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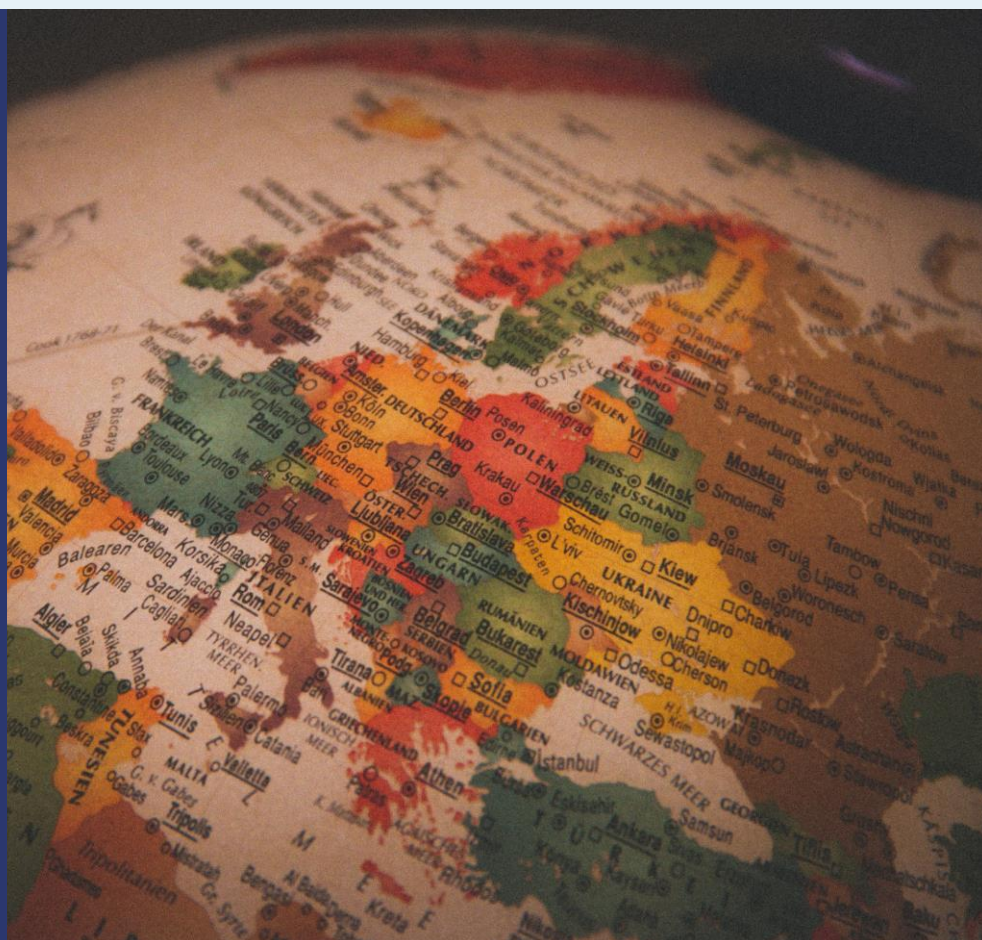
TORBJØRG JEVNAKER, SIMON FINK, KARIANNE KROHN TARANGER,
HERMANN LÜKEN GENANNT KLAßEN AND PER OVE EIKELAND

Stocktaking of the adopted TCMs

Towards harmonization or diversity?

Key points

- Decision-making level for TCMs matter for harmonization; more diverse rules adopted at lower levels
- Processes and outcomes affected by the interests of the involved actors and links across TCMs
- This research brief is based on the INC project and will be presented at the INC workshop in Florence in October 2022.



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Stocktaking of the adopted TCMs

At a time when the organization of the electricity market is up for discussion at the highest political level across Europe, it is essential to take stock of recent regulatory developments and the rules currently in place. This Research Brief assesses the impact of Terms, Conditions and Methodologies (TCMs) for the harmonization or diversity of rules for the internal electricity market in Europe.

