



Technical support for RES policy development and implementation – Simplification of permission and administrative procedures for RES installations (RES Simplify)



Austria

Written by: Paulina Mayer, Jurga Tallat-Kelpšaitė, eclareon GmbH

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Executive summary

Austria has set itself the target of increasing the share of renewable energies to 45-50% by 2030. In the electricity sector, even 100% of the total electricity consumption is planned to be covered by renewables. In 10 years, therefore, a considerable expansion will have to take place in an efficient and targeted manner. To achieve this goal, onshore wind, rooftop and ground-mounted PV as well as small-scale hydropower are particularly relevant, as they have a significant expansion potential.

In the federal state of Austria, renewable energy technologies are subject to uniform federal laws, in particular, the Environmental Impact Act or the Water Rights Act, but mostly to different federal-provincial laws, such as electricity laws, building laws, nature conservation laws and spatial planning laws. Due to this, project developers perceive the initial phase of a project as particularly challenging because they first must obtain an overview of which regulations apply and which requirements exist for the planned installation in the respective federal state.

Concentrated permitting procedures, which would include all permits otherwise required under federal and state regulations for the realisation of the project, have not yet been set up for all technologies. So far, one-stop-shop exists only for the EIA procedure for wind power plants, for some commercial PV systems and for small-scale hydropower, it is a common practice without a legal basis. Regardless of whether a project is processed through the one-stop-shop or not, multiple reviews of the same issue (such as nature conservation aspects) often prolong the project duration and increase the project cost. Therefore, the industry calls for a streamlining of the required documentation and a repeal of the multiple assessments. For ground-mounted PV and onshore wind, the industry suggests that priority zones for these technologies should be designated throughout the country, where both grid capacity and environmental impact should be sufficiently assessed so that this assessment is no longer necessary in the further process.

For both onshore wind and ground-mounted PV installations, the lack of grid capacity is one of the biggest barriers. Furthermore, it is reported that there is no consistency in the requirements of the grid operators throughout Austria and that they usually have excessive demands on the installations which causes delays and increases costs.

Table 1 contains a traffic light assessment of the relevant process steps for the installation of onshore wind, rooftop and ground-mounted PV and small hydropower in Austria.

Table 1: Traffic light assessment of the relevant process steps

Process step	Site selection	Electricity production license	Application preparation process	Administrative authorisation	Grid connection permit	Corporate legal-fiscal	Other
Onshore wind	Red	Yellow	White	Red	Red	White	White
PV rooftop	Green	Yellow	White	Yellow	Red	White	White
PV ground-mounted	Yellow	Yellow	White	Yellow	Red	White	White
Small-scale hydro	Green	Green	White	Red	Yellow	White	White

■ No barriers identified	■ Moderate barriers identified
■ Minor barriers identified	■ Not relevant for target country
■ Severe barriers identified	■ No projects implemented

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1. National RES targets and relevant RES technologies

Austria has set itself the goal of increasing the share of renewable energies in gross final energy consumption to 45-50 % by 2030, while the share in 2018 is 33.5 %. Furthermore, 100 % of the country's total electricity consumption (nationally accounted) is to be covered by renewable energy sources by 2030 (#mission 2030, 2018). The key technologies to achieve these targets and their planned shares in the total energy mix are hydropower (56%), onshore wind (22%) and solar photovoltaic (PV) (15%) (NECP, 2019).

In 2020, electricity from wind power is expected to contribute 8 TWh to the 71 TWh of all electricity generated in Austria and a good doubling of the 2020 values is planned by 2030. The wind power should then contribute 17 TWh to the total of 89 TWh generated electricity. In 2040, 20 TWh is planned to contribute to 92 TWh in total (NECP, 2019). Lower Austria (*Niederösterreich*) is the province with by far the largest wind potential in Austria. It has a key role to play in achieving the 2030 target: the largest part of the wind power expansion must be managed in this federal state (by means of repowering and new construction) (IG Windkraft, 2020).

By 2030, the electricity generated by PV systems is to increase from estimated 2 TWh in 2020 (71 TWh in total) to 12 TWh (89 TWh in total). This means that an expansion of 10 TWh must be achieved within 10 years. In 2040, PV should contribute 13 TWh to the total of 92 TWh generated in Austria. Styria (*Steiermark*) has the highest installed capacity of the federal provinces (PV Austria, n.d.).

Hydropower already has a high share in the country's energy mix and is expected to have contributed 42 TWh to a total of 71 TWh in 2020. According to the new government programme, hydropower is to be expanded by 5 TWh by 2030 (Austrian Government programme, 2020). Thus, the potential of large-scale hydropower is largely developed today and the potential that still needs to be tapped in the future is mainly in the field of small-scale hydropower (plants with a nominal capacity of up to 10 MW) and plant revitalisation (EEÖ, n.d.). According to a study from 2018, Tyrol (*Tirol*), which also has a high number of plants in general, has the greatest potential for small-scale hydropower plants (PÖYRY, 2018).

As a result, this report will focus on the permitting procedures for onshore wind, rooftop and ground-mounted PV and small hydropower in Austria.

Figure 1 displays the annual deployment of PV and onshore wind between 2010 and 2019. While the solar PV deployment took constantly place during the 2010's, the wind power deployment increased until 2014 and decreased over the last years.

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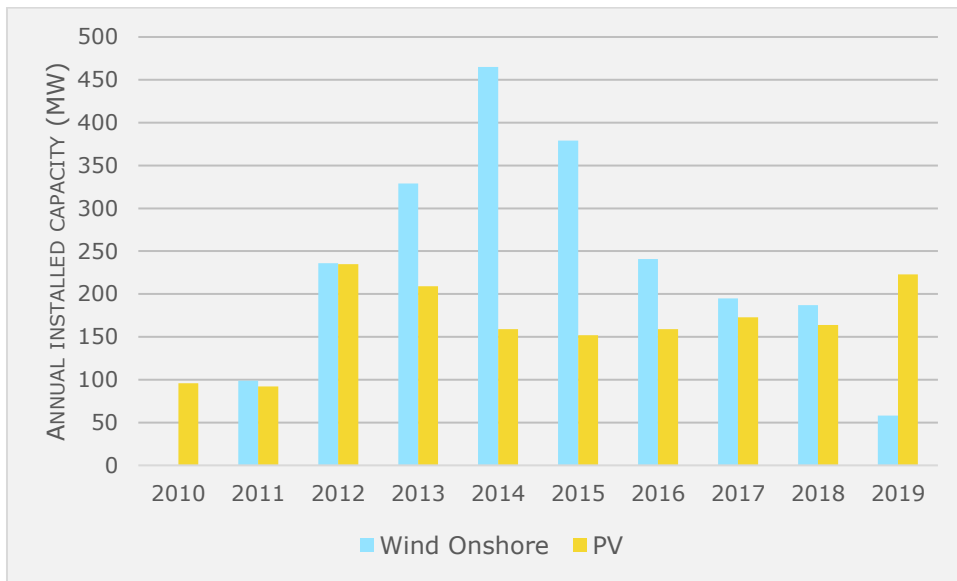


Figure 1: Annual installed capacity of PV and Wind onshore 2010-2019 (source: EurObserv'ER)

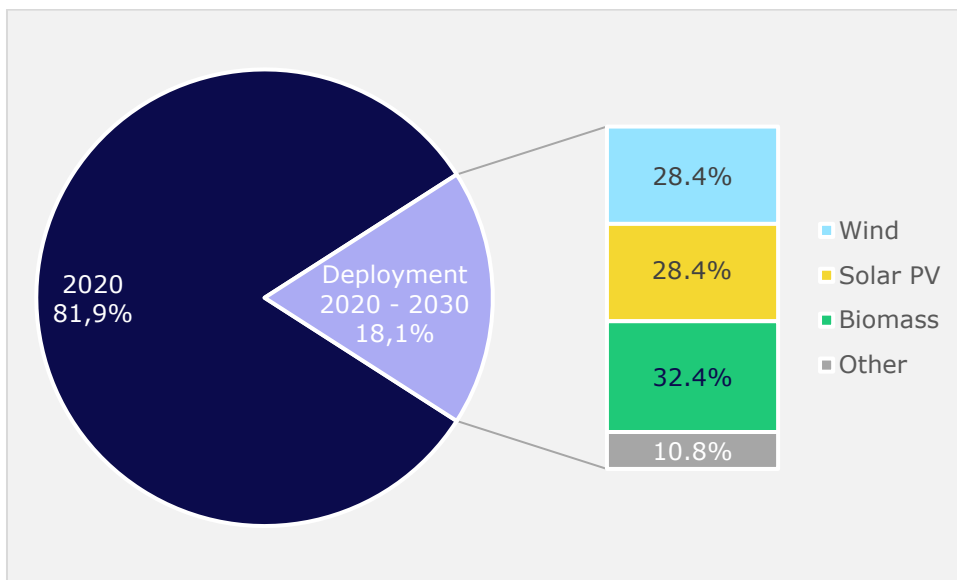


Figure 2: Planned deployment of RES-E 2020-2030 in relation to past deployment (source: NECP)

2. Administrative and grid connection procedures

2.1. Onshore wind

2.1.1. Relevant process steps

In Austria, once the project developer has selected a site for his planned onshore wind farm, he must inform the municipality about it. The municipality has a veto right, which means that if it refuses, the project cannot be implemented. With the consent of the municipality, the project developer can apply to the municipality for the re-designation of the site as 'greenland – wind power plants'. This re-designation is usually carried out within the framework of a Strategic Environmental Assessment (SEA). Although here the

competent authority is the municipality, the environmental authority is also informally involved.

In Austria, there is no nationwide zoning plan. Spatial planning is regulated differently in the federal states (*Bundesländer*). While in the federal state of Lower Austria there is a sectoral, supra-regional spatial planning programme which provides information on suitable wind farm sites, this is not available in all federal states, where regional programmes prevail. According to stakeholders, sectoral planning programmes can speed up the administrative process of re-designation and SEA.

Furthermore, the project developer needs to contact the grid operator to clarify the actual possibility to technically connect the wind power plant in this selected site.

Once the site selection and grid connection permit issues have been clarified, the project developer can initiate an administrative authorisation procedure. This is done either within the framework of a simplified Environmental Impact Assessment (EIA) or in the substantive law procedure. The simplified Environmental Impact Assessment (EIA) must be carried out in accordance with the EIA Act. The EIA is a nationwide one-stop-shop procedure, which considers all the relevant material laws such as the Electricity Act, the Building Code, the Nature Conservation Act or the Aviation Act. The EIA is conducted by the state governments. In Lower Austria, the competent authority is the Department for Environmental and Energy Law of the Federal Government (EIA authority). In order to apply for the EIA, the project developer must first submit an environmental impact statement (EIS) which constitutes the core content of the EIA procedure. The EIS describes the project and the potential environmental impacts in a very detailed manner and includes the opinion of experts. The substantive law procedure is only applied if the threshold values for the EIA are not exceeded. Project developers must submit permit applications to the various authorities at the same time, but responses are issued independently, so it is not a one-stop-shop.

The construction of a wind turbine can only begin once the EIA or the substantive law procedure has been completed. After completion of the construction work, the EIA authority will check on site whether the wind power plant complies with the EIA requirements. If this is the case, the grid usage contract is concluded between plant operator and grid operator and the plant can be connected to the electricity grid and commissioned. After commissioning, an energy purchase agreement can be concluded between the project developer and an energy supplier.

The formal procedural requirements for repowering projects are the same as for new installations, so a project developer must apply for the same permits as a new installation and the simplifications of the procedure depend on the difference between the new and the old turbine.

2.1.1.1. Site selection

Process flow

The first step in onshore wind project implementation is to inform the municipality on whose territory a wind farm is to be erected. If the municipality agrees, the project developer can apply to change the land use of the construction site to 'greenland – wind power plants' (*Grünland-Windkraftanlagen*) (Windfakten a, n.d.), the names of the zoning can differ in the federal states. The municipality can ask the local residents whether they agree with the construction of wind turbines on the municipality's territory

by means of a referendum (*Volksbefragung*) before designation; however, this is voluntary. According to IG Windkraft, more than two thirds of these referendums are positive (IG Windkraft c, n.d.).

Austria does not have a federal act on spatial planning (*Raumordnung* or *Raumplanung*). Spatial planning legislation is the responsibility of the individual federal states. They enact their own planning laws, which regulate the objectives and instruments at regional level, but also at local or municipal level (GRUBER et al., 2018).

All municipalities in Austria have issued their zoning plans (*Flächenwidmungsplan*), which determine the zoning and land use types (GRUBER et al. 2018: 104 f). There are several zoning categories such as 'building land', 'traffic areas' or 'grassland/ open land'. Wind farms, however, can be constructed on the categorised as 'greenland – wind power plants' (GRUBER et al. 2018: 108f).

For wind energy, particularly relevant is the instrument of sectoral spatial planning or development programmes for specific sectors, which usually focuses on a sectoral theme and is the competence of the federal states. Not all federal states have sectoral spatial planning programmes for wind power (GRUBER et al. 2018: 89). Lower Austria has such a programme, the objective of which is to define zones that enable the installation of a sufficient number of wind power plants to achieve the goals of the Lower Austrian Energy Roadmap 2030 (§2 SPLA, 2014).

