003, aimed at installing ETS as the cornerstone of EU climate and energy policy. The first ETS trading phase from 2005 to 2007 was set up as a pilot phase. The second phase was the Kyoto Protocol commitment phase, 2008–2012. The third phase ran from 2013 to 2020; the current (fourth) phase is set to run from 2021 to 2030.

In order to keep the system common and uniform, while accommodating differing conditions and concerns among industries and member states, many changes have been made to the design of the ETS over the years. The result is a complex design aimed at dealing with the many challenges and complications that have arisen in the context of sovereign and different nation states. The design of cap-and-trade systems can be broken down into several main components (Wettestad and Gulbrandsen 2018). We focus on four central components here: (1) the cap (as explained above) and ambitiousness of the system—important for the development of the carbon price; (2) the scope and coverage of sectors and gases; (3) how to distribute allowances: the method of allocation; and (4) mechanisms to control the price, either directly (price floors/ceilings) or indirectly (regulating the quantity of allowances).

Scrutinizing these components individually, we start with the cap and the ambitiousness of the system. Here, the trend has gone from significant fragmentation to much greater harmonization (Boasson and Wettestad 2013). As noted, the EU was a frontrunner in developing an installation-focused international ETS, and uncertainty was high among industries and member states. A central response was to design an initially decentralized system which gave member states significant control, by allowing them to set national annual emission budgets (although in interaction with the Commission). During the pilot phase 2005–2007, the member states handed out allowances generously, leading to a volatile carbon price which hit rock bottom in 2007. When the rules for the third phase (2013–2020) were decided on in 2008 (and formalized in a directive in 2009) as part of the climate and energy package for 2020, significant harmonization was introduced, with a centrally set cap which was also linked to the overall achievement of the overall 20 per cent reduction goal. For greater regulatory oversight, a Linear Reduction Factor (LRF) was also introduced from 2013 onwards: the total amount of allowances would be reduced by 1.74 per cent each year up to 2020 (and beyond).

As to the initial scope, the power sector was a central target group and implementer, together with several energy-intensive industries such as steel, cement and pulp and paper. However, important industries like chemicals and aluminium were not included; neither were such central sectors and emitters as transport and agriculture. Initially, around 40 per cent of the EU’s CO<sub>2</sub> emissions were covered. Also, the initial situation involved some output differentiation in the two initial phases, as states could opt-in or opt-out regarding certain activities, changing from 2013 on when opt-ins and -outs disappeared, resulting in more of a common scope.

However, as the energy systems and mixes vary among the member states of the EU/European Economic Area (EEA), there are differences in how the system affects each country. Countries with a significant share of coal in their energy mix (whose power production is thus heavily affected by the carbon price) are likely to feel more ‘affected/exposed’ to the ETS than those with energy mixes that involve little or no coal or other fossil fuels. However, ‘measuring’ such differing exposure precisely is a tall order.

As to the allocation of allowances, we can note some interesting developments. In the two first phases, allowances were mainly handed out for free—because this was a largely new and untested policy instrument and uncertainty was high, but also due to the energy-intensive industries’ fear of industry relocation and ‘carbon leakage.’ These fears arose because the EU was an

international ETS frontrunner and its main global economic competitors did not have similar policies in place.

In the 2009 Directive, which set the rules for the 2013–2020 phase, a key change was the introduction of much more auctioning of power-sector allowances from 2013 onwards. However, some differentiation was introduced. First, 10 per cent of the allowances to be auctioned were set aside for ‘solidarity’ purposes; second, two further percentages were set aside for countries with 20 per cent lower emissions than allowed under the Kyoto Protocol. In practice, this output differentiation benefited mainly the Eastern European countries. Furthermore, there were auctioning derogations for installations in the power sector, in practice mainly for Poland and other Eastern European countries. Eight member states have made use of this derogation possibility, resulting in differing outcomes (see Commission n.d.).

Since 2013, the distribution of free allowances has been based on technological benchmarks, the aim being to induce low-carbon innovation also in the energy-intensive industries. These common benchmarks have made possible some outcome differentiation. For instance, Swedish industries have utilized less polluting fuel than foreseen in the benchmarks, so these industries have arguably been considerably ‘over-allocated’ (Stenqvist and Åhman 2016). Furthermore, in 2012, the EU allowed the establishment of specific national CO<sub>2</sub> compensation schemes to help industries exposed to increasing power prices due to the ETS and particularly at risk for carbon leakage. Twelve EU/EEA countries have established such schemes—another example of outcome differentiation.

