Regional cooperation in the context of the new 2030 energy governance

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Abstract

In the debates about the climate and energy framework for 2030 and the Energy Union, the European Commission and the Council call for increased regional cooperation between member states. But what would this regional cooperation look like in practice? What could be its specific contribution to achieving the 2030 targets?

With the aim of contributing to this debate, the article takes a closer look at the existing institutional landscape for regional cooperation in Europe's electricity sector. Based on document analyses, expert interviews and four case studies of the North Seas Counties' Offshore Grid Initiative, the Pentalateral Energy Forum, ENTSO-E's regional groups and the Electricity Regional Initiatives, the study analyses the strengths and potential risks of regional cooperation in the context of the 2030 energy and climate targets.

The analysis shows that a multitude of initiatives for regional cooperation in the electricity sector already exists in the EU, with cooperation being most intense in Northwestern Europe. Flexibility, pragmatism and experimentation are particular strengths. However, the variety of formats, however, does not deliver a blueprint on how to spatially or institutionally organise future cooperation in the 2030 regime. Also, overwhelmingly the existing institutions work towards the objective of completing the internal electricity market, while joint renewable energy projects are not a major focus.

Policy relevance

For policy-makers seeking to define an effective 2030 governance system, the existing fora provide a valuable starting point, but need to be reformed to fully serve the achievement of the energy and climate targets. The article argues that voluntary regional cooperation alone is unlikely to realign diverging national energy objectives that hindered a consistent EU-28 approach in the first place. While challenges related to the integration of *existing* renewable generation into the grid are already shaping regional discussions, no comparable 'natural' incentive exists for the cooperation on building *additional* renewable energy capacity. Therefore, additional incentives are required. An obligation for all member states to formulate national or regional renewable energy benchmarks or a stringent pledge-and-

review system would be the best options. In addition or as an alternative, the EU could provide financial incentives and organisational support.

1 Introduction

Cooperation between subgroups of member states (MS) has a long tradition in the EU. Regional cooperation can reflect historical ties that predate EU membership or results from shared geographical features that require joint management. In other instances, cooperation between a few countries has served as a means to deepen EU integration in absence of EU-wide consensus. The Euro and the Schengen agreement are cases in point. The European Commission's focus on regional cooperation in its proposal for a new governance mechanism to steer the EU climate and energy policy after 2020 (European Commission, 2014) results from a different dynamic. While the 2008 climate and energy package was dominated by strong community action led by the Commission – with binding EU targets on greenhouse gas (GHG) reduction and renewables being distributed to MS top-down – a substantial number of countries are now demanding greater sovereignty over their national energy policy again (Fischer, 2014). The Commission has reacted by proposing that targets for energy efficiency and renewable energy deployment will be binding on EU level only, while national implementation should be steered though an iterative governance process.

This shift to more nationalised energy policies arrives at a time when the internal energy market (IEM) is increasingly becoming a physical and commercial reality. As more electrons travel though interconnectors and price effects ripple through regionally coupled markets, national decisions on the energy mix have greater impacts across borders (de Jong & Groot, 2013; Piria et al., 2014). The move towards more national flexibility in the implementation of the climate and energy framework is thus at odds with the emerging IEM.

Presumably as a means to address this tension, the White Paper on the 2030 framework and the European Council Conclusions from October 2014 state that the new governance system should 'foster regional cooperation between MS' (European Council, 2014, para 6.3). Moreover, national energy plans are to be subject to 'consultation with neighbouring countries' (European Commission, 2014, p. 13), a demand that is reiterated in the Energy Union strategy (European Commission, 2015). However, to date the proposals for regional cooperation remain vague as to what would form cooperation would take in practice and which could be its specific contribution to achieving the 2030 targets.

The article contributes to this debate by taking a closer look at the existing institutional landscape for regional cooperation in Europe and examining their potential role in the 2030 regime. While the strengths and weaknesses of regional institutions have been the subject of previous studies (De Jong & Egenhofer, 2014; de Jong & Groot, 2013; Hogan & Weston, 2014; Meulman et al., 2012), their potential role in the implementation of the EU 2030 targets on RES expansion, GHG mitigation and energy efficiency has not been analysed so far. The article focuses on the power sector due to its crucial role for decarbonisation, the technical affinity to cross-border cooperation due to the grid and the existence of established regional institutions in the sector.

The analysis shows that voluntary regional cooperation alone is unlikely to realign diverging national energy objectives that hindered a consistent EU-28 approach in the first place. However, regional fora can help in identifying cross-border challenges and provide a platform for discussing solutions so as to avoid conflict. Illustrating the economic and system stability benefits of regional cooperation in frontrunner regions can be an invitation for others to follow. However, for this mechanism to make a significant contribution towards the achievement of the 2030 energy and climate targets, additional incentives are required. An obligation to formulate national or regional targets on the expansion of renewable energy sources (RES) would be the best option. In addition, the EU could provide financial incentives and guidance on how to systematically address RES integration and expansion in a regional context.

Section 2 presents the methodology followed by a typology categorising different forms of regional cooperation in section 3. Building on the case study results presented in section 4, section 5 discussed potential future development pathways for the assessed institutions. The article concludes by laying out options for concrete next steps in the policy process.

2 Methodology

The term regional cooperation has various meanings depending on the context. Due to its focus on national and EU policy-making this article only looks at forms of collaboration directly involving governments or administrative bodies of a subgroup of neighbouring EU countries. These collaborations can take various forms, from irregular intergovernmental

meetings to full-fledged institutions with a legal mandate. They often involve private actors, particularly grid operators. However, cooperation taking place purely between private actors is not included.

