D2.4-AT, April 2022

# Case cooperation with Austria

Briefs on Austrian case cooperation

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# Contents

# 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 RES policies, in particular of RES auctions, as well as in the policy implementation phase. The overall aim was to contribute to best-practice RES policy, drawing on the lessons-learnt and the knowledge gained within the research project, and to facilitate in the process of knowledge sharing across member states.

This brief report informs on the case cooperation in Austria, undertaken by TU Wien and other project partners in the course of AURES II.

During the course of AURES II important energy policy decisions have been taken within Austria. Ambitious policy targets and a new legal framework for supporting the uptake of renewable energies in the electricity sector have been established, aiming to set the scene for a massive energy sector transformation towards renewables and decarbonisation. Before summarising the case cooperation activities, the policy context is described subsequently.

# 2 Policy context

In the final version of the Austrian National Energy and Climate Plan (BMNT, 2019), the Austrian Federal Government postulated an ambitious target for the domestic expansion of renewable energy sources (RES): The goal is to generate electricity by 2030 to the extent that the national total electricity consumption is covered 100% (at a yearly balance) from renewable energy sources. Furthermore, full climate neutrality of the whole economy shall be reached from 2040 onwards.

The Renewable Expansion Act (in German Erneuerbaren-Ausbau-Gesetz (EAG)) as initially adopted in July 2021 (Republic of Austria, 2021) shall make a significant contribution to this and create the stable legal framework for the significantly accelerated expansion of electricity generation from renewable sources. In addition to the redesign of the subsidy scheme, which was previously defined in the Green Electricity Act 2012 (Republic of Austria, 2012), and the adjustments to the applicable state aid requirements of the European Union, measures are being taken to expand and reorganise the electricity market and integrate renewable energies. The EAG incorporates, on the one hand, the requirements of the Renewables Directive 2001/2018, and, on the other hand, the ambitious national targets for renewables and paves the way towards full decarbonisation. At the same time – particularly in view of the COVID-19 pandemic and the crisis related to the war in Ukraine – a positive investment climate should be ensured and administrative barriers removed.

To achieve the 2030 RES target for electricity, based on the production in 2020, the annual electricity generation from renewable sources must be increased by 27 TWh in terms of volume by 2030. According to planning, 11 TWh of this should stem from photovoltaics, 10 TWh from wind, 5 TWh from hydropower and 1 TWh from biomass.

As default financial support shall be provided by a market premium model, implying for RES producer to market their green electricity by themselves and to receive a market premium per kilowatt hour as support. Specifically, sliding market premiums are planned, which are defined as the difference between the award price (which is administratively prescribed or determined by an auction) and – in the case of wind power, photovoltaics and hydropower – the actual reference market value of the respective technology, determined on a monthly basis. For small installations of certain technologies investment incentives shall serve as alternative. This implies a major change compared to current practices where RES support is offered via fixed feed-in tariffs. Compared to today, also the guaranteed duration of support shall be extended, from currently 13-15 years to 20 years.

*RES auctions* shall come into play for determining the height of support for photovoltaics, wind power and large-scale biomass systems. For hydropower administratively set market premiums shall serve as basis for majority of the desired expansion but under a niche a joint auction process together with wind is planned as alternative to the above. Moreover, in the case of wind power the law enables the responsible minister to issue ordinances to differentiate support in accordance with local needs, considering differences in site-specific wind conditions and related electricity infeed. This may attract investments in wind not only at the best sites but also at, at first glance, less attractive locations that are however needed to meet the given ambitious policy target.

The annual support expenditures under the EAG and the Green Electricity Act 2012 together should not exceed one billion euros on a three-year average. If this limit is exceeded, a proportional reduction of the upcoming funding quotas may be applied. For refinancing support, an adaptation of the current refinancing mechanism is planned, but in general a continuation of current practices shall be followed.

Further provisions of the EAG comprise for example:

- Renewable Energy Communities: Enabling the sharing of energy from renewable sources where in the electricity sector the proximity criterion needs to be respected (i.e. the requirement to connect consumption and generating systems via a medium or low-voltage distribution network).
- An integrated Austrian network infrastructure plan must be drawn up.
- Ecological criteria for the promotion of hydropower plants shall be established.

# 3 Case cooperation activities in Austria

TU Wien acted as local case cooperation partner with the Austrian Federal Ministry for Climate Protection, Environment, Energy, Mobility, Innovation and Technology (BMK) in the process of conceptualising the new support scheme for renewable electricity. Case cooperation activities concerned the transparent sharing of information and knowledge gained within AURES II as well as guidance on pros and cons of certain design elements of renewable support instruments, including the auction schemes established therein. In topical order, the following activities were taken:

- Investment and support requirements in accordance with the given RES policy target
- Auctions and actor diversity: open dialogue on impacts of auctions on energy community project developers and measures to address them
- Pros and cons of certain design elements of a market premium scheme for supporting RES
- Trends in financing conditions for renewables across Europe

In a chronological order, case cooperation activities in Austria have been launched during 2019. First cooperation activities have taken place in the context of establishing and hosting a regional AURES II workshop in November 2019. The workshop served to relaunch the public dialogue on the pros and cons of establishing auctions for renewables. In general, the Austrian RES sector was at an early stage comparatively critical on the envisaged policy change under the new RES support scheme. A topical focal point of the workshop was on the impacts of auctions on actor diversity, specifically how the engagement of small actors in the RES sector can be reassured.