In the 2018 Directive, which set the rules for the 2021–2030 phase, some further output differentiation was made possible, as optional unilateral cancellation was now allowed: member states could cancel allowances from their auction share voluntarily, to correspond with the expected mitigation impact of national measures in the power sector (e.g., coal phase-outs)—up to maximum average emissions from such closed installations in the five previous years. As yet, however, little use has been made of this possibility. Another important element in the 2018 Directive was the establishment of a €14 billion Modernization Fund, geared towards assisting a low-carbon transition in Eastern Europe.

As to price control mechanisms, in the two first ETS phases, no such mechanism was included. In combination with several design characteristics described above (basic decentralization; generous distribution of free allowances due to high uncertainty and fear of carbon leakage; no control over the demand for allowances, particularly important when the financial crisis struck in 2008), the carbon price proved volatile, gradually settling at too low a level to be able induce a low-carbon transition.

This is the backdrop for one of the most important developments in the ETS so far: the adoption of the Market Stability Mechanism (MSR) in 2015, intended to function from 2019 (Wettestad and Jevnaker 2016). The MSR works as a ‘market thermostat,’ automatically ‘heating up’ the market by withdrawing 12 per cent of auctioned allowances when the number of allowances in circulation gets higher than 833 million—and ‘cooling down’ when this number sinks under 400 million. Before the MSR managed to start operating, the important 2018 reforms upped the withdrawal rate to 24 per cent in the period 2019–2023 (Wettestad and Jevnaker 2019). Here there is no output differentiation. However, a cut in allowances for auctioning probably feels more unfair for member states heavily dependent on auctioning revenues—the relatively low-income East European members. Moreover, the related increase in carbon prices due to the cut in allowances from 2019 onwards has probably hit the same (coal-dependent) countries particularly hard. Such effects fuel the often-heated conflicts over climate and energy policy in the EU.

Emissions from installations covered by the ETS dropped by about 35 per cent between 2005 and 2019 (Commission 2021b): in fact, over-compliance with official targets (ECA 2020).

Table 21.2 Categorizing differentiated integration of EU ETS over time

	2000–2009	2010–2019	2020–2029
Policy output	Decentralized system; significant differentiation	Harmonization; until 2013, with differentiation clauses	Harmonization with few differentiation clauses
Policy outcome	Member states implementing differently	From 2013 on, more uniform implementation, but power-sector derogations in Eastern Europe	?
Policy impact	Volatile and low price; uniform low impact	Increasing price from 2018 affects coal-reliant states more than others	?

Source: Authors' own compilation.

However, for many years, the allowance price was too low to enable the ETS to become the driving force for the climate transition, so the causal effect of the ETS in driving down emissions can be seen as moderate thus far. The MSR has led to a substantially higher carbon price, now over €40, and analysts have raised their 2030 price forecasts towards around €100. This means that the ETS can more fully assume its intended role as a key driving force for the low-carbon transition. In Table 21.2, we show how differentiation characterizes EU ETS over time.

### *EU renewable energy policy*

The energy sector is responsible for more than 75 per cent of EU GHG emissions (Commission 2021a). Therefore, increasing the share of renewable energy is central to achieving an integrated energy system that can deliver on the ambition of climate neutrality. The EU started to develop a policy on renewable energy already in the 1970s, but it was only 40 years later that a strong EU policy emerged, with the adoption of the 2009 Directive on Renewable Energy (repealed on 30 June 2021). EU renewable energy policy consists of many elements; here we focus on renewables targets and support scheme requirements.

In 2001, the EU adopted the Renewable Electricity Directive, with a rather narrow focus on the production of electricity from renewable sources (Boasson and Wettestad 2013; Boasson 2019). The Directive contained indicative EU-level targets for 2010, and indicative national electricity production targets, but no direct harmonization pressure as regards support schemes. Although the output was marked by considerable differentiation, we find interesting harmonization at the member-state output level. Most countries worked systematically to implement the indicative domestic targets, despite some variation (Solorio and Jörgens 2017). Only a few countries failed to meet their 2010-targets (EEA 2018). Concerning support schemes, many countries (e.g. Spain and France) copied the countries that first had adopted feed-in schemes (Germany and Denmark), making feed-in the most widespread way of promoting renewables (Boasson 2021; Leiren and Reimer 2018). A few countries opted for a more market-based certificate scheme; but, with a few exceptions (Sweden and the United Kingdom), most dropped these schemes swiftly, developing various types of feed-in schemes instead (Boasson et al. 2021).