In order to better understand what role existing initiatives of regional cooperation could potentially play in the 2030 framework, we first take stock of all relevant institutions and map them onto the main objectives of EU energy policy. Subsequently, the article presents four case studies of existing regional fora: the Pentalateral Energy Forum (PLEF), the North Seas Countries' Offshore Grid Initiative (NSCOGI), the European Network of Transmission System Operators for Electricity (ENTSO-E) regional groups, and the Electricity Regional Initiatives (RI). The case studies aim at exploring:

a. the success factors enabling tangible outcomes of regional cooperation
b. the opportunities and risks of regional cooperation;
c. the current and potential future contribution of the institutions towards reaching the EU's 2030 climate and energy goals;
d. potential development pathways for regional fora towards implementation of the EU 2030 and long-term energy and climate goals.

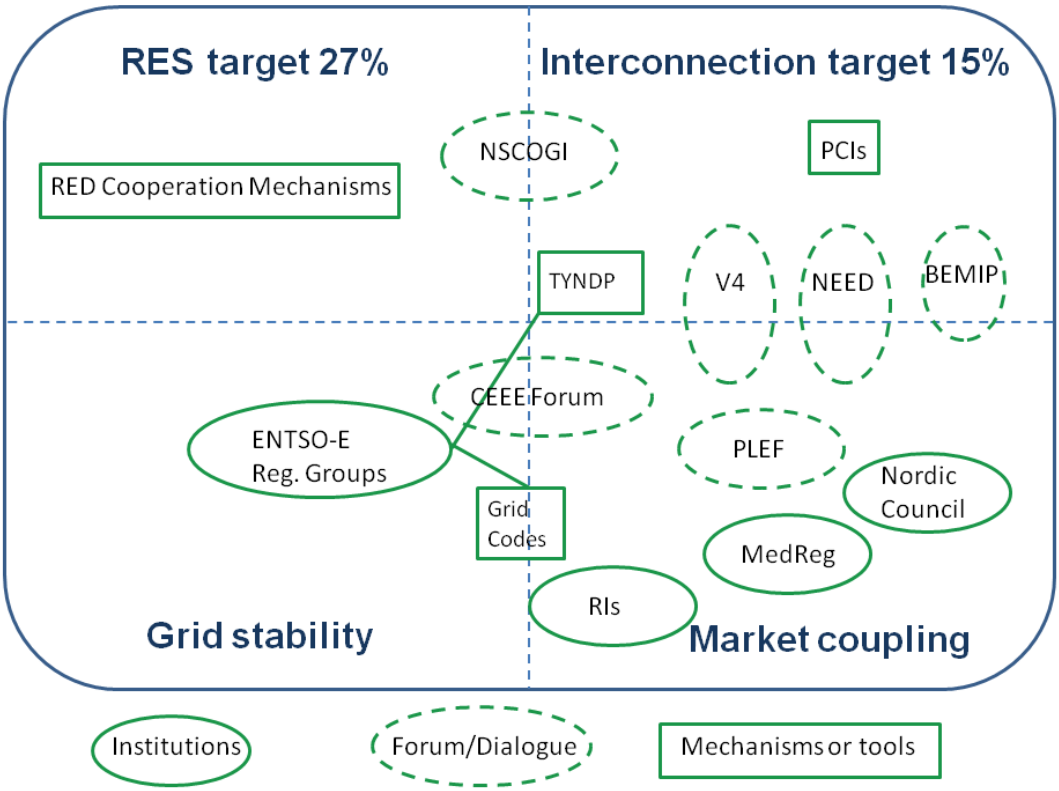
The four cases have been selected because the institutions are the most advanced among the existing collaborations. PLEF and NSCOGI represent cases of bottom-up initiatives, with NSCOGI being the only organisation which counts RES cooperation among its prime objectives. ENTSO-E's regional groups and the Electricity RIs co-ordinated by ACER, on the other hand, are examples of groupings resulting from top-down impulses. With respect to the overarching objectives identified in Figure 1, the cases represent organisations with a focus on each of the four objectives.

The data basis is an extensive literature and document review as well as seven semi-structured expert interviews with representatives of some of the organisations under assessment as well as involved stakeholders from governments, administration, business and science.

3 Status-quo: Mapping the existing institutional landscape of regional cooperation in the EU

Figure 1 maps the existing initiatives of regional cooperation in their relation to the main objectives of EU energy policy that relate to electricity. The graph's upper quarters show the 2030 framework's targets of increasing the share of RES in final energy consumption to 27 % and of securing cross-border interconnections amounting to 15 % of national installed capacity by 2030 (European Council, 2014, para 3-4). Both targets are closely related because rising levels of variable RES generation can be integrated at lower costs where interconnected grids provide more flexibility (Hogan & Weston, 2014, pp. 16, 23-24). The interconnection target's main purpose is to enable a fully integrated IEM in the EU. Physical interconnections allow for coupling of electricity markets through common trading mechanisms. At the same time, cross-border lines increase the need for connected countries to jointly secure the stability of the electricity grid, a task that increases in complexity as the build-up of RES plants progresses. These two objectives are represented in the graph's lower quarters.

Figure 1: Existing institutional landscape in relation to 2030 energy policy objectives



Source: Own representation.