This is one of four research briefs prepared for the workshop ‘Electricity rules: towards unity or diversity?’ in Florence 12–13 October 2022:

1. The evolving role of ACER: emergence, practice, and review of the TCMs
2. Electricity rulemaking in perspective: comparing the TCM procedure with other sectors
3. Stocktaking of the adopted TCMs – towards harmonization or diversity?
4. Implementation and adjustment ahead: Enforcing, applying, and revising the TCMs during transition and crisis

This is based on research conducted within the project ‘Implementing Network Codes’ (INC). Funded by the Norwegian Research Council, INC examines the EU’s energy market policy: specifically, the terms, conditions and methodologies (TCMs) that are required variously at national, regional or European level under four electricity guidelines. INC asks whether TCMs entail greater European harmonization, or enable diverse regulation across countries and regions.

TCMs are detailed and binding rules that regulate a range of issues concerning electricity trade (e.g., market platforms) and the operation of electricity networks. TCMs thus concern how the existing electricity system should be managed – in contrast to regulating, e.g., the construction of new production or transmission capacity. The objective is to integrate markets and harmonize rules so as to make electricity trade more efficient.

TCMs are drafted by the transmission system operators (TSOs) and adopted by regulators. Some TCMs are (co-)drafted by Nominated Electricity Market Operators (NEMOs), which are electricity exchanges in charge of certain specific tasks. National TCMs are adopted by each national regulator. Regional and European TCMs are adopted unanimously by the national regulators in a region, or across Europe. If the latter disagree or decide to refer it, decision-making is moved to ACER. With the Clean Energy Package, ACER became the default decision-maker for European TCMs. To adopt a TCM, ACER needs a favourable opinion from its internal Board of Regulators, where national regulators have one vote each, and where the Commission also participates (without voting rights).

1 Introduction

At a time when the organization of the electricity market is being discussed at the highest political level across Europe, it is crucial to take stock of the rules currently in place. The EU governance of electricity markets has changed substantially over the last decade, as general electricity legislation has been complemented by an extensive set of detailed and binding rules.

A comprehensive body of such rules has been developed and adopted as binding regulations under the *network code procedure* – a rulemaking procedure established by the Third Energy Market Package in 2009. However, rulemaking proved more difficult for some issues. For issues of market and system operation, the EU established four specific regulations with guidelines for further implementation through the development of TCMs: *terms and conditions or methodologies*.

Through a new EU rulemaking procedure, many public and private actors have worked together to develop and adopt numerous TCMs at various levels for technically complex and interacting aspects of system and market operations. Some TCMs were to be made at EU level; others at national or regional levels. TCMs adopted at the EU level, applicable to all member-states, could entail more harmonization, in the sense of reducing leeway for national practices. By contrast, when TCMs are adopted at national and regional levels, continued diversity across member-states could be expected, because here regulators have more opportunities to customize rules to the specific national or regional context.

To what extent have expectations been fulfilled? Taking stock of the TCMs that have been adopted, this Research Brief discusses the impacts for overall the harmonization and diversity in how electricity networks and markets are to be operated across Europe. We examine TCM processes and outcomes, analysing the impact of actor interests and institutional rules, and the complexity and interdepend-

dence of TCMs, in furthering or hindering harmonization.

2 Presenting results: INC research findings

The INC project has examined TCM processes at the national, regional and European levels via comprehensive mappings (see statistics in Research Brief 1) and case studies of select TCMs. Examination of the latter has included TCMs at the European level, regional TCMs in the Nordic and Core Regions, and national TCMs in four EU member-states (Denmark, Germany, the Netherlands and Sweden). The key question underpinning the case studies is whether decision-making at the European level will automatically result in TCMs prescribing greater harmonization in rules and practices across countries, and whether the decentralization of decision-making at national and regional levels will mean that TCMs represent less harmonization.

2.1 Outcomes in select case studies

Case studies of select *national TCMs* conducted in the INC project indicate continued diversity in rules across the member-states. For the TCM concerning the scope for data exchange under the System Operation Guideline (Art. 40[5]), Denmark, Germany, the Netherlands and Sweden adopted diverging rules, which shows that these countries' versions of the same TCM have differed regarding content. Another point is that not all countries might adopt a TCM: Denmark, Germany and Sweden have *not* adopted national TCMs on specific products under the Electricity Balancing Guideline (Art. 26[1]), and the Dutch national regulator has set a deadline of 2024 for its TSO to propose such a TCM. In general, national TCMs tend to be voluntary, or conditional on other rules, with a TCM being required only if applicable.

