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Renewables cross- border cooperation in the Energy Community

Policy Brief





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Executive summary

Cross-border cooperation on renewable energy is currently prominent on the agenda of many Member States of the European Union. Engaging in this type of cooperation can bring significant benefits to the parties involved.

Cross-border cooperation can reduce the costs of renewables deployment by tapping into the greater natural resource potential of a cooperating partner, which in turn benefits from Foreign Direct Investment for its renewables projects that can help modernize and decarbonize its electricity system. This is of particular value for the Contracting Parties of the Energy Community with their ageing power systems.

This policy brief focuses on cross-border auctions and joint projects as the key instruments for the Contracting Parties of the Energy Community to cooperate between each other and with EU Member States. The legal framework of the European Union includes different mechanisms for cooperation between EU Member States, between Member States and third countries (such as the Contracting Parties of the Energy Community) and between the Contracting Parties.

National cross-border auctions have their regulatory footing in the opening of support schemes. In practice, opening a national support scheme means that a party holds a cross-border auction. In such a cross-border auction, the party can unilaterally open its support scheme, both parties can mutually open their support schemes, or the cooperating parties can jointly design a joint support scheme. All three options are foreseen by the regulatory framework. National cross-border auctions have the benefits of creating high effectiveness in terms of realized benefits and efficiency gains (vis-à-vis individual cooperation agreements for joint projects). On the flipside, they may entail higher implementation and design complexities, increased system integration costs for the hosting country and generally offer less control over the project selection. A demand for opening the support schemes of EU Member States for cooperation with the Energy Community Contracting Parties might also evolve from EU Member States that have a State Aid based obligation to partially open their support schemes. Besides that, all EU Member States are encouraged to open their support schemes voluntarily.

Joint projects are one of three cooperation mechanisms listed in the recast Renewable Energy Directive (2018/2001/EU) (statistical transfers, joint projects and joint support schemes). "Joint projects" have particular relevance for the Energy Community Contracting Parties, as they allow for cooperation (and the related transfer of RES statistics) between EU Member States and third countries. In a joint project, cooperating parties negotiate the details of cooperation and have high control over project selection. This form of cooperation may be attractive for Energy Community Contracting Parties, as it entails relatively low hurdles for cooperation. Joint projects can be supported by a new funding line for cross-border renewables projects under the Connecting Europe Facility, which may provide additional impetus to develop joint projects.

EU-wide auctions are planned to be implemented by the **EU renewable energy financing mechanism** as laid down in Article 33 of the Governance Regulation. The EU financing mechanism works similar to a national cross-border auction, however, with less influence over the technological focus or the geographic distribution of projects. Under the EU financing mechanism, the auction is designed and implemented by a designated authority of the European Commission. The mechanism is open to non-EU countries, which may, however, participate as hosting countries only. The advantages of this mechanism are the reduced negotiation requirements and the decreased administrative burdens compared to a bilateral cooperation mechanism. However, hosting parties may face the risk of not being awarded and have limited national control over project selection. Similar to national cross-border auctions, system integration costs may be increased for the hosting country.

It is important to consider the specific energy market characteristics of the Contracting Parties to ensure that all cooperating parties achieve a net benefit. Joint projects are largely subject to negotiation; therefore, no overall considerations can be made. With a view to cross-border auctions however, a key issue meriting further attention is the Contracting Parties' varying stages of liquid day-ahead wholesale market establishment and implementation of market-based support schemes. While all Contracting Parties are on track to implementing day-ahead wholesale markets, at this point, only Serbia and Ukraine have established such markets in practice. All others have wholesale markets based on bilateral agreements. All EU Member



States have day-ahead wholesale markets. This has direct implications on the design of market premiums allocated in cross-border auctions.

In line with European regulation encouraging their use, (fixed or sliding) feed-in premiums are now widespread, with a few exceptions, among European countries to support renewable energy power plants. Serbia and Ukraine, the only two Contracting Parties that have already implemented national day-ahead wholesale markets, can cooperate with other parties who have such wholesale markets (i.e. EU Member States and/or each other) without restriction. All other Contracting Parties need transitional measures until they have implemented a national day-ahead wholesale market. Fixed premiums could be implemented without a problem, since they do not require a reference market price for the calculation of support levels; however, they are currently used less among EU countries and may have drawbacks regarding the support cost certainty, the risk of overcompensation and higher financing costs for plant operators. Sliding premiums are more relevant in the context of cooperation, as most EU Member States have sliding premiums in place and would thus likely award this premium type in a potential cross-border auction. However, the calculation of sliding premiums requires reference market prices, which are typically derived from (liquid) national day-ahead wholesale markets. Without the existence of such liquid wholesale markets in many Contracting Parties, a (transitional) solution would be to use day-ahead wholesale market prices of a regional market such as HUPX of Hungary or the wholesale markets of Serbia and Ukraine as a proxy reference market price. Another option is the use of the day-ahead wholesale market price of the respective cooperation partner. The necessary pre-condition for both solutions is that the reference market should have sufficiently close price developments. This pre-condition seems to be fulfilled for the Hungarian market vis-à-vis the Western Balkan parties. Both options are transitional until national liquid day-ahead wholesale markets are in place in which case both fixed and sliding premiums may be used without restrictions.

Key high-level messages:

- **Cooperation is beneficial for all parties.** The contributing party receives cost-efficient RES statistics that count towards target achievement. The hosting party receives Foreign Direct Investment for RES projects that can help modernize and decarbonize the electricity system.
- **Cooperation is facilitated by the EU regulatory system.** The current and new European regulatory framework includes mechanisms for cooperation, i.e. joint projects and cross-border auctions, between EU Member States and amongst Contracting Parties. The details of future cooperation will be determined by the transposition of the recast Renewable Energy Directive (2018/2001/EU) in the Energy Community, which is expected in 2021.
- **Cooperation instruments work.** The cooperation mechanisms translate into practical instruments for cooperation. Joint projects are largely subject to negotiation. Cross-border auctions have been extensively researched and already applied in first mutual cross-border auctions between Germany and Denmark. Future cooperation can build on these insights.
- **Cooperation needs to consider local circumstances.** Cross-border cooperation needs to consider local circumstances. This relates in particular to the regulatory framework (e.g. electricity market design, support scheme design) in place and the market conditions (e.g. level of competitiveness, investment conditions, country risks).
- **Contracting Parties should establish liquid day-ahead wholesale markets.** Such markets are needed to take full advantage of all cooperation options, especially cross-border auctions, and to ensure an efficient market premium design. This is particularly relevant for those Contracting Parties that have yet to implement a national day-ahead wholesale market. Once in place, parties can make use of all available market-based support schemes to remunerate RES projects.



1 Introduction

The legal framework applied in the Energy Community Contracting Parties¹ (CPs) provides opportunities for cross-border cooperation in developing renewable energy projects between the CPs and with the EU Member States through joint projects, opened support schemes and statistical transfers in line with the Renewable Energy Directive (2009/28/EC), adapted and adopted for the Energy Community in 2012. The CPs have transposed and largely implemented the Renewable Energy Directive (2009/28/EC) into their national legislation², however, cross-border cooperation has not been exercised yet.

The 2020 renewable energy targets have been achieved in some CPs (Moldova, Montenegro) while most CPs are still to reach their targets. So far, the development of renewable energy sources (RES) has been mainly based on administratively-set feed-in-tariffs, which gave rise to the uptake of wind, solar and small hydropower projects in the CPs. Following global and EU trends, most CPs are currently working on the reform of their support schemes aimed at switching to market-based mechanisms in line with the Guidelines on State Aid for environmental protection and energy.³ Some CPs have already had first auctions allocating market-based support payments (Albania, Montenegro and North Macedonia), however, a reliable legal framework for market-based support schemes is still in the making in most of the CPs.

In 2018, the European Union (EU) adopted the recast Renewable Energy Directive (2018/2001/EU) and its 2030 renewable energy target. Within the new legal framework of the EU, there are numerous instruments for cross-border renewable energy cooperation. These range from ex-post statistical transfers, over the joint deployment of renewables, for example by conducting cross-border auctions, to the new instrument of the "Union renewable energy financing mechanism" (EU financing mechanism), which aims to facilitate renewables auctions across multiple countries.⁴ The recast Renewable Energy Directive (2018/2001/EU) and the 2030 RES targets for the Energy Community are expected to be tabled for adoption in 2021, until then, the Renewable Energy Directive (2009/28/EC) remains applicable. In 2018, the Ministerial Council of the Energy Community adopted Recommendation 2018/01/MC-EnC⁵ on preparing the National Energy and Climate Plans (NECPs). The process of the NECP development has started in most of the CPs in line with the requirements of this Recommendation.

