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Case cooperation with Hungary

Briefs on Hungarian case cooperation





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1 Introduction

Leveraging the knowledge gained through the analysis of renewable auctions is one of the major objectives of the AURES II research project. Under Task 2.3 of Work Package 2, project partners have engaged in cooperation with policymakers to help with the design of ongoing auction implementations, providing advice drawing on the knowledge gained from the research project and facilitating knowledge sharing between member states.

In Hungary, renewable auctions were launched in September 2019, followed by 3 other auction calls in July, 2020, April 2021 and November 2021. REKK cooperated with the Hungarian Energy and Public Utility Regulatory Authority (MEKH) and the Ministry for Innovation and Technology (ITM) in the process of elaborating the national auction scheme by supporting the decisions on specific design elements. REKK also undertook a case study in collaboration with the Hungarian Ministry for Innovation and Technology exploring the possibilities and conditions for opening the auction system for projects in other countries. The cooperation focused on the following issues raised by the cooperating partners:

1. How shall the Hungarian renewable auction be designed to suffice the requirement of ensuring technological neutrality for the bidders?
2. How shall the pre-qualification criteria and the level of financial guarantees and sanctions be determined so that the objectives of selecting the most capable bidders and achieving high realisation rates can be met?
3. How can project financing issues affect the success of auctions?
4. What are the most important factors to consider when setting up a cross-border cooperation with other countries? How to select prospective partner countries? How should the tender design elements be adapted to a cross-border relationship?

This policy brief provides insights on the above cooperation cases, highlighting the main issues, the recommended solutions, and the outcomes of collaborations.

The brief is structured around the four cases. The first three sections cover the topics related to the design of the Hungarian auction system: section 1 focuses on the issue of ensuring technology-neutrality in auctions, section 2 describes the cooperation on setting the level of financial guarantees and penalties, while section 3 presents the results of discussions on problems with project financing. Section 4 provides a summary of the main issues involved in setting up cross-border auctions, and the results of the related analysis. The last section summarises the results of the four cooperation cases.



2 Technology neutral auctions

The Hungarian renewable auction scheme called METÁR was approved by the European Commission without granting any specific exemption from the State Aid regulation.¹ Therefore, according to the legislation Hungary should organise technology-neutral auctions.

REKK participated in several consultancy sessions with MEKH, the auctioneer in Hungary, at the beginning of 2019, to define what the exact requirements are of an auction fully in line with EU rules. The discussions were centred around the question whether it is possible to introduce different criteria for different technologies within an auction scheme that is considered technology neutral. As renewable electricity technologies differ in many aspects (such as construction period, production profile, lifetime) it may be possible to determine diverging design elements for them with respect to some characteristics of the auction (e. g. realisation time, bid bond, etc.), even though they are competing against each other in the same auction.

The discussions revealed that the experts of MEKH intend to set the same requirements and create similar auction framework for all technologies to ensure compliance with the regulation of the European Union. REKK, on the other hand, highlighted that the aim of technology neutrality is to create a level playing field for competing technologies, therefore, some differing design elements may even enhance fair competition, while totally similar rules may put some technologies at a disadvantage.

It is important to note that according to Ministerial Decree No. 62/2016. (XII. 28.)² it is not possible to differentiate in the Hungarian auction scheme between technologies in terms of support period and financial prequalification criteria (bid bond and performance bond). However, no restrictions were set for the other auction design elements.

REKK investigated a couple of European auction schemes to provide real life examples of technology neutral auctions where different rules applied to different technologies. The investigated cases included the schemes of the Netherlands, Poland, France, Spain, and Finland. It turned out that technological differentiation was used in about half of the analysed countries with respect to realisation rates and non-monetary prequalification criteria, however, no variations were found in the financial prequalification criteria according to technology in any of the auction systems. REKK presented the main findings to the representatives of the Authority at the final meeting on the planned tender scheme.

The first Hungarian auction was launched at the end of 2019, which already have been evaluated by Bartek-Lesi et al. (2020). The auction setup was homogenous across technologies, as Table 1. demonstrates.