Delegating decision-making to the national level – via provisions for national TCMs – could yield diverse outcomes. However, several national TCMs have been linked with European TCMs (see figure 1). Such shared European rules have offered a common framework

“The EU governance of electricity markets has changed substantially over the last decade”

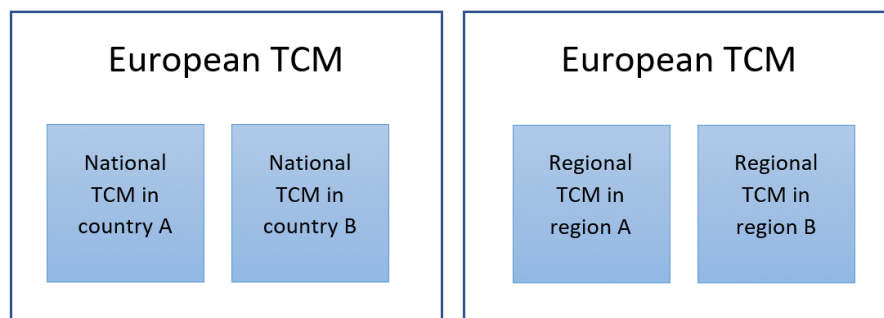


Figure 1: National or regional TCMs can be nested within a European TCM

with scope for variation via national TCMs. Thus, the absence of national TCMs for some countries in some issue-areas can be taken to indicate underutilization of the scope for national flexibility (via a national TCM) under the corresponding European TCM. This is a tentative finding at the time of writing: implementation of European TCMs is still ongoing, which also means that the process for developing a national TCM may not yet have been launched. Finally, although national regulators have had the option of referring a TCM to ACER, this has not occurred for any of our case studies.

On the other hand, information about national TCMs is patchy: scattered data are available in each country (as studied in the project), but there is no overview showing which national TCMs are *not* applicable or have *not* been adopted in a given country. Un-

like the case of European and regional TCMs (for which ENTSO-E offers an overview of proposals and decisions), there is no comparable European overview of national TCMs.¹

A mixed picture has emerged from our case studies of selected *regional TCMs*. Comparison of the different regions' versions of the same TCM shows that some diverged whereas others converged. ACER has often been involved regarding the Core and Nordic regions (see Table 1).² Considering the full population of adopted regional TCMs, a smaller share was escalated to ACER (20/88), while most were adopted by the national regulators (68/88).³ Our case studies show that escalation of decision-making to ACER could lead to convergence across different regions' versions of the same regional TCM, but not always. Interestingly, divergence was also observed in a case where decision-making in both regions moved to ACER: ACER adopted differing rules on

“Comparison of the different regions’ versions of the same TCM shows that some diverged whereas others converged”

Guideline	Art/issue	Core adoption by	Nordic adoption by	Comparing TCMs across regions
CACM	Art. 20(2) capacity calculation	ACER	NRAs	Convergence
FCA	Art. 10(1) capacity calculation	ACER	ACER	Convergence
SO	Art. 76 regional operational security coordination	ACER	NRA	Divergence
EB	Art. 41 capacity allocation process	ACER	ACER	Divergence

Table 1: Overview of outcome for regional TCMs. Source: INC project.⁴

¹ ACER’s Implementation Monitoring Reports for the FCA and CACM Guidelines (2019), and for the System Operation Guideline (2022), respectively, present the status for some national TCMs.

² The factors leading to escalation of regional or European TCMs to ACER are discussed in Research Brief 1.

³ Counting each regions’ version of a TCM as one. The factors leading to escalation to ACER are discussed in research brief 1.

⁴ No national TCMs were foreseen under the FCA Guidelines.

a regional TCM under the Electricity Balancing Guideline (Art. 41). However, despite some divergence across regions, regional TCMs have entailed harmonization within regions. This indicates that convergence across regional rules is only partly linked to the escalation of decision-making to ACER.