This policy brief seeks to provide an analysis on how the CPs may benefit from cross-border cooperation under the current legal framework applied in the Energy Community, and how the new possibilities given by the Clean Energy Package and associated financial instruments available at EU level can best contribute to the cross-border cooperation between the CPs and the EU Member States. This brief focuses on the instruments of cross-border auctions and joint projects, as the main instrument for the CPs of the Energy Community to cooperate amongst each other and with the EU Member States. Chapter 1.1 describes the rationales for considering cross-border approaches to RES deployment from the perspective of the contributing party, whereas chapter 1.2 highlights benefits from the hosting party perspective. The legal framework for cooperation is explained in chapter 2. The subsequent chapter 3 details the basic instruments of cooperation and lists benefits and risks of each instrument. Chapter 4 takes a closer look at special considerations arising in the context of cross-border cooperation with and amongst the CPs in terms of design. The report closes in chapter 5 with a short conclusion.

¹ Presently the Energy Community has nine Contracting Parties - Albania, Bosnia and Herzegovina, Georgia, Kosovo*, Moldova, Montenegro, North Macedonia, Serbia and Ukraine. Throughout this report, the designation of Kosovo* is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.

² Annual Implementation Report, Energy Community Secretariat, 23 November 2020: https://www.energy-community.org/dam/jcr:0af3b17a-3759-4a23-a2ef-3134784e217c/EnC_IR2020.pdf

³ The policy guidelines by the Energy Community Secretariat on the Applicability of the Guidelines on State Aid for Environmental Protection and Energy 2014-2020 can be found here: https://www.energy-community.org/dam/jcr:da2996d4-188f-478d-8773-3e593589effd/PG_04_2015_ECS_State_aid.pdf

⁴ The instruments were explained in more detail in other AURES II reports. The three models for national cross-border auctions were defined in the 2019 AURES II report 'Design options for cross-border auctions'. It can be found here: http://aures2project.eu/wp-content/uploads/2019/06/AURES_II_D6_1_final.pdf. The EU financing mechanism was explained in more detail in the 2020 report 'The new renewable energy financing mechanism of the EU in practice'. It can be found here: http://aures2project.eu/wp-content/uploads/2020/11/AURES_II_D6_3_EU.pdf.

⁵ Please find the mentioned Recommendation here: https://www.energy-community.org/dam/jcr:de3adce9-e047-4fb3-a632-f63c64a5c9c6/REC_2018_01_MC_CLI.pdf



1.1 Rationales for cooperation from the contributing party perspective

Cross-border cooperation on RES is currently prominent on the agenda of the EU Member States, while it is yet to attract interest of the Energy Community CPs. It has the potential to facilitate and ensure the achievement of the EU-wide RES target for 2030 of at least 32% RES and the 2030 RES targets in the Energy Community which are in the process of development, while making the best use of available natural resources.

The key rationale for contributing parties to finance a cross-border project is the reduction of support costs in the fulfilment of its RES target by:

1. tapping into better natural resource potential of the partner country,
2. reaching higher market values in the partner country,
3. accessing better financing conditions and lower costs of capital, thus reducing overall project costs, and
4. increasing competition in the national auction scheme.

The implementation of the Clean Energy Package and recent political developments towards the implementation of the European Green Deal in the EU, expected to result in an increase of 2030 targets, also work in favour of an accelerated use of instruments for cross-border cooperation.^{6,7} Despite the EU 2030 RES targets not being translated directly into nationally binding targets, Member States nevertheless need to specify how they contribute individually towards the target achievement in their NECPs. In case contributions are insufficient, underlying benchmarks defined in the Governance Regulation ((EU) 2018/1999) determine expected contributions.⁸ Against this background and a likely increase of the EU 2030 RES target, the use of cost-efficient RES potential is as important as ever and the above listed four economic rationales present a strong incentive for cross-border approaches. Further rationales for EU Member States stem from State Aid guidelines as well as provisions of the recast Renewable Energy Directive (2018/2001/EU). As part of the State Aid notification procedure, some Member States have committed to partially open their national support schemes to projects located in other Member States or third countries. The recast Renewable Energy Directive (2018/2001/EU) includes in Art. 5 a provision for Member States to voluntarily open their national support schemes. More information on the regulatory framework can be found in chapter 2.

The adoption of the Clean Energy Package and the 2030 targets in the Energy Community is expected in 2021. Targets for renewables are likely to be set at a national level, and not for the Energy Community as a whole.⁹ The target setting as well as the implementation of the recently signed Declaration on the Green Agenda for the six Western Balkan CPs of the Energy Community are expected to give a boost to cross-border cooperation in developing RES also in the Energy Community. RES could cover almost one-third of energy demand across CPs cost-effectively by 2030, however, regional cooperation is key to harnessing this

⁶ With a view to the discussed target to reduce EU greenhouse gas emissions by 55% by 2030, compared to 1990 levels, a ratcheting-up of the RES target can be expected. A higher RES target will even strengthen the case for enhanced cross-border cooperation on RES deployment.

⁷ More information on each of the rationales can be found in chapter 2 of the 2019 AURES II report 'Design options for cross-border auctions'. It can be found here: http://aures2project.eu/wp-content/uploads/2019/06/AURES_II_D6_1_final.pdf

⁸ For defining their national RES contribution to the 2030 EU target and the respective target trajectory, Member States shall take into account the formula defined in annex II of the adopted Governance Regulation (EU) 2018/1999. The formula is $RE\%_{2030} = RE\%_{2020} + C_{Flat} + C_{GDP} + C_{Potential} + C_{Interco}$. C_{Flat} is the same for each Member State. The C_{Flat} of all Member States together contribute 30% to the difference between the Union's targets for 2030 and 2020. C_{GDP} is distributed between Member States on the basis of the per capita index of Eurostat for the period 2013 to 2017, expressed in purchasing power standard, to the Union average, the index being limited for each Member State individually to 150% of the Union average. The C_{GDP} of all Member States together contributes 30% to the difference between the Union's targets for 2030 and 2020. $C_{Potential}$ is allocated to Member States on the basis of the difference between a Member State's share of RES in 2030 under the PRIMES scenario and its national mandatory target for 2020. The combined $C_{Potential}$ of all Member States contributes 30% to the difference between the Union's shares in targets for 2030 and 2020. $C_{Interco}$ is allocated between Member States on the basis of an index of electricity interconnection shares in 2017 according to the Union average, measured as the net transfer capacity over total installed generation capacity, with the index of interconnection shares for each Member State limited to 150% of the Union average. The $C_{Interco}$ of all Member States together contribute 10% of the difference between the Union's 2030 and 2020 targets.

⁹ See the proposal for General Policy Guidelines by the Energy Community Ministerial Council on the 2030 Targets and Climate Neutrality for the Energy Community and its Contracting Parties of November 2020.



potential.¹⁰ The possible contribution of cross-border cooperation in meeting energy and climate objectives has already been identified by some CPs and is reflected in their draft NECPs to different extents.

Support cost savings related to tapping into other countries' better natural potential, higher market values and better financing conditions are equally important to CPs as they are to EU Member States. Many CPs renewables markets are still relatively small. The European legal framework established through the Energy Community, the involvement of international financing institutions and the expectation of further market integration in the future has led to a remarkable interest by bidders in the first auctions, and significant reductions in the costs for support. While the project pipeline is growing continuously, it remains to be seen whether specific regulatory or institutional risks will materialize and dampen the interest of bidders. The risk of collusion may also adversely affect bid prices and potentially increase support costs. By allowing potential projects located in other countries to take part in the auction, i.e. by opening national auctions to other markets, competition could be increased, thereby improving the functioning of the auction and potentially lowering support costs for the parties financing the auction.

1.2 Benefits of cooperation from the hosting party perspective

From the perspective of the hosting party, the following potential benefits should be considered in establishing cross-border cooperation:

- **Structural transition of national energy system and mobilization of Foreign Direct Investments:** By acceding to the Paris Agreement¹¹ countries have committed to limit the impact of power generation and other activities on the climate. Foreign Direct Investment into RES capacities beyond the capacities triggered by national support schemes is an additional step towards this structural transition.
- **Job creation:** The deployment of new RES projects in the host country can be a lever for new economic development, local value creation and ultimately a means to reducing unemployment.
- **Reduced import dependency:** Increasing the share of RES (e.g. solar PV projects, wind energy projects, small hydropower plants) in the national power system can help decrease the dependency on imports (of oil and gas or electricity) or on precipitation levels for hydropower plants.¹²
- **Greenhouse gas emission reductions:** Deploying RES instead of conventional power sources reduces greenhouse gas (GHG) emissions. This effect is increased if RES beyond national planning are deployed. Statistical and actual benefits from GHG emission reductions that result from projects implemented under the cooperation are not transferred to the contributing country, constituting a direct benefit for the host country.
- **Clean air and public health:** The use of coal in electricity generation is a source of local air pollution and health problems. Increasing the share of RES decarbonizes the power system and provides additional capacity to power clean household solutions.
- **Exchange of best practices:** Cross-border cooperation may foster knowledge and experience sharing and capacity building on market-based support schemes and cross-border cooperation mechanisms. Already established mechanisms in the EU Member States can serve the Energy Community CPs in establishing support schemes and developing their own capacities.
- **Political cooperation:** Countries may use cross-border cooperation on renewable energy to foster bilateral political cooperation, thereby possibly leveraging cooperation also in other policy fields.
- **Innovation:** Cross-border cooperation may support innovation in new technologies and solutions in the cooperating countries.