¹ C(2017) 4988 final, State Aid SA.44076 – Hungary, Aid for electricity production from renewable energy sources (METÁR),

² <https://net.jogtar.hu/jogszabaly?docid=a1600062.nfm>



Auction design elements	Application in the Hungarian RES auction
Support period	15 years for all winning technologies.
Realisation time	Same across all eligible technologies, 3 years.
Non-financial prequalification criteria	Same across all technologies. Prior agreement with the competent Distribution System Operator (DSO) on the technical and economic conditions of network connection. The DSO must declare the EOV coordinates of the network connection point. The investment may not start before application for support.
Financial prequalification criteria	Same for all technologies, the bid bond shall amount to 1.5%, while the performance bond shall reach 5% of the estimated investment cost. (Benchmark investment costs are different across technologies.)
Ceiling prices	Same for all technologies, e.g. ~76 EUR/MWh in the 3 rd call.

Table 1.: Characteristics of the first Hungarian RES tender, with respect to technology differentiation, Source: Bartek-Lesi et al. (2020)

No differentiation was made between technologies with respect to support period, realisation time, ceiling prices and prequalification criteria. Altogether, as can be seen in the above Table, the Hungarian auctioneer interpreted technology neutrality as a “same rule for all” type of restriction and not as a “creating a level playing field” objective. This shows that the definition of technology neutrality is far from being evident, and European countries follow differing approaches to comply with the requirement.

3 Setting the right level of pre-qualification criteria

To realise the policy goal of expanding renewable-based electricity generation capacities at the lowest possible costs, it is important to encourage the participation of serious bidders capable of realising their planned projects. Pre-qualification criteria, financial guarantees and sanctions are important tools for increasing the likelihood of reaching the objectives. Prior to the introduction of the Hungarian auction scheme, REKK discussed with the representatives of the Ministry for Innovation and Technology how the related design elements shall be set. Over the consultations with the Ministry, REKK researchers presented the variety of auction design tools that can be applied and the main trade-offs between them.

Conditions for participation in the auction include material and financial pre-qualification requirements. Material criteria can include proof of technical experience, a network connection agreement, land use documentation, environmental protection licenses, business plan, etc. The cost of obtaining these documents mean a sunk cost for the bidder if not awarded in the auction. Financial guarantees, which usually include bid bonds and performance bonds (second bid bonds), aim to prove the financial capability of bidders, also reducing the chance of non-realisation. If the value of the bond is relatively high, more capital-intensive market players can have an advantage over smaller companies, as it might be easier for them to provide a bank guarantee or cash deposit. This might lead to a decreased level of diversification by size.

The challenge in setting the right level of requirements for participation is that they should ensure avoiding non-serious bids and high realisation rates without reducing the level of competition. Too strict compliance rules increase the risks for investors and raise bid prices and might even deter some investors from participation in the auction. This can result in lower level of competition, increased support costs, and a slower than expected rate of renewable capacity expansion.

REKK gave some examples of applied financial guarantees in European auctions during the consultations with the Ministry, sharing the experiences and lessons learnt from their use based on the findings of the AURES project (see Table 2), and presented the detailed example of financial and material guarantees set in the German auction system.

Country	Technology focus	First bid bond	Second bid bond
Portugal	Wind and biomass	€10 per kW	€25 per kW
Germany	Solar PV	€4 per kW	€50 per kW
Spain	Onshore wind and biomass	-	€20 per kW
Italy	Multi	5% of estimated investment costs	10% of estimated investment cost
Croatia	Multi	HRK 50 per kW (approx. €6.5)	HRK 300 per kW (approx. €40)

Table 2: Examples of applied financial guarantees, Source: Soysal, R. and Kurgpóld, 2016, p. 11.

The penalties imposed on projects in case of deviations from the support contract (e.g., technical differences between the planned and the realised projects, delay, or non-realisation) are usually linked to the financial guarantees (losing the second bid bond), but other sanctions can also be applied, e. g. the project developer may be excluded from the next auctions for a certain period or the amount awarded price or the support period might be reduced by a certain percentage.

Providing a grace period for realisation may lead to a constant search for an agreement by the applicants which can be a time-consuming process and spoils the schedule of RES expansion plans. It is important for the authorities to maintain the credibility of the sanctions.

The Hungarian RES-E auction scheme finally put in place does not set too strict material requirements, so that the bidders can apply for support at a relatively early stage of the project development process. They must provide the technical specifications of the planned installation, information about the owners of the project, and a letter of intent from grid operator to connect the power plant to the grid at the planned site. The relatively less stringent material criteria are combined with financial guarantees to ensure higher probability for project realisation. The amount of bid bond is 1.5% of the investment cost, determined on the basis of the capacity of the plant and a reference investment cost per MW_e determined by the auctioneer. The bid bond must be placed as a bank guarantee. Awarded projects must pay an additional 3.5% of their investment costs to meet the 5% performance bond requirement, also in the form of a bank guarantee.