The countries with the lowest renewable electricity production increased their production significantly. In 2000, 12 member states had less than 10 per cent renewables production shares; by 2012, only Cyprus and Malta (not member states back in 2000) had shares lower than 10



per cent (EEA 2018). Despite the sizable differences in shares, member states had become more similar over time, with very few countries not preparing massive increases in renewable electricity generation. Hence, there were signs of impact harmonization.

The 2009 Renewable Energy Directive adopted one overarching and much broader target, shifting the focus away from electricity production to renewable energy consumption in all sectors of society (Boasson and Wettestad 2013; Boasson 2019). This Directive contained a binding EU-wide target, aiming for a 20 per cent share of renewables as of the gross final consumption of energy within the European Community by 2020. A considerable increase would be required, as in 2007 only 8 per cent of the member states' energy consumption came from renewables (Boasson and Wettestad 2013). In line with the overarching target, the 2009 Renewable Energy Directive also featured mandatory national targets, obliging all countries to increase their share of renewables in energy consumption. These targets were differentiated on the basis of the member states' economic strength. The level of ambition was based on a 5.5 per cent flat target for all countries, with an additional percentage dependent on GDP. Moreover, the new approach did not require the domestic renewable energy share to come from national production, so member states could invest in renewable energy in countries with more advanced technical potential.

Concerning domestic support scheme designs, the 2009 Renewable Energy Directive contained few harmonization measures (Boasson and Wettestad 2013; Boasson 2019). At this stage, Denmark, Germany, and Spain offered feed-in support that led to the development of a new renewable energy industry. The Netherlands, Sweden, and the United Kingdom had more market-based schemes favoring traditional utilities; and in a large group of countries little or nothing had happened. The Commission had a prominent role in the implementation process. In its draft directive, it sought to limit how the member states could financially support new renewable electricity, envisaging a common EU certificate support scheme, with one EU-wide support level common to all technologies. The aim was to harmonize all national schemes and to steer the scheme from Brussels. This attempt encountered sharp protest from the feed-in countries and the renewable industries. The electricity industry supported the emergence of a pan-European, market-based support scheme, but was not heard. The final Directive allowed for widely different domestic schemes (Boasson and Wettestad 2013). All countries would have to develop national action plans, but there were few absolute requirements.

While the 2009 Directive contained harmonization pressures in terms of strict targets, thereby radically strengthening centralized control, the broad definition of the targets allowed for significant diversification in domestic renewable strategies. For instance, the Commission had concluded that it would be easier to agree on one binding target for all energy sources and sectors, than to develop separate binding targets for electricity, heating, cooling, and transport. To give the countries more freedom, all sectors were included in one target. In addition, leeway to develop a broad range of varying support schemes indicates considerable output differentiation.

At the outcome stage, all national action plans presented unique domestic approaches that in sum led to increased renewable energy production in most countries. Note that while the directives allowed the countries to collaborate and create common cross-country support schemes, this opt-in mechanism was hardly used at all (Boasson 2021). All the same, there was a strong trend among member states towards adopting support schemes that combined feed-in schemes with competitive auctions from 2010 and onwards (Boasson et al. 2021; Fitch-Roy et al. 2019). Sweden has held on to its certificates, but most countries have aligned with this common model—even the United Kingdom, which had promoted certificates (Rayner et al. 2021). In sum, there was surprisingly little differentiation of domestic support schemes, despite the high degree of differentiation at the policy output level.

The most recent Renewable Energy Directive, adopted in 2018, establishes an overall policy for the production and promotion of energy from renewables in the EU. It requires the EU to fulfil at least 32 per cent of its total energy needs with renewable energy by 2030 (with a clause for a possible upwards revision by 2023). To this end, the Directive has various measures for different sectors, including targets specified for different sectors, like an increased 14 per cent target for the share of renewable fuels in transport, and provisions for enabling self-consumption of renewable energy. It also aims to facilitate cross-border support for renewable energy, while acknowledging that most member states apply support schemes that grant benefits solely to renewably sourced energy that is produced on their territory (preamble 22).

The Renewable Energy Directive provides Brussels with substantial authority and incentives for technology development; however, how to meet the 2030 targets for renewables is very much in the hands of the EU member states, which must include such information in their national energy and climate plans for 2021–2030 (preamble 8). These plans are a legal requirement under the Regulation on the Governance of the Energy Union and Climate Action. This prescribes an iterative process between member states and the Commission, where it is up to the member states to decide how to achieve the climate targets, while being controlled by the Commission. The Governance Regulation requires member states to plan, report, and monitor their obligations in the spheres of energy and climate.