In Lower Austria, wind turbines with a capacity of more than 20 kW require to change the designated use of the plot of land (§19 (2) sentence 19 LA SPA, 2014). This is where the sectoral spatial planning programme for wind comes into play, because changing the designated land use to 'greenland – wind power plants' is only permitted in the zones set out in Annexes 1 to 4 of the Sectoral Spatial Planning Programme on the Use of Wind Power in Lower Austria (§3 (1) SPLA, 2014).

In addition, the following criteria must be considered when designating an area for wind turbines:

- An average wind power density should be at least 220 watts/m² at a height of 130 m above the ground (§20 (3a) no. 1 LA SPA, 2014)
- The following minimum distances have to be kept:
 - 1200 m from residential land and special building land with increased protection requirements
 - 750 m from agricultural residential buildings and buildings worthy of preservation in grassland, grassland allotments and grassland camping sites
 - 2,000 m from residential building land (apart from building land areas for local structures worthy of preservation), which is not located in the municipality of the site (§20 3a no. 2 LA SPA, 2014).

The designation is carried out throughout Austria by means of project-related zoning, which is intended for a more flexible implementation of projects. In this way, the zoning plans are adjusted to the current individual projects. As a general rule, plans and programmes that outline projects subject to EIA must be subjected to a SEA in advance (§3 (2) lit a SEA, 2001). This also includes designation in sectoral spatial planning.

Strategic Environmental Assessment (SEA)

In Austria, there is no uniform SEA law. The requirements of the SEA directive are implemented in numerous federal and provincial laws. In Lower Austria, SEA has been fully integrated into the spatial planning procedure.

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The competent authority for the SEA depends on the federal state. In Lower Austria, where there is the 'Sectoral Spatial Planning Programme on the Use of Wind Power in Lower Austria', partly the federal state and partly the municipality is responsible. In other federal states, where there is no zoning for wind power plants, usually only the municipality is responsible. The assessment can also involve the experts from the Department of Spatial Planning and Regional Policy. In addition, the environmental authority is informally involved, which informs the municipality about deficiencies, if any. In Lower Austria, the environmental authority is the Department of Building and Regional Planning Law.

The SEA procedure starts with *screening* to check whether a SEA is to be carried out or not. In Lower Austria, in the case of amendments to the spatial development programmes, the municipality and a local planner on behalf of the project developer examine on a case-by-case basis whether a significant impact on a European nature conservation site or significant environmental impact is likely to be expected (in the sense of § 4 (2) LA SPA, 2014). If this is the case, a SEA is necessary.

The SEA shall take the planning and environmental objectives into account. The results of the assessment have to be submitted to the environmental authority for comments. A period of 6 weeks is set for this step (Lower Austrian Provincial Government, n.d. a; Lower Austrian Provincial Government, 2016).

In *scoping*, the scope of the assessment is defined, including the planned measures to be investigated. In Lower Austria, this is done by the municipality and the local planner. Here, too, the environmental authority has to submit a statement within 4 weeks (Lower Austrian Provincial Government, n.d. a.).

The *alternative assessment* is being made in the SEA procedure, which should demonstrate different ways of achieving the set objectives. Alternatives will be presented and information on the effects of these alternatives will be collected so that appropriate decisions can be made. The *environmental report* should primarily describe and assess the relevant environmental impacts of the strategy and the alternatives on the objects of protection (§ 9 SEA, 2001).

The public concerned by the planning should be informed and consulted during the planning process. *Public participation* can take place at different levels, such as during the identification of alternatives or during the scoping process as well as after the preparation of the environmental report. In Lower Austria, the environmental report is available at the municipal office for 6 weeks, and the screening result is also published on the internet (Lower Austrian Provincial Government, 2016).

In Lower Austria, the *public consultation* is followed by a discussion of the comments received and a decision by the municipal council to change the zoning. The decision is based on the environmental report, the comments received and any consultations. In the next step, the ordinance on changing the zoning is submitted for approval to the supervisory authority, the Office of the Government of Lower Austria. The Office then approves or refuses the it. The result is then published on the internet (Lower Austrian Provincial Government, 2016).

The last step of the SEA is *monitoring*. This involves checking after construction whether or not the implementation of the planned measures corresponds to the objectives defined at the beginning (BMK a., n.d.).

According to the stakeholders interviewed, having a sectoral spatial planning programme on the use of wind power is helpful and accelerates the process. If sectoral spatial

planning is in place, rezoning can be done efficiently, in about 6 months. Without sectoral spatial planning, it can be more difficult, as a more detailed examination of the site is necessary, which prolongs the process. The municipalities' right of veto usually does not aggravate the site selection process. The acceptance of wind energy by the local population in the federal states where there is already a lot of wind power plants is very high. There, wind farms are usually viewed positively, as they can also create added value for the community. However, wind power stakeholders are still calling for changes to the existing zoning programmes in order to achieve the wind power targets (Resch, Fürnsinn, 2020).

Repowering

In the site selection process, the questions with regard to repowering of wind turbines can be clarified faster than in case of new wind power installations, as the location of the project remains the same and thus time-consuming land use change procedure is not required. Another advantage is that the replacement of old installations is usually viewed positively by the neighbouring local residents, which means that objections or appeals are less frequent. However, stakeholders report that higher power, larger rotors or a larger turbine also entail complex and detailed procedures for repowering projects, as these changes again affect the legal protection area 'landscape' (Resch, 2020).

Deadlines

SEA

In Lower Austria, a period of 6 weeks is foreseen for the screening in the SEA procedure. In the scoping step, the environmental authority must submit a statement within 4 weeks (Lower Austrian Provincial Government, n.d. b). The environmental report is available for public inspection in the municipal office for 6 weeks (Lower Austrian Provincial Government, 2016).

Detected barriers

Strict distance regulations to settlement areas. In those federal states in which there has been a significant expansion of wind power in the past, there are standard distance requirements between wind power plants and residential land. For example, 1,200 m to the settlement area of the municipality in which the plant is located and 2,000 m to the settlement area of the neighbouring municipality (which can be reduced to 1,200 m by resolution) in Lower Austria; 1,500 m in Carinthia; 1,000 m in Upper Austria or 1,000 m in Burgenland. In addition, there are distance regulations with regard to agricultural buildings used for residential purposes (e.g., 750 m in Lower Austria) (IG Windkraft, 2020). The mandatory minimum distances for wind power plants in the Austrian federal states are among the strictest regulations in Europe (Windfakten b, n.d.). Even without these general minimum distances, the erection of wind turbines would not have any negative effects on the local residents due to the strict examination in the official approval procedures (e.g., EIA). Issues such as noise and shadow flickering are examined in detail in the approval procedure and only those turbines are approved where there is no danger to the life and health of the local residents. According to stakeholders surveyed, a general minimum distance is not appropriate and reduces the possibilities of wind power development without increasing the protection of the population (IG Windkraft, 2020; Resch, Fürnsinn, 2020). Therefore, they call for a more flexible approach from the policy side (Resch, Fürnsinn, 2020).

Lack of sectoral spatial zoning in individual federal states. Wind power in Austria is concentrated in just a few federal states. To achieve the wind power targets for 2030 and

2040, however, wind power should be expanded more strongly also in other *Bundesländer*. For this purpose, more sectoral spatial planning programmes, i.e., designated zones for the expansion of wind power, are important. However, these do not yet exist sufficiently, which in the eyes of the stakeholders is based on a political decision, since those responsible in state politics are too influenced by the particular interests of a small group of opponents of wind power and ignore the large neutral majority and silent supporters. The experts see the state policy of the different federal states (Landeshauptmann downwards) as having the responsibility to emphasise the benefits and the importance of wind power. The east-west divide in wind power plants in Austria could possibly also be explained by the fear of the new. In the west, which is very alpine, wind power is not yet very well-known and therefore the step towards expansion might be more difficult (Resch, Fürnsinn, 2020). This problem also affects the other federal states with zoning for wind power (Styria, Burgenland); here, too, the designated areas are no longer sufficient to achieve the targets. Stakeholders are calling for regional planning programmes to be aligned with the 2030 targets and for the necessary areas to be designated (IG Windkraft, 2020).

No designation of land should be necessary in priority zones. The priority areas in the sectoral spatial planning programmes for wind power are not yet a guarantee for the implementation of a wind power project. In recent years, some projects in Lower Austria could not obtain approval even in these priority zone. Stakeholders suggest abolishing the requirement to change the designated land use in these areas already specified for wind. Instead, a consent of the municipal council in the form of a resolution should suffice. In this way, legal certainty would be guaranteed for all stakeholders (IG Windkraft, 2020).

Expansion of wind power in Lower Austria is limited due to the zoning plan for wind energy. Since mid-2014, wind energy expansion in Lower Austria has been regulated by a province-wide zoning plan for wind energy. This plan drastically restricts the expansion of wind power in Lower Austria, as the wind power expansion is only possible on 1.5% of Lower Austria's land area. Most of the currently zoned areas in Lower Austria have already been planned. In order to achieve the objectives on both the national and the federal state (Lower Austria) level, an expansion of the designated areas for wind power is essential, because repowering of the existing wind power plants is not sufficient. As Lower Austria has the largest wind potential in Austria, this federal state also has a strong role model effect. Changes in this federal state therefore have a very strong impact on the entire development of wind power in Austria. As a result, the stakeholders call on the federal state of Lower Austria to raise its own targets and create the necessary framework conditions to actually achieve them by improving spatial planning procedures (IG Windkraft, 2020).

Multiple review in spatial planning and administrative authorisation procedures. Spatial planning in Austria is a state matter. The compatibility of wind power plants with the spatial planning requirements is comprehensively reviewed during local spatial planning and in most federal provinces also during regional spatial planning. In most cases, a separate land use designation is required. In addition, in federal provinces such as Lower Austria, Burgenland or Styria, the site must be located in zones designated for the use of wind power (sectoral spatial planning programmes for wind power). Even when these zones are defined, there is an extensive review of the compatibility of wind power with the requirements of spatial planning law. Thus, the impact of wind power plants on the landscape is already examined at this stage. According to stakeholders, further examination of the impact of the wind power plants on the landscape in the zoning and in the plant approval procedure is therefore superfluous. In the case of Lower

Austria, for example, a triple assessment of the project is de facto currently taking place. The first time in the course of the SEA at the sectoral spatial planning level, the second time as part of the SEA for zoning and the third time in the substantive or EIA procedure. This is very time-consuming and costly, ties up time and resources of consensus seekers and authorities, and is superfluous.

In the opinion of the stakeholders, it would be sufficient to carry out a SEA once at the supra-regional level and once an individual assessment of the impacts on the protected objects at the project level (in the substantive law or EIA procedure). Stakeholders also suggest:

- Introducing provisions regarding the balancing of interests in the nature conservation laws of the federal states.
- Establishing the state of the art in environmental assessment, according to which the sensitivity of the landscape must be largely taken into account when assessing the impact (Prevention of the NIMBY principle).
- Creation of a 'landscape fund' so that the project developers have the opportunity to pay in the funds to reduce the influences, similar to what is already possible in some federal states for landscape issues. (IG Windkraft, 2020).

Staff. According to the stakeholders surveyed, there is a general lack of staff in the Austrian authorities. The staff of the competent authorities is very well familiar with the applicable laws, but not sufficiently trained in technical issues, which leads to difficulties in processing applications. This inefficiency tends to affect the technical procedural areas. The barrier affects all competent authorities, including the Federal Administrative Court. As a result, stakeholders are calling for more administrative staff and experts, as well as better training of staff, as this would relieve both the wind power industry and the authorities (Resch, Fürnsinn, 2020; IG Windkraft, 2020). This barrier is also relevant for the issuing of the electricity production licence (see Section 2.1.1.2.) and for the administrative authorisation process (see Section 2.1.1.3.).

Identified good practice

No good practice related to this process step was identified.

2.1.1.2. Electricity production licence

Process flow

To construct, operate or substantially modify a power plant, the project developer needs to obtain an electricity production license (*Elektrizitätsrechtliche Genehmigung*) (EA, 2010). If the EIA procedure, i.e., a one-stop shop, is applied (see Section 2.1.1.4.), the EIA approval also includes the electricity production license, which is why the project developer does not have to apply for this separately.

If substantive law procedure is used instead of the EIA approval procedure, the project developer needs to apply to the Office of the Federal State Government for an electricity production license. The procedure depends on the capacity of the power installation. For power plants above 500 kW a regular procedure for obtaining the electricity production license is applied (§ 5 LAEA 2005), while a simplified procedure is foreseen for power plants below 500 kW (§ 7 LAEA 2005). The regular procedure includes an oral hearing, including neighbours, the municipality and, insofar as its interests are affected, the grid operator. The permit is granted by means of an administrative decision. In addition,

certain conditions may be imposed in the permit for the construction and operation of the power plant (§ 8, § 18 LAEA 2005). In Lower Austria, the aspects for the building permit are also taken into account when the electricity generation licence is issued, which is why a building permit is not required separately.

Deadlines

In the simplified procedure for obtaining the electricity production license, the authority shall issue a decision on the application within three months after receipt of the application and the required documents (§ 7 par. 1 LAEA 2005). The law does not set any deadlines for the regular procedure.

Detected barriers

As indicated in Section 2.1.1.1., there is a general lack of staff in the Austrian authorities. This barrier also affects the process of obtaining the electricity production licence (for more information see Section 2.1.1.1.).