Most of the *European TCMs* were escalated to ACER (21/34), but some were adopted by the national regulators (12/34). Examples of the latter are found under the System Operation Guideline (Key organizational requirements, roles and responsibilities in data exchange, KORRR) and the FCA Guideline (Single Allocation Platform for long-term transmission rights). Escalated TCMs can be found, for instance, under the CACM Guideline (capacity-calculation regions), the System Operation Guideline (coordinating operation security analysis) and the Electricity Balancing Guideline (implementation frameworks for European balancing platforms for frequency restoration reserves). Overall, the European TCMs have entailed more harmonization. However, in some cases, national discretion and diverse approaches across countries and regions have been allowed within the common framework of European TCMs (including via national TCMs, as discussed above). Our case studies also show that decision-making by ACER has not necessarily removed all leeway for national adjustments, although ACER has also occasionally reduced national discretion by pushing for more stringent and harmonized rules at the European level.

Summing up, differences can be observed across the different countries' national TCMs studied here, and across the two regions for the examined regional TCMs. Decentralized decision-making at the national and regional levels has tended to produce diverse regulatory outputs because of the opportunity to customize decisions to a given national or regional context. In contrast, EU-level decision-making has entailed greater harmonization, as seen with the European TCMs. However, that could also be linked with national or regional TCMs that allowed leeway within a common European framework. When

decision-making moved to ACER, this could entail more harmonization for regional or European TCMs. On the other hand, convergence across regions was also found regarding the regional TCM on capacity calculation under the CACM guideline, even though only one of the two regions' TCMs was escalated to ACER (the other being adopted by NRAs in the region). However, those findings are based on case studies that might not necessarily be representative of the full population of TCMs. Beyond the TCMs as adopted, attention should also be paid to their practical implementation (see Research Brief 4).

2.2 Explaining outcomes I: Forces for diversity

Our first result is that three *major forces obstruct harmonization, and allow diversity to be retained*:

1. TSOs trying to preserve discretion for operational decisions
2. NRAs trying to preserve national market structures and regulatory logic
3. A Russian doll-like nested structure of TCMs

TSOs trying to preserve discretion for operational decisions are observed in nearly all our case studies. TSOs initially draft vague proposals, leaving discretion as to how they will apply the TCM in practice – one example being the drafts for the regional TCMs on capacity-calculation methodologies (Art. 20 (2) CACM Guideline). In the Core region, the TSO proposal was not particularly detailed: it left important issues open for discretion, such as how to avoid discrimination between internal and external exchanges, and how to identify cross-border relevant network elements.

Another example is the European TCM under the System Operation Guideline (Art. 40(6)), the Key Organizational Requirements, Roles and Responsibilities in relation to data exchange related to operational security (KORRR). The draft proposal was vague as to the type of data to be required by Distribution System Operators (DSOs) and Significant Grid Users (SGUs). To some extent, this was intentional, as details

“TSOs trying to preserve discretion for operational decisions are observed in nearly all our case studies”



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“The process also indicates that NRAs and stakeholders differ in their definitions of an ‘efficient electricity market’”

about data exchange are specified in national TCMs (Art. 40(5) and (7) SO), which can then be adapted to each national situation. However, this structure gives actors the opportunity to push issues over to other TCMs where less harmonization is necessary.

Similarly, for another European TCM under the same guideline (Art. 75, Methodology for Coordinating Operational Security Analysis, CSAM), the TSOs drafted a proposal that contained references to national models for identifying network elements of cross-border importance. Thus, which network elements would be included in the security analysis was left to the TSOs. Similarly, the TSO draft was vague concerning how the Regional Security Coordinators (RSCs) were to interact with the TSOs.

The regional TCM under the Electricity Balancing Guideline (Art. 41, Methodology for a Market-Based Allocation Process of Cross-Zonal Capacity) corroborates this pattern. The TSOs proposed a methodology for deciding how much interconnector capacity can be used for balancing capacity. In the regions studied in our project, the TSOs proposed a TCM that left many decisions to them, as reserving interconnector capacity for balancing purposes serves their interests (e.g., by providing options for minimizing the costs of balancing and internal congestion management).