The Hungarian auction scheme does not set a grace period for the finalisation of the projects, in case of non-completion, the developers lose the amount of the performance bond. In case of delays more than 1 year, they lose support eligibility for the given project and cannot participate in renewable auctions for 3 years.

REKK effectively contributed to the elaboration of these design elements in terms of finding a good balance of material and financial guarantees and setting straightforward penalty conditions. However, the efficiency of these measures can be evaluated only after the deadline set for the projects awarded in the first auction (around 2023). The realisation of projects will be affected by many other factors as well, such as the COVID-19 pandemic, chip shortages in the market, rising investment and financing costs, as well as the devaluation of HUF right after the announcement of winning projects (discussed in the next section).



4 Financing issues in RES Auctions

The Hungarian energy regulator (MEKH) raised some financial issues related to the Hungarian auction design in 2019, in preparation to start the auction procedure. REKK had several meetings and interactions with the Regulator, as well as with the involved financial institutions. It also helped the information exchange between the affected parties: the financing institutions, the regulator, and the Ministry responsible for the auctions (ITM). Additionally, REKK organised a workshop in Budapest on 26 June 2019 focusing on financing renewable projects. The cooperation covered 3 main issues presented below.

A) Financing costs

The first group of issues covered the ability of financial institutions to provide loans to project developers under the auction scheme at a competitive interest rate. The problem was mainly related to the increased risks of financing institutions, when they provided loans to RES project developers under the auction scheme in comparison to financing of projects receiving feed-in tariff under the former support scheme, called KÁT in Hungary, which operated for several years preceding the introduction of the auctions.

The most important factors increasing the risks are the uncertainty of the sales price and the balancing cost variability, as in the Hungarian auctions schemes RES producers are fully responsible for their balancing costs in line with the Energy and Environmental State aid guidelines³ or (EEAG)³. These uncertainties would appear in the financial planning (e. g. in NPV calculations) of the RES-E projects, making them less bankable. Consequently, the projects applying for support in auctions were less attractive for the banks compared to those receiving support under the FIT scheme, so the expectation was that in the first period of auctions their loan conditions would be worse.

The other question of the Regulator was related to the equity developers had to hold to acquire a bank loan. As they must place guarantees when entering the auction, the question was if they can be counted towards the equity share required by the bank. The interviews carried out with the banks revealed that equity share should reach 20 to 30% in the project development phase. As deposits would be released towards the end of the project development, banks were hesitant to accept it as part of the equity required. However, under certain conditions the banks indicated that the deposit could be part of the required equity share, and this mainly require the change of their internal credit procedures, and not higher level regulations.

An additional country-specific issue raised by the banks was that many of them already reached their maximum loan exposure in the energy sector with financing the FIT-based projects. Although the Hungarian Development Bank had no full information on the exposure level of the various banks, they also confirmed this fact. Hungarian subsidiary banks usually must negotiate with their owners, if they can increase their exposure in the energy sector, which is a lengthy process. According to their preliminary calculations, assuming a 6 % average WACC rate, the financing costs can account for about a third of project LCOE.

Other sources of risk mentioned by the banks were the pay-back obligation of PV operators under the two-sided premium (contract for difference, CfD) scheme in case of high electricity prices, as well as the obligation to cease the premium payment if the wholesale electricity price is negative in six consecutive hours. These elements result in the lower predictability of the project cash-flow, deteriorating the quality of financial planning of projects required by the banks. An additional problem is that under the Hungarian real estate registration system PV plants under 0.5 MW do not qualify as real estates, and therefore cannot be mortgaged.

As many of the above-mentioned issues are rooted in EU regulation (e. g. the regulation on negative prices) they are fixed rules laid down in the auction support legislation. In other elements, REKK helped the information exchange between the Regulator and the financing institutions by organising a closed workshop, where the issues of the abovementioned auction elements were introduced.

B) Costs of balancing

In contrast to the formerly applied FIT system, RES producers under the auction scheme are obliged to bear their cost of balancing. Participants operating under the former FIT system enjoy a five-year grace period,

³ [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52014XC0628\(01\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52014XC0628(01))



having gradually increasing payment obligations. As the balancing energy cost in Hungary was amongst the highest in Europe (above 4 €/MWh overall cost of balancing, 2017, ACER/CEER (2018)) it probably raises bidding prices, while the increasing share of PV generation in the Hungarian electricity system is likely to further increase the level of balancing costs (as it happened in 2020 and 2021).