A contribution of cross-border projects to the reduction of emissions and improvement of air quality and public health could be particularly beneficial for most of the Western Balkan CPs, whose electricity production

¹⁰ IRENA, [Renewable Energy Prospects for Central and South-Eastern Europe Energy Connectivity \(CESEC\)](#), October 2020

*Georgia is not included in the report since it is not a CESEC country

¹¹ With the exception of Kosovo*, all Contracting Parties to the Energy Community are party to the Paris Agreement. All Member States of the EU are party to the Paris Agreement.

¹² Note that, in principle, (large) hydropower plants may be subject to cross-border cooperation as well. However, solar PV as well as wind power have been more common in cooperation projects between EU Member States.



is dominated by aging coal-fired thermal power plants with significant CO₂ and GHG emissions.¹³

Having in mind that accession to the EU is a strategic political objective of most of the Energy Community CPs, cooperation on renewable energy is a way of deepening political and economic cooperation between EU Member States and CPs, especially between neighbouring countries.¹⁴

Besides the numerous benefits, interested parties are advised to consider potential disadvantages of cooperation.¹⁵ Project sites used under the cooperation are no longer available for deployment supported under a national support scheme. As a result, support costs for future domestic deployment may increase in case this is pushed to less favourable sites. Increasing the share of variable RES may result in additional system integration costs related to grid reinforcement or extension and potentially re-dispatch. Some parties may thus want to consider a potential lack of political or public acceptance for such cooperation.

¹³ More information can be found in the 'WB6 Energy Transition Tracker' by the Energy Community Secretariat, under this link: https://www.energy-community.org/dam/jcr:2077a2ba-805a-4ca2-afcb-91c90ecc0878/EnC_WB6_072020.pdf

¹⁴ Another significant pull-factor would be market values, as the aim is to reduce support scheme costs. Within the scope of this paper, we cannot make any statements on the economic competitiveness of projects in the Energy Community countries.

¹⁵ A more extensive discussion on the costs and benefits of a cross-border auction can be found in chapter 7 of the AURES II report 'Design options for cross-border auctions'. It can be found here: http://aures2project.eu/wp-content/uploads/2019/06/AURES_II_D6_1_final.pdf.



2 Legal framework for cooperation in the EU and the Energy Community

The legal framework in the Energy Community¹⁶, based on Renewable Energy Directive (2009/28/EC), enables CPs to use cooperation instruments from the Directive to cooperate amongst each other and with the EU Member States and third countries. This is based on three cooperation mechanisms also applicable between Member States, namely a) statistical transfer, b) joint projects, and c) joint support schemes.

When the Renewable Energy Directive (2009/28/EC) was incorporated in the Energy Community in 2012, one challenge was the setting of (national) targets based on a similar level of ambition as in the EU while taking into account the socio-economic characteristics, the late start and the lack of reliable statistics. Another challenge was the framework for the cooperation mechanisms. Cooperation between CPs follows the same logic and rules as cooperation between EU Member States, i.e. all three cooperation mechanisms apply. Cooperation between CPs and EU Member States, however, are more tricky. The Renewable Energy Directive (2009/28/EC) envisaged in its recital 37 that, once CPs become bound by the relevant provisions of this Directive, the measures of cooperation between EU Member States provided for in this Directive will be applicable to the CPs, suggesting their full inclusion in a pan-European system of RES cooperation mechanisms. Such inclusion was requested during the negotiations by Italy, which at the time expected to rely, to some extent, on renewable energy produced in the Balkans to fulfil its own target, and had already made bilateral arrangements with Serbia to this effect.

When incorporating the Renewable Energy Directive (2009/28/EC) in the Energy Community, the European Commission designed a solution requiring the approval by the Energy Community Ministerial Council of statistical transfers of a Contracting Party to an EU Member States, as well as of joint support schemes involving one or more CPs, and reporting to the Energy Community Secretariat. Moreover, an independent external audit on a biannual basis is required as an additional safeguard. If the audit shows deficiencies, the transfers involved will be annulled. No special regime was envisaged for joint projects between Member States and Contracting Parties beyond the provisions governing generally such projects with third countries (Articles 9 and 10 of the Renewable Energy Directive (2009/28/EC)). So far, no cooperation has materialized. This may be due to the complexity of the regulatory regime or lacking interest by EU Member States.

The recast Renewable Energy Directive (2018/2001/EU), forming the legal framework in the EU, includes the cooperation instruments explained below with a special emphasis on the possibilities for cooperation with third countries, including CPs. It includes the commitment to open the cooperation schemes to Energy Community CPs once the Directive is incorporated (now in recital 40), but the challenges in designing smart adaptations remain, and the risk of just extending the current non-operational approach is high. Amendments to the Energy Community Treaty about to be finalized could solve the problem by virtue of a clause allowing for reciprocal application of (exported) EU law to EU Member States and CPs alike, albeit the recast Renewable Energy Directive (2018/2001/EU) is not on the list of legislation eligible for such reciprocity.

Given that the recast Renewable Energy Directive (2018/2001/EU) is expected to be adopted in the Energy Community in 2021, the focus of this chapter is largely on the recast Renewable Energy Directive (2018/2001/EU). However, the way how the recast Renewable Energy Directive will be amended and later adapted for the Energy Community will have a decisive impact on the scope of the cooperation mechanisms between EU Member States and the Contracting Parties. The legal framework for national cross-border auctions is explained in section 2.1, a cooperation through joint projects is explained in section 2.2, while the planned EU renewable energy financing mechanism for EU-wide auctions is explained in section 2.3.

¹⁶ This chapter describes the legal framework as of November 2020



2.1 Opening of national support schemes

A policy development in the EU that favours cross-border cooperation is the (partial) opening of the regular national support schemes to installations located in other countries. In practice, opening a national support scheme means that a Member State holds a cross-border auction. In such a cross-border auction, the Member State can unilaterally open its support scheme, both parties can mutually open their support schemes, or the cooperating parties can jointly design a joint support scheme. Chapter 3.2 provides more details on cross-border auctions. The cross-border auctions find their legal footing in the legal framework explained below.

State-aid based opening obligations: In its current Guidelines on State Aid for environmental protection and energy, the European Commission included the provision that support schemes should in principle be open to CPs to limit overall distortive effects.¹⁷ The European Commission even goes a step further by saying that it will consider such opened schemes positively. In light of the current coronavirus outbreak, the State Aid Guidelines were extended by one year until 2021.¹⁸ In the process of gaining State Aid approval for their RES support scheme, some EU Member States have committed to partially open their support schemes for installations abroad. The relevant Member States are Belgium, Estonia, Germany, Greece, Hungary, Italy, Luxembourg, Portugal and Spain. For these Member States, opening their support scheme to Energy Community CPs is a possibility to fulfil their current opening obligations.¹⁹

The Guidelines on State Aid for Environmental Protection and Energy 2014-2020 are applied also in the Energy Community, however, none of the CPs have yet committed to open their support schemes.

Voluntary opening: In one of the landmark judgments in the area of renewable energy, the European Court of Justice had decided that a refusal by an EU Member State to open its national support scheme to projects in other Member States amounts to a barrier to the free movement of renewable energy.^{20,21} In an attempt to follow up on the Court's findings and open national support schemes by way of statutory law, the European Commission proposed to include a staged mandatory opening for up to 15% of newly supported capacity each year to other Member States in the recast Renewable Energy Directive (2018/2001/EU). During the negotiations this turned into a merely voluntary opening.

In Article 5, the recast Renewable Energy Directive (2018/2001/EU) calls upon the EU Member States to voluntarily open their support schemes to another Member State. However, opening of support schemes to the CPs is not envisaged by the recast Renewable Energy Directive (2018/2001/EU).

The legal framework for this form of cooperation, both conducted among CPs and between CPs and EU Member States, is subject to the Energy Community's Ministerial Council's adaptations to the Directive, which depends on a proposal by the European Commission.

2.2 Joint projects between Contracting Parties and with EU Member States

Of the three cooperation instruments listed in the recast Renewable Energy Directive (2018/2001/EU), the instrument of so-called "joint projects" has a particular relevance for the Energy Community CPs, as it allows for cooperation (and related transfers of RES statistics) between EU Member States and third countries, including the CPs. According to Art. 11 of the recast Renewable Energy Directive (2018/2001/EU), "*one or more Member States may cooperate with one or more third countries on all types of joint projects with regard to the production of electricity from renewable sources*". The article further specifies prerequisites for the cooperation.