Several studies have found *NRAs trying to preserve national market structures and regulatory logics*, including that NRA preferences may at times align with those of their national generators. For the TCM on long-term transmission rights (Art. 31(1) under FCA Guidelines) at bidding-zone borders in the Core region, the position of the French energy company EDF and the French energy regulator were similar: a preference for Physical Transmission Rights, and not Financial Transmission Rights. Originally, in the Nordic region, this TCM would apply to only Denmark; whereas Finland and Sweden considered that existing hedging opportunities were sufficient, thus opting to preserve existing market structures in the bidding zones concerned.

A further example is the capacity-calculation methodology under the CACM Guideline (Art. 20[2]) in the Core region, which pitted the NRAs of net electricity exporters (France) and NRAs eager to reap the benefits of electricity trade for their consumers (Belgium) against the NRAs of countries like Germany that produced international loop flows due to capacity congestion in their electricity networks. Whereas the first group of NRAs supported the inclusion of a provision requiring that 70% of available capacity on interconnectors be offered to the market, the latter group (especially the German NRA) dissented.

A case that makes clear the strength of national specificities concerns the review of the bidding-zone configurations under the CACM Guideline (Art. 32 (1) (d)), which became deadlocked because of national preferences: Several countries argued that *other* countries needed bidding-zone splits, but their *own* bidding zones were appropriate. The process also indicates that NRAs and stakeholders differ in their definitions of an ‘efficient electricity market’. Such definitions were at times bent to fit political views, as was the case with the German NRA and the bidding-zone review.

Another example concerns how to define *electricity-balancing products*. A national TCM under the Electricity Balancing Guideline (Art. 26[1]) allows TSOs to define specific balancing products. In the Netherlands, TenneT and the Dutch NRA used this provision to uphold their existing balancing products. By contrast, neither Sweden nor Denmark had made use of this TCM at the time of writing.

The intensity of NRA preferences can also be seen in their tenacity in pursuing national interests after TCM adoption. A prominent case is the European TCM determining capacity-calculation regions under the CACM Guideline (Art. 15[1]), where the Austrian NRA defended the absence of a bidding-zone border between Germany and Austria, even taking the case to the General Court. Similarly, the German NRA appealed to ACER’s Board of Appeals (and the Court of Justice of the European Union) to fight

ACER's decision on the accompanying regional TCM on capacity-calculation methodology (CACM Guideline Art. 20[2]), due not least to the inclusion of the 70% rule.

Our case studies show that reaching agreement among NRAs may be challenging. An exception is the Nordic region, where NRAs have often agreed on a joint response – whether because of preference homogeneity, a history of cooperation, or fear of escalation to ACER. We have also found instances of harmonization where the Nordic solution was similar to the ACER solution for an escalated TCM in the Core region (the flow-based capacity calculation methodology of Art. 20(2) CACM).

A *third* reason why national diversity may persist is the *Russian-doll like nested structure of TCMs*. In several studies, we find that the European TCMs establish a framework on which all actors can agree, at the expense of detail. The details are left to the regional and national TCMs. This design feature allows diversity where appropriate. However, the TCMs on data formats under the System Operation Guideline (Art. 40[5], [6] and [7]) also make clear the challenges with this approach: In discussions on the European TCM (Art. 40[6]), questions of data formats were transferred to the national TCM (Art. 40[5]) by the TSOs and the NRAs, arguing that broader European consensus could not be found. In practice, then, the nested structure of TCMs gives room for manoeuvre for actors wanting to avoid harmonization.

2.3 Explaining outcomes II: Forces for harmonization

Our *second* result is that *ACER is often a force for harmonization*. A basic way in which ACER has harmonized European electricity markets lies in its role in defining capacity-calculation regions (Art. 15(1) CACM). Compared to the status quo, formalized regional cooperation could facilitate market integration within regions, through coordination of capacity calculation. The adoption of this TCM has led to greater integration of the European market as the task of defining the regions moved

from a voluntary process at regional level to the European level where all TSOs in Europe cooperate on developing a joint proposal, and all NRAs are responsible for approval.