Stakeholders proposed that the TSO (MAVIR) should publish indicative data on the balancing market to orientate PV operators in their planning.

As the obligation to bear the balancing cost by RES producers is required by EU regulation, the regulator cannot change the rules.

C) Exchange rate risk

Another topic that came up in the discussions with the regulator was the exchange rate risk faced by project developers. As investment cost elements, such as the PV panels and inverters which account for a large part of expenditures, are incurred in Euro or USD, exchange rate fluctuations have a significant impact on the project cash flow and NPV.

Few months after the first auction round in Hungary, the Forint depreciated by 10 % against the Euro, increasing the investment costs denominated in Forints. Unless the Hungarian currency strengthens again, this change can undermine project viability, and might result in lower level of project realisation. The extent of the potential impact can be judged only after the completion deadline.

The exchange rate risk could be mitigated by if premium levels were determined in Euro, as this is also the currency of trading in the HUPX power exchange. However, policy makers and developers shared the opinion, that the euro exchange rate denomination could undermine the participation of small and medium sized companies in the auction. On the other hand, managing the exchange rate risk with using derivatives to hedge exposure results in some cost and bid price increase.

REKK contributed to the discussions on financing issues through consultations with the financing institutions, promoting information exchange between them and the regulating bodies, and by suggesting possible solutions to the related problems. The REKK workshop on 'Financing issues of RES-E auctions' held in Budapest on 26 June 2019 facilitated dialogue between the various parties.



5 Opening the Hungarian renewable auction scheme

Hungary committed to open its renewable auction to renewable electricity producers from other member states, as laid down in the State Aid Decision related to its renewable support scheme.⁴ REKK researchers met the representatives of the Ministry of Innovation and Technology three times over the period of October 2019 – August 2020, to discuss about the related goals and plans of the Hungarian Government and the arising questions and issues that need to be explored before engaging in cross-border renewable energy cooperation with other countries.

The main objective of the cooperation was to assist the Ministry in its preparation for setting up cross-border renewable energy auctions. The main issues raised were the following:

- What are the costs and benefits for Hungary of opening its renewable support scheme to producers in other countries?
- Which countries could be the best partners for Hungary in such a cooperation?
- What should be the timing of implementation?

The analysis of these questions and the related findings are described in Deliverable D6.3-HU of the AURES II project: "Proposal for a cross-border auction design for Hungary" (Bartek-Lesi et al., 2020). The study overviews the factors influencing the set-up of the cooperation including the considerations of the government, the possible impacts of the existing regulatory context, and the state of renewable electricity deployment. The paper presents the results of a model-based analysis carried out using the Green-X model of TU Wien, which estimates the possible outcome of cross-border auctions organised with various prospective partners, quantifying the expected effects on the renewable generation mix and the level of support costs in the participating countries.

The analysis revealed the likely impacts of the cooperation with neighbouring countries, suggesting that a cooperation with Romania could bring the highest benefits for Hungary. However, Romania did not yet operate a renewable auction scheme at the time of the consultations with the Ministry, its introduction is expected for the end of 2022.

The paper provides recommendations for adapting the design elements of the Hungarian auction scheme in case of a cross-border renewable cooperation with a hypothetical partner suggested by the Ministry (Slovakia). REKK also reviewed and analysed other aspects to be considered in setting up a cooperation agreement, such as the timing, the responsibilities and legal liabilities of the partners, the allocation of costs and benefits, and the exchange of data.

Two related questions were raised on the 5th AURES II Regional Workshop held online on 23 October 2020 to discuss possible solutions with project partners.

- 1) As regards the timing of opening the Hungarian auction scheme, there are some arguments in favour of opening earlier and some in favour of opening later. If opening starts too late, the share of opening must increase in later auctions to meet the obligation of offering certain share of auctioned amounts each year over the period of the validity of the State Aid Decision (2017-2026). On the other hand, it would be beneficial to learn from the experiences of other countries' cooperation that might happen in the coming years (in addition to the German-Danish example). Technology costs might further decrease over time, reducing the need for support, but at the same time, other factors, such as the lack of suitable areas and the availability of grid connection, might increase costs. As no other cross-border auctions have happened so far, the Hungarian government might be hesitant to start negotiations with possible partners. In addition, the most promising partnerships (with Romania and Slovakia) cannot yet be realised before the first auctions are launched in these countries, since opening the support scheme must be reciprocal, according to the rules laid down in Government Decree No. 299/2017 in Hungary. Another option for Hungary is comply with the auction opening obligation by participating in the EU's renewable energy financing mechanism. This option could result in cost-

⁴ (C(2017) 4988 final, State Aid SA.44076)



effective RES-E statistical transfers without the need of elaborating and engaging in complex inter-governmental cooperation agreements.