¹⁷ Communication of the Commission on Guidelines on State aid for environmental protection and energy 2014-2020 (2014/C 200/01)

¹⁸ Press release by the European Commission from July 2020: https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1247

¹⁹ Whether or not this is feasible depends i.a. on the conditions for opening the national support scheme that are laid down in national law. The condition of the existence of a physical interconnection with a cooperation country can, for example, inhibit such a cooperation.

²⁰ The Swedish case, which was at the origin of the Court's ruling, actually concerned the joint support scheme between Sweden and Norway.

²¹ Case C- 573/12 Ålands Vindkraft ECLI:EU:C:2014:2037



The renewable energy produced as a result of the joint project may only be attributed towards the renewable energy shares of the (contributing) Member State, if “*an equivalent amount of electricity to the electricity accounted for has been firmly nominated to the allocated interconnection capacity by all responsible transmission system operators in the country of origin, the country of destination and, if relevant, each third country of transit*”. This condition requires physical interconnection either directly between the cooperating countries or indirectly via countries of transit. This means that cooperating parties do not have to be neighbours. Other (third) countries can be located in-between. Article 11, paragraph 3 lists the conditions which need to be met when EU Member States want to account electricity from RES produced and consumed in a third country towards their renewable energy share, but a physical interconnection is not yet established.²² The terms for accounting RES shares towards the funding EU Member States are defined in Article 11 paragraph 2 (c) of the recast Renewable Energy Directive (2018/2001/EU). The project is not allowed to receive “*support from a support scheme of a third country other than investment aid*” to count towards the target achievement of the cooperating EU Member State. Regarding the timeframe, which may have implications on the technological focus (e.g. offshore wind farms have significant development times), the recast Renewable Energy Directive (2018/2001/EU) states that the duration of a joint project may extend beyond 2030.

For the joint project, the cooperating parties are free to choose the details of the cooperation. They can negotiate on issues such as scope, location of site, technology and conditions. More details on the instrument of joint auctions are provided in chapter 3.1.

Note that the first Renewable Energy Directive (2009/28/EC), which is transposed and in force in the Energy Community, already allows for joint projects between CPs and EU Member States in line with Articles 9 and 10 of the Directive.

Joint projects defined in line with the recast Renewable Energy Directive (2018/2001/EU) can be supported by a new funding line laid down in the revised Connecting Europe Facility (CEF) regulation for “cross-border renewables projects” with funding from the Multiannual Financial Framework 2021-2027.²³ The CEF funding line offers both grants for studies (e.g. preparatory studies, technical studies) and grants for works (investment aid to RES plants). The new funding line supports the joint planning and deployment of renewables, involving Member States but also third countries, including CPs. The cooperating partners may or may not be connected via a physical link.

2.3 EU financing mechanism (EU-wide auctions)

The EU Governance Regulation (EU) 2018/1999 introduced in Article 33 a new instrument to facilitate cross-border cooperation in RES deployment, the so-called Union renewable energy financing mechanism (**EU financing mechanism**).^{24,25} The EU financing mechanism is open to non-EU countries participating as hosting countries. The EU financing mechanism works similar to a national cross-border auction, however, with less influence over the technological focus or the geographic distribution of projects. Under the EU financing mechanism, the auction is designed and implemented by a designated authority of the EU Commission.

²² Art. 11 par. 3 specifies that the interconnection requirement can be fulfilled where the following conditions are met: (a) construction of the interconnector started by 31 December 2026; (b) it is not possible for the interconnector to become operational by 31 December 2030; (c) it is possible for the interconnector to become operational by 31 December 2032; (d) after it becomes operational, the interconnector will be used for the export to the Union, in accordance with paragraph 2, of electricity from renewable sources; (e) the application relates to a joint project that fulfils the criteria set out in points (b) and (c) of paragraph 2 and that will use the interconnector after it becomes operational, and to a quantity of electricity that is no greater than the quantity that will be exported to the Union after the interconnector becomes operational.

²³ The exact amounts for CEF Energy are currently subject to negotiation. The CEF regulation states that up to 15% of CEF Energy may be used for the new funding line.

²⁴ Art. 33 of the Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action.

²⁵ The EU financing mechanism is explained in more detail in the 2020 AURES II report ‘The new renewable energy financing mechanism of the EU in practice’. It can be found here: <http://aures2project.eu/2020/11/03/the-new-renewable-energy-financing-mechanism-of-the-eu-in-practice/>



3 Basic instruments of cross-border cooperation with and amongst the CPs

The above described legal framework offers a variety of instruments for cross-border cooperation among the Energy Community CPs and with the EU Member States. Available instruments for cooperation between EU Member States and the CPs can be assigned to two different tracks of cooperation. The first track enables cooperation via joint projects, possibly supported by funding from CEF (chapter 3.1). The second track includes both national cross-border auctions and cross-border auctions via the EU financing mechanism as instruments of cooperation (chapter 3.2).

The below explained instruments are elaborated in more detail in other AURES II reports.²⁶

3.1 Track 1: Joint projects

The cooperating parties have extensive room for negotiation to tailor the joint project to their respective needs. For example, the cooperation may include the development of one but also of several new renewable energy plant(s).²⁷ In order to mitigate development risks, the two cooperating parties may require that projects have already gone through the administrative approval process and are ready for building. Regarding the project selection, the hosting party may implement a national auction to determine the most cost-effective project, but the cooperating parties may also use a cross-border auction to select their joint project (see Track 2 for more information on cross-border auctions). There are transaction costs related to the negotiation requirements as the parties need to define details related to the project selection process, the support scheme and the cooperation project (e.g. site, technology etc.).

The benefits and risks for the cooperating parties are summarized in Table 3-1 below.

Table 3-1 - Benefits and risks of a joint project

| Benefits | Risks |
|---|--|
| <p>Joint projects allow for higher control over project selection (e.g. technology, site), support costs and the allocation of costs and benefits and may entail lower design complexities and administrative burden compared to a cross-border auction open to all or multiple projects in a hosting party.</p> <p>Joint projects may serve as a starting point for larger-scale cooperation in the future (e.g. via cross-border auctions or EU financing mechanism).</p> <p>Available additional EU funding under the new CEF funding line for cross-border renewables projects reduces support costs for the contributing party, which may provide additional impetus to develop joint projects among cooperating parties.</p> | <p>Public acceptance in both contributing and hosting parties may be affected in case costs and benefits of the joint project cannot be adequately communicated to the domestic electorate.</p> |

²⁶ Please review the AURES II project website for a complete view of all published reports: <http://aures2project.eu/deliverables/>

²⁷ In the context of the EU funded project "Cooperation between EU MS under the Renewable Energy Directive and interaction with support schemes" several hypothetical cases studies for cooperation between EU Member States were developed, including studies on joint projects. All project resources can be found here: <https://res-cooperation.eu/results-and-deliverables.html>

3.2 Track 2: Cross-border auctions

There are two kinds of cross-border auctions relevant in this paper – national cross-border auctions (see section 3.2.1) and EU-wide cross-border auctions implemented under the framework of the EU financing mechanism (see section 3.2.2).

3.2.1 National cross-border auctions

Cross-border auctions are always an ex-ante form of cooperation leading to the deployment of new projects. There are three basic models for the bilateral implementation of national cross-border RES auctions: 1) unilateral cross-border auctions, 2) mutual cross-border auctions and 3) joint cross-border auctions.²⁸ They are characterized by varying degrees of complexity and different lead times.

Unilateral cross-border auction: In a unilateral cross-border auction, only one country (the contributing country) conducts a cross-border auction by opening its auction scheme to projects in a cooperating country (the host country). The host country does not pay any support costs but makes its natural potential and project pipeline available for development. Unilateral cross-border auctions require the lowest degree of coordination among the cooperating countries. Yet, they achieve the fundamental benefits of cross-border auctions. Under this model, the cooperating countries agree on the scope of their cooperation, the cost-benefit sharing – most likely based on an allocation of RES target statistics that is perceived as fair by the cooperating countries – and the transfer of payments and information. The country conducting the auction will largely determine the auction design.

Mutual cross-border auctions: The cooperating countries each conduct an auction that is open to installations in the cooperating country. The cooperating countries may implement mutual auctions to fulfil requirements regarding the opening of the national support scheme, and/or to increase the political acceptance of opening through reciprocity. The process of setting up the auction as well as the number of aspects that cooperating countries need to agree upon is similar to a unilateral auction. However, under this model, each country conducts its own cross-border auction, for which it solely determines the design. In 2016, the first mutual cross-border auctions were held between Germany and Denmark.²⁹

Joint cross-border auction: Implementing a joint cross-border auction is the most complex form of cross-border auctions, as it requires intense collaboration and coordination to establish the joint scheme and to prepare the cross-border auction, entailing higher transaction costs. In contrast to the previous models, a joint auction is most likely designed with the intent of implementing multiple tenders covering larger RES volumes or possibly including more cooperating countries. This increases the complexity of the cooperation but also the possibility to tap into further RES potential and markets.