Another example is the capacity-calculation methodology for the long-term timeframe, under the FCA Guideline (Art. 10[1]). Here, escalation to ACER led to harmonized rules across the Core and Nordic regions, where ACER adopted a methodology based on the flow-based approach. Moreover, ACER's decision on the Nordic TCM also led to harmonization across TCMs under different guidelines: The 'sister' TCM under the CACM Guideline – capacity-calculation methodology for short-term timeframes (day ahead/intra-day), Art. 20 (2) – was amended in the basis of ACER's decision for the long-term timeframes, as the Nordic TSOs wanted a harmonized approach across all timeframes.

ACER also pushed for harmonisation with its decision on a TCM on regional operational security coordination under the System Operation Guideline (ROSC, Art. 76) for the Core region. ACER prescribed exactly which remedial actions were allowed, and which network elements enter into the security analysis. Thus, escalation led to major harmonization within the Core region. However, as the ROSC was not escalated in the Nordic region, the degree of harmonization *across* these two regions remains an open question. On the one hand, both the Core and the Nordic region now *have* a ROSC at all, and many issues are now dealt with in a common framework. This may, in the long run, lead to harmonized interpretation of the rules. However, the major element of contention – the definition of cross-border relevance – still differs between the regions, as the definition agreed upon by the Nordic NRAs does not correspond to the ACER solution.

Thus, one message from our case studies is that ACER can harmonize TCMs that get escalated. However, there are several routes to escalation, and ACER has other means of influencing TCMs. Regional and European TCMs have been escalated because of conflicts between NRAs (Art. 20 (1) EB,



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“ACER is often a force for harmonization”

“The technical complexity and interdependence between TCMs may be a major force for harmonization”

Art. 41 (1) EB Core Region), conflicts between NRAs and TSOs (Art. 75 SO), or because NRAs have wanted to ensure consistency of TCMs (Art. 76 SO Core Region). In some cases, NRAs have found common solutions that enable avoiding escalation to ACER (Art. 76 SO Nordic Region). In Art. 15(1) CACM (the Determination of Capacity Calculation Regions), ACER influenced the process *ex ante* by issuing ACER Opinion 09/2015, which the TSOs took into account when drafting the TCM. However, escalation to ACER does not necessarily always guarantee harmonized TCMs. With the regional TCM under the Electricity Balancing Guideline (Art. 41[1]) we find a scenario where ACER adopted different rules in its decisions on two regions’ versions of the same TCM.

As discussed in Research Brief 1, some ACER-adopted TCMs have been legally challenged. This indicates that ACER’s decisions are not necessarily accepted by the parties concerned. This may also relate to disagreements on the role of ACER as a decision-maker for these regulatory rules.

Our *third* result is that *the technical complexity and interdependence between TCMs may be a major force for harmonization*. TCMs rarely deal with isolated issues: they tend to be interdependent. In some cases, this interdependence can be used to hinder harmonization, as when the Russian-doll like structure makes it possible to avoid harmonization of data format; or if the delay of one TCM causes delays for other TCMs (such as the regional ROSC having to wait for the European CSAM).

More numerous, however, are examples where interdependence created opportunities for harmonization. Many instances concern the harmonization of one TCM, which in turn creates *de facto* decisions for other TCMs. For example, ACER circumvented the deadlock in the bidding-zone review (Art. 32 CACM) and decided on a split of the German-Austrian bidding zone under a different TCM under the same guidelines (Art. 15[1]), thereby changing the situation on the ground, thus affecting other TCMs (such as Art. 32 CACM, or Art.

31[3] FCA). Moreover, many TCMs contain similar methods for different timeframes (as with the capacity-calculation methodologies for the short timeframe under CACM, and the longer one under FCA). Further, when ACER received the capacity-calculation methodology proposals under the FCA guideline from both the Nordic and the Core regions, it used the opportunity to opt for a flow-based approach for both regions.