Identified good practice

No good practice related to this process was identified.

2.1.1.3. Administrative authorisation

Process flow

After the site selection process has been positively completed and the possibility of grid access has been clarified with the local network operator, the administrative authorisation process can begin. Depending on the capacity threshold, administrative authorisation takes place either in a simplified *EIA procedure* or in a *substantive law procedure*.

As a rule, the administrative authorisation is carried out within the framework of a simplified EIA procedure – a nationwide one-stop-shop procedure, which is conducted by the federal state government. In the case of Lower Austria, the competent authority is the Department for Environmental and Energy Law (EIA authority), which is responsible for all procedural steps. The EIA authority may sometime have an internal consultation with other authorities whose competence is outside the EIA procedure, but according to stakeholders, this is generally not the case. The EIA authority can also entrust a district administrative authority with the implementation, which then decides on behalf of the state government (§ 39 (1) 4th sentence EIA, 2000).

The EIA authority applies the licensing provisions of the respective federal and provincial laws (§ 3 (3) EIA, 2000). As a rule, no further permits need to be obtained for a project in addition to the EIA procedure. Once the EIA permit has become legally binding, the realisation of the project can begin.

A simplified EIA is used for (§3 Annex 1 EIA, 2000):

- wind power plants with a total electricity output of 30 MW or more, or with at least 20 turbines of a nominal capacity of at least 0.5 MW for each turbine;
- wind power plants located at an altitude above 1000 m with a total electricity output of 15 MW or more, or with at least 10 turbines of a nominal capacity of at least 0.5 MW for each turbine.

Projects with a total electrical capacity of at least 15 MW or with at least 10 turbines with a nominal capacity of at least 0.5 MW each, which are planned in areas worthy of protection or in areas for which special conditions have been established (§3 Annex 1 EIA, 2000), are treated separately. They are subject to a case-by-case assessment whether an EIA is required at all. If this is the case, there will be a concentration of procedures within the framework of the simplified procedure. However, not one but two separate procedures are carried out, each of which is referred to as a 'partially concentrated approval procedure'. Thus, the EIA procedure is divided into two procedures: One with the Federal Minister for Climate Protection, Environment, Energy, Mobility, Innovation and Technology and one with the respective state government. In individual cases, the Federal Minister may entrust the competent state governor with the conduct of its procedure, while the respective provincial government can delegate its responsibility to the local district administrative authority (§ 24 EIA, 2000).

Furthermore, there is a cumulative principle (*Kumulationsprinzip*). Projects that have more than 25 % of the threshold value and reach the threshold value with other projects also fall under the EIA Act (§ 3 (2) EIA, 2000). If it is not clear whether a project falls under the EIA Act, a declaratory procedure (*Feststellungsverfahren*) must be initiated (see below).

Simplified EIA procedure

Prior to the EIA approval procedure, a so-called declaratory procedure can be carried out. In this procedure it is examined whether the specific project is subject to an EIA obligation or not. Declaratory procedure is required in cases where the obligation to carry out an EIA is determined on a case-by-case basis (see above). The case-by-case assessment is not required if the project developer requests an EIA (§ 3 (7) EIA, 2000).

The project developer must submit the application and the Environmental Impact Statement (EIS) to the EIA authority (§ 5 (1) EIA, 2000). The EIS constitutes the core content of the EIA approval procedure and must be prepared by the project developer and respective experts. The EIS describes the project and the potential environmental impacts in a very detailed manner (§ 6 (1) EIA, 2000). If other environmental assessments have already been carried out, such as the SEA (see Section 2.1.1.1.), these can be taken into account.

After submitting the application, the EIA authority has to set up a timetable for the EIA procedure and publish this timetable on the internet (§ 7 EIA, 2000). The documents are then transmitted by the authority to various authorities concerned (§ 5 (3) ff EIA, 2000). In addition, the public is informed that the project documents are publicly displayed. For this purpose, the documents must be made available for public inspection at the site municipality and at the EIA authority for at least 6 weeks. Furthermore, the authority must publish information about the project on the internet (on the website of the provincial government), in a daily newspaper widely distributed in the province, and in a newspaper distributed in the siting municipality (§ 9 (3) EIA, 2000). During the six weeks, any person may submit written comments on the project to the EIA authority (§ 9 (5) EIA, 2000). The EIA Act provides only participants in the proceedings with the right to inspect the files (§ 19 (2) EIA, 2000). Other stakeholders are not taken into account. However, this provision is not applicable due to its incompatibility with European law (European Court of Justice, 2017), which means that citizens' initiatives can also have party status in the simplified procedure (ÖKOBÜRO, 2020). A 'citizens' initiative' is defined as a group of at least 200 persons who have signed a statement and who at the time of the initiative were entitled to vote in municipal elections in the municipality in which the site is located or in a municipality immediately adjacent to it. As a party,

citizen's initiatives are entitled to assert compliance with environmental protection regulations in the proceedings and to appeal to the Federal Administrative Court, the Administrative Court and the Constitutional Court (§19 (4) EIA, 2000).

The EIA authority will then examine the documents submitted by the project developer (including the EIS) along with the comments and other expert opinions on the planned project received. Based on this, a summary assessment of the environmental impacts is prepared (§ 12a EIA, 2000). This assessment does not have to be published, but only sent - without delay - to the project developer, the participating authorities and the administrative parties (§ 13(1) EIA, 2000).

As a rule, an oral hearing takes place before the decision (§ 16 EIA, 2000), in order to provide the public and the parties with the opportunity to inform themselves about the procedure and the right to provide their opinions.

In the next step, the EIA authority makes a decision on whether or under which conditions the project is approved. The decision-making takes into account the licensing requirements of applicable laws and the additional licensing requirements of the EIA Act. The notice of approval must be available for public inspection at the EIA authority and in the municipality for at least 8 weeks (§ 17 (7) EIA, 2000).

Once the power plant has been approved and constructed, the project developer must notify the EIA authority of the completion of the project before the plant is commissioned. The authority then checks whether the project complies with the permitting conditions and issues a decision (acceptance inspection). If deviations are detected during the inspection, they are stated in the acceptance notice and the project developer will be required to eliminate them. Minor deviations can be approved directly in the acceptance notice (§ 20 EIA, 2000).

When the acceptance decision becomes legally binding, the responsibility generally passes to the authorities in charge of certain areas, e.g., to the respective building authority (§ 21 EIA, 2000).

Substantive law procedure

The substantive law procedure (*Einzelverfahren, Einzelmaterienverfahren* or *Materienrechtsverfahren*) is applied only if the threshold values indicated above are not exceeded. Since there are many individual plants and small wind farms in Austria, the ratio between EIA and substantive procedures is balanced (Resch, 2020).

In the substantive law procedure, impacts of the project on certain public goods (nature conservation, forest preservation, water protection, aviation, etc.) are examined individually by the competent authorities. The applications for permits may be submitted to the various authorities at the same time, but the responses are given independently of each other.

Some procedures are regulated at state level, others at federal level. The following permits fall under the substantive law procedure:

- Permit under the Water Law. The issue of this permit is regulated by a federal law, i.e., the same law applies in all federal states (WRA, 1959). The competent authority is the district administration (*Bezirkshauptmannschaft*), the magistrate (*Magistrat*) or the office of the *Bundesland* government.
- Nature conservation permit. The nature conservation permitting procedure is regulated at the state level. In Lower Austria, the legal framework is established in the Lower Austrian Nature Conservation Act (LANCA, 2000) and the competent authority is the district administration or magistrate.

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- Forest Law permit. The Forest Law permitting procedure is regulated at state level. The competent authority is the district administration or magistrate (Forestry Act, 1975).
- Aviation permit. The Aviation permitting procedure is regulated at state level and is defined by the Aviation Act. The responsible authority is the Office of the Land Government (Aviation Act, 1957).
- Building permit. The issue of a building permit is regulated under the federal state legislation. In Lower Austria, the building permit is not required, as these aspects are taken into account when the electricity production license is issued (see Section 2.1.1.2.).

Repowering

The formal procedural requirements for repowering projects are basically the same as for new installations, i.e., a project must go through the same procedure as a new installation. However, depending on the difference between the new and the old turbine, there may be some facilitations. Changes in height, diameter, etc. may require new assessments. If the impacts of the new turbine do not differ significantly, expert opinions can be reused. This reduces the financial burden on the project developer and usually speeds up the approval process.

According to the stakeholders, the administrative authorisation procedure for repowering can only be seen as effective if there are significant changes. Otherwise, (e.g., change of the generator) simpler procedures need to be introduced (Resch, Fürnsinn, 2020).

Dismantling

To a certain extent, the dismantling of a wind turbine must already be considered in the EIA or substantive law procedure, where these questions are clarified in the application documents and expert reports. If a repowering procedure is initiated, dismantling is usually part of the new procedure (Resch, 2020).

Deadlines

EIA procedure

After submission of the application, the EIA authority must draw up a schedule for the EIA procedure and publish it on the internet (§ 7 EIA, 2000). In the simplified EIA procedure, the EIA authority has to make the decision within 6 months at the latest (§ 7 (3) EIA, 2000). The EIA authority must issue the decision on the declaratory procedure (*Feststellungsverfahren*) (§ 3 (7) EIA, 2000) within 6 weeks. The authority usually meets the deadlines in this process step, but delays may occur due to lack of staff capacity. Stakeholders generally assess the capacity as quite good (Resch, 2020). Theoretically, the project developer can file a devolution request and thus ask the authority to make a decision.

If EIA application or the EIS is not complete, the authority can decide that the project developer may submit this missing information and documents that are not necessary for the assessment of the environmental effects at a later stage (§ 5 (2) second sentence EIA, 2000).

The documents (including the EIS) must be made available for public inspection at the respective municipality and at the EIA authority for at least 6 weeks (§ 9 (1) EIA, 2000).

The approval notice must be available for public inspection at the authority and in the respective municipality for at least 8 weeks (§ 17 (7) EIA, 2000).

Substantive law procedure

The deadlines in the substantive law procedure often differ per federal state.

According to stakeholders, the EIA and substantive law procedures as well as the associated deadlines are set by law and thus basically transparent. However, as the deadlines in the substantive law procedure often differ depending on the federal state, it becomes difficult for individuals who are not very familiar with the subject matter to find out the relevant information. For a newcomer, this represents a barrier to building up the know-how or to providing sufficient financial resources to access the know-how (e.g., planning offices) (Resch, Fürnsinn, 2020).

Detected barriers

Re-authorisation prolongs the process and make it more expensive. The project developers can incur high costs because the administrative authorisation processes for new plants can take up to eight years in some cases, due to re-approvals (if the technical equipment of the plant is already outdated due to the process length), negotiations or possible waiting periods between these process steps. As a result, considerable financial resources are wasted and the procedural cost can amount to several EUR 100,000 and even up to EUR 500,000 (Resch, Fürnsinn, 2020).

Lack of the 'landscape' definition. Landscape protection is a common reason given by opponents of wind power in the EIA. The term 'landscape' is not defined in national or EU legislation and therefore can be interpreted differently. This even causes disputes over how the wind power plant should be painted. In addition, this legal scope of protection is examined several times in the SEAs: when a zoning designation is made for wind power plants, again when the rezoning for a particular project is very large, and one more time in the EIA or nature conservation procedure as part of the substantive law procedure. The project can be rejected in any of these examinations. Stakeholders report that projects were not approved because of the landscape aspect, even though they were located in a designated wind power zone. Therefore, according to the stakeholders, the effects of the wind power plant on the landscape should already be taken sufficiently into account in the zoning and sectoral spatial planning procedure (Resch, Fürnsinn, 2020).

Extensive requirements for the EIS. The documents that project developers must submit as part of the environmental impact assessment in the simplified EIA procedure for wind turbines are among the most detailed compared to applications for other projects that fall under the simplified EIA procedure in Austria. Also, the level of detail is considered disproportionate compared to other countries in Europe. The detail level in the application documents, which stakeholders say is unjustified, is often an obstacle to expansion. As a result, processes can be delayed by the formally strict regulations and technological developments can overtake the processes, which then must be re-examined. It may happen that the subsidies for the plant is no longer valid when the documents are submitted. In this respect, stakeholders are already in contact with the authorities to improve the process. They request that the application documents be limited to what is necessary, as this would be beneficial for all parties involved in the process and speed up the procedure (Resch, Fürnsinn, 2020; IG Windkraft, 2020).

Legal loopholes in aviation legislation. The national Aviation Act was adopted in 1957 and has not been substantially revised since then (only some small amendments made). Therefore, the law is not designed to meet the current aviation safety requirements for wind turbines. There is a lack of further national regulations and legal reforms here, which is why aviation experts sometimes have to impose conditions on wind power projects based on their expertise and experience from other countries such as Germany.

This sometimes results in requirements that are difficult to comprehend, e.g., the colour marking of the nacelle or the requirements concerning infrared lighting, etc. Furthermore, processes to increase acceptance, e.g., switching the lighting according to need (the flashing light markings at night can be switched off and only activated if necessary) which means that local residents are no longer disturbed by flashing lights from wind farms, are made more difficult (Resch, Fürnsinn, 2020).