Subject to the design of the future legal framework governing cooperation mechanism between Member States and Contracting Parties, as explained in chapter 2, and the obligation of some EU Member States to open their support scheme, in an initial stage of developing cross-border cooperation between an EU Member State and a CP, the fictive scenario of a unilateral opening by an EU Member State for projects from an Energy Community CP appears most likely.³⁰ This would be in line with the expected preferences as detailed in chapter 2. The contributing EU Member State would, if existing, fulfil its opening obligations (or else would adhere to the call for cooperation under the recast Renewable Energy Directive (2018/2001/EU)) and would work towards the achievement of its RES target. The hosting party, in this case the Energy Community CP, would not pay any support costs but would make its natural potential and project pipeline available for development, provided that potential benefits and disadvantages from hosting the project, as described in the chapter 1.2, have been carefully evaluated by the hosting party.

For a unilateral cross-border auction, the cooperating parties must negotiate and agree on the scope of their

²⁸ These three models were defined in the 2019 AURES II report 'Design options for cross-border auctions'. It can be found here: http://aures2project.eu/wp-content/uploads/2019/06/AURES_II_D6_1_final.pdf

²⁹ The AURES II report 'Design option for cross-border auctions' includes an analysis of the German-Danish cross-border auctions.

³⁰ This is not to say though that mutual or joint cross-border auctions between EU Member States and Energy Community countries would not be possible.



cooperation, the cost-benefit sharing – most likely based on an allocation of RES target statistics that is perceived as fair by the cooperating parties – and the transfer of payments and information.

To support the implementation of cross-border auctions, which is still a largely unfamiliar process, a guidance document with checklists on how to implement such auctions has been developed under an AURES project.³¹ The basic functioning of a cross-border auction is depicted in Figure 3-1. Within the cooperation, the cooperating parties are free to shape the cooperation according to their national preferences. The party conducting the auction will largely determine the auction design. Good practices of auction design – which had been identified in the first AURES project – equally apply.³²

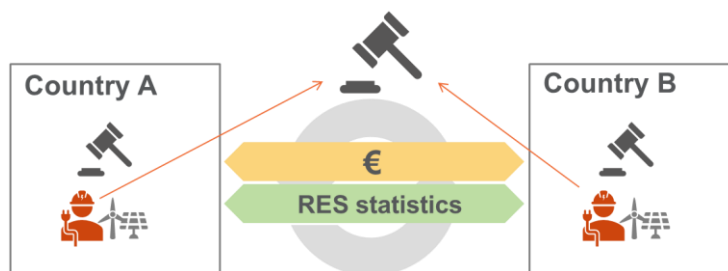


Figure 3-1 - Basic structure of a cross-border auction

In the context of cross-border auctions, it may be necessary to adapt some elements of the auction and remuneration design to the specific market and regulatory environment of the cooperation partner. Especially the design elements determining the conditions for participation as well as deadlines and penalties, require a closer assessment regarding their applicability, their impact on participants' costs and risks as well as their impact on project realization and thus effectiveness of the cross-border auction.³³ To be able to consider specific circumstances, a previous investigation, e.g. regarding the market situation, regulatory frameworks, and level of competitiveness, would be recommended. Key aspects impacting the cost of project development include planning and permitting, grid connection, eligible areas and sites, environmental requirements, financing conditions, taxation, project realization periods and risk of non-realization. These aspects cannot easily be aligned in the context of a cross-border auction, as they reflect a broader regulatory and political context. Our recommendation is to refrain from levelling differences artificially in order to tap into the full efficiency potential of the auction.

The benefits and risks for the cooperating parties are summarized in Table 3-2.

Table 3-2 - Benefits and risks of national cross-border auctions

| Benefits | Risks |
|--|--|
| <p>The effectiveness in terms of realized benefits of cooperation (e.g. support cost reductions, modernization of energy system) may be higher under multi-project cross-border auctions compared to single joint projects.</p> <p>There are efficiency gains of multi-project cooperation via cross-border auctions compared to the negotiation of individual cooperation agreements for individual joint projects.</p> | <p>Cross-border auctions may entail higher implementation and design complexities compared to joint projects, which could increase transaction costs and lead times until auctions are implemented.</p> <p>Since auction results are market-based, national cross-border auctions offer less control over project selection (e.g. specific sites, technologies) in host countries and the resulting support costs for contributing countries. They entail higher</p> |

³¹ The report 'Guidance on implementing cross-border auctions' will soon be published on the AURES website. The link to all deliverables is: <http://aures2project.eu/deliverables/>

³² Find all resources of the AURES project on the project website: <https://auresproject.eu/>

³³ Chapter 6 of the 2019 AURES II report 'Design options for cross-border auctions' explains the aspects which require special attention in a cross-border auction. The report can be found here: http://aures2project.eu/wp-content/uploads/2019/06/AURES_II_D6_1_final.pdf

| | |
|--|---|
| | <p>uncertainty on resulting costs and benefits among cooperating countries compared to joint projects.</p> <p>Grid integration of additional capacities awarded in the cross-border auction may increase system integration costs in the host country, which may require compensation beyond support payments.</p> |
|--|---|

3.2.2 EU financing mechanism (EU-wide auctions)

The EU financing mechanism works similar to a national cross-border auction, however, with less influence over the technological focus or the geographic distribution of projects. As explained in chapter 2, under this cooperation instrument, the CPs would be hosts of new RES projects participating in EU-wide auctions organized by the mechanism.

EU Member States can make voluntary financial contributions to the mechanism (see schematic overview in Figure 3-2). The designated authority is then responsible for the design and implementation of the EU-wide auction, reducing efforts and transaction costs for the Member States and third countries. The mechanism implements a RES auction which determines support levels and allocates support to RES projects in hosting countries, which chose to participate on a voluntary basis as well. Support payments can either be made in the form of operating support (fixed or sliding premium) or grants (upfront investment support, i.e. x € per kW). The use of upfront investment support in the context of the mechanism may incur less administrative burden, given that support does not have to be paid over a longer period of time.

The RES target statistics resulting from these RES installations are transferred back to the mechanism which then redistributes the RES statistics to the contributing Member States according to their share of financial contributions. However, if no statistical benefits of the RES production remain with the host country, the incentive to host such installations is reduced. Against this background, the mechanism foresees a splitting of statistical benefits between the contributing and the hosting country, i.e. allocating parts of the statistical benefits to the hosting country. This is justified as hosting countries also bear costs related to the system integration of additional RES capacities and potentially also to the grid connection of individual projects (depending on the grid connection regime).³⁴

³⁴ More details on the functioning of the EU financing mechanism and the terms and conditions for countries' participation can be found in the AURES case study on the financing mechanism: <http://aures2project.eu/2020/11/03/the-new-renewable-energy-financing-mechanism-of-the-eu-in-practice/>



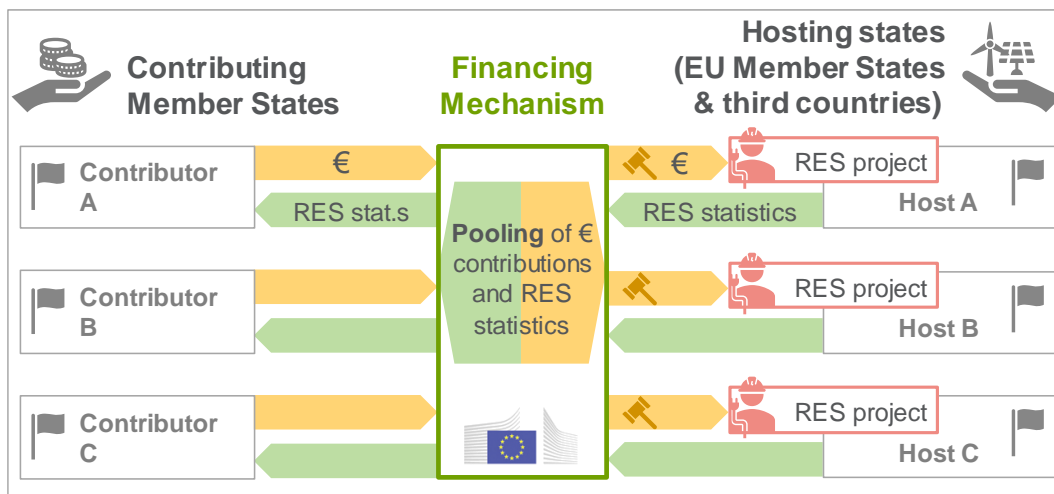


Figure 3-2 – Overview of the basic functioning of the EU financing mechanism

The benefits and risks for the cooperating parties under the EU financing mechanism are summarized in Table 3-3.