Related to the conflict about how to grant financial support to renewable projects, the 2018 Renewable Energy Directive made a considerable change. Much of the language in the 2014 State Aid Guidelines was incorporated into the 2018 Renewable Energy Directive. The 2014 State Aid Guidelines (Art. 3.3.2) prescribed that aid be ‘granted in a competitive bidding process on the basis of clear, transparent and non-discriminatory criteria’: a radical departure from the rules of renewable support in prior renewable directives (Boasson 2019, 2021). The final Directive featured a list of conditions that would allow the member states to limit tendering procedures, including the need to achieve diversification (Directive 2018/2001, Art. 4.5).

This change in rules on how to grant financial support was possible because the support to renewables had dramatically lowered the costs of renewable technology, and intermittent renewables had begun to challenge the utilities—some of which were facing severe economic challenges. This, in addition to the economic crisis which limited the ability of many member states to offer support to renewables, led to changes in how renewable support schemes were viewed (Cointe and Nadai 2018; Fitch–Roy et al. 2019).

Although some output differentiation concerning the granting of renewable support remained, this marked a step towards increased harmonization. At the outcome level, many countries changed their support scheme to more complex schemes that combined feed-in premium with tendering. By the end of 2017, 18 out of 29 EU/EEA countries had introduced tendering or were planning to do so (CEER 2018). Hence, there is a tendency towards more harmonization at the outcome level.

The 2018 Renewable Energy Directive has proven robust. Even though there are no longer any binding targets, it has, together with national policies and incentives, been a driving force for substantial investments in renewable electricity (IEA 2020). However, it is too early to say whether it has shaped some countries more than others (e.g. Germany; see Leiren and Reimer 2021). However, the national energy and climate plans show considerable variation in renewable targets for 2030 (Standal and Aakre 2021). Further, several member states have failed to include sectoral trajectories in line with Renewable Energy Directive requirements, remaining below cost-efficient national potentials (Commission 2020). By contrast, a few member states have set very ambitious sectoral targets for renewables: for example, Austria and Sweden are aiming for 100 per cent renewable electricity by 2030 and 2040, respectively. It is too early to draw any

Table 21.3 Categorizing differentiated integration of EU renewables policy and practices

	2000–2009	2010–2019	2020–2029
Policy output	Many differentiation clauses	Harmonization of targets with significant differentiation of support schemes	Differentiated targets, more harmonization of support schemes
Policy outcome	Significant harmonization, although with some diverging countries	Significant harmonization	?
Policy impact	Significant harmonization	Significant harmonization	?

Source: Authors' own compilation.

firm conclusions with respect to impact differentiation. Still, it is remarkable how there seems to be more harmonization at the impact and outcome levels than at the output level. Table 21.3 shows the differentiation of renewable energy policy and practices at the three stages over time.

## Discussion

The case studies provide interesting findings concerning *how differentiation plays out at different stages of a policy process over time*. The ETS case study shows that most of the components of this cap-and-trade system are common for all countries and installations in law; however, some of the components include flexibility that can enable member states to proceed in different directions. However, tracking the policy process of the ETS over time, we find that—although it varies for different components—the design of the ETS seems to be going from significant differentiation to far greater harmonization. The Renewable Energy Directive has always allowed for considerable differentiation, but both the content of the EU policy have shifted and changed several times. While the EU initially allowed for differentiated domestic renewable energy targets, it later enforced harmonization of targets, until it in 2018 allowed for differentiation. Initially, the EU allowed for differentiation of domestic support schemes, but after 2018, the Directive required more harmonization.

The cases examined here differ in terms of how much power the Commission has. The rules that influence the ETS allowance price are set by the EU, while the EU has had far less clout as regards developing the rules that affect how much support renewable energy gains. We also note that in the course of more than 30 years, differentiated integration has occurred in multiple—and often parallel—output, outcome, and impact processes.

Differentiation in the two cases has played out in various ways at the stages of output, outcome, and impact. Regarding the *output* stage, we find that in the ETS, the member states could initially opt in or opt out of certain activities; but from 2013 onwards, these opt-outs and opt-ins have disappeared, and the scope of the system is now common to all member states. Certain rules give possibilities for differentiation, including the voluntary establishment of specific national CO<sub>2</sub> compensation schemes and the optional unilateral cancellation of allowances (since 2021).

This is different in the case of the Renewable Energy Directive, where there has always been considerable differentiation. For example, in the early phases (2001 and 2009 legislation), the Commission set differing national targets. We consider the new voluntary element, where the member states now set the national targets themselves, as a step in the direction of further differentiation. However, other elements have limited the possibilities of differentiation, especially limiting member-state alternatives in designing their support schemes for renewables.