Lack of legal framework and clarity for new technologies for bird and bat protection. In Austria, the interpretation of the ban on killing birds and bats according to the EU directive 2009/147/EC is currently debated. To increase the chances of project approval, project developers agree to use certain technologies to protect birds and bats (e.g., bird radars, etc) and invest lots of money (around EUR 100.000). Although their development is still at an early stage, they are often requested by authorities because they consider it to be state of the art. However, the stakeholders question the efficiency of these technologies and suggest that the efficiency should be demonstrated by science first. Although wind power plants could be equipped with test objects, authorities should not request their installation without a justified benefit (Resch, Fürnsinn, 2020). From today's perspective, the widespread use of this technology for all wind turbines does not appear to be expedient. The first results show high losses in wind power production, which would cause great economic difficulties, but would also unnecessarily increase the number of wind turbines required and ultimately perhaps have a greater negative impact on avifauna (IG Windkraft, 2020). Stakeholders call for a clause to be included at the beginning of the RED 3 Directive that emphasises that the expansion of renewable energy plants is a top priority and that this should be taken into account when applying EU Directive 2009/147/EC and the Habitats Directive (Council Directive 92/43/EEC of 21 May 1992). Exemptions from the species protection prohibitions for the construction and operation of renewable energy plants should be examined, as far as this is possible under European law. In addition, the stakeholders call for the prohibition of killing to be specified at national level (Resch, Fürnsinn, 2020).

Conflicting conditions imposed by the authorities in substantive law procedure. In the substantive law procedure, in which impacts on public goods are examined individually by different authorities, it can happen that the requirements of the authorities are contradictory. This leads to uncertainty for the wind power plant operators. For example, one nature conservation requirement is to switch off the lights of the power installations, whereas the procedure of the aviation authorities requires the lights to be on (Resch, Fürnsinn, 2020).

Unnecessarily high requirements for documents in substantive law procedure. The stakeholders demand a streamlined and effective system for the submission and evaluation of applications in the substantive law procedure. The procedure would be accelerated if the number of application documents were limited to the necessary ones. The stakeholders therefore suggest to include the documents from the spatial planning and zoning processes into the substantive law procedure. The new system of applications should take the following points into account: adequate consideration site related interests, better structuring of the procedure to avoid repetition of certain assessments (e.g., landscape assessment), no undermining of thresholds, online notifications instead of paper notifications, etc. (IG Windkraft, 2020).

Specific deadlines for authorities. Often, both EIA and substantive law proceedings are delayed due to the overload of the responsible officials. Therefore, it is considered essential that the authorities and the expert apparatus are properly designed. To achieve this, the stakeholders suggest setting the following deadlines for the authorities when

checking the completeness of the submitted documents: a maximum of one month for the initial review and a maximum of 14 days for the follow-up review. Once the documents are considered complete, the assessment period should not exceed one month. Furthermore, the stakeholders recommend to establish a deadline for issuing a decision – a maximum of 6 months from the completeness of the application. Finally, they call for an automatic cancellation of all associated administrative costs (incl. expert costs) if this procedural deadline is missed (a sanction mechanism) (IG Windkraft, 2020).

Staff. See detected barriers, Section 2.1.1.1.

Identified good practice

No good practice related to this process was identified.

2.1.1.4. Grid connection permit

Process flow

Before starting the administrative authorisation process, the project developer has to obtain a grid access agreement. In Austria, a distinction is made between the grid access agreement (*Netzzugangsvertrag*), which enables the actual technical connection of the power plant, and the grid usage contract (*Netznutzungsvertrag*), which enables the generated electricity to be fed into the grid. The grid access agreement is an individual agreement between the grid access beneficiary and a grid operator that regulates the grid connection and the use of the grid (§ 7 (1) no. 55 EA, 2010). This contract must be completed before starting the administrative authorisation process, while the use of the grid, i.e. the grid capacity and thus the possibility of feeding in electricity, is usually not part of the authorisation procedure itself.

For entering into the grid access agreement, the project developer must contact the local grid operator. The project developer is entitled against the grid operator to the conclusion of an agreement to connect a renewable energy plant to the grid (general obligation to connect) (§ 5 (1) no. 2 EA, 2010).

The stages of the connection process are not defined by law and the local grid operators have different practices. However, the connection process usually consists of the following steps which have to be established in the legislation of the state governments (§17 (2) EA, 2010). As a first step, the project developer applies to the grid operator for connection to the grid. The scope of the documents, which must be provided to the grid operator as part of the grid connection application, varies depending on the grid operator. Subsequently, the grid operator checks whether it is technically feasible to establish a connection. The project developer must, depending on the requirement of the various grid operators, invest a different amount of time for the processing of the grid connection application and for any queries with the grid operator. The plant operator and the grid operator conclude a connection agreement, which is required to complete the connection process (§ 7 No. 55 EA, 2010).

If the grid capacity is not sufficient, the project developers have to negotiate with the grid operator about the possibility of full feed-in and expansion of the grid. It differs from region to region whether costs are incurred by project developers when the grid has to be expanded. There are also differences in how high these costs are per MW. There is no clear legal regulation for the distribution grid and transmission grid operators. In many cases, the project developers bear the costs, which means considerable additional costs

for the project. This is a major factor why higher support tariffs are paid in Austria than in other EU countries (Resch, Fürnsinn, 2020).

According to the national stakeholders interviewed, the grid connection process is simple, based on a bilateral agreement. Re-authorisation in the case of a repowering of a power plant is also not problematic in practice. Problems arise when there is not enough capacity and the network needs to be upgraded. However, it is not clear if the grid operator will cover the high grid connection cost, if the expansion of the grid is necessary (Resch, Fürnsinn, 2020).

Deadlines

Applications for grid access shall be answered by the grid operator within a period of 14 days (§ 17 (3) no. 12 EA, 2010).

Detected barriers

Insufficient planning and coordination in grid expansion. Long-term, early, timely and coordinated planning of reinforcements and expansions of the transmission and distribution grids is essential for the transportation of the generated electricity. At present, the grid capacity is insufficient in some parts of Austria. Due to the long planning and approval of the grid reinforcement and expansion measures, there are grid bottlenecks, especially in the eastern Austria. As a result, redispatch is currently applied, which means that renewable power plants, especially wind installations, are regulated or switched off in the event of grid congestion. This could be avoided if the development of renewable energy sources were considered while planning the electricity grid. Therefore, a coordinated planning of the transmission and distribution grids with the involvement of relevant stakeholders is urgently required for the planning of a more efficient, demand-oriented, and timely expansion of the grid. The involvement of relevant stakeholders could take place, for example, within the framework of an Austrian grid infrastructure plan. A strategic overview of the future energy infrastructure is important here (structure of energy generation, sector coupling, demand management, storage, etc.). Consideration of interests such as security of supply, climate protection but also nature conservation is equally important. In this context, the stakeholders interviewed call for:

- an Austria-wide cost roll-up for grid expansion/conversion to achieve the renewable energy targets.
- a maximum 5-year expansion period from grid access request for measures in the distribution grid
- a maximum 10-year expansion period from grid access request for measures in the transmission grid
- connection obligation: within 5 years when connecting to the distribution system and within 10 years when connecting to the transmission system. In addition, reimbursement of any costs by the distribution or transmission system operator should be envisaged, if full feed-in is not possible due to lack of expansion (IG Windkraft, 2020).

Lack of network capacity in some federal states. The lack of grid capacity in some federal states is seen as the greatest barrier for grid connection. Cooperation with the distribution and transmission system operators is difficult. The experts call for a clear grid concept that considers the approved and planned quantities of wind power (recently also affecting more and more large-scale PV plants) and is designed to be cross-generational. Better processes must be developed for estimating the planned expansion and, above all, associations, distribution and transmission system operators must be more closely

involved so that their planning processes are also integrated (Resch, Fürnsinn, 2020). The NECP (2019) indicates plans for an integrated grid infrastructure plan in the future.

High grid connection costs. According to experts, grid connection costs are very high in Austria. In addition, it varies from federal state to federal state whether and how much the system installer must pay for the grid connection. These increased costs and technical restrictions represent a major barrier (Resch, Fürnsinn, 2020).

Identified good practice

No good practice related to this process was identified.

2.2. Rooftop and ground-mounted solar PV

2.2.1. Relevant process steps

The first step in installing a ground-mounted solar PV system is to examine the local development concept (*Örtliches Entwicklungskonzept*) for the planned location on which the zoning plan is based. The zoning plan determines the areas on which a PV system can be erected. The regulations vary depending on the province and municipality. Larger installations may require a specific determination in the local development concept and a designation in the zoning plan, possibly with a Strategic Environmental Assessment.

For ground-mounted PV installations, the project developer applies for the grid connection with the local grid operator in parallel to the site planning procedure. For rooftop PV systems, this is the first planning step. Grid connection procedures are established by grid operators. As there are many grid operators in Austria, the procedures are not uniform and the project developer must, depending on the requirement of the various grid operators, invest a different amount of time for the processing of the grid connection application (RES LEGAL, 2018).

The further steps depend on how the energy from the installation is used. If the electricity generated by rooftop PV or ground-mounted PV system is completely fed into the grid, an electricity production licence is required. However, if electricity generated by a commercial PV installation (rooftop or ground-mounted installation) is (partially) used for own needs (self-consumption), then a Commercial Properties Approval (*Betriebsanlagengenehmigung*; CPA) is required. The CPA is a one-stop shop and includes the electricity production licence, so the project developer does not need to apply for this permit separately.

The electricity production license is issued by the Federal State Government (*Landesregierung*) and the procedural requirements differ in the federal states. The granting of an electricity production licence may require either a regular licensing procedure, a simple licensing procedure or only a notification to the competent authority. In some federal states, not even a notification is required up to a certain capacity limit. If the system requires an electricity production license, the operator must apply for an extra procedure with the municipality to obtain a building permit and, if necessary, an extra nature conservation procedure. This can be done in parallel to the procedure for granting an electricity production license. With regard to the building permit for a PV installation, several procedures are provided: a simple notification to the municipality, a simplified or a regular permitting procedure. The procedure depends on the regulations of

the federal states and the capacity of the installation. The nature conservation procedure is also regulated at the federal state level.

In the event of commercial PV systems for self-consumption, the CPA must be applied for. Here, a one-stop-shop procedure is used, meaning the applicant only has to turn to the district administrative authority, which coordinates the CPA granting procedure with other approval procedures (electricity production license, building permit, and if necessary, nature conservation procedure).

After the rooftop or ground-mounted solar PV system has been installed, a licensed electrician sends a test report to the grid operator. If the report is confirmed by the grid operator, the PV system operator can conclude the power purchase agreement (PPA) with an energy supplier.

2.2.1.1. Site selection

Process flow

The first step towards the construction of a ground-mounted PV system is an on-site meeting of the project developer and the system installer where all local circumstances are evaluated. This is followed by an investigation of the local development concept (*Örtliches Entwicklungskonzept*) for the planned location. Every municipality in Styria has a local development concept, which presents and defines the perspectives of urban development and its spatial consequences and forms binding specifications for the zoning plans (Office of the Provincial Government of Styria, 2019).

In almost all federal states of Austria, the zoning plans provide for the possibility of using grassland for PV systems. As there is no legal basis for individuals to initiate a change in the zoning plan, the project developer has to convince the local authority to support the project. In most federal states, the project developer is referred to a certified land use planner. Together with this expert, the suitability of the selected site and the need for an amendment in the land use register is examined. The amendment is requested from the regional zoning plan authority (PV Grid Database, n.d.). In addition, there can be a sectoral development programme for photovoltaic plants, which is intended to ensure the expansion of the technology while at the same time maintaining the spatial planning objectives. So far, this only exists in the province of Carinthia in Austria (Carinthia LGBl. Nr. 44/2003).

In Styria, ground-mounted solar and PV systems with a capacity of less than 50 kWp can be erected in the zones that are designated as *open land (Freiland)* and that are not used for agricultural and/or forestry purposes (§33 (5) no.6 STY SPA 2010). The construction of ground-mounted solar PV installations with a capacity of more than 50 kWp is permitted without a spatial planning procedure if the local development concept provides for a 'renewable energy' (*Erneuerbare Energie*) or 'industry/commerce' (*Industrie/Gewerbe*) zone and the zoning plan provides for the zone 'special use in the open countryside' (*Sondernutzung im Freiland*) (§33 (3) no.1 STY SPA 2010). If this does not apply, it must be examined whether an amendment of the local development concept and/or the zoning plan is required within the framework of a spatial planning procedure and a strategic environmental assessment (Office of the Provincial Government of Styria, 2011). Larger installations on an area of 3,000 m² and more, require a specific determination in the local development concept and a designation in the zoning plan (Office of the Provincial Government of Styria, 2020). The necessary designation is

requested at the regional authority for zoning plan, in Styria - the Office of the Styrian State Government (Environment and Spatial Planning Department).

Deadlines

The deadlines differ in the federal states.

Detected barriers

Fewer employees in government agencies because of Covid-19. As there are staff shortages in authorities due to the Covid-19 pandemic, there are currently delays in approvals for PV systems. This affects all authorities (PV stakeholder, 2020).