In some instances, TSOs from the outset acknowledged the interdependence of TCMs and proposed packages. For example, the proposal on CSAM was linked to a proposal for a regional methodology for assessing relevant assets for outage coordination (‘RAOCM’, Art. 84 SOGL). With two other European TCMs (on counter-trade and re-dispatch, and the costs thereof, Arts. 15 and 74 under the CACM Guideline) that were linked with CSAM already escalated to ACER, the NRAs opted to refer CSAM to ACER, to ensure consistency. TCMs could also be proposed in packages, as seen with the Core and Nordic versions of Art. 41 (1), both of which was submitted as part of a ‘proposal package’ in each region.

Harmonization might thus be due not solely to ACER: the interdependence of TCMs in itself creates a powerful argument for stakeholders to demand consistency between TCMs of the same guideline and between TCMs of different guidelines.

3 Setting the stage for the Florence workshop: Unanswered questions and emerging issues

Here we indicate some issues and questions emerging from our research and from sector developments that could be discussed at the INC workshop in Florence.

A *first* question: *How important are continued differences in national rules for the overall aim of an efficiently functioning integrated electricity market?* For example, considering the rules on data exchange obligations under the System Operation guideline

(Art. 40[6] and 40[5]): Is variation of minor importance? or will it have serious ramifications for market integration, affecting the quality of the Integrated Grid Models needed to underpin coordinated regional operating decisions for networks and markets? Similarly, how important is variation across regions in the definition of cross-border-relevant elements (ROSC, Art. 76 SO)? What should be the criteria for determining the extent to which national differences prevent or obstruct efficient operation of the market? Finally, should there be more clearly-defined principles for distinguishing between what should remain matters of national discretion, and what should be harmonized at the regional or European level?

A second question: *will the TCMs entail greater harmonization over time?* On the whole, we find that many TCMs represent minimal harmonizing standards for national rules and practices, also in cases where ACER has been involved. For instance, for a regional TCM for the Core region, under the System Operation Guideline (ROSC), ACER added requirements for the TSOs to continue development and propose new harmonized security-risk management methodologies by 2027, thereby stretching the implementation timeframe. Whether recent TCM endeavours will lead to harmonized operating rules for the European market remains to be seen. Several TCMs have already been revised, which gives rise to the question of the impact of successive rounds of revision over time (see Research Brief 4). Will this lead to greater convergence in national or regional rules and practices with each round of revisions, or the continuation of diverse approaches? For instance, revision of the TCM defining capacity-calculation regions over time might reduce the number of regions.

A final set of questions derives from the *large amount of complex and interdependent rules* for the electricity market. The TCMs concern standardization of many operating practices

with impacts on the operation of national electricity systems. Overall, what are the implications regarding the complexity of harmonization and market integration? For instance, will *interdependence between TCMs* foster harmonization in operating practices – or more diversity? In some cases, the adoption of a TCM was made contingent on the implementation of another TCM; in other cases, amendments were made, to match the requirements for another TCM under another guideline. What is the overall effect of TCM interdependencies on EU integration and harmonization of rules and practices?

A second set of sub-questions concerns *whether the system of TCMs has become too complex*: who has capacity to gauge the full effects for operating a national system from complex interacting and changing rules? And are there too many and too detailed TCMs which, due to poor capacity in gauging effects, may come to challenge the secure operation of national systems? Finally, do the large numbers of TCMs as well as conflicts and disputes around adopted TCMs indicate that the overall objective is not sufficiently clear? Should more attention be directed to refining the overall objective of an efficient and integrated market?⁵

4 Conclusions and recommendations

This Research Brief has presented findings from mappings and case studies conducted within the INC Project. We have seen how decentralized decision-making (national and regional TCM development and adoption) has often yielded diverse outcomes as represented by the adopted TCMs – but that convergence may also occur across the TCMs of different regions. European TCMs have entailed more harmonization, also when adopted by ACER. European TCMs have also allowed for some national discretion. National actors have frequently sought outcomes in line with existing national principles for operational or regulatory arrangements, whereas ACER has

“Will the TCMs entail greater harmonization over time?”

⁵ For an example of such a discussion, see DNV (2021).



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“Clearer prioritization and structure across TCMs may strengthen the (transparency of the) link between the various rules and the overall objectives”

often taken a pro-market, integrationist stance.