The EU climate legislation also affects differentiation at the *outcome* stage. In the ETS case, our findings indicate considerable differentiation—for example, almost half of the EU/EEA countries have established specific national CO<sub>2</sub> compensation schemes. However, the right of member states to cancel allowances from their auction share has seen little use thus far: such differentiation possibilities are not automatically employed. Their actual use depends on differing domestic circumstances.

In the renewable energy case, we find that there is more harmonization at the outcome level than the high degrees of differentiation at the output level made us expect. Over the years, the EU member states have harmonized support schemes more than the EU rules have required, and after 2018, it seems like many countries develop more ambitious targets even though they are not strictly required to. Still, it is too early to draw any conclusions with respect to the effect of the 2018 Renewable Energy Directive.

When it comes to *impact* differentiation, the ETS was for a long time not effective in terms of creating the necessary innovations to bring about the transition, due mainly to low prices on allowances. However, emissions have still gone down, due to other factors. New revisions of the ETS have led to a higher and more robust carbon price, which should help in reducing emissions further.

The success—or lack thereof—of the ETS is partly related to the development of renewable energy. In 2008, the Commission concluded that because the ETS created a carbon price that was too low to spur the further development of renewable energy, there was a need for additional EU measures (Commission 2008). This was one motivation for creating a more ambitious Renewable Energy Directive—and indeed, the Directive has created stronger incentives for technology development than the ETS. In particular, the support schemes for electricity from renewable sources have been shown effective for promoting the deployment of renewable electricity. To what extent emissions have gone down in the various member states due to the ETS varies, depending on their energy mix and, hence, the cost of emitting vs buying allowances.

Impact differentiation in the renewable energy case is considerable with some member states overachieving and others underachieving in relation to EU targets. Although the difference between member states when it comes to shares of renewables in energy production is significant, it is remarkable to see how investments in renewables are on the rise everywhere in the EU. In 2020, the difference in renewable shares across countries was smaller than ever (EEA 2018).

As to *whether differentiation is a barrier or enabler of concerted EU climate action*, we find that in the two cases differentiation has been important in enabling EU policies that would otherwise probably not have become operative (the ETS) or toothless (renewable energy). In the ETS case, differentiation has been an enabler, as the energy systems and mixes vary across the member states; accordingly, there is variation in the extent to which the member states are affected by these EU policies. From the start, major industries have been exempted from the ETS, although the scope has been expanded to include more industries and intra-EU aviation. The ETS has gradually gained acceptance among states and industries in the EU. It has proven smart, indeed essential, to start with a rather fragmented ETS, gradually introducing greater harmonization, as the problems with fragmentation have become apparent. This can explain the tendency towards increasing harmonization, although discussions have been heated along the way: measures that raise the costs of emitting GHGs are unpopular in coal-dependent countries, which are affected particularly hard by the increasing costs. Accordingly, opposition to the 2018 reform was particularly clear from Eastern European countries such as Poland and Hungary (Wettestad and Jevnaker 2019).

Much of the differentiation in the ETS is aimed at handling the fundamental difference between, on the one hand, affluent Western/Northern countries with mixed energy systems

moving away from coal and, on the other, the less-affluent Eastern/Southern countries more reliant on coal and hence particularly affected by rising carbon prices. This problem has been handled primarily by power-sector derogation, solidarity allowances, and funds. Thus, differentiation emerges as one of the main keys as to why there is still an operative EU-wide ETS.

The fundamental challenge in the renewable energy case differs from that in the ETS: instead of more generally and technology-neutral inducing a low-carbon transition, the challenge is to induce the growth of renewable technologies, despite vastly different domestic starting points. This automatically means different conflict lines, although the East-West line is still relevant. A conflict line that comes to the forefront concerns the energy mix and regulatory history. Basically, it is easier and cheaper for countries heavily dependent on coal to attain targets aiming for growth in renewables, than it is for countries that already have significant renewables (as with the large share of 'old' hydropower in Norway). Such basic differences in issue characteristics and conflict lines point to the need for policies with variation in the types of differentiation.

## Conclusions

Over the course of more than 30 years, the differentiated integration patterns in EU climate policy have changed many times. Whereas output differentiation has generally decreased over time in the case of the EU ETS, it has increased in renewable energy. However, we also find instances going in the opposite direction: for example, the CO<sub>2</sub> compensation introduced in 2012 increased differentiation in the ETS case, and the limitations on how to design support schemes in 2018 have resulted in increasing harmonization in the renewable energy case. We also find that differentiation at one policy stage does not necessarily reflect policy differentiation at another stage—that is, sizable output differentiation does not always mean a high degree of outcome differentiation and/or impact differentiation. Indeed, the renewable energy case shows that there may be more harmonization at the outcome and impact levels than at the output level. There is a need for more knowledge on how output differentiation, outcome differentiation, and impact differentiation relate to each other: does, for example, differentiation at the policy output and outcome stages facilitate lesser or greater harmonization at the impact stage?