Land use conflict between ground-mounted PV installations and agriculture. In Austria, there is a land use conflict between ground-mounted PV installations and agriculture. There is no consensus on how and where ground-mounted photovoltaics should be expanded across the country because nation-wide land zoning is not identified yet due to some political conflicts. The PV development mainly affects grassland, and grassland per se is dedicated for agricultural use. According to stakeholders, Austria is restrictive when it comes to the designation of land that leads to a reduction in arable land for food. The project developer must first convince the competent authority that PV should be allowed instead of agriculture. The tendency is to enable a shared use, such as AGRO photovoltaics – a synergetic use of the same area for agriculture and power generation (Kossak, 2021). Furthermore, there is a consensus that it would be difficult to achieve the national renewable energy targets without allowing the construction of ground-mounted PV installation in the zones that are designated as *open land* (SolarPower Europe, n.d.).

Identified good practice

No good practice related to this process step was identified.

2.2.1.2. Electricity production licence

Process flow

In Austria, residential solar PV systems require an electricity production licence (*Elektrizitätsrechtliche Genehmigung*), while operators of commercial solar PV installations must apply for a Commercial Properties Approval (CPA; *Betriebsanlagengenehmigung*) instead. The CPA granting procedure includes the electricity production license and other necessary permits (see Section 2.2.1.4.).

Electricity production licence

The procedural requirements for the issue of an electricity production license depend on the federal state. Either a regular permit procedure, a simple permit procedure or a simple notification to the competent authority may be used for the issue of the license. In addition, in some federal states, there is no obligation for certain capacities to obtain a permit or even to notify the competent authority. This applies, for example, to PV systems up to 100 kW in Salzburg. The authority responsible for the issue of the electricity production license is the respective department of the office of the state government; In Styria, the Environment and Spatial Planning Department.

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If a notification procedure is used, the notification along with the supporting documents must be submitted to the competent authority in due time before the start of construction. If the notification is not rejected within a specified deadline (differ per federal states) after receipt, the notified installation is deemed to be licensed. If the documents are incomplete, the deadline will be calculated from the moment the missing documents are received. In Styria, the notification procedure is used for PV installations with the maximum capacity of 200 kWp (PV Austria, 2020).

If a simplified procedure is used in Austria, the competent authority must publish information on the project (GAPA, 1991), including the information that the project documents are available for inspection on the premises of the competent authority for a certain period of time (maximum 4 weeks) and that the neighbours may raise objections within this period. After expiry of the deadline specified in the announcement, the authority shall approve the project, taking into account the objections received from the neighbours, and, if necessary, impose certain conditions for the protection of those affected (PV Austria, 2020). In Styria, solar PV installations with a capacity of at least 200 kWp and less than 501 kWp must undergo a simplified procedure (§7 STY EIOA, 2005).

If a regular procedure is foreseen for issuing the electricity production licence in Austria, the competent authority (in Styria, the Environment and Spatial Planning Department) must hold a hearing on the application for the electricity licence. Oral proceedings are to be arranged by personally notifying the known parties involved (GAPA, 1991). This applies to the project developer, the owners of the land on which the PV installation is to be built, and the owners of the immediately adjacent properties/ plots of land, for whom hazards and nuisances could potentially arise (§5 (1) STY EIOA, 2005). If other persons are involved, the hearing must also be announced on the official notice board of the municipality, by publication in the newspaper or by publication in the electronic Official Gazette (GAPA, 1991). In Styria, PV installations with a capacity of 501 kWp or more must undergo a regular procedure (§5 STY EIOA 2005).

Deadlines

Regular procedure (in Styria)

For the regular procedure, the Styrian Electricity Industry and Organisation Act does not specify any deadlines.

Simplified procedure (Styria)

The project documents must be publicly available at the municipality for four weeks, and neighbours can raise objections. The authority has to issue a decision within three months after receipt of the application and the necessary documents (§ 7 (1) STY EIOA 2005).

Notification procedure (in Austria)

The notification must be given in due time before the work begins, together with the necessary documents. If the notification is not rejected within a statutory deadline (depends on the federal state) after its receipt, the notified installation shall be deemed approved. If the documents are incomplete, the deadline does not begin to run until the missing documents have been received (PV Austria, 2020).

Detected barriers

Fewer employees in government agencies because of Covid-19 pandemic. (see Section 2.2.1.1.).

Identified good practice

The federal state of Vorarlberg will shortly raise the capacity limit for the obligation to apply for an electricity production licence to 500 kW. As a result, it will be possible to install any system on the building with an output of up to 500 kW without any notification to the competent authority. This, according to the solar PV expert interviewed, allows real savings of time and costs (PV stakeholder, 2020).

2.2.1.3. Administrative authorisation

Process flow

In Austria, PV systems on commercially used premises (commercial PV installations) require a Commercial Properties Approval (CPA), if the company generates electricity for self-consumption. For the CPA, the 'one-stop-shop' principle is largely implemented. Thus, the CPA approval process includes the building permit, the electricity permit, and a nature conservation procedure.

For projects not subject to the CPA procedure, developers must apply for each of the approvals described below individually.

Building law procedure

In Austria, projects that require an electricity production licence have also to be examined in a building law procedure. Whether a notification to the municipality's building authority, a simplified or a regular building permit is required for the construction of a ground-mounted or rooftop solar PV system depends on the federal state. There are 9 different building regulations in the federal states. The procedure usually takes a few months and the length depends on several factors such as the size of the system, the building on which the facility is installed, and whether the system is visible or not, etc. (PV stakeholder, 2020). The competent authorities are usually the building authorities of the municipalities. Since the procedure varies from municipality to municipality, it is advisable for project developers to contact the responsible contact person in the municipality before applying for permits (Federal Ministry for Digitalisation and Economic Location, 2021).

In Styria, rooftop PV systems with an installed capacity of no more than 50 kWp and a height not exceeding 3.50 m belong to the projects that must be notified to the municipality's building authority (*Meldepflichtige Vorhaben*) (§21 (1) no.2 lit. o STY BL, 1995). The notification must be made in written form prior to the construction of the system. The notification must contain the plot number, the location of the system on the plot and a brief description of the project (STY BL, 1995).

PV systems with a maximum capacity of 50 kWp and a height of more than 3.50 m require a building permit according to a simplified procedure (§20 subp.2, lit. k. STY BL 1995). In the simplified procedure, the application for a building permit is submitted to the municipality's building authority by post or electronically. The authority is obliged to conduct a comprehensive examination of the application, which includes, among other things, the examination of the requirements of the spatial planning law and the impacts on the landscape as well as impacts on third parties. The building authority decides to grant or reject the building permit by means of a notice (without holding a hearing) within three months from the submission of the complete documents. The applicant is the only party to this procedure (§33 STY BL, 1995).

In Styria, rooftop or ground-mounted PV installations with a total installed capacity greater than 50 kWp and (for rooftop PV) a height of more than 3.50 m require a regular building permit that must be applied for by post or electronically from the building authorities of the municipality (§19 STY BL 1995). The application must contain detailed project documentation, with information about the location and the planned project. The authority can hold construction negotiations (*Bauverhandlung*) on the project, however, this is not obligatory in all federal states. In the construction negotiations, neighbours can raise objections to the granting of a building permit if these relate to building regulations that serve not only the public interest, but also their personal interest (§26 STY BL, 1995). In Styria, a site inspection must take place within the framework of the construction negotiations.

Since every federal state has own building regulations and there are different capacity limits for the notification or a simplified or regular approval procedure as well as different application processing times, it is difficult for the national stakeholders interviewed to assess the efficiency, effectiveness and transparency of this process step. In Styria, the design of the Building Code is considered rather restrictive. Other federal states have a more tolerant handling of building permits for PV systems. One example is Carinthia, whose Building Code is soon to be revised and which stipulates that every rooftop PV system is completely exempt from the notification obligation. This would considerably reduce the effort of project developers in installing rooftop PV systems in this federal state (PV stakeholder, 2020).

Nature conservation procedure

When installing a ground-mounted solar PV installation, nature conservation aspects must also be considered. The criteria differ in the federal states. In Lower Austria, for example, PV systems in open space outside the local area require a permit in line with the Lower Austrian Nature Conservation Act 2000. In Styria, for ground-mounted PV systems with a minimum size of 2,500 m², documents for the examination of compliance with the provisions of species protection law must be submitted to the state government at least three months before construction starts (§17 (10) 4., §18 (9) 4., §19 (11) 4. STY NC, 2017).

Commercial Properties Approval (CPA)

The CPA is regulated by federal law (§ 74 Industrial Code, 1994). The CPA is required for commercial PV installations used for self-consumption. The CPA must be obtained before the construction and operation of the installation and it includes an on-site inspection.

The competent authority for the CPA in Austria is the trade authority (*Gewerbebehörde*), namely, depending on the location of the business, either the district administration (*Bezirkshauptmannschaft*) or the magistrate (*Magistrat*) (Office of the Provincial Government of Styria a., n.d.).

As mentioned above, a 'one-stop-shop' principle is largely implemented for the CPA. As a rule, the applicant only has to turn to the competent authority, which coordinates all necessary procedures (electricity production procedure, building law procedure, and if necessary, nature conservation procedure). This authority is also responsible for subsequent monitoring after completion of the construction of the installation (Office of the Provincial Government of Styria b., n.d.).

The CPA procedure includes the following steps (Office of the Provincial Government of Styria b., n.d.):

- submission of an application by the project developer

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- examination of the application (possibly including an oral hearing with the involvement of neighbours) by the competent authority, and
- official decision on the application (possibly subject to conditions) by the competent authority.

The stakeholders surveyed rate both procedures as basically running well. The staff is perceived as trained sufficiently well. However, due to the Covid 19 pandemic, there are fewer staff in authorities, which is why there are currently delays in all authorities and administrative process steps (PV stakeholder, 2020; Kossak, 2021). In addition, stakeholders reported that the communication with the authorities often depends on the quality of the documents submitted. If the documents are well prepared, it is much easier for the authorities to inspect and approve the plant. If, on the other hand, deficiencies are detected in the application file (due to time constraints or lack of experience of the applicants) and the authority feels that the project is not planned well enough, the process will take longer. In short, the possible delays will depend on both sides, the authority, and the developer of the project. The problem behind this is, among other things, that there are no standardised forms that the project developer can fill in. This affects all authorities and administrative process steps (PV stakeholder, 2020).

Deadlines

Building law procedure

Building regulations differ depending on the federal state and therefore there are also different deadlines. In Styria, notification of a notifiable project to the municipality's building authority must be made prior to its execution. In the simplified procedure, the authority must decide on the issue of a building permit within three months from the submission of the complete documents. No deadlines are set for a building permit within a regular procedure.

Nature conservation procedure

The deadlines differ depending on the federal state. In Styria, the documents must be submitted at the latest three months before construction begins.

Commercial properties approval

No deadlines are set for the process. In principle, the legally binding decision, i.e., the commercial properties approval, must be available before starting the construction of the installation (Company Service Portal Austria, n.d.).

Detected barriers

Inconsistent and unclear licensing system. Stakeholders generally perceive the inconsistent licensing system in Austria as a barrier. Different procedures (site selection, electricity law procedure, building law procedure, nature conservation law procedure), which are structured differently in the nine different federal states, make it difficult for inexperienced developers to enter the PV sector. Stakeholders also call for standardised forms for permit applications throughout Austria. Furthermore, PV system planners and installers criticised the fact that approval procedures, grid connection and subsidy applications almost always cause significantly more work and thus costs than the technical planning and often even more than the installation of the PV system (Fechner, 2020). It was reported that, PV Austria (the Austrian PV interest group), is currently striving for standardisation of regulations and procedures as well as providing guidelines on the different sets of rules for the project developers (Kossak, 2021).

Building law regulations differ in the federal states. In the federal states there are nine different building regulations. As a result, for project developers it is often not clear

whether a notification is sufficient or whether an approval procedure must be carried out. In Burgenland, for example, the building regulations are very restrictive. For installations with a capacity of 10 kWp or more a regular building permit is still required. Planning documents may only be drawn up by authorised planners, such as civil engineers, construction engineers but not, for example, engineering offices for electrical engineering and not electrical engineering companies. On the contrary, in Upper Austria, installations with a capacity below 50 kW not even a notification is necessary. In some cases, building regulations stipulate green roofs. This makes it much more difficult to use the roof surface for PV, as the substructure becomes more complex. In addition, higher maintenance costs must be expected. In general, complex approval procedures typically incur significant costs. In practice it can be observed that civil servants and clerks also have different levels of knowledge of the regulations that apply (Fechner, 2020).

Rejected applications due to strict standards and guidelines in building law. In the approval process, it is rather strict standards and guidelines that impede or prevent the construction of PV plants, not the authorities (PV stakeholder, 2020). For example, the proof of a static residual load-bearing capacity for PV systems to be installed (possibly at a later date) is not included in the building regulations. The statics of buildings, especially halls, is often a reason why PV systems cannot be built (ibid.).

High level of detail in the building law procedure required. Inappropriateness is reported regarding the level of detail in the planning. For example, a simple hand-drawn sketch is usually sufficient for adding a conservatory to an old house, but a precise plan is required for a PV system, which is often not available for older buildings. This causes additional costs for the plan preparation by a licensed technical office. This is especially the case for older buildings where digital plans are not yet available. There is a desire for a simplified notification requirement for systems up to 200 kWp (ibid.).

Lack of integral planning in the construction process reduces plant size. Integral planning is still not standard in the construction process, which means that the integration of PV system is not considered from the outset. The subsequent reconstruction of roof structures usually reduces the possible plant size significantly (ibid.).