Table 3-3 - Benefits and risks of EU-wide auctions

| Benefits | Risks |
|---|---|
| <p>The financing mechanism provides a pre-determined support scheme and auction design in which both contributing and hosting countries can participate. This reduces negotiation requirements between cooperating countries and lowers transaction costs for the parties involved compared to bilateral cooperation mechanisms.</p> <p>The financing mechanism decreases the administrative burden for national authorities compared to national cross-border auctions since the European Commission appoints a responsible tendering authority.</p> | <p>Host countries allowing projects located on their territory to participate in the financing mechanism may face the risk of not being awarded if competing projects in other host countries submit lower bids (Note: CPs may only participate as hosting parties).</p> <p>Similar to national cross-border auctions, EU-wide auctions offer limited national control over project selection (e.g. specific sites, technologies) in host countries, resulting support costs for contributing costs and specific arrangements for the allocation of costs and benefits between cooperating parties.</p> <p>Auction rounds under the financing mechanism may be implemented using a support scheme that may not be aligned with individual national policy priorities and/or regulatory and market conditions.</p> <p>Grid integration of additional capacities awarded in the EU-wide cross-border auction may increase system integration costs in the host country, which may require compensation beyond support payments.</p> |

4 Special considerations for cross-border cooperation with and amongst the Energy Community Contracting Parties

The CPs are characterized by small-sized electricity markets which are at different stages of development. With the exception of Serbia, where a day-ahead market is operational since 2016, and Ukraine, where day-ahead and intraday markets are operational since 2019, all other CPs lack a reliable price signal from a short-term day-ahead market. It is important to consider these characteristics in order to ensure that both the CPs and the EU Member States benefit from the cooperation. Some differences and resulting aspects for consideration relate to the regulatory framework (chapter 4.1), while others are related to the market conditions (chapter 4.2).

The focus of this chapter lies on cooperation under Track 2, i.e. cross-border auctions. The joint projects discussed in Track 1 are largely subject to negotiation. Therefore, few overall considerations can be made. When negotiating the details of a joint project, CPs can make use of the Energy Community Secretariat's Dispute Resolution and Negotiation Centre.

4.1 Regulatory framework

4.1.1 Support scheme design

In line with European regulation encouraging their use, feed-in premiums are now widespread among European countries to support renewable energy power plants. However, many CPs still have support schemes based on feed-in tariffs in place, which are not in line with the Guidelines on State Aid for environmental protection and energy 2014-2020. Feed-in tariffs offer a fixed remuneration per energy produced independent of market price developments. By contrast, RES plant operators receiving feed-in premiums have to sell the electricity generated directly on the day-ahead wholesale power market and receive an additional payment on top of the market revenue they generate from the electricity market. Feed-in premiums are being increasingly introduced, since they offer better market integration incentives while providing predictable revenue streams in order to boost RES investments. The two main premium design options in this context are sliding and fixed feed-in premiums. Figure 4-1 below provides an overview of these types of support.

A **fixed feed-in premium** provides a fixed remuneration component per electricity produced on top of the market revenues. Projects participating in an auction bid on this fixed premium. Hence, fixed premiums will result in support payments regardless of how power market prices develop (in case of non-zero bids). The design of fixed tariffs is relatively simple since no timeframes for reference market price determination are needed, unlike in the case of sliding premiums.

Under fixed premiums, renewable energy generators will need to consider the long-term average electricity price impacting overall project revenues when determining their bid price (i.e. the fixed premium). At the same time, projects benefitting from fixed market premiums need to bear full market risks, which increases revenue risk and the cost of capital resulting from higher risk premiums compared to a sliding premium that hedges this risk. As a result, market integration for both operational and investment decisions are incentivized. In the context of cross-border auctions that tender fixed premiums, plants that are located in a country with a higher expected market value have an advantage in the auction. For example, if two projects have the same levelized cost of electricity generation but the one located in Country A expects higher revenues from its national electricity markets than another project located in Country B, this plant can reduce the bid level for the fixed premium accordingly.



Fixed premium



Sliding premium (one-sided)

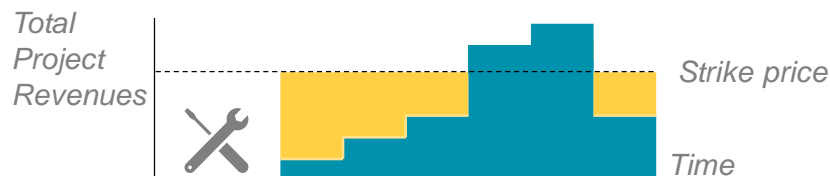


Figure 4-1 - Illustration of fixed and (one-sided) sliding feed-in premium

A **sliding feed-in premium** is paid as a difference between a strike price determined in an auction and a reference market price. The reference market price can be determined on an annual, monthly, daily or hourly basis. Sliding premiums offer support payments as long as the strike price is above the market price. Hence, support payments only occur if reference power market prices are below the strike price.³⁵ More generally, the design of sliding feed-in premiums is more complex compared to fixed feed-in premiums and requires the determination of more design elements, i.e. the applicable reference price and period to determine average market prices. Transaction costs for the cooperating parties increase compared to a fixed premium, as a result. In the context of cross-border auctions, the calculation of reference market values and measurement need to be agreed upon between the countries.

A sliding feed-in premium reduces revenue risks for producers, which in turn reduces risk premiums on financing costs. Note that the extent of revenue risks depends on the share of uncertain revenues the bidder considers in its bid, i.e. generators may decide to bid for a floor price under a (asymmetric) sliding premium and expect additional market revenues on top of the support payment or expect to be fully commercially viable based on market revenues. Under sliding premiums, generators are still exposed to market price signals, albeit limited to dispatch decisions since they do not expose RES generators to the risks of long-term market price development (bidders may still decide to carry this risk to have a competitive advantage, i.e. bid lower prices). With an increasing timeframe set for the period to determine the reference market price (e.g. annual), RES generators need to bear more short-term price risks similar to those incurred in the case of a fixed feed-in premium. By contrast, the shorter the timeframe for the reference period is set, the higher revenue certainty and the lower market integration incentives will be.

As outlined in the AURES report 'Design options for cross-border auctions', no premium design is clearly preferable over the other. The decision for a premium design largely depends on the political preferences and objectives of the countries involved, existing path dependencies (e.g. implemented premium type in the national support scheme) as well as applicable design complexities under varying degrees of electricity market development such as the existence of a liquid day-ahead wholesale market.

A fixed premium is the easiest option as regards implementation in cross-border auctions. However, it has

³⁵ A sliding premium can be combined with a payback mechanism whenever the electricity market price is higher than the bid price (so-called symmetric/double-sided feed-in premiums, also called Contracts-for-Differences or CfDs). This avoids overcompensation and decreases the risks for plant operators, but also entail additional design complexities and regulatory risks.

several drawbacks regarding support cost certainty, the risk of overcompensation and higher financing costs for plant operators, as outlined above. A fixed premium also strongly favours bidders from countries with higher (expected) market values and thus lowers the attractiveness of the cross-border auction for bidders from countries with lower (expected) market values. Sliding premiums are another premium design alternative, but offer challenges for premium calculation and reference market price determination in case no liquid day-ahead wholesale market is currently in place in the country where bidding projects are located.

The remainder of this section outlines key options for the design of premiums that may be tendered in cross-border auctions in which projects from CPs participate (i.e. either as a hosting country in a cross-border auction with an EU Member State or with another CP). Figure 4-2 outlines the key options in this respect, taking into account the varying framework conditions that currently exist among CPs, i.e. with respect to the existence of a (liquid) day-ahead wholesale market.