Both case studies indicate that differentiation has enabled concerted action. Output differentiation has been important for agreeing on legislation that has eventually proven effective in cutting emissions (EU ETS) and in promoting the deployment of renewable electricity (the Renewable Energy Directive), although this is currently under revision as greater efforts are needed for the transition.

Importantly, the ETS and renewable energy cases clearly show that differentiation is not a one-way street—it is an uneven and multidirectional process. Our study, focusing on key climate policies, supports other work that indicates that differentiation is not a temporary, accidental, or non-systematic feature of EU policies but is essential and enduring (see Schimmelfennig et al. 2015). EU climate policy is a complex and encompassing field. Accordingly, we find a complex patchwork of policy differentiation, some elements of which are instilled in the EU policies themselves, and some of which emerge as the policies are implemented and interpreted at the domestic level.

EU climate policy also bears similarities to tendencies emerging on the agenda of the literature on differentiated integration, understanding differentiated integration as a response to rising levels of Euro-scepticism and disintegration (Gänzle et al. 2020). Both the ETS and the Renewable Energy Directive impose costs on countries or industries, and eventually the consumer. For this reason, there are indications of growing preferences for 'de-Europeanization' (see Radaelli and Salter 2020) in the climate and energy field. The 'yellow vests'—the popular

protests that began in France in 2018 against rising fuel prices due to increasing CO<sub>2</sub> taxes— attracted international attention. Could such protests increase the pressures for differentiation and discourage member states from implementing climate measures in future? Or do they signal the beginning of new innovations in participatory elements, which may decrease the opposition to climate policy? The relation between protests and differentiation is one important avenue for future research.

Another relevant research topic is to understand how differentiation in one policy spurs differentiation in other policies, and how the EU might deal with this, if and when fragmentation becomes too great to steer in a coherent, transparent way. The renewable energy and the ETS cases have shown that the tasks involved in stimulating an increased share of renewables, on the one hand, and making a system that incentivizes industries to reduce their emissions, on the other, are different—but they should work together towards the same climate target. We need to ask whether they do, and, if so, how.

## References

- Boasson, E.L. (2015) *National Climate Policy – A Multi-Field Approach*. New York, NY: Routledge.
- Boasson, E.L. (2019) Constitutionalization and Entrepreneurship: Explaining Increased EU Steering of Renewables Support Schemes, *Politics and Governance*, 7(1), pp. 70–80. doi: 10.17645/pag.v7i1.1851.
- Boasson, E.L. (2021) Europeanization of renewables support, in Boasson, E.L., Leiren, M.D. and Wettestad, J. (eds.) *Comparing Renewables Policy: The Role of Political, Organizational and European Fields*. London: Routledge, pp. 58–72.
- Boasson, E.L., Leiren, M.D. and Wettestad, J. (2021) *Comparing Renewables Policy: The Role of Political, Organizational and European Fields*. London: Routledge.
- Boasson, E.L. and Wettestad, J. (2013) *EU Climate Policy: Industry, Policy Interaction and External Environment*. Abingdon: Routledge.
- CAN (2018) EU Countries off Target in Fighting Climate Change. Available at: <https://caneurope.org/eu-countries-off-target-in-fighting-climate-change/> (Accessed: 30 April 2021).
- CEER (2018) Tendering procedures for RES in Europe: State of play and first lessons learnt. Council of European Energy Regulators. C17-SD-60-03. CEER: Brussels.
- Cointe, B. and Nadaï, A. (2018) *Feed-in Tariffs in the European Union: Renewable Energy Policy, the Internal Electricity Market and Economic Expertise*. Cham: Palgrave Macmillan.
- Commission (n.d.) Transitional Free Allocation to Electricity Generators. [https://ec.europa.eu/clima/policies/ets/allowances/electricity\\_en](https://ec.europa.eu/clima/policies/ets/allowances/electricity_en) (Accessed: 30 April 2021).
- Commission (2008) Impact Assessment – Document Accompanying the Package of Implementation Measures for the EU’s Objectives on Climate Change and Renewable Energy for 2020, Commission Staff Working Document, SEC(2008) 85/3. Available at: [https://ec.europa.eu/clima/sites/clima/files/strategies/2020/docs/sec\\_2008\\_85\\_ia\\_en.pdf](https://ec.europa.eu/clima/sites/clima/files/strategies/2020/docs/sec_2008_85_ia_en.pdf) (Accessed: 30 April 2021).
- Commission (2020) Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, and the Committee of the Regions: An EU-Wide Assessment of National Energy and Climate Plans – Driving Forward the Green Transition and Promoting Economic Recovery through Integrated Energy and Climate Planning. COM(2020) 564 Final. Available at: <https://op.europa.eu/en/publication-detail/-/publication/ac6b44a1-f8c8-11ea-991b-01aa75ed71a1/language-en> (Accessed: 30 April 2021).
- Commission (2021a) Impact assessment report – SWD(2021)621. Brussels, 14.7.2021.
- Commission (2021b) EU Emission Trading System. Available at: [https://ec.europa.eu/clima/policies/ets\\_en](https://ec.europa.eu/clima/policies/ets_en) (Accessed: 30 April 2021).
- Dupont, C., Oberthür, S. and von Homeyer, I. (2020) The Covid-19 Crisis: A Critical Juncture for EU Climate Policy Development?, *Journal of European Integration*, 42(8), pp. 1095–1110. doi: 10.1080/07036337.2020.1853117.
- Easton, D. (1965) *A Systems Analysis of Political Life*. New York, NY: Wiley.
- ECA (European Court of Auditors) (2020) The EU’s Emissions Trading System. Available at: [www.europa.eu/en/Pages/DocItem.aspx?did=54392](http://www.europa.eu/en/Pages/DocItem.aspx?did=54392) (Accessed: 30 April 2021).