Extensive requirements for licensing documents for large plants lead to delays. Each federal state in Austria has its own Electricity Industry and Organisation Act, containing different provisions and leading to considerable efforts in understanding the conceptual design of notification or licensing procedures for installations that fully feed their energy into the grid (Fechner 2020: 48). Very detailed data and information are often requested in the documents. The project developers often do not have complete documents at the first submission. In addition, the larger the plant is, the more information the authority (respective department of the office of the state government) requires. The developer and the authority can go back and forth several times until the documents are complete. This is particularly critical for large plants, where the applications must already contain the information which inverter modules are to be used, which is critical, because often the modules are not yet fixed during the planning stage, or they may ultimately change again during the construction. If the inverter modules change, the entire electricity production licence procedure may have to be carried out again or must be adapted (PV stakeholder, 2020).

Commercial properties approval deemed unnecessary for PV. According to stakeholders, the CPA is very complex, labour-intensive, and not efficient. Especially, the following aspects are criticised:

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- For commercial rooftop PV systems used for self-consumption, a CPA procedure ("one-stop-shop") is applied. Commercial rooftop PV systems, on the other hand, whose entire produced electricity is fed into the grid, fall under a separate procedure in which the project developer must apply for each permit individually. This separate treatment of commercial PV systems used for self-consumption and for selling electricity to the grid is considered illogical.
- The application must state whether the PV system will have an impact on the environment and, if applicable, the employees of the company on whose property the installation is to be built; this is considered superfluous.
- An on-site meeting and the party status of residents and possibly other affected parties (e.g., road maintenance department) makes the procedure very time-consuming.
- The CPA does not distinguish between a more environmentally friendly PV plant and an incineration plant (Fechner, 2020).

Fewer employees in government agencies because of Covid-19. See Section 2.2.1.1.

Identified good practice

Notification-free small-scale rooftop PV systems in the province of Carinthia.

The Building Code in the province of Carinthia was mentioned as a positive example. The Code is currently being revised and will stipulate that all PV systems installed on a roof should be completely notification-free. This would mean significantly less effort for the planning of these systems (PV stakeholder, 2020).

Commercial PV systems in Upper Austria are subject to the Electricity Industry and Organisation Act. Since it is up to the federal states to formulate the regulations for PV systems and whether a CPA is required or not, there are significant differences across the federal states. In Upper Austria, for example, a commercial PV system is subject to the Electricity Industry and Organisation Act and not the Industrial Code (EA, 2010) and therefore does not undergo the CPA procedure. This simplifies the procedure, as the documents required for the CPA procedure are much more detailed and time-consuming to obtain (PV stakeholder, 2020). Also from official side, a CPA is not deemed necessary for commercial PV installations (PV stakeholder, 2020).

2.2.1.4. Grid connection permit

Process flow

Before the construction of a rooftop or ground-mounted PV system can begin, the project developer must apply for a grid-connection contract from the local grid operator. This is not obligatory for the start of the administrative process (see Section 2.2.1.4.) and can be started already during the site selection process (see Section 2.2.1.1.). Grid operators are obliged to connect PV systems with priority to the grid (§20 EA, 2010).

The stages of the connection process are not defined by law and the local grid operators have different practices. The grid connection process usually consists of the following steps. As a first step, the project developer applies to the grid operator for connection of his installation to the grid. The scope of the documents, which must be submitted to the grid operator as part of the grid connection application varies depending on the grid operator. Subsequently, the grid operator examines whether the grid connection is technically feasible. Depending on the requirements of the grid operators, the project developer must invest a different amount of time for preparing the application. In Upper

Austria, only one process step (completion of an online form) is necessary to obtain the grid connection permit. When the plant is connected, the grid operator confirms this, and the PPA can be concluded with an energy supplier. If the verification of grid capacity at the nearest possible connection point fails, the network operator offers to reinforce the grid at costs of the project developer. Thus, formally, in most cases grid-connection is not refused.

How quickly the grid connection procedure takes place depends on the staff capacities of the grid operator. According to stakeholders, grid operators in western Austria are increasing their staff to deal with the numerous requests (Kossak, 2021). In the rest of Austria, the workload of the grid operators' staff is apparently too high. This conclusion can be drawn due to the often times long period of time in which the network operator carries out the necessary calculations for the grid connection (PV stakeholder, 2020).

Small-scale devices

There is not yet a simplified procedure for connecting small-scale devices to the electricity grid. However, it is to be introduced that every system up to 20 kW must be connected to the grid, even if the grid capacities are not available (PV stakeholder, 2020).

According to the stakeholders interviewed, the grid connection process is not particularly transparent and efficient, as there are several different procedures depending on the local grid operator (PV stakeholder, 2020). The critical point is before submitting the grid connection request to the grid operator, when the project developer must find out which exact requirements apply to the plant in question. This is because the local grid operators base their technical requirements for the plants on the technical and organisational rules (TOR), a national set of rules for grid operators and users in Austria, whereby the individual grid operators interpret these rules very differently. Once these requirements are known, the grid connection step usually proceeds smoothly (Kossak, 2021).

Deadlines

Applications for connection of a plant to the grid and for access to the grid shall be answered within a period of 14 days (§ 17 par. 3 no. 12 EA, 2010).

Detected barriers

Different interpretation of the TOR. In Austria, the national implementation of the Commission Regulation 2016/631 (EU Regulation 2016/631, 2016) forms the basis for the technical and organisational rules (TOR), a national set of rules for grid operators and users in Austria. The grid operators often interpret the rules very differently. This lack of clarity is a major obstacle for project developers or installers. Stakeholders interviewed emphasised the need for better coordination of the technical requirements and a standardisation of the TOR throughout Austria. Currently, PV Austria and the Austrian agency E-control which regulates the electricity and gas sector, are trying to improve the confusing situation and standardise the requirements. However, one expert interviewed sees the need for improvement already in the site selection stage. Here, too, the grid operators and the authorities responsible for zoning should better coordinate on the existing grid capacity and the necessity for grid expansion (Kossak, 2021). It is to be expected that this situation will become even worse in the future, if many new installations are to be installed in Austria in the coming years. This may have a negative impact on the subsidies, as they require a plant to be commissioned within a certain period of time, otherwise an applicant may lose his subsidy. The expert calls for a solution to this problem and argues that it should be sufficient that the installation can

already be commissioned with the completion notification that the electrician sends to the grid operator (PV stakeholder, 2020). The following barriers are interlinked with the barrier of different TOR interpretations:

- **High adaptation effort of the house connection for small systems.** The effort to connect small PV systems to the network is often very high, because the grid operators refer to 'state of the art technology' (sometimes going beyond the safety aspects). Installation of a PV system is generally regarded as a 'substantial change' and therefore building protection applies. It is incomprehensible, for example, that it is considered a 'substantial change' even if the connected load is usually far below the permitted reference values (Fechner, 2020).
- **Limitation of the feed-in power for larger plants.** In general, grid operators are not particularly willing to expand the grid and therefore try to find ways to limit the feed-in power (Kossak, 2021). In the case of larger installations, the grid operators often limit the permitted feed-in power, often well below the existing connected load, although there are no technical calculations that would prove the need for this reduction. In addition, in many cases there are costly requirements for connection adjustments, for example that a larger commercial plant with a 200 kW connection may only feed 30 kW into the grid (Fechner, 2020), which means that in the absence of self-consumption, the plant cannot be operated at full load. One way to address this problem is that the grid operator and the authority that carries out the zoning plan work together to reallocate the areas that make sense for new PV installations from the perspective of the existing grid (Kossak, 2021).

Insufficient grid capacity. One obstacle before construction can be the lack of grid capacity. In addition to the general lack of grid capacities, it is often the case that many grid capacities are already reserved by other applicants. Insufficient grid capacity can result in higher costs for project developers, as new cables have to be laid to connect the plant elsewhere (PV Stakeholder, 2020). Insufficient grid capacity is a particular problem for ground-mounted PV and, according to experts, the main obstacle for this technology. Grid connection costs often already account for more than 20 % of the total investment costs of a ground-mounted PV system. If additional costs for reinforcement measures in the upstream grid or in the transformer station are necessary, which is not uncommon, this can prevent the economic realisation of a project (CPG Competitive Power Generation GmbH, 2020).

Lack of information on alternative connection points. If the capacity of the distribution grid is not sufficient to connect the given installation, the grid operator offers an alternative connection point, which is nearer to the transformer station. In some regions, the network operator does not provide information about an optional connection point with a reduced power that the network could transmit. So, the applicant must repeatedly try with a smaller system power and wait for approval (Kossak, 2021).

Delays in the grid connection process. It is reported that grid operators often have very different response times for grid connection enquiries, depending on the workload and the staff capacity. Furthermore, after completion of the plant, delays may occur because the grid operator does not connect the plant in time. This step, however, is necessary to enable the plant to be commissioned (PV stakeholder, 2020).

Identified good practice

No good practice related to this process step was identified.

2.3. Small hydropower

2.3.1. Relevant process steps

The first step towards constructing a small hydropower plant is usually for the project developer to submit a non-institutionalised enquiry to the individual authorities relevant for the construction in advance. The second step is to apply for the grid connection permit. A provisional grid connection permit is initially valid for one year, during which the entire administrative authorisation procedure should be completed. After that, a grid connection contract will be concluded between the project developer and the grid operator. The water management planning authority must also be informed prior to the official approval procedure and before the start of construction of a new hydropower plant.

Following this, the administrative authorisation procedure can take place in order to obtain the water rights permit, the electricity production licence and nature conservation law and, if necessary, the clearing permit. A building permit is granted in the water rights procedure. For all procedures, the competent authority depends on the size of the plant: below the 500kW limit, the district administrative authority is responsible, and above that, the state administrative authority. Sometimes a concentrated procedure is used, even if, according to the stakeholders interviewed, it is not established by law. In this case, the following permits are processed simultaneously: water rights permit, the authorisation under electricity law and nature conservation permit.

Construction of a small hydropower plant can only begin when all the above steps have been successfully completed. Furthermore, project developers must apply for the feed-in contract with the Clearing and Settlement Agency for Green Electricity (OeMAG Abwicklungsstelle für Ökostrom AG) before starting the construction.

After completion of the plant and before the plant can be connected to the grid, the grid operator requires a notice of completion from the executing electricity company. Next, the meter can be installed, and the generating plant can be put into operation and the network operator issues a final operating licence. After commissioning of the plant, an on-site hearing is held by the water rights authority and the electricity law authority to check whether the plant is being properly executed.

Revitalisation has long been relevant for small hydropower plants. However, there is no separate procedure for revitalisation; which permits are required depends on the scope of the revitalisation and is decided individually. The procedure is determined by the Water Rights Act: If the project remains within the scope of the previous water law permit, there is usually no need to seek a new procedure, only possibly a notification. However, a separate procedure is required for major changes and, according to experts, a new procedure is necessary for most revitalisation projects (Small hydropower stakeholder, 2020).

2.3.1.1. Site selection

Process flow

In Austria, zoning plans do not specify areas for the construction of hydropower plants. Therefore, when selecting a site for a small-scale hydropower plant, an enquiry is usually made in advance with the individual authorities relevant for the construction in the non-

institutionalised way. Whether this enquiry takes place depends on the region, authorities and on the project developers. In addition, there is the possibility in Tyrol to obtain a procedure for prior information on nature conservation for planned hydropower plants. This is intended to clarify before the start of the official approval procedure whether the project cannot be realised from a nature conservation point of view due to possible serious impairments (Office of the Tyrolean Provincial Government a., 2006). However, the industry considered the procedure to be an obstacle to the expansion of small hydropower, as an economically and ecologically optimal solution for a specific location can only be found on a case-by-case basis (Small Hydropower Association Austria, 2010).

There is no special veto regulation of the municipality. However, the local authorities have the right to intervene if municipal land is intended for the construction of a plant (see Section 2.3.1.4.).

Deadlines

No deadlines are applicable to this process step.

Detected barriers

Environmental protection association criticises lack of regulated expansion.

WWF Austria is of the opinion that the ecological impact of small hydropower plants has been greatly underestimated in the past. A lack of a strategic approach for permits and subsidies, coupled with a lack of specific zoning plans for hydropower plants and the lack of criteria for the expansion these plants, can cause such a massive damage to small water bodies in particular that they can no longer fulfil their ecological functions. According to the WWF, small-scale power plants are justified, for example, as isolated solutions and in decentralised locations (WWF Austria, n.d.). Stakeholders, on the other hand, argue that there is no scientific evidence for WWF's statement. WWF would only focus on electricity production compared to national electricity consumption. Small hydropower, however, is regional and should therefore rather be compared to regional consumption. Furthermore, it should not be forgotten that small hydropower serves as an enabler for other renewable energy plants, as small hydropower provides many additional grid services that enable other renewable energy plants in the decentralised grids (Small hydropower stakeholder, 2020).

Identified good practice

No good practice related to this process was identified.