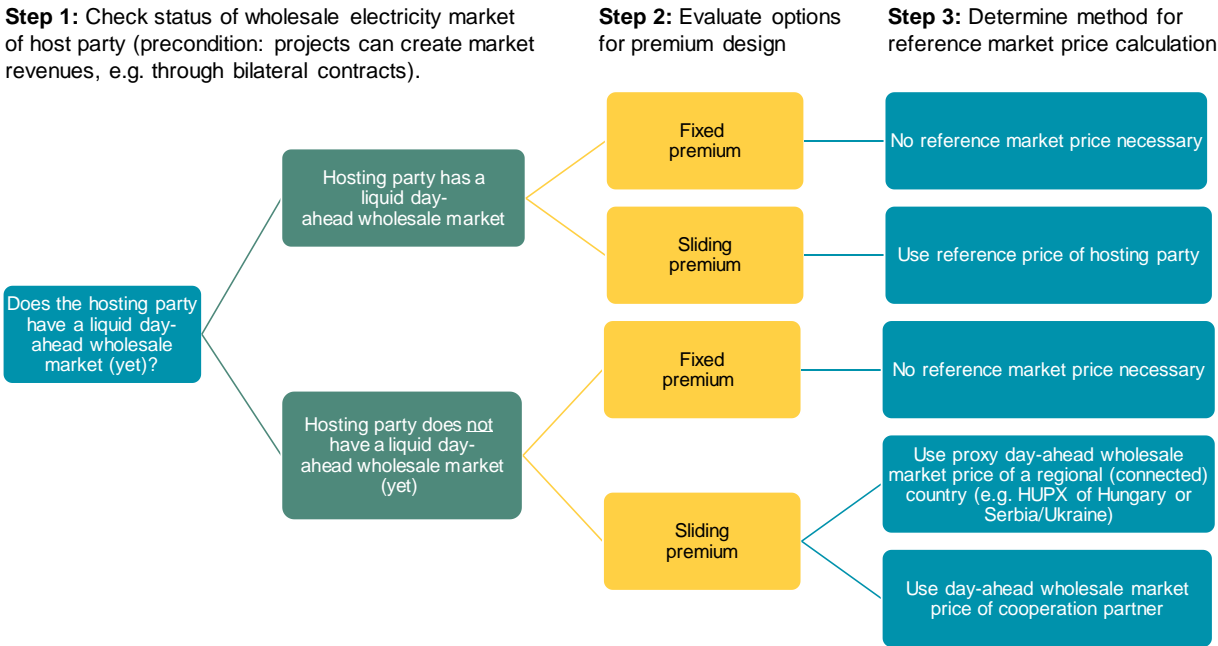


Figure 4-2 - Key options for premium design in cross-border auctions with CPs

The starting point in Figure 4-2 is to check whether the hosting party has a liquid day-ahead wholesale market. If it does, the details described below under Case 1 would apply. If a liquid day-ahead wholesale market does not yet exist, the considerations detailed under Case 2 hold relevance. All EU Member States have implemented day-ahead wholesale markets, as required by the regulatory framework. Once all CPs will have implemented day-ahead wholesale markets, Case 1 becomes the only relevant case.

Case 1 – Hosting party has a liquid day-ahead wholesale market

Case 1 is currently only relevant for the CPs that have already implemented a liquid day-ahead wholesale market. Under Case 1, both fixed or sliding premiums are possible, i.e. projects in the hosting CP receive premiums on top of market revenues generated in their national day-ahead wholesale market. In case of a **sliding premium**, the reference price is determined in the hosting party’s day-ahead wholesale market. Under **fixed premiums**, no reference price calculation is necessary. In both cases, submitted bids consider the expected revenues from their national day-ahead wholesale market. As outlined above, so far, only Serbia and Ukraine have implemented liquid day-ahead wholesale markets. A process of establishing organized electricity markets is ongoing in most of the other CPs, with the objective to have the markets operational in Albania, Georgia, Kosovo*, Montenegro and North Macedonia in 2021. However, due to the small size of the markets and limited opportunities for the development of competition at national level, liquidity in these day-ahead markets is expected to be improved only after the markets are coupled between CPs and with other



EU Member States. This process is still in an early phase and characterised by a lack of binding legal frameworks and deadlines for its finalisation.

Case 2 - Hosting party does not have a liquid day-ahead wholesale market yet

Case 2 is relevant for all hosting CPs that do not have a liquid day-ahead wholesale market (yet). The cooperating parties need to rely on one of the options introduced here as transitional measures until liquid day-ahead wholesale markets have been implemented (see Case 1). While liquid day-ahead wholesale markets may be lacking, premium payments require that projects are able to generate market revenues. For projects located in CPs, such revenues can be generated via wholesale markets based on bilateral contracts. However, volumes are traded over the counter and price development is therefore less transparent than in a liquid day-ahead wholesale market / power exchange.

Fixed premiums could be implemented, i.e. projects receive a fixed premium on top of revenues generated on the wholesale market through bilateral contracts. **No reference market price** is necessary for premium calculation, i.e. there are low implementation barriers for cross-border auctions. As outlined above, fixed premiums have, however, several general drawbacks regarding support cost certainty, the risk of overcompensation and higher financing costs for plant operators. Moreover, a fixed premium also strongly favours bidders from countries with higher (expected) market values and thus lowers the attractiveness of the cross-border auction for bidders from countries with lower (expected) market values.

Against this background, **sliding premiums** may be more beneficial, even in the transitional phase, until liquid day-ahead wholesale markets are in place. More specifically, projects located in hosting CPs without the existence of a liquid day-ahead wholesale market would be able to more easily transition towards premium payments based on national market values once such markets have been implemented (see Case 1). This is relevant, since most EU countries currently have sliding premiums in place and would thus likely award this premium type in any potential cross-border auction open to CPs.

As explained above, sliding premiums require the determination of support levels based on a reference market price (e.g. the monthly average of the day-ahead wholesale market). In order for projects located in countries without a functioning day-ahead wholesale market or power exchange to receive such payments, premium calculation needs to be based on alternative ways of defining reference market values. Two main options to defined reference prices and derive premiums are feasible in this respect:

Use day-ahead wholesale market price of a regional, connected country (e.g. HUPX of Hungary or Serbia/Ukraine) as a proxy reference price:

The cooperating parties can choose the day-ahead wholesale market prices of an EU Member State with a sufficiently close price development to the national market prices realized through bilateral contracts as the proxy reference prices. The CP would use the day-ahead wholesale market prices as a proxy reference price to determine support payments for projects located on its territory. A caveat of this solution is that projects are subject to a risk that price developments on the national market for bilateral contracts and the reference wholesale market are not aligned, which creates revenue uncertainty for these projects. This may increase their bid prices and result in a competitive disadvantage compared to projects located in the contributing country. It is therefore crucial that the chosen proxy reference price has demonstrated a sufficient track record of being aligned with the national wholesale market prices based on bilateral contracts. In this context, a potential proxy reference market for CPs in the Western Balkans may be the Hungarian power exchange (HUPX), since these countries are closely linked to HUPX. Moreover, Albania and Kosovo also rely on HUPX to determine imbalance prices. However, HUPX prices may be less applicable for CPs outside the Western Balkans.

Use day-ahead wholesale market price of cooperation partner as a proxy reference price:

In principle, the same considerations as outlined above apply, i.e. it needs to be ensured that market price development in the reference wholesale market is sufficiently aligned with the hosting country's wholesale market based on bilateral contracts. This may be less likely in case the cooperation partner is not located in the same (interconnected) region as the hosting country.

The considerations elaborated above are equally applicable for cross-border auctions implemented under the EU financing mechanism. However, the EU financing mechanism provides for the option to grant support



in the form of up-front investment support. In that case, the non-existence of a liquid day-ahead wholesale market in some CPs is not a barrier since no reference to a market price is necessary to conduct the auction.

4.1.2 Other considerations

Other important elements to consider specifically for cooperation between Member States and CPs are the following:

- **Unbundling:** In the CPs that have not fully unbundled their electricity market yet, state utilities that own generation assets might prioritize them vs independent power producers in cases of technical or economic curtailment.
- **Set ambitious 2030 RES targets:** On the basis of the Ministerial Council Recommendation, CPs are proposing 2030 targets through preparation of NECPs. An important aspect is the reform of support schemes and the introduction of market-based auctions in line with the State Aid Guidelines. To assure stability of financial support, CPs have to prepare long-term schedules anticipating the expected allocation of support, and for that purpose it is important to set and adopt ambitious targets as soon as possible. In the context of cross-border cooperation, it is important to ensure that an additionality criterion is in place. RES plants developed as a result of the cooperation have to be additional to the deployment of plants under the national scheme.

4.2 Market conditions

A cost-reflective bid is based on the levelized cost of electricity (LCOE) of the specific project and a certain top-up. The LCOE is determined by several parameters, including amongst others the investment costs for the construction and installation of the project and financing conditions (usually measured as the weighted average cost of capital, WACC). Compared to some EU Member States, CPs have relatively recent and thus immature markets for renewable energy. This has effects on the number of existing project developers and the industries attached to the deployment of renewable energy. As a general rule, economies of scale can decrease prices. Project developers working in such young markets might face higher investment costs compared to their counterparts in EU Member States. In some cases, the WACC differs substantially between EU Member States and also between the CPs.³⁶ The WACC is higher in most CPs due to increased offtaker and country risk. These conditions may lead to structurally higher bid prices of projects located in hosting CPs and thus imply a competitive disadvantage vis-à-vis projects located in the contributing Member State.

A challenge in many CPs relates to the risk of non-existing or immature power markets. This means that current auctions are and auctions in the near future will still be held for feed-in tariffs under long-term power purchase agreements (PPAs). In many cases, however, these PPAs envisage the conversion to market-based support schemes such as Contracts for Difference once the spot markets are established and functional. Uncertainty concerning the point in time and the conditions for such conversions may be perceived as risks by investors. Moreover, there is a certain risk associated with the arrangement of the offtaker of renewables. These may be public companies overburdened with public service obligations and not liquid enough to honour the commitments made in an auction. The risk of late payments or defaults is exacerbated by the unwillingness in some CPs to pass the costs of the support on to the final consumers, especially households. In Ukraine, the largest CP which has been subject to a renewable energy surge in recent years, the risk of an inadequately equipped offtaker together with poorly designed support schemes led to a crisis in early 2020, which came close to an unprecedented avalanche of investor-state disputes in international arbitration.