- EEA (2018) Fig. 3: Share of Renewable Electricity in Gross Electricity Consumption. Last Modified 4 September 2018. [www.eea.europa.eu/data-and-maps/indicators/renewable-electricity-consumption-1/assessment-2](http://www.eea.europa.eu/data-and-maps/indicators/renewable-electricity-consumption-1/assessment-2) (Accessed: 30 April 2021).
- Fitch-Roy, O., Benson, D. and Woodman, B. (2019) Policy Instrument Supply and Demand: How the Renewable Electricity Auction Took over the World, *Politics and Governance*, 7(1), pp. 81–91. doi: 10.17645/pag.v7i1.1581.
- Gänzle, S., Leruth, B. and Trondal, J. (2020) Differentiation, Differentiated Integration and Disintegration in a ‘Post-Brexit-Era’, in Gänzle, S., Leruth, B. and Trondal, J. (eds.) *Differentiated Integration and Disintegration in a Post-Brexit Era*. London: Routledge.
- Héritier, A., Kerwer, D., Knill, C., Lehmkuhl, D., Teutsch, M. and Douillet, A. (2001) *Differential Europe: The European Union Impact on National Policymaking*. Lanham, MD: Rowman & Littlefield.
- Holzinger, K. (2011) Environmental Policy in the Joint-Decision Trap? The Critical Balance between “Market Making” and “Market Correcting”, in Falkner, G. (ed.) *The EU’s Decision Traps: Comparing Policies*. New York, NY: Oxford University Press, pp. 110–127.
- IEA (International Energy Agency) (2020) European Union 2020 – Energy Policy Review. Available at [www.iea.org/reports/european-union-2020](http://www.iea.org/reports/european-union-2020) (Accessed: 30 April 2021).
- Jordan, A. and Moore, B. (2022) The Durability–Flexibility Dialectic: The EU’s Struggle to Design Robust Decarbonisation Policies. *Journal of Public Policy*.
- Jordan, A. and Moore, B. (2020) *Durable by Design? Policy Feedback in a Changing Climate*. Cambridge: Cambridge University Press.
- Kölliker, A. (2006) *Flexibility and European Unification: The Logic of Differentiated Integration*. Lanham, MD: Rowman & Littlefield.
- Kruger, J.A. and Pizer, W.A. (2004) Greenhouse Gas Trading in Europe: The New Grand Policy Experiment, *Environment Science and Policy for Sustainable Development*, 46(8), pp. 8–23. doi: 10.1080/00139150409604401.
- Leiren, M.D. (2013) *Differentiated European Integration: Liberalisation of Post, Public Transport and Ports*, Doctoral Dissertation. Faculty of Economics and Social Sciences, University of Agder, Norway. Available at: <https://uia.brage.unit.no/uia-xmlui/handle/11250/136555> (Accessed: 30 April 2021).
- Leiren, M.D. (2015) Differential Growth and How Liberalization was Achieved in the Postal Services Sector, *Journal of Contemporary European Research*, 11(4), pp. 330–345. Available at: [www.jcer.net/index.php/jcer/article/view/706](http://www.jcer.net/index.php/jcer/article/view/706) (Accessed: 30 April 2021).
- Leiren, M.D. and Reimer, I. (2018) Historical Institutional Perspective on the Shift from Feed-in Tariffs towards Auctioning in German Renewable Energy Policy, *Energy Research & Social Science*, 43, pp. 33–40. doi: 10.1016/j.erss.2018.05.022.
- Leiren, M.D. and Reimer, I. (2021) Germany: From Feed-in Tariffs to Greater Competition, in Boasson, E.L., Leiren, M.D. and Wettestad, J. (eds.) *Comparative Renewables Policy: Political, Organizational and European Fields*. New York, NY: Routledge, pp. 75–102.
- Radaelli, C. and Salter, J.–P. (2020) Europeanization in Reverse Gear?, in Gänzle, S., Leruth, B. and Trondal, J. (eds.) *Differentiated Integration and Disintegration in a Post-Brexit Era*. New York, NY: Routledge, pp. 36–53.
- Rayner, T., Leiren, M.D. and Inderberg, T.H.J. (2021) The United Kingdom: From Market-Led Policy towards Technology Steering, in Boasson, E.L., Leiren, M.D. and Wettestad, J. (eds.) *Comparative Renewables Policy: Political, Organizational and European Fields*. New York, NY: Routledge, pp. 103–125.
- Scharpf, F.W. (1988) The Joint-Decision Trap: Lessons from German Federalism and European Integration, *Public Administration*, 66(2), pp. 239–278. doi: 10.1111/j.1467-9299.1988.tb00694.x.
- Schimmelfennig, F., Leuffen, D. and Rittberger, B. (2015) The European Union as a System of Differentiated Integration: Interdependence, Politicization and Differentiation, *Journal of European Public Policy*, 22(6), pp. 764–782. doi: 10.1080/13501763.2015.1020835.
- Schimmelfennig, F. and Winzen, T. (2019) Grand Theory, Differentiated Integration, *Journal of European Public Policy*, 26(8), pp. 1172–1192. doi: 10.1080/13501763.2019.1576761.
- Skjærseth, J.–B. and Wettestad, J. (2008) *EU Emissions Trading: Initiation, Decision-Making and Implementation*. Aldershot: Ashgate.
- Solorio, I. and Jörgens, H. (eds.) (2017) *A Guide to EU Renewable Energy Policy: Comparing Europeanization and Domestic Policy Change in EU Member States*. Cheltenham: Edward Elgar.
- Standal, K. and Aakre, A. (2021) Assessment Report on Technical, Legal, Institutional and Policy Conditions. Available at: [https://come-res.eu/fileadmin/user\\_upload/Resources/Deliverables/COME\\_RES\\_D2.1\\_Assessment\\_report\\_FINAL.pdf](https://come-res.eu/fileadmin/user_upload/Resources/Deliverables/COME_RES_D2.1_Assessment_report_FINAL.pdf) (Accessed: 30 April 2021).