Later on, in early 2020 TU Wien was invited by the ministry to share knowledge and provide guidance on certain design elements of a market premium scheme for supporting RES as well as on the pros and cons of auctions for certain technologies. Here lessons learnt from other European countries as gathered during AURES II and its predecessor (AURES) served as a fruitful knowledge base. The consultation activities were later on intensified within an own dedicated small research and consultation project, established in subsequence to that.

During 2021, assessments undertaken in the course of AURES II served again as a fruitful knowledge base to assist in the drafting of specific design elements and in parameterising RES support under the new support scheme that came into force in July 2021. Of key relevance was here the assessment of recent trends in financing conditions for renewables across Europe.

Below we inform in further detail on the case cooperation activities launched and the respective results derived or lessons learned.

## 3.1 Investment and support requirements in accordance with the given RES policy target

The Austrian government committed itself to establish a budget restriction for supporting the uptake of renewables in the electricity sector. Thus, the annual support expenditures for RES in the electricity sector under the new support scheme (i.e. the EAG) and the former Green Electricity Act 2012 together should not exceed one billion euros on a three-year average. If this limit is exceeded, a proportional reduction of the upcoming funding quotas may be applied.

It was consequently a key element in the policy debate, specifically during 2018 and 2019, if the planned ambitious RES uptake until 2030 would be feasible under these given constraining. As reaction to that, TU Wien had launched modelling activities, undertaking a comprehensive economic reassessment of the planned expansion of RES electricity supply in Austria until 2030 and the corresponding investment and support needs. The scenarios derived have shown that, depending on the general development of electricity prices, average support expenditures during this decade would range from € 0.4 to 1.3 billion per year, cf. Figure 1. Thus, three distinct electricity price trends were postulated and the impacts assessed. Key results derived included:

- According to the middle trend scenario, where a moderate rise in electricity prices is postulated, to around € 50/MWh by 2030, the annual average support requirement for the coming decade is around € 929 million (see Figure on the left).
- (Significantly) lower electricity prices, as postulated in the low-price scenario, would require a substantial increase (about 36%) in support expenditures.
- The same applies to the high-price scenario - if electricity markets follow this trend, this would result in a reduction of support costs by a considerable 53% compared to the core scenario of medium prices.

Modelling also revealed that apart from electricity price developments support expenditures are sensitive to the ambition level of the RES uptake. If, for example, renewables need to be increased by only 25 instead of 30 TWh net (as presumed in modelling) by 2030 due to a lower increase in electricity consumption, this would reduce the average demand for support by around 11%.

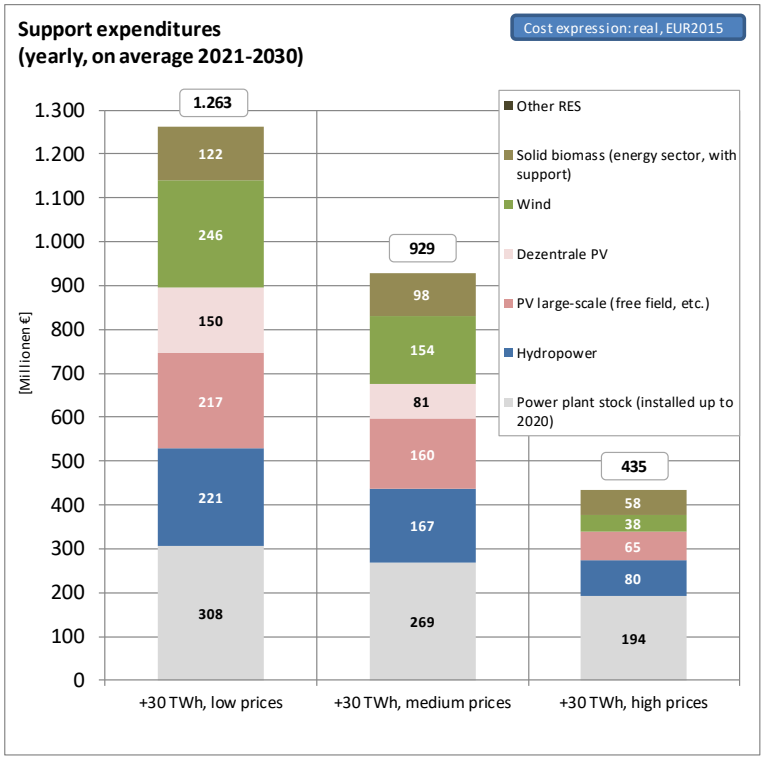


Figure 1. Range of identified yearly average support expenditures for RES in Austria in the period 2021 to 2030 (Source: Green-X modelling, TU Wien)

Thus, in summary, the modelling conducted and the relaunch of the corresponding public debate as established for example with the AURES II regional workshop held in late 2019 helped in the overall policy process within Austria, serving as basis for well-informed policy making.