³⁶ The 2017 Pricetag study found significant differences between South Eastern European Member States driven amongst others by the perceived risks. While there are no comprehensive studies on WACC in Energy Community countries, a 2019 study by Agora Energiewende found that e.g. financing costs for onshore wind projects in Serbia are high with average cost of equity (CoE) at 14.5 per cent, while cost of debt (CoD) averages at 4.6 per cent. This is significantly higher as e.g. Germany, which has a CoE of 5.4 per cent and CoD of 1.6 per cent. Pricetag study: https://www.academia.edu/attachments/51494763/download_file?st=MTYwMjg0MzE0OSwyMC41MC40NC4yNTI%3D&s=swp-splash-paper-cover; Agora Energiewende study: https://static.agora-energiewende.de/fileadmin2/Projekte/2019/De-risking_SEE/161_Unlocking_SEE_EN_WEB.pdf



5 Conclusion

This policy brief was designed to examine how the Contracting Parties of the Energy Community can participate and benefit from cross-border cooperation in the field of renewable energy. It builds on previous AURES II reports on cross-border auctions. The report is focused on cooperation between EU Member States and CPs as well as CPs amongst one another. The policy brief reviewed the benefits and rationales for cooperation both from the perspective of the hosting and the contributing party. The relevant legal framework was explained, detailing existing and potential opportunities for cooperation via national and EU-wide cross-border auctions as well as via joint projects. The report introduced each instrument and pointed out the associated benefits and risks.

From the perspective of the contributing party, support cost savings related to tapping into other countries' better natural potential, higher market values and better financing conditions are important rationales for cooperation. Equally important to contributing CPs is the potential for increased competition in the national auction scheme. Hosting parties gain various benefits from the cooperation, including reduction of greenhouse gas emissions, air pollution and import dependency, while creating new jobs and fostering capacity building and innovation and direct foreign investment into the national energy system.

The legal framework in the Energy Community, based on the Renewable Energy Directive (2009/28/EC), enables Contracting Parties to cooperate amongst each other and with EU Member States and third countries. The recast Renewable Energy Directive (2018/2001/EU) forms the legal framework for the EU Member States, including possibilities for cooperation with third countries, including Contracting Parties. The current legal framework for cooperation between Contracting Parties and Member States, as explained in chapter 2, proved to be non-operational. Given that the recast Renewable Energy Directive (2018/2001/EU) and the 2030 RE targets for the Energy Community are expected to be tabled for adoption in 2021, special attention should be given to designing a smart adaptation allowing for an efficient cooperation between Member States and Contracting Parties. Subject to the design of the legal framework, a variety of instruments for cooperation between EU Member States and the CPs could be available, assigned to two tracks of cooperation: Cooperation via joint projects, possibly supported by funding from the Connecting Europe Facility (Track 1), as well as national cross-border auctions and cross-border auctions via the EU financing mechanism (Track 2).

The policy brief highlighted the benefits of joint projects (Track 1), as a low-hurdle form of cooperation. The cooperating parties can negotiate the details of cooperation amongst themselves and thus ensure that benefits of cooperation are realized for both parties involved. Moreover, joint projects can serve as a starting point for larger-scale cooperation in the future. Finally, available additional EU funds under the new CEF funding line for cross-border renewables projects may help reduce support costs for the contributing party or parties (in case of multiple contributors, the support costs are shared between the hosting and contributing party), which may provide additional impetus to develop joint projects among cooperating parties, including CPs.

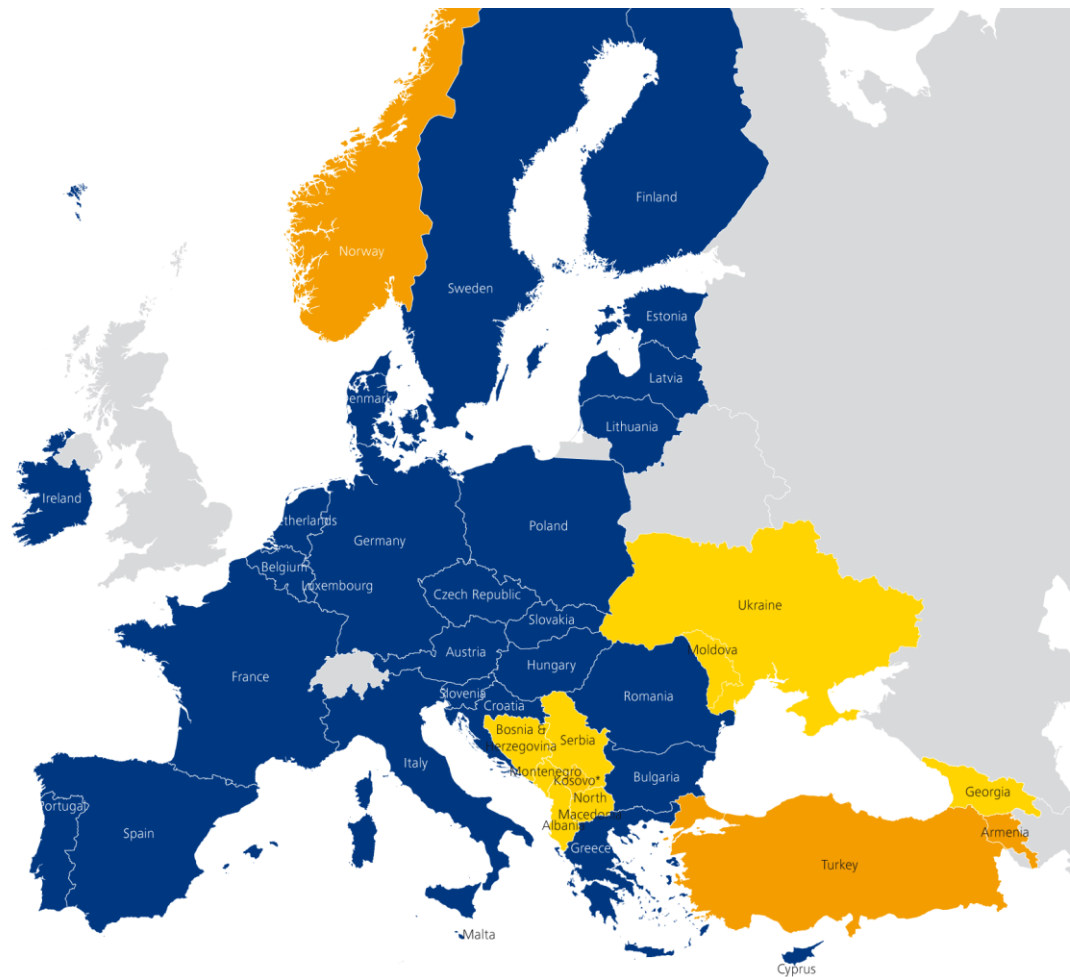
Cross-border auctions (Track 2) were examined in more detail, as such arrangements imply a more extensive form of cooperation and potentially higher cooperation gains. In this context, a key issue meriting further attention is the CPs' varying stages of liquid day-ahead wholesale market development and implementation of market-based support schemes. At this point, only Serbia and Ukraine have established such markets in the Energy Community. This has direct implications on the design of market premiums allocated in cross-border auctions, in particular with respect to the calculation of premium payments in the case of sliding premiums that require a reference market price. This report has suggested two main (transitional) solutions until all CPs have implemented liquid day-ahead wholesale markets on which to base premium calculation: the use of fixed premiums or the use of sliding premiums with proxy reference market prices. Cooperating parties should also consider additional features of the regulatory framework as well as the market conditions to ensure all parties incur net benefits from the cooperation.

In conclusion, cross-border cooperation with and amongst the CPs is possible. The regulatory framework includes various instruments, each characterized by certain benefits and risks. When cooperating, the parties should always consider the national circumstances to ensure that cooperation is beneficial for all parties.



About the Energy Community:

The Energy Community is an international organization which brings together the European Union and its neighbours to create an integrated pan-European energy market. The organization was founded by the Treaty establishing the Energy Community signed in October 2005 in Athens, Greece, in force since July 2006. The key objective of the Energy Community is to extend the EU internal energy market rules and principles to countries in South East Europe, the Black Sea region and beyond on the basis of a legally binding framework. Presently, the Energy Community has nine Contracting Parties - Albania, Bosnia and Herzegovina, Kosovo, North Macedonia, Georgia, Moldova, Montenegro, Serbia and Ukraine.



AURES II is a European research project on auction designs for renewable energy support (RES) in the EU Member States.

The general objective of the project is to promote an effective use and efficient implementation of auctions for RES to improve the performance of electricity from renewable energy sources in Europe.

www.ares2project.eu