- Stenqvist, C. and Åhman, M. (2016) Free Allocation in the 3rd EU ETS Period: Assessing Two Manufacturing Sectors, *Climate Policy*, 16(2), pp. 125–144. doi: 10.1080/14693062.2014.979130.
- The Parliament Magazine (2019) Europe's Man on the Moon Moment: Von der Leyen Unveils EU Green Deal. Available at: [www.theparliamentmagazine.eu/news/article/europes-man-on-the-moon-moment-von-der-leyen-unveils-eu-green-deal](http://www.theparliamentmagazine.eu/news/article/europes-man-on-the-moon-moment-von-der-leyen-unveils-eu-green-deal) (Accessed: 30 April 2021).
- Underdal, A. (1992) The Concept of Regime "Effectiveness", *Cooperation and Conflict*, 27(3), pp. 227–240. doi: 10.1177/0010836792027003001.
- Wettestad, J. and Gulbrandsen, L. (2018) *The Evolution of Carbon Markets: Design and Diffusion*. New York, NY: Routledge.
- Wettestad, J. and Jevnaker, T. (2016) *Rescuing EU Emissions Trading: The Climate Policy Flagship*. Basingstoke: Palgrave.
- Wettestad, J. and Jevnaker, T. (2019) Smokescreen Politics? Ratcheting up EU Emissions Trading in 2017, *Review of Policy Research*, 36(5), pp. 635–659. doi: 10.1111/ropr.12345.