As the analysis shows, current initiatives for regional cooperation focus primarily on interconnection and market coupling and the grid stability questions that come with it. The exception is NSCOGI which aims at facilitating cooperation on offshore wind investment alongside increased interconnection. All other existing regional cooperation schemes in Scandinavia (Nordic Council Energy Working Group), Northern Europe (NEED), Central and Eastern Europe (V4, CEEE Forum), Central and Western Europe (PLEF), around the Baltic Sea (BEMIP) and the Mediterranean (MedReg) focus on creating the basis for regional market coupling – either by developing common market rules, improving grid interconnection or both. The Projects of Common Interest (PCIs) which list priority cross-border infrastructure projects throughout the EU as well as ENTSO-E's grid codes and its Ten-Year Network Development Plan (TYNDP) also serve these goals. The objective of maintaining grid stability is mainly the task of ENTSO-E's regional groups, but other fora also discuss security-related issues when they arise.

By contrast, the only tool specifically created to support joint RES projects – the cooperation mechanisms under the Renewable Energy Directive (2009/28/EC) – has barely been used to date. The Directive's cooperation mechanisms encompass statistical transfers, joint RES projects between MS as well as between MS and third countries, and joint support schemes. To date, one joint support scheme using tradable green certificates has been established by Sweden and Norway, while discussions about a joint investment project between the UK and Ireland have been pushed back to after 2020. Some countries are considering statistical transfers, but decisions will be taken closer to 2020 (Klessmann et al. 2014; Shankleman, 2014).

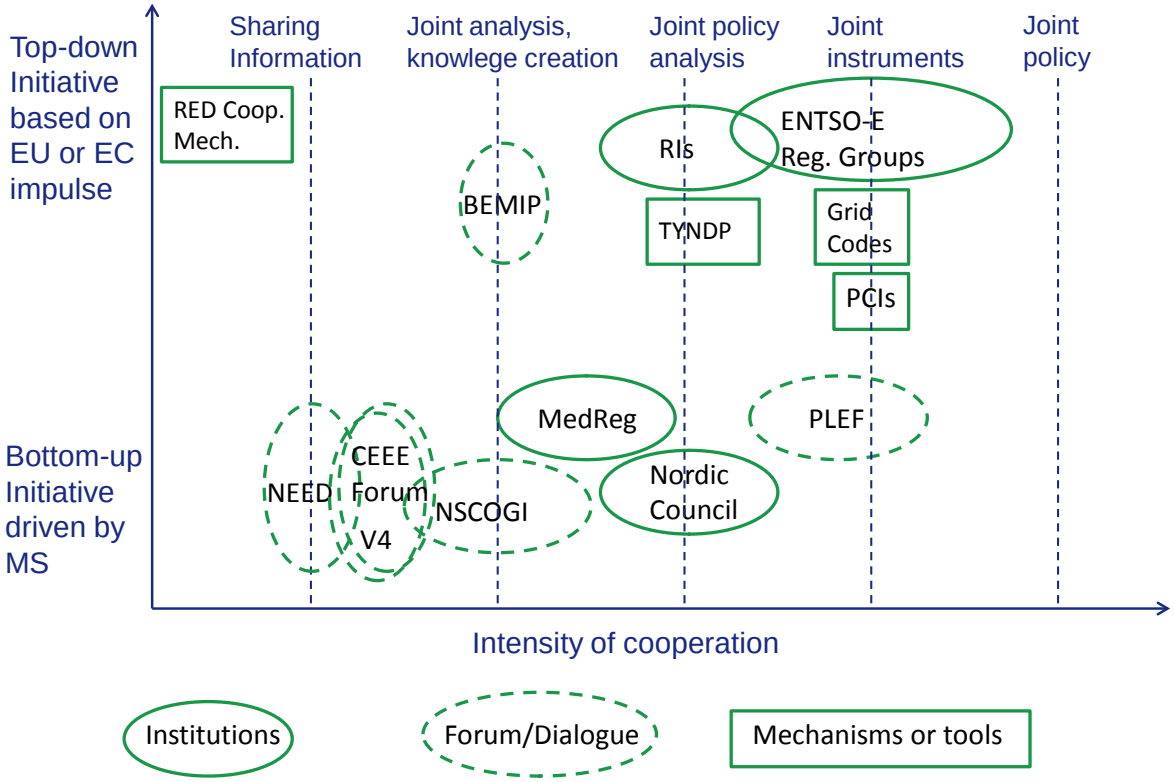
This diagnosis does not come as a surprise. The endeavour to create a single market for electricity required cross-border cooperation by the very nature of the project, whereas RES and the support schemes promoting them could be developed on the national level and initially did not require cooperation with neighbouring countries. Although the Commission repeatedly argued for greater harmonisation, the 2009 Renewable Energy Directive granted MS autonomy on choosing national approaches. Moreover, according to a recent mid-term evaluation of the directive, the limited use may reflect (Kampman et al., 2015):

- MS' preference to achieve the 2020 RES targets through domestic action and retain economic benefits in the country;
- Technical barriers, particularly limited interconnection capacity, and legal barriers;
- Uncertainty about costs and benefits;
- Uncertainty about the post-2020 policy framework which is particularly relevant for joint projects with long lead times.

The existing cooperation initiatives also differ in respect to the level of institutionalisation as well as the form and intensity of cooperation. In the mapping, we differentiate intergovernmental dialogues and fora which represent a more loose form of cooperation from institutions that are characterised by formal mandates, a significant number of permanent staff and often a complex organisational structure. Tools and mechanisms are a separate category referring to functional projects or processes with very specific, but restricted objectives focusing on implementation rather than discussion.