2.3.1.2. Electricity production licence

Process flow

In order to construct, operate or substantially modify an existing small hydropower plant, the project developer needs to obtain an electricity production licence (*Elektrizitätsrechtliche Genehmigung*) (EA, 2010). The process is regulated differently in the federal states. As a rule, two procedures take place in parallel. In Tyrol, on the one hand, the project developer must apply for the approval according to the Heavy Current Line Act at the Tyrolean Provincial Government (Department of Water and Energy Law) (TPLA, 1969). On the other hand, the project developer has to apply for the electricity production licence. Which authority is responsible for the procedures depends on the capacity of the installation: For plants with a maximum capacity of 500 kW, the district

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administrative authority (*Bezirksverwaltungsbehörde*) is responsible for all procedures; for plants with a capacity of more than 500 kW - the Tyrolean provincial government (Department of Water and Energy Law) is responsible as the energy authority (§73 TEA, 2012).

According to the Austrian NECP (2019), power plants with the capacity of up to 45 kW are planned to be exempt from the licence if they are connected to the medium-voltage power lines. Currently this exemption applies to installations up to 1 kW.

Deadlines

The deadlines differ in the federal states.

Detected barriers

As in some states there is no licence needed for installations below a certain level, stakeholder argue that this can be considered as a barrier.

Multiple assessment of environmental and mechanical aspects. When applying for an electricity production licence, ecological, mechanical and other aspects are checked. However, these matters are also reviewed during the administrative authorisation process (see Section 2.3.1.3). Stakeholders report that this double check often leads to additional and sometimes contradictory conditions (Small hydropower stakeholder, 2020).

Identified good practice

Exemption from the electricity generation licence for small hydropower plants in Upper Austria. In Upper Austria there is an exemption from the electricity generation licence for small hydropower plants with a capacity of up to 400 kW. This is seen as a simplification of the procedure. In most other federal provinces, however, an application is usually required (Small hydropower stakeholder, 2020).

2.3.1.3. Administrative authorisation

Process flow

In Austria, before beginning with the administrative authorisation process, every small hydropower plant project must be notified to the Water Management Planning Body of the State (*Wasserwirtschaftliches Planungsorgan des Landes*). The notification shall contain the main features of the project (§ 55 (3) WRA, 1959). The authority provides its assessment of the project at a later stage, as part of the water law procedure. It has party status in the subsequent water law procedure (Office of the Tyrolean Provincial Government b., 2006). The following describes the administrative authorisation procedure according to the example of Tyrol. In Tyrol, the following permits are required for the construction and operation of a small hydropower plant: (1) a water law permit (*Wasserrechtliche Bewilligung*) under the Federal Water Act 1959 (WRA, 1959), (2) a nature conservation permit (*Naturschutzrechtliche Bewilligung*) according to the Tyrolean Nature Conservation Act 2005 (§29 TNCA, 2005), and, in most cases, (3) a clearing permit (*Rodungsbewilligung*) according to the Federal Forestry Act 1975 (Forestry Act, 1975).

For hydropower plants with a maximum output of 500 kW, the competent authority for all three permits is the district administrative authority (*Bezirksverwaltungsbehörde*) (§

98 (1) WRA, 1959; Office of the Tyrolean Provincial Government b., 2006). For hydropower plants with an output of more than 500 kW the competent authority is the provincial governor (*Landeshauptmann*) (§99 (1) lit. b WRA, 1959; § 170 (2) Forestry Act, 1975; § 42 (2) lit. a TNCA, 2005).

For each procedure, the project developer must submit a separate written application to the competent authority. The application can be simple and informal indicating at least the applicant and the subject matter of the application and must be signed by the applicant. Together with the application, the project developer submits detailed project documents for the respective approvals, prepared by experts.

Water law procedure

In the water law procedure, the prohibition of deterioration of a water body to be used is of central importance (§ 30 lit.a, §104 lit.a WRA, 1959). Therefore, the ecological status of the surface water body concerned must always be assessed in the permit procedure; deterioration of this status is generally not permissible. Furthermore, it is a fundamental water management prerequisite that the hydropower potential inherent in the water body to be used is utilised in the best possible and technically suitable manner (§ 105 (1) lit. i WRA, 1959). An important objective is to use the remaining hydropower resources of the country in a sparing manner, but at the same time as effectively as possible (Office of the Tyrolean Provincial Government b., 2006).

In the water law procedure, an oral hearing shall be held (§39 (2) GAPA, 1991). The applicant and the owners of those properties which are to be affected by the planned construction of the power plant (§ 60) shall be summoned in person; if applicable, also holders of water rights and fishery rights, if these rights are to be affected by the project. Registered NGOs are also considered as parties. If other persons are to be considered as parties, they need to be personally notified about the hearing (§41(1) second sentence GAPA, 1991) and, in addition, the hearing has to be announced by publication in a municipal or daily newspaper or by mail (§107 WRA, 1959).

In the water rights procedure, also a building permit is granted.

Nature conservation procedure

The application for a nature conservation permit must be submitted in writing and must state the type, location and scope of the project. In addition, the application must be accompanied by proof of ownership of the property concerned or, if the applicant is not the landowner, by the landowner's declaration of consent, unless plans in Natura 2000 areas are concerned. Furthermore, the application shall be accompanied by all documents in duplicate which are necessary for the assessment of the permissibility of the project, in particular with regard to a possible impairment of Natura 2000 sites, the landscape, the recreational value of the landscape and the natural balance, such as plans, sketches, descriptions, plant and animal surveys etc. The document must also show how impairments of the interests of nature conservation can be avoided or reduced, such as landscape conservation plans, planting plans, nature conservation plans and the like; in the case of projects which may have a significant impact on Natura 2000 sites, the application shall present the alternatives, including the so-called 'zero variant', propose compensatory measures and include the consent of the owners of the land affected or the persons otherwise entitled to dispose of it (§43 TNCA, 2005).

In the decision-making process, the municipalities affected by the project in question have the right to be parties in order to safeguard their interests in matters within their own sphere of action (§43 (5) TNCA, 2005). Recognised environmental organisations are

entitled to appeal to the Regional Administrative Court against decisions on permits and against decisions on findings (§43 (6) TNCA, 2005).

Forest law procedure (Clearing permit)

In the forest law procedure, the municipality in which the area applied for clearing is located must be heard in order to safeguard local public interests, as well as further authorities to safeguard other public interests (§19 Forestry Act, 1975). The applicant, the owner of the forest and the competent military authority if the procedure relates to forest areas relevant for national security have party status. If objections under civil law are raised in the proceedings, the authority must work towards an amicable settlement of a dispute. If such an agreement is not reached, the authority shall refer the parties to the civil law procedure for the resolution of the civil law objections not settled by the decision, expressly stating the objections (§19 (7) Forestry Act, 1975).

For the most part, the individual procedures are handled in a concentrated approval process, which is common practice according to the interviewed small hydropower expert (Small hydropower stakeholder, 2020).

Obtaining all administrative authorisations should take about one year (from submission of documents for approval), however stakeholders report that it often takes longer. Stakeholders report that experts from the authorities often classify a project as "not ready for negotiation" and ask for more information or additions, but this does not always have a legal basis, leading to an extension of the process (Small hydropower stakeholder, 2020).

There is no separate procedure for the *revitalisation* of a small hydropower plants. The permits required depend on the scope of the revitalisation; this is decided individually for each project. The procedure is defined by the Water Rights Act: If the modification of the project remains within the scope of the previous permit, there is usually no need to seek a new procedure and possibly only a notification to the authority is sufficient (§115 WRA, 1959). For substantial changes, however, an ordinary procedure is required, as described above.

According to the national hydropower expert interviewed, the entire procedure is unnecessarily bloated due to a triple examination in the water law procedure, the nature conservation law procedure and the electricity production licence procedure. Many aspects of nature conservation are already included in the water law or the electricity production licence procedure, and it would be redundant to intervene again in the nature conservation procedure and introduce additional points which are already covered by water law. However, transparency is largely ensured regarding deadlines: They are in place and are generally being met (Small hydropower stakeholder, 2020).

Deadlines

The deadlines differ in the federal states.

Detected barriers

Influence of other stakeholders on the state of the art. The practice of incorporating a wide variety of guidelines from different interest groups is perceived as difficult. Although the recommendations of the interest groups are usually not anchored in legislation, they are used in licensing procedures as important indications of the state of the art or as general benchmarks. Although the state of the art is intended to reflect scientific and technical progress, it is an undefined legal term. Among other things, relevant practice and scientific findings are considered in determining the state of the art.

For example, in the small hydropower sector, fisheries associations are strongly linked to aquatic ecology, so through their approach, publications and daily practice they influence the state of the art on fish migration aids, compensation, etc. However, no other stakeholders are involved and there is no possibility for public comment, which is why their quality is questionable. If small hydropower operators adopt certain measures or practices without being required to do so by the authorities, they are more likely to be considered as generally accepted and thus to be relied upon by the court and the authorities. In addition, official practice also has an influence on the definition of the state of the art. It is therefore recommended by the Austrian Small Hydropower Association that in the case of controversial issues, experts closely examine the content of such recommendations in the course of an administrative authorisation procedure. This should prevent the small hydropower sector from accepting the self-interests of other stakeholders (such as fisheries) (Small Hydropower Association Austria, 2020).

Contradictory requirements due to non-concentrated approval procedures in water and nature conservation law. The topic of water ecology is dealt with individually in both the water law procedure and the nature conservation law procedure. In the case of double examination, it is possible that the requirements from the water law procedure do not correspond to the water law documents. This also occurs despite the practice of the concentrated procedure described above. If the different requirements are overlooked by the project developer, no understanding on the part of the authorities can be expected after construction of the power plant. Stakeholders therefore call for a clear separation of areas of responsibility as well as a truly concentrated procedure, in which forestry law and water law and ideally also energy law (see Section 2.2.1.2.) are dealt with together (ibid.).

Lack of possibility to submit applications online lengthens process. All applications, even those for very small installations, must be submitted in several paper copies. In the case of small changes, which are common in the projects, all applications to all authorities still must be reprinted. This lengthens and complicates the process. The demand for simplification includes the possibility of submitting project documents digitally. Ideally, the project applicant would receive online feedback, can make changes to the documents, and upload them again within 6 months. On one hearing day with the participation of the entire public, the project would be negotiated and a decision on approval would be made directly (ibid.).

Delay in the administrative processes. On the one hand, procedural delays are possible due to insufficient documentation, i.e., on the part of the applicant. According to stakeholders, however, this is also alleged by the authorities to justify the excessive length of the procedure. The documents are then sent back because of minor problems. However, each rejection of the documents delays the process by 2-4 weeks. The reasons for the back and forth are often the desire of the experts or authorities for legal protection, e.g., out of fear of a claim for damages. According to the hydropower expert interviewed, legal staff in the competent authorities often lack the courage to make decisions within their own negotiating leeway. As a result, the experts consulted are often the decision-makers, although they are only supposed to point out the options for action. Furthermore, a stakeholder reports that the consulted authority experts (*Amtssachverständige*) do not need to justify their opinion, while on the other hand experts working for the project developer have to do so and often are not recognised by the authorities (ibid.).

Optimisation of the public hearings. The results of the administrative proceedings and possible conditions for the planned installation are announced only in the oral

negotiations. But the negotiators already have this information in advance. One way to optimise the oral negotiations would be to inform the project developers of the results and, if applicable, the conditions already before the negotiation date (e.g., one day or one week in advance), so that they can prepare themselves and react to the conditions accordingly (ibid.).

Identified good practice

No good practice related to this process was identified.

2.3.1.4. Grid connection permit

Process flow

The stages of the connection process are not defined by national law. The connection process usually consists of the following steps which must be established by the legislation of the governments of federal states (§17 (2) EA, 2010).

The first step is the application. On behalf of the project developer, an electrical engineer who has access to the digital portal of the grid operators applies to the grid operator for connection to the grid. This takes place before the official approval procedure begins. The second step is a technical test. The grid operator assesses whether establishing a connection is technically feasible. If this is positive, the grid operator issues a preliminary grid connection commitment, which is initially valid for one year. Thirdly, an agreement is concluded. The plant operator and the grid operator conclude a grid connection agreement, which is required to complete the connection process. A prerequisite for this step is a completed administrative authorisation procedure (see Section 2.3.1.4.). Once the grid connection contract has been concluded, construction can begin. After completing the construction and before the plant can be connected to the grid, the grid operator needs a completion notice from the electrical company carrying out the work (Small hydropower stakeholder, 2020). Then a meter can be installed, the power plant can be commissioned, and the network operator issues a final operating licence. A feed-in contract can be concluded with the Clearing and Settlement Agency for Green Electricity (*OeMAG Abwicklungsstelle für Ökostrom AG*) or electricity traders.

In general, for this step there are no administrative fees. The costs for the technical steps depend on the dimension of the plant. In the case of very small plants, the grid connection costs range from a few hundred to a few thousand euros. The grid access cost for a 350-kW hydropower plant can also amount to EUR 160,000. The grid connection step for small-scale hydropower plants, from enquiry to approval, takes about 2-4 weeks (Small hydropower stakeholder, 2020).

According to the expert surveyed, the grid connection procedure for small-scale hydropower plants is considered efficient. Also, the feed-in contract is currently very well regulated, so the expert (ibid.).

Deadlines

Applications for connection of a plant to the grid and for access to the grid shall be answered within a period of 14 days (§ 17 par. 3 no. 12 EA, 2010).

Detected barriers

Insufficient network capacity. In general, it is possible that network capacities are blocked or reserved by other applicants (Small hydropower stakeholder, 2020).