An initial recommendation stems from our research and the problems of empirical research: *Greater transparency of national TCMs would benefit cross-border trade and a level playing field (and research)*. European and regional TCMs and their draft histories can be found on the ENTSO-E and ACER website. Matters are different for the national TCM: some information can be found on NRAs or TSOs websites; however, in some cases this is lacking or hard to find. It is often difficult to establish whether a country has developed a national TCM (or has refrained from doing so, in the case of non-mandatory national TCMs). It would be useful for market participants as well as researchers if ENTSO-E maintained an inventory of national TCMs, with mandatory notifications if a country chooses *not* to develop a national TCM. Moreover, greater transparency on the national TCMs could support learning, which in turn could help harmonization if a country is inspired by another country’s national TCM.

Another recommendation concerns the long-term development of the regulatory system. Clearer prioritization and structure across TCMs may strengthen the (transparency of the) link between the various rules and the overall objectives. This includes transparency on the criteria underlying why certain TCMs have been placed at a specific level (e.g., national rather than regional level), and on the factors that fuel the need for a broad range of national TCMs on a specific topic – as well as a deliberate approach to the function of European harmonization. In light of the longer-term changes expected with the energy transition, or abrupt challenges like the current energy crisis, new discussions on the overall objective of an efficient and integrated market could build on the experiences with the current rules, and on lessons from the existing regulatory approach.

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The INC project

The research project 'Implementing Network Codes' examines EU electricity market regulation from political, legal and economic perspectives, in collaboration with stakeholders. It is led by the Fridtjof Nansen Institute in Norway. Participating research institutions are the Florence School of Regulation, the Scandinavian Institute of Maritime Law (University of Oslo), Osnabruck University, University of Göttingen, Thema Consulting Group and DNV. INC is funded by the Research Council of Norway as a collaborative research project (2020-2024; grant agreement no. 308855), with co-funding from, Energy Norway, Statkraft, Statnett, the Norwegian Ministry for Petroleum and Energy, Elvia, Hafslund E-CO Vannkraft, Skagerak Kraft and Nord Pool.

Read more at fni.no/INC

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About the authors

Torbjørgh Jevnaker is a Research Fellow at the Fridtjof Nansen Institute. Her research is focused on EU energy and climate policy from the perspective of public policy and administration. She is currently researching EU electricity market regulation, specifically rulemaking within the implementation stage of policymaking and the role of the EU energy agency ACER. Jevnaker is the principal investigator of the INC project.

Simon Fink is a Professor in political science at the University of Göttingen. He works on public policies, Europeanization, and citizen participation in policymaking

Karianne Krohn Taranger is a Researcher at the Fridtjof Nansen Institute. Her research is focused on EU energy and climate policy, low-carbon transitions, and windpower governance and acceptance.

Hermann Lüken genannt Klaßen is currently working on his doctoral thesis at the University of Göttingen, which examines the reasons for the different degree of liberalisation among the different pillars of the European electricity market

Per Ove Eikeland is a Senior Researcher at Fridtjof Nansen Institute. He is graduated in economics from the University of Oslo with additional training in international political economy and corporate strategy. Research interests include European climate, energy and technology policies and energy sector corporate transition strategies.



Research Fellow
Torbjørgh Jevnaker
tjevsnaker@fni.no



Professor
Simon Fink
simon.fink@sowi.uni-goettingen.de



Researcher
Karianne Krohn Taranger
kkataranger@fni.no



Researcher
Hermann Lüken genannt Klaßen
h.luekenngenanntkla@stud.uni-goettingen.de



Senior Researcher
Per Ove Eikeland
poekeland@fni.no

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**Stocktaking the adopted TCMs
Towards harmonization or diversity?**

Torbjørgh Jevnaker, Simon Fink, Karianne Krohn Taranger, Hermann von Lüken genannt Klaßen and Per Ove Eikeland

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Fridtjof Nansens vei 17 | P.O. Box 326 |
NO-1326 Lysaker | Norway
Telephone (+47) 67 11 19 00
E-mail post@fni.no | www.fni.no



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