These coarse categories still hide a lot of variety. Figure 2 therefore presents a typology distinguishing existing institutions by origin and intensity of cooperation. The typology builds on the distinction between bottom-up and top-down processes proposed by De Jong and Egenhofer (2014). Top-down processes refer to initiatives that originally derived from deliberations at the pan-European level such as the Regional Initiatives (RIs) or instruments like the grid codes which serve to implement EU energy market directives and regulations, while bottom-up processes have emerged from inter-governmental cooperation between MS. The categories on the horizontal axis depicting increasing levels of intensity in regional cooperation are adapted from Meulman et al. (2012).

Figure 2: Typology of existing initiatives based on origin and intensity of cooperation



Source: Own representation.

Regional cooperation initiatives exist in almost all parts of the EU, but the intensity of cooperation varies, with top-down initiatives typically resulting in higher intensity of cooperation. Meanwhile, bottom-up cooperation schemes – the type that the Commission and the Council hope to promote under the new governance mechanism – so far remain at the lower end of the intensity spectrum. The PLEF provides a positive exception given that it

has progressed beyond information sharing and joint analysis to create common rules and mechanisms for market coupling.

4 Case studies of four institutions for regional cooperation

4.1 North Seas Countries' Offshore Grid Initiative (NSCOGI)

NSCOGI is an inter-governmental initiative bringing together the ten countries bordering the North Seas as well as Luxembourg and the European Commission. The initiative started in 2009 aims 'to facilitate a coordinated electricity infrastructure development, both offshore and the necessary onshore connections, in view of the large amounts of wind power planned' (NSCOGI, 2009, p. 3).

NSCOGI has a broad political mandate. Its Memorandum of Understanding (MoU) refers to the 2020 climate and energy targets and the 2050 energy roadmap. The signatories declare that 'they share the common goal of moving to a sustainable low-carbon economy while maintaining security of energy supply most cost-efficiently' and 'recognise the potential of renewables in the North Seas in contributing to this goal' (NSCOGI, 2010, p. 2).

Inputs developed within NSCOGI include a study on design options for a future North Seas Grid (NSCOGI, 2012b), a cost-benefit-assessment of an integrated approach to offshore grid development combining interconnection and grid links for offshore turbines and options for future market and regulatory arrangements (NSCOGI, 2014a, 2014b). Moreover, the transmission system operators (TSOs) in the NSCOGI countries have also worked closely together to make a number of improvements in the TYNDP, e.g. through the combination of bottom-up grid visions with a top-down European approach and consistent cost-benefit-analysis methods for cross-border investments.

Initial findings reported to the NSCOGI energy ministers in 2012 concluded that 'the current grid will not fulfil the future requirements as countries continue to follow their scheduled paths towards larger capacities of both conventional and renewable energy sources from

2020 to 2030', and that 'timely establishment of necessary grid reinforcements is therefore required' (NSCOGI, 2012a, p. 2).

Future areas of work will continue to include: 1) grid configuration, e.g. through further improvement of the long term (offshore) grid planning exercises; 2) regulatory and market issues, e.g. impact of national RES support schemes on investment in offshore infrastructure and options for long-term transmission rights; and 3) streamlining planning and authorisations (NSCOGI, 2014c).

Among the existing fora for regional cooperation, NSCOGI is exceptional in its focus on innovative large-scale projects that combine interconnection and RES expansion. The North Seas Grid is also a rare case where regional cooperation is a prerequisite for a variant of a RES-related technology to be deployed. Since its inception, the initiative has made first steps towards this ambitious long-term vision through joint assessments. To have a concrete impact and potentially becoming a role model for similar cooperations elsewhere, NSCOGI would have to move on to developing concrete regulatory solutions and pilot projects. This next step would be significantly more challenging than the previous work as it would affect national regulation and thus would require political momentum from the ministerial level (personal communication J. de Jong, December 2, 2014; personal communication F. Deloof, December 3, 2014). Currently, such a pilot project is not on the horizon yet.

4.2 Pentalateral Energy Forum (PLEF)

The Pentalateral Energy Forum (PLEF) is an intergovernmental initiative convening Austria, Belgium, France, Germany, Luxembourg, and the Netherlands as well as Switzerland as an observer country. The process also includes high-level representatives of the NRAs, TSOs, power exchanges and energy industry. PLEF aims at enabling electricity market integration in the region and improving security of supply.

In a MoU of 2007 and a political declaration of 2013, members defined the PLEF's areas of work. The initial focus was the 'analysis, design and implementation of a flow-based market coupling' between the participating countries by 2009 (PLEF, 2007, p. 3). Day-ahead market coupling for the five original PLEF countries was successfully completed in spring 2010

(Austria joined only in 2011). The PLEF target model for market coupling and explicit auctioning for long-term capacity allocation has emerged as a standard for electricity market integration, now covering large parts of Europe (ACER, 2014a). This has been by far the greatest accomplishment of the PLEF thus far. Further results include several industrial joint ventures offering cross-border services (de Jong & Groot, 2013, p. 40-41).

Since completing day-ahead market coupling, the PLEF has continued to work on further intensifying market integration based on a new working programme (PLEF, 2013). Ongoing tasks include the implementation of implicit flow-based market coupling in the region and approaches to assess generation adequacy at the regional level. The last working stream led to the publication of a first joint assessment of the region's generation adequacy in March 2015 (PLEF, 2015), a significant step towards a harmonised methodology for such assessments.