## 3.2 Auctions and actor diversity: open dialogue on impacts of auctions on energy community project developers and measures to address them

As stated previously, first cooperation activities have taken place in the context of establishing and hosting a regional AURES II workshop in November 2019. That workshop served to relaunch the public dialogue on the pros and cons of establishing auctions for renewables since the Austrian RES sector was at an early stage generally comparatively critical on the envisaged policy change under the at that point in time conceptualised new RES support scheme.

In accordance with the critical voices raised in the public debate, a topical focal point of the workshop was on discussing the impact of RES auctions on citizen energy. The representatives of the energy cooperatives were very critical of RES auctions such as implemented in Germany and consider them as a major barrier for community cooperatives, as well as for RES deployment in general. Different measures both inside and outside of the auctions framework to improve prospects for community energy projects were discussed. Key experts highly questioned the possibility of adapting the rules so that energy cooperatives can participate in competitive auction processes. Hugo Lucas Porta from IDEA stated: "If auctioning is football, the large producers such as Enel, Vatenfall, Acciona would be the football teams, while community power is basketball. If you put a team of 11 basketball players to play in the football Champions league, they do not have a chance to win at all! And if you decide to change the design of football matches so that they will be played in a small-sized pitch, in four times of 10 minutes, etc. As far as you call it football because you kick the ball to score, football teams will still always win, and the worse is the trade-off you pay. No one is interested in watching that kind of football". Thus, a feed-in premium with guaranteed access to this support scheme for energy cooperatives, but with a remuneration level linked to auction results, could be a possible solution for this dilemma. Because in the end, as concluded by the local workshop host from TU Wien: "For an effective and efficient deployment of renewable energy, we need both, the citizen participation via community cooperatives as well as large scale producers".

## 3.3 Pros and cons of certain design elements of a market premium scheme for supporting RES

In early 2020 TU Wien was invited by the ministry to share knowledge and provide guidance on certain design elements for the forthcoming market premium scheme for supporting RES as well as on the pros and cons of applying auctions in the allocation process for certain technologies. Here lessons learnt from other European countries as gathered during AURES II and its predecessor (AURES) served as a fruitful knowledge base. The consultation activities were later on intensified within an own dedicated small research and consultation project, established in subsequence to that.

One of the discussion topics was on the pros and cons of using market values for determining the support payments of RES technologies under a sliding feed-in premium system. Here the recommendation was given to apply market values to variable RES technologies like wind, solar PV and run-of-river hydropower since they would better reflect the actual revenues obtainable. Using market prices instead would increase the risk for RES producers which, in turn, would negatively affect bid prices. In last consequence, this might increase support expenditures for the RES uptake due to the additional risk element. Considering the Austrian budget cap on overall support payments, this was not recommended.

## 3.4 Trends in financing conditions for renewables across Europe

During the first half of 2021, a phase were last details of the Renewable Expansion Act had to be defined as part of the political adoption process, the knowledge base gathered during the course of AURES II served as supportive element in decision making processes. One key input for providing recommendations on the height of RES support was the assessment of trends in financing renewable energies, specifically of wind and solar, as conducted in the course of AURES II, cf. Rothe et al. (2021). The comprehensive data stock on weighted average cost of capital of recently implemented RES projects across Europe, combined with detailed insights on debt and equity trends as well as the interplay with policy design and country-specific risk elements, helped the local experts within that process, cf. Resch et al. (2021).

# References

BMNT ((Former) Austrian Federal Ministry of Sustainability and Tourism), 2019: Nationaler Energie und Klimaplan (in German). Published on 18 December 2019, accessible at https://www.bmk.gv.at/themen/klima_umwelt/klimaschutz/nat_klimapolitik/energie_klimaplan.html.

Republic of Austria, 2021: Bundesgesetz über den Ausbau von Energie aus erneuerbaren Quellen (Erneuerbaren-Ausbau-Gesetz – EAG), BGBl. I Nr. 150/2021 (in German).

Republic of Austria, 2012: Federal Act on Supporting Electricity Produced from Renewable Energy Sources (Green Electricity Act 2012). BGBl. I Nr 75/2011. Accessible at https://www.ris.bka.gv.at/eli/bgbl/I/2011/75.

Resch G. et al., 2021: "Gutachten zu den Betriebs- und Investitionsförderungen im Rahmen des Erneuerbaren-Ausbau-Gesetzes" (in German). Available at: https://www.oemag.at/fileadmin/user_upload/Dokumente/Veroeffent-lichungen/EAG_Gutachten_Endbericht_Stand_15_Nov_2021.pdf. [Accessed 02 2022]

Roth et al. (2021). Renewable energy financing conditions in Europe: survey and impact analysis. Available at: www.aures2project.eu. Horizon 2020 project AURES II.

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.aures2project.eu

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