- 2) How to set the market reference price in case of cross-border relationships is also a question that needs consideration. One possibility is to link it to the prices of the respective national power exchanges of participating countries, as was the case in the German-Danish mutual opening of support schemes. In this case, the contributing country (Hungary) bears the risk of higher support cost payments if the market price is lower in the hosting country (the partner country). Thus, despite of the lower winning bids of non-domestic producers, the size of the premium might be higher than in case of a less favourable domestic bid. On the other hand, if the prices are higher in the foreign country, Hungary might save on support costs. Another option is to link the market reference price to the power exchange of Hungary (HUPX). Then the investors in the other country can benefit from higher prices on HUPX or lose some of the difference between their bid price and the market price in their own country in case the prices are lower on HUPX. To avoid this, they might choose to sell their electricity in the Hungarian electricity exchange (HUPX). Another option is to use the average of market values in the participating countries. However, this option can increase the complexity of calculating premiums. Therefore, the second option seems to be the best solution.

The cooperation provided the Ministry with valuable insights on the subject which can be of considerable help in setting up a cross-border auction, including finding the right partner(s), identifying the most important questions to discuss and lay down in the intergovernmental cooperation agreement (a condition for supporting foreign projects), as well as deciding on the specific design elements of the opened auction.

So far no steps have been made by the government to open the national auction scheme, the last auction call released in November 2021 stated that only projects planned on domestic production sites could receive support in case of winning.⁵

⁵ http://www.mekh.hu/download/3/6a/01000/2021_III%20METAR_Kiirasi_dokumentacio_20211122.pdf page 7.



Summary

REKK participated in several consultancy sessions with MEKH, the auctioneer in Hungary, and with the Ministry for Innovation and Technology, which is responsible for the regulation related to renewable support. The cooperation covered the issues of ensuring technology-neutrality in auctions, setting the right level of financial guarantees and penalties, solving the problems with financing projects participating in the auctions, and the approach to opening the Hungarian auction scheme to non-domestic RES-E producers.

The proposal of REKK to introduce different design elements for the various renewable generating technologies to ensure a level playing field and thus technology neutrality for all competing projects in the Hungarian auction, could not be taken into account in setting up the national auction scheme. Although fully similar rules may place some technologies at a disadvantage, the related legislation does not allow for differentiating between technologies in terms of support period and financial prequalification criteria (bid bond and performance bond). Although no restrictions were set for the other auction design elements, the Hungarian auctioneer interpreted technology neutrality as a “same rule for all” type of restriction, drawing attention to the fact that the definition of technology neutrality is far from being evident, and European countries interpret the recommendation of the EU differently.

REKK effectively contributed to the elaboration of design elements aimed at ensuring project delivery, in terms of finding a good balance of material and financial guarantees and setting straightforward penalty conditions. However, the efficiency of these measures can be evaluated only in 2023 when the realisation deadline of the first winning projects is reached.

REKK advanced discussions on financing renewable projects participating in auctions by organising consultations with the relevant partners, including the auctioneer, the responsible Ministry, the financing institutions, and project developers. Promoting information exchange and knowledge transfer helped to find possible solutions to the problems raised by the regulatory authority. The REKK workshop on ‘Financing issues of RES-E auctions’ held in Budapest on 26 June 2019 also facilitated dialogue between the various parties.

The analysis carried out in the frame of AURES II project related to setting up a cross-border auction in Hungary provided valuable insights, including finding the right partner(s), identifying the most important questions to discuss and lay down in the intergovernmental cooperation agreement (a condition for supporting foreign projects), as well as deciding on the specific design elements of the opened auction. So far no steps have been made by the government to open the national auction scheme, the reasons for which are, among others, the complexity of setting up cooperation agreements, lack of experience on cross-border projects between member states. Additionally, the neighbouring countries that could be prospective partners for Hungary, have not yet organised auctions for allocating renewable support.



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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.

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