Researchers identify a number of factors explaining PLEF's successful work (de Jong & Groot, 2013; Willems, 2012):

- Strong political guidance from energy minister;
- Shared vision of increased regional connection and common market;
- Slender working structures;
- Involvement of technical experts and stakeholders;
- Neutral platform and pragmatic support thought the Benelux secretariat building on the long-standing tradition of regional cooperation in the Benelux countries.

4.3 ENTSO-E's Regional Groups

ENTSO-E is the child of the third IEM legislation package adopted in 2009 which required TSOs to found cooperation structures to ensure system stability in the European grid and provide the technical basis for market integration (Fischer & Geden, 2013, p. 7). The organisation hosts five different types of regional groupings relating to ENTSO-E's different functions: system operations, systems development and market solutions.

The ENTSO-E Systems Operations Committee provides proposals for network codes and promotes operational coherence among regions (ENTSO-E website, 2015). Five permanent regional groups based on synchronous areas with a common system frequency ensure compatibility between system operations, market solutions and system development. They also address technical and operational aspects specific to interconnected system operation. These groups have strict geographic boundaries. According to Stacchus (personal communication, December 3, 2014) this can be problematic since the Continental Europe group in particular hosts a large group of 24 countries operating under very different conditions.

Reacting to this challenge, TSOs in Continental Europe have proactively pioneered and developed Regional Security Coordination Initiatives (RSCIs). These smaller groups covering parts of Continental Europe (with one initiative also integrating Great Britain) provide an overview of electricity flows in order to better identify and manage potential threats to secure system operations. In their delineations, the RSCIs reflect where the power flows manifest themselves most of the time (personal communication K. Staschus, December 3, 2014).

The systems development committee works at planning and developing a secure, efficient and economic transmission system in six regional groups which address grid development challenges and the integration of new generation at a regional level (ENTSO-E website, 2015). Detailed analysis at the regional level is needed for market and network planning (personal communication K. Staschus, December 3, 2014). The main vehicle is the Ten Year Network Development Plan (TYNDP).

Finally, the ENTSO-E's market team supports TSOs in the development and harmonisation of market rules by developing market-related network codes in cooperation with stakeholders. As part of this process, it has formed four Market Committee Regional Groups that enhance information exchange (ENTSO-E website, 2015).

The description of ENTSO-E's regional activities shows that constructive regional cooperation takes place within ENTSO-E, with a focus on technical implementation. In addition, TSOs are also active in each of the other regional institutions analysed in this article. A particular

strength of ENTSO-E is its slender structure with minimal involvement of the ENTSO-E secretariat in day-to-day work (personal communication K. Staschus, December 3, 2014). However, Sander (2014) argues that there are also considerable shortcomings with respect to transparency, coherence and comparability in the different groups. For example, the regional modelling exercises for the TYNDP suffer from inadequate coordination between groups, resulting in divergent models, input assumptions and calculation results that are not strictly comparable. This is one element of a wider challenge: the balance between regional and centralised coordination and the coherence between decision-making at regional, national and EU levels.

4.4 Electricity Regional Initiatives (RIs)

In 2006 the European Regulators' Group for Electricity and Gas (ERGEG), an independent advisory group for NRAs and MS that was replaced by ACER in 2011 (European Commission, 2011, p. 15), established regional platforms for gas and electricity with the aim of creating regional markets as precursors single EU-wide markets (ERGEG, 2006, p. 2). The seven Regional Initiatives for electricity (RIs) bring together NRAs, the European Commission, MS, TSOs, power exchanges, utilities and other relevant stakeholders in order to define and implement regulatory solutions that improve the functioning of their corresponding regional market (ACER 2014c, p. 16). These RIs frequently overlap in continental Europe giving countries represented in multiples RIs, such as France and Germany, a particularly crucial role in driving harmonisation (European Commission, 2010, p. 9, personal communication A. Barann, January 26, 2015). Since 2011, ACER monitors and coordinates the RIs' work with the aim of increasing coherence between the individual work programmes (de Jong & Groot, 2013).

While each of the regions has produced results in implementing regional projects towards a single market, the strongest progress has been seen in those regions where political support for integration is strongest, in particular the Central-West and Northern regions (CEER, 2010, personal communication A. Barann, January 26, 2015). The next challenge for the RIs is to move from harmonisation of market rules within regions to harmonization across regions, leading to an EU-wide market. The network codes which cover market rules as well as

operational questions are a central vehicle in this process (personal communication A. Barann, January 26, 2015).

Thus far, ACER has taken a careful approach to its coordination role, playing the role of the facilitator as opposed to the driver (personal communication P. Wilczek, December 3, 2014). With the rising need for political guidance to achieve further progress on market integration, ACER is increasingly coming to the boundaries of its regulatory mandate (personal communication J. de Jong, December 2, 2014). Thus, ensuring lasting impact of RIs towards 2030 may require more involvement of governments similar to the process in the PLEF or an enhanced mandate for ACER (personal communication J. de Jong, December 2, 2014). With respect to RES, the RIs' activities have so far mainly concentrated on aspects of grid integration insofar as secure operations are concerned. This reflects the focus of the NRA's mandates on the grid.