Insufficient network capacity – unclear cost. If the network capacity is not sufficient, the offer from the network operator becomes more expensive and thus the costs for the project developer increase. But there is no legal basis stating that the project developer must pay for the extension of the grid. In general, it is possible to sue against this method, but in practice in the small hydropower sector this does not happen because the costs are not that high, and the project developers weigh this against a legal dispute with the responsible grid operator. Furthermore, it is often not stated transparently what the exact costs for grid expansion are (ibid.).

Application for grid connection not possible by private operators. Applications for connection to the grid cannot be made by private project developers themselves but can only be made by an electrical engineer who has access to the grid operators' digital portal. The background of this regulation is not clear. This barrier was classified as a minor administrative barrier by the stakeholder interviewed (ibid.).

Identified good practice

No good practice related to this process step was identified.

3. Use of IT systems

A digital platform¹ is used in the EIA procedure. The platform contains in particular the determination decisions, the EIS of the project developers, the main findings of the environmental impact assessment, the main reasons for the decisions and the results of the follow-up inspection. The platform is mainly used for transparency purpose (BMK b., n.d.).

Furthermore, Styria has a digital zoning plan, which provides important information for the site selection process of ground-mounted PV².

Occasionally, grid operators offer the operators of small residential systems the possibility to register them digitally, whereby the grid capacity can be clarified and a permit issued quickly (Kossak, 2021).

The Austrian agency for the regulation of the electricity and gas sector *E-Control* provides an overview of grid operators online³ (E-control a., n.d.).

In Styria, the net-metering point number can be requested on the homepage of the network operator⁴. It does not represent a valid network commitment and is only used in advance for applications for a decision and subsidies. A feed-in project can also be registered on the same page (Energy Networks Styria GmbH, n.d.).

4. Complaint procedure

EIA procedure

The Federal Administrative Court (*Bundesverwaltungsgericht*) rules on appeals from any party against decisions under the Environmental Impact Assessment Act 2000 (EIA

¹ <https://www.umweltbundesamt.at/umweltthemen/uvpsup/uvpoesterreich1/uvp-dokumentation>

² <https://bit.ly/2Z0wrU2>

³ <https://www.e-control.at/konsumenten/service-und-beratung/toolbox/tarifkalkulator#/>

⁴ <https://www.e-netze.at/Strom/ESP/Default.aspx>

determination and EIA approval procedure) as first instance (§40 (1) EIA, 2000). Under special circumstances, the Supreme Administrative Court (*Verwaltungsgerichtshof*) and Constitutional Court (*Verfassungsgerichtshof*) can be referred to as supreme courts. However, Austrian law has strict preclusion rules, i.e., any party who did not object at the latest in the oral hearings loses all procedural rights.

Substantive law procedure for wind and individual procedures for Solar PV and hydropower

In the substantive law procedure, the system is basically the same as for the EIA procedure described above. The first court instance is listed individually in the law, the next instance is either a Provincial Administrative Court (*Landesverwaltungsgericht*) in the case of state law or the Federal Administrative Court (*Bundesverwaltungsgericht*) in the case of federal law. The decision can be challenged by each party once at the next instance, as part of the ordinary legal process. Subsequently, the Supreme Administrative Court or the Constitutional Court are available for special cases (appeal). The authorisation cannot be challenged a second time for a different reason than the one used before. Reasons or objections not raised shall be forfeited (Austrian Federal Ministry of Justice, 2020; Resch, 2020; IG Windkraft, 2014). This applies to the procedures for obtaining the electricity production licence, the building permit, the water law permit, the nature conservation permit, the CPA approval and the clearing permit.

Grid connection

One of the tasks of the Austrian Energy Regulator (Energy Control Austria) is to act as an arbitration board in case of grid access denials and other grid connection related disputes (§12 (1) E-Control Act 2011). Within the framework of the grid connection approval procedure, applicants also have the option of contacting the PV-Austria working group on grids in the event of complaints (Kossak, 2021).

Disputes over grid access are subject either to §22 (EA, 2010) before the regulatory authority (Energy Control Austria) or, if §22 (EA, 2010) is not applicable, to the civil law rules before an ordinary (civil) court (Resch, 2020).

Stakeholders tend to consider the complaint procedure to be effective provided that all those involved act in good faith. However, there are regular cases of absolute opponents of wind power, who see every construction as an interference with their rights (Resch, 2020).

The proceedings before the Federal Administrative Court sometimes take excessively long because the court is not provided with the necessary resources. In many cases, the proceedings are unnecessarily delayed by constant 'chain filings' by complaining parties. Another problem is that the Federal Administrative Court has recently ruled much more strictly and, for example, has stipulated considerably more or different compensatory measures. If these are necessary to achieve environmental compatibility, they must be anchored in the project, according to the most recent case law of the court, and may not be postponed to subsequent proceedings (without taking into account the parties involved in the first-instance proceedings). The Federal Administrative Court must then refer the matter back to the EIA authority if the additional measure results in equivalent licensing requirements, even if the first-instance proceedings are otherwise ready for a decision (IG Windkraft, 2020).

According to the wind power sector representative, the Federal Administrative Court should be bound by the content of the complaint and not be allowed to re-examine issues that were not addressed by the complaints. In addition, there should be an obligation for all parties to be represented by a lawyer in the proceedings before the Federal

Administrative Court in matters under the EIA law (except for the authority complained against or environmental lawyer). This would significantly improve the quality of the complaints. Currently, there are many appeals that, intentionally or unintentionally, are very vague about the grounds of appeal, which leads to a request by the court to the project developer and thus to a loss of time (IG Windkraft, 2020).

5. Specific features to ease administrative procedure

Table 2 below provides information on the existing specific features to ease administrative procedures in Austria.

Table 2: Specific features to ease administrative procedures

Specific feature	Existing	Short description
Simultaneous procedures	yes	<p>Onshore wind</p> <p>During the substantive law procedure, the following permits can be applied for in parallel: electricity production licence, approval under the nature conservation law procedure, aviation law procedure, forestry law permit, water law permit, occupational health and safety law permit, building permit. The site selection process and the grid connection procedure can be done in parallel.</p> <p>Solar PV</p> <p>The site selection process and the grid connection procedure can be done in parallel. The electricity production licensing procedure, the building law procedure, and if necessary, the nature conservation procedure can be done simultaneously.</p> <p>Small-scale hydropower</p> <p>The site selection process and the grid connection procedure can be done in parallel. Obtaining the water rights permit, the electricity production licence, the nature conservation permit and, if necessary, permit under forestry law can be applied for simultaneously.</p>
National contact points and one-stop-shops	yes	<p>Onshore wind</p> <p>One-stop-shop exists for the EIA procedure, including all necessary permitting procedures, except the grid connection permit.</p> <p>Solar PV</p> <p>One-stop-shop exists for commercial installations that fall under the CPA procedure. This includes the electricity production licence, the building permit, and, if necessary, the nature conservation procedure. It does not include the grid connection procedure.</p> <p>Small-scale hydropower</p> <p>There are (unofficially) concentrated procedures, including the electricity production licence, the water rights permit, the nature conservation permit and the clearing permit (the grid connection permitting procedure is excluded). One-stop-shop</p>

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		in Carinthia is expected to be introduced (Small hydropower stakeholder, 2020).
Application of 2+1 and 1+1 rules	no	
Simple notification procedure	yes	Solar PV A simple notification procedure (<i>Anzeigepflicht</i>) exists in the electricity production licensing procedure, the building law procedure and the nature conservation procedure. If they apply depends on the regulation of the respective federal state, which have set their own capacity limits.
Pre-planning	no	
Pre-application consultation	yes	Small-scale hydropower Sometimes carried out, but without any legal basis (Small hydropower stakeholder, 2020).
Project acceptance measures	yes	Onshore wind There are no specific acceptance measures provided for by law, but stakeholders report that many project developers include the population through participations, neighbourhood electricity prices and support for municipal infrastructure. In Austria, there is a general trend that people living close to wind farms accept them much more than people who do not have wind farms in their vicinity. Therefore, the acceptance of wind power in the wind power-rich east of Austria is higher than in the west, where no plants are currently located. Furthermore, stakeholders know of some cases of contract payments to municipalities, but these must be related to concrete services. Municipality 'shopping' is seen as legally critical (Resch, 2020).
Measures to streamline litigation by third parties	no	
Other	no	

6. Indicators to measure the performance of the overall process

Table 3 below provides information on the indicators to measure the performance of the overall administrative and grid connection process in Austria.

Table 3: Performance indicators to assess administrative and grid connection processes

Performance indicator	Description
Average response time by the competent authorities and TSO/DSO for grid connection procedures	Small-scale hydropower After 2-4 weeks, the project developer receives a notification from the grid operator as to whether the capacity is sufficient and is informed of the further steps to be taken in order to obtain the grid connection (Small hydropower stakeholder, 2020).
Process duration	Onshore wind The total project duration amounts to 3-8 years on average, although longer periods can also occur (IG Windkraft, 2020). The preparation of the EIS depends on the environment and the necessary measurements and expert opinions and usually takes

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	<p>between 3 and 5 months. The EIA process takes approximately 6 years (Resch, 2020).</p> <p>Solar PV</p> <p>The total process duration depends on the size of the PV installation. For ground-mounted PV installations it takes 1-1.5 years; for small-scale residential rooftop PV systems 3 months and for commercial rooftop PV systems 6-9 months (PV stakeholder, 2020).</p> <p>Obtaining a regular building permit for PV takes a few months, depending on the size of the system, the building and whether it is visible or not. The CPA procedure for commercial PV systems usually takes up to six months (PV stakeholder, 2020).</p> <p>Small-scale hydropower</p> <p>The minimum duration for all approval processes from the submission to approval would be one year, however stakeholders report that it often takes far longer (Small hydropower stakeholder, 2020).</p>
Project approval rates	<p>Onshore wind</p> <p>According to the Federal Environment Agency, 121 EIA procedures for wind turbines were applied for between 1995 and October 2018. Of these, 106 were approved, 1 was not approved, 5 were withdrawn and 9 were still ongoing in October 2018 (Environment Agency Austria, 2018).</p> <p>Solar PV</p> <p>Rejected applications from network operators possible, from the authorities less so (PV stakeholder, 2020).</p> <p>Small-scale hydropower</p> <p>No information available. However, according to stakeholder estimates, project approval rates are generally relatively high. This is because many things can be clarified with the authorities in advance (i.e., as to where a plant is feasible) (Small hydropower stakeholder, 2020).</p>
Costs of administrative processes	<p>Solar PV</p> <p><u>Rooftop PV</u></p> <p>Administrative fees are requested by the authorities on a case-by-case basis. The cost depends on whether notification or approval is required. Expert opinions make the process more expensive (PV stakeholder, 2020).</p> <p><u>Ground-mounted PV</u></p> <p>Costs incurred until a project is ready for construction (rezoning and obtaining all permits) are typically around EUR 20,000 (CPG Competitive Power Generation GmbH, 2020).</p> <p>Small-scale hydropower</p> <p>In the case of very small plants, the costs range from a few hundred EUR to a few thousand EUR. The grid access costs for a 350 kW hydropower plant can amount to EUR 160,000 (Small hydropower stakeholder, 2020).</p>
Share of permits that are legally challenged	<p>Onshore wind</p> <p>Of the 106 projects approved between 1995 and October 2018, 83 were approved in 1st instance (78%). Appeal proceedings were initiated against 23 (22%) (Environment Agency Austria, 2018).</p>
Share of legal challenges that are overruled	N.A.

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<p>Stakeholder interests</p>	<p>Stakeholder interests are taken into account on a local level as mostly neighbours, municipalities and for larger projects, citizen’s initiatives are involved.</p> <p>Solar PV</p> <p>For obtaining the electricity production licence, the building permit and the commercial properties approval, the Styrian law provides for the involvement of neighbours, among other things by holding hearings on the project (See Section 2.2.1.2.; 2.2.1.3.).</p> <p>Small-scale hydropower</p> <p>Municipalities often own weirs and barriers which can be used for small-scale hydropower. In Tyrol and Vorarlberg, project developers are often municipalities (Small hydropower stakeholder, 2020).</p> <p>In the proceedings for a decision on an application for a nature conservation permit and a clearance permit, the municipalities affected by the project in question have the right to be parties in order to safeguard their interests in matters within their own sphere of action (§43 (5) TNCA, 2005). In the nature conservation procedure, recognised environmental organisations are entitled to appeal to the Regional Administrative Court against decisions on permits and against decisions on findings (§43 (6) TNCA, 2005).</p> <p>In general, stakeholders interviewed describe the stakeholder involvement as sufficient. However, environmental organisations see this somewhat differently. In their experience, opposition to energy projects often arises either from concrete threats to nature, habitats and species, or from mistrust and rumours fuelled by a lack of transparency and inadequate or lacking communication. Therefore, for stakeholder communication, they recommend, among other things, binding, coordinated supra-regional energy planning that aims equally at achieving climate protection, energy and nature conservation interests and serves as a guide for individual decisions. They also call for early and effective participation of all relevant stakeholders in energy planning and for more communication and awareness raising for an energy transition in harmony with nature (ÖKOBÜRO, 2018). Stakeholder from the industry on the other hand argue, that the plants environmental organisations refer to usually cannot be considered as small-scale but are much bigger than 10 MW (Small hydropower stakeholder, 2020).</p>
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