5 Harnessing the opportunities of regional cooperation for achieving the 2030 energy and climate targets

5.1 Lessons from the existing cooperation landscape

The analysis of the existing landscape shows that a multitude of initiatives for regional cooperation in the energy sector already exists in the EU. There is no uniform format and the delineations vary depending on the mandate. Cooperation in fora with government involvement is more intense in some parts of Europe. In particular, Northwest Europe and Scandinavia – both regions with a long tradition of cooperation – have created regional bodies that enabled early progress on electricity market integration. In Continental Europe, where the delineation of regions is less straightforward, countries such as Germany, France and Poland are part of a number of groups at the same time. By contrast, Bulgaria and Rumania are not formally members of any initiative although they participate in the Visegrad group ad-hoc. Cooperation in the Mediterranean area also appears to be less intense than in the pioneer regions.

Overwhelmingly the existing institutions work towards the objective of completing the IEM – either through physical interconnection, safe operations of the interconnected grid or by focusing on market coupling. The incentive for cooperating is therefore primarily an economic one: connected markets hold the promise of lowering electricity costs and increasing security of supply. Decarbonisation objectives are an indirect driver in this process as the integration of RES electricity raises new questions for the market design as well as for safe grid operations. However, regional cooperation focusing explicitly on joint RES projects, shared RES expansion strategies or other low-carbon projects is currently not a major focus of the existing initiatives. The only cooperation initiative that defines collaboration on RES projects as one of its core objectives, NSCOGI, has produced valuable joint assessments, but no joint projects or support schemes have emerged so far.

Based on the case studies, success factors for tangible outcomes of regional cooperation are:

- Government involvement and clear political vision guiding the process.
- Participation of all relevant stakeholders to ensure pragmatic and practical solutions.
- Slender working structures.

Compared to policy-making at EU or national level, the specific strength of regional cooperation appears to lie in the ability of the involved actors to co-ordinate more efficiently. Smaller groups allow for decision-making that is swifter and better tailored to the specific needs of the region, and provide a platform for mitigating potential conflict between neighbouring countries. Regional cooperation can also help to bridge the gap between difficult and often rather general consensus at EU level and national decisions taken in isolation (de Jong & Egenhofer, 2014, pp. 5, 9). In the intergovernmental fora like PLEF and NSCOGI, governments who share certain goals can move forward without being dependent on the consent of less ambitious MS (personal communication representative of German government, December 9, 2014). Moreover, the groups can serve as laboratories for EU-wide solutions as it has been the case with the pioneer implementation of day-ahead market coupling by the PLEF (personal communication representative of German government, December 9, 2014). The regional approach is thus especially suited for new types of challenges which require the testing of innovative solutions, before successful ones can be rolled out to the rest of Europe.

On the flipside, regional solutions can increase the risk of fragmentation if the regions simultaneously develop incompatible or incongruent solutions, such as regional grid planning that is not adequately informed by EU level interests (European Commission, 2010, p. 3; de Jong & Egenhofer, 2014, p. 5). Moreover, difficult issues such as harmonisation of capacity mechanisms might be excluded or inadequately dealt with in a setting of voluntary regional cooperation (personal communication representative of German government, December 9, 2014). Finally, lack of transparency is a risk that needs to be adequately addressed in all cooperation fora.

5.2 Looking towards 2030

When looking towards 2030, interviewees identified a number of open tasks with respect to the completion of the IEM, for example coupling of intra-day trading and balancing markets, data exchange on power flows, and regional assessment of resource adequacy (personal communication P. Wilczek, K. Staschus, December 3, 2014). Thereby, the integration of the existing stock of RES will further influence all of the issues mentioned above. The challenges posed by RES grid and market integration are increasingly recognised and actors have started addressing them, in particular through the harmonisation of market rules and safety standards through the grid codes (e.g. ENTSO-E, 2014b).

By contrast, no comparable 'natural' incentive exists for the cooperation on building additional RES capacity in order to reach the EU's 2030 RES target or for cooperation on any other measures to jointly reach the GHG reduction targets. The reason is that the main driver for existing collaboration on RES – to the extent that it exists at all – is the interest to reach national RES targets at the lowest costs (Kampman et al., 2015). Without national targets after 2020, this driver will cease to exist. Those governments that continue to actively promote RES expansion will be under pressure to prove the value added of regional approaches compared to purely national schemes that channel economic benefits such as job creation and growth impulses to national constituencies. Thus, in the absence of national RES targets, regional cooperation on RES capacity build-up (e.g. in form of joint projects or harmonised support schemes) is likely to be limited if no other external incentives come into play (personal communication P. Wilczek, December 3, 2014).

5.3 Potential next steps in the policy process

The interviews and the literature reviewed suggest that the existing regional initiatives provide a valuable starting point for addressing the EU's energy policy objectives, but need to be reformed to fully serve the objectives of establishing an effective 2030 governance system and – in the long-run – decarbonising the European power system.

The pragmatic approach of regional groupings makes them sufficiently flexible to adapt to changing objectives in their mandate, institutional set-up, as well as geographical delineation. If the political will is there, mandates could be extended to include cooperation on RES and even low-carbon strategies more broadly. However, the success of regional cooperation will ultimately depend on the political and economic incentives facing national governments.

With respect to addressing the impacts of existing RES build-up, the management of a shared grid and coupled electricity markets, the incentives are fairly obvious and promising first steps indicate that the existing fora are increasingly addressing the challenges. Nonetheless, clear political guidance from the Commission and MS could ensure that market coupling progresses in all EU regions and that regions reap the full benefits from facilitating the system integration of RES at regional rather than purely at national level. Topics for regional coordination include resource adequacy, balancing, back-up capacity, grid planning methodology, demand response, technical standards, and potentially also capacity remuneration. By coordinating, regions can take full advantage of regional primary resource advantages and weather diversity and thus reduce required back-up capacity (personal communication K. Staschus, December 3, 2014; Andoura & Vinois, 2015, p. 110).

The Commission has an important role in supporting and coordinating this process. It can ensure participation of all MS, and address concerns over transparency and consistency of approaches across regions. Moreover, the Commission could strengthen ACER's and ENTSO-E's mandate in systematically addressing all challenges arising from RES integration (Andoura & Vinois, 2015, p. 108f.). Finally, the design of the governance framework itself offers an opportunity for the Commission to reshape and strengthen regional cooperation on RES integration, especially by defining the topics for the proposed regional consultations in a mandatory template for the national (or regional) energy plans.

With respect to cooperation on supporting *additional* RES capacity, some form of national benchmark or projection would provide the best basis for meaningful cooperation to emerge, since it would create an incentive to reach the benchmark at lowest costs. The approach would also be a signal of political continuity, thereby providing a more solid ground for ambitious long-term projects such as the North Seas offshore grid. Since the European Council ruled out binding national targets, a pledge-and-review system similar to the process under the current Energy Efficiency Directive would be the second-best option. The process should have a legislative basis to be laid down in an amended Renewable Energy Directive to ensure the framework is credible for market participants who seek investor security (Wyns, Khatchadourian, & Oberthür, 2014).

An interesting addition would be to allow groups of countries to voluntarily determine regional targets instead of or in addition to national targets (personal communication F. Deloof, December 3, 2014; Held, Ragwitz, Resch, Liebmann, & Genoese, 2014, p. 8), potentially by combining interconnection and RES targets or even determining joint energy efficiency targets. The advantage would be that neighbouring MS or any group of ambitious MS could coordinate their ambition from the onset, search for low-cost potentials in the region as a whole and integrate the projected RES built-up with grid planning. Going further, they could also cooperate when designing support schemes, for example through designing joint tenders. Given the complexity that such a process would entail, all will again depend on the incentive structure. Even in frontrunner groups, regional targets are relatively unlikely to emerge if RES targets or benchmarks are entirely voluntary and complete opt-out is an accepted option. To circumvent this problem, the European Commission could distribute RES targets to regions top-down (Held et al. 2014, p. 6). This option is however likely to face similar opposition as a break-down to MS. Also, the existing regional cooperation schemes have not established a prefixed delineation of appropriate regions that the targets could apply to. Moreover, regionally defined targets of any form might lead to new challenges with respect to enforceability in case of under-achievement.

If no form of benchmarks is within political reach, a suitable incentive for regional cooperation on RES would be financial support (personal communication J. de Jong, December 2, 2014). Obviously, this option would also be an appropriate *addition* to

benchmarks, projections or targets. Financial support could come in form of grants or access to loans for joint projects (Wyns et al. 2014, p. 42) or by enabling easier access to structural funds (personal communication J. Muth, December 8, 2014). In addition, the Commission could provide organisational support, guidance, best-practice exchange and capacity building and it could show case success stories.

In the absence of targets or benchmarks of any kind, regional cooperation on RES will be limited to 'coalitions of the willing'. The most likely candidates are those countries in Scandinavia and Northwest Europe whose governments and populations support ambitious RES policies irrespective of EU targets. However, in such a scenario, these cooperation efforts would only provide a role model for other regions in the EU if they could demonstrate that cooperation can lower the overall costs of developing and running a low-carbon power system compared to the status quo (not compared to reaching RES targets nationally). One avenue towards this aim may be to move away from a debate about RES-specific support schemes to discussions about a reformed electricity market design in a setting of cross-border market coupling that allows the most advanced RES technologies to compete on a level playing field.

6 References

ACER. (2014a). *ACER welcomes the day-ahead market coupling in 15 countries and publishes its latest Status Review Report on Regional initiatives.* Ljubljana: Agency for the Cooperation of Energy Regulators.

ACER. (2014b). *ERI Progress Report #1 (April 2014-September2014): ACER Coordination Group for Electricity Regional Initiatives*. Ljubljana: Agency for the Cooperation of Energy Regulators.

ACER. (2014c). *Regional Initiatives Status Review Report 2013: Final Steps towards the 2014 Deadline*. Ljubljana: Agency for the Cooperation of Energy Regulators.

Andoura, S., Vinois, J.-A. (2015). *From the European Energy Community to the Energy Union: A policy proposal for the long term*. Paris: Jacques Delors Institute.

Benelux (2012). Schengenisation of EU Energy Policy: Benelux Secretariat & Governance, Presentation of Benelux Secretariat at CIEP Conference 'Schengenisation of Energy Policy'. Retrieved from: http://www.clingendaelenergy.com/events/event/ciep-conference-schengenisation-of-energy-policy.

CEER. (2014). http://www.ceer.eu/.

CEER. (2010). *The Regional Initiatives – a major step towards integrating Europe's national energy markets* (Factsheet 10-03). Brussels: Council of European Energy Regulators. Retrieved online: http://www.ceer.eu/portal/page/portal/EER_HOME/EER_ACTIVITIES/EER_INITIATIVES/FS-10-03_RegionalInitiatives_2010-12_v10OK.pdf.

Cornwall, N. (2008). Achieving Electricity Integration in Europe. In: F. Sioshansi (Ed.), *Competitive Electricity Markets: Design, Implementation, Performance* (pp. 95–138). Elsevier: Amsterdam.

De Jong, J., Egenhofer, C. (2014). *Exploring a Regional Approach to EU Energy Policies* (CEPS Special Report No. 84). Brussels: Centre for European Policy Studies.

De Jong, J., Groot, K. (2013). *A Regional EU Energy Policy?* (CIEP Energy Papers2013|06). The Hague: Clingendael International Energy Programme.

Klessmann, C, de Visser, E., Wigand, F., Gephart, M., Resch, G., Busch, S. (2014). *Cooperation between EU Member States under the RES Directive: Task 1 Report.* Berlin: Ecofys.

ENTSO-E. (2014a). *ENTSO-E at a glance: Reliable. Sustainable. Connceted*. Retrieved from: https://www.entsoe.eu/publications/general-publications/entso-e-at-a-glance/Pages/default.aspx.

ENTSO-E. (2014b). *Future TSO Coordination for Europe*. Retrieved from: https://www.entsoe.eu/Documents/Publications/Position%20papers%20and%20reports/141119_ENTSO-E_Policy_Paper_Future_TSO_Coordination_for_Europe.pdf.

ERGEG. (2010). *Strategy for delivering a more integrated European energy market: The Role of the ERGEG Regional Initiatives*. Brussels: European Regulators' Group for Electricity and Gas.

ERGEG. (2006). *The Electricity Regional Initiative: Making progress towards a single European market* (ERGEG Fact Sheet). Retrieved from: http://www.cer.ie/docs/000567/cer06020.pdf.

European Commission. (2004). *Medium-term Vision for the Internal Electricity Market* (DG Energy and transport Working Paper). Brussels: European Commission.

European Commission. (2010). *The future Role of Regional Initiatives* (COM(2010) 721 final). Brussels: European Commission.

European Commission. (2014). *A Policy Framework for Climate and Energy in the Period from 2020 to 2030* (COM(2014) 15 final). Brussels: European Commission.

European Commission. (2015). *A framework strategy for a resilient Energy Union with a forward-looking climate change policy* (COM(2015) 80 final). Brussels: European Commission.

European Council. (2014). *Conclusions on 2030 Climate and Energy Policy Framework*, 23 October 2014.

Fischer, S. (2014). *Der neue EU-Rahmen für die Energie- und Klimapolitik bis 2030. Handlungsoptionen für die deutsche Energiewende-Politik* [The new 2030 EU policy framework for climate and energy. Options for German energy transition policy] (SWP-Aktuell 73). Berlin: German Institute for International and Security Affairs.

Fischer, S.; Geden, O. (2013). *Updating the EU's Energy and Climate Policy: New Targets for the Post-2020 Period*. Berlin: German Institute for International and Security Affairs.

Held, A., Ragwitz, M., Resch, G., Liebmann, L., Genoese, F. (2014). *Implementing the EU 2030 Climate and Energy Framework: A closer look at renewables and opportunities for an Energy Union.* Karlsruhe: Fraunhofer ISI.

Hogan, M., Weston, F. (2014). *Power market operations and system reliability: A contribution to the market design debate in the Pentalateral Energy Forum*. Brussels: The Regulatory Assistance Project.

Kampman, B., Sina, S., Lucha, C., Cesbron, S., Pato, Z., Flörcken, O. (2015). *Mid-term evaluation of the Renewable Energy Directive: A study in the context of the REFIT programme.* Delft: CE Delft.

Meulman, L., Boot, P., van der Linde, C., de Jong, J., Werring, L. (2012). *Harvesting Transition?: Energy Policy Cooperation or Competition around the North Sea*. The Hague: Clingendael International Energy Programme.

NSCOGI. (2009): *Political Declaration.* Retrieved from: www.benelux.int.

NSCOGI. (2010): *Memorandum of Understanding.* Retrieved from: www.benelux.int.

Piria, R., Arcipowska, A., Bausch, C., Hockenos, P., Müller-Kraenner, S., Ondřich, J. (2014). *Greening the Heartlands of Coal in Europe: Insights from a Czech-German-Polish Dialogue on Energy Issues*. Prague: Heinrich Böll Foundation.

PLEF (2015). *Regional Adequacy Assessment*. No place: Pentalateral Energy Forum Support Group 2. Retrieved from: https://www.bmwi.de/BMWi/Redaktion/PDF/G/gemeinsamer-versorgungssicherheitsbericht,property=pdf,bereich=bmwi2012,sprache=de,rwb=true.pdf.

PLEF (2007). *Memorandum of understanding of the Pentalateral Energy Forum on market coupling and security of supply in Central Western Europe*. Retrieved from: www.benelux.int.

PLEF. (2013). *Political Declaration of the Pentalateral Energy Forum*. Retrieved from: www.benelux.int.

Sander, A. (2014). *What can be learned from PCIs for a European Energy Governance?*, Presentation 1 July 2014. Retrieved from: http://www.ecologic.eu/sites/files/event/2014/03_sander.pdf.

Shankleman, J. (2014, April 15). Ireland-UK wind plans shelved. *Business Green*. Retrieved from: http://www.businessgreen.com/bg/analysis/2339719/ireland-uk-wind-farm-export-plans-shelved.

Wyns, T., Khatchadourian, A, Oberthür, S. (2014). EU governance of renewable energy post-2020: risks and options. Brussels: Institute for European Studies.