



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



Luxembourg

Written by: Katarina Vujović, Jurga Tallat-Kelpšaitė, eclareon GmbH

25 May 2021, Berlin

Disclaimer: "This document has been prepared for the European Commission however it reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein."

Supported by the



eclareon

Wind
EUROPE



Öko-Institut e.V.
Institut für angewandte Ökologie
Institute for Applied Ecology

Executive summary

This report covers two relevant RES-E technologies in Luxembourg which are onshore wind and rooftop PV.

For onshore wind, the main obstacle in the site selection phase is finding a suitable location due to the small size of the country. Even if the 102 municipalities have signed the Climate Pact, not all of them are willing to embark on the path of transition to renewable energy. Due to the lack of political commitment of local authorities to switch to renewable energy, some onshore wind projects may be blocked because they are intended in the territory of a municipality that opposes such projects. In addition, the development of onshore wind energy projects may be challenged due to safety standards related to radars. The Direction of the Civil Aviation can eventually refuse the authorisation because wind turbines can be considered an obstacle to air navigation. On the other hand, the selection of suitable rooftops for PV systems does not encounter significant obstacles. The capacity of roofs in Luxembourg for PV systems is still underused.

All in all, the most significant barriers to renewable energy installation permitting take place in the administrative authorisation phase. As an example, there are numerous processes to undergo and permits to obtain before an onshore wind power project can be started, especially related to the Environment Assessment Impact (EIA). Municipalities enjoy wide autonomy in Luxembourg, and their approval of the project is vital in the spatial planning process. Furthermore, the general public has complaint rights in many administrative processes, such as the spatial planning and the EIA. As a result, the complaints can hinder a project or slow it down by years. This is especially the case in the south of the country, as the inhabitants are not yet used to wind farms, in contrast to the northern part of the country, where wind energy projects have been implemented since 1996.

With regard to the grid connection, the operators of renewable power installations are entitled against the grid operators to the connection to the grid. This agreement is based on the standard contract developed by the grid operator and has to be approved by the regulatory authority. The cost of the grid connection has to be completely borne by the plant operator. According to the stakeholders interviewed, there are no significant delays in connecting the installations to the grid. However, given the dominant position of CREOS Luxembourg S.A. within the market, only limited market share is allocated to other distribution companies, and this results in limited potential technological development (International Energy Agency, 2020).

Table 1 contains a traffic light assessment of the relevant process steps for the installation of onshore wind and rooftop PV in Luxembourg.

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

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 | Minor barriers identified | No barriers identified | Moderate barriers identified | Minor barriers identified | No barriers identified | Not relevant for target country | Not relevant for target country |
| PV rooftop | No barriers identified | No barriers identified | Minor barriers identified | Minor barriers identified | No barriers identified | Not relevant for target country | Not relevant for target country |

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

Table of contents

| | |
|---|----|
| Executive summary | 2 |
| 1. National RES targets and relevant RES technologies | 5 |
| 2. Administrative and grid connection procedure | 6 |
| 2.1. Relevant process steps..... | 6 |
| 2.1.1. Site selection | 8 |
| 2.1.2. Administrative authorisation | 11 |
| 2.1.3. Grid connection permit..... | 21 |
| 2.1.4. Corporate legal fiscal | 22 |
| 3. Use of IT systems..... | 23 |
| 4. Complaint procedure..... | 24 |
| 5. Specific features to ease administrative procedure..... | 25 |
| 6. Indicators to measure the performance of the overall process | 26 |
| References | 27 |

1. National RES targets and relevant RES technologies

Luxembourg is highly dependent on imported energy. To reduce its dependency, Luxembourg plans to increase the overall share of renewable energy source (RES) in its final energy consumption to 25% by 2030, compared to the 2020 level of 11%. In the electricity sector, the share of renewables will rise from 11.9% in 2020 to 33.6% in 2030, and in the heating sector, from the current 13.7% to 30.5% in 2030. Focusing on the predicted shares for each technology and their potential growth for 2030, the biggest increases are foreseen for onshore wind and solar energy in the electricity sector. Biomass will remain an important source of energy for the heating sector, with a share of about two-thirds of this source in the energy mix for heating by 2030. (NECP, 2019)

This report will map the administrative and grid connection procedures as well as related barriers and best practices for two renewable energy technologies – onshore wind and rooftop PV. The installed capacity of photovoltaics is expected to increase significantly in Luxembourg, from 130.39 GWh in 2019 to 1,112 GWh in 2030 (Luxembourg statistics portal, 2021; NECP, 2019). It has to be noted that no distinction between ground-mounted and rooftop PV is being made in the NECP when it comes to this 2030 objective (NECP, 2019). However, as for the future growth of solar energy, the government sees the greater potential of rooftop PV instead, since Luxembourg is a small country, but there are approximately 140,000 residential buildings and 5,000 commercial and industrial buildings that can be used for PV solutions (PV magazine, 2017). An exponential growth is also foreseen for the wind energy with a capacity ranging from 281.28 GWh in 2019 to 674 GWh¹ in 2030 (Luxembourg statistics portal, 2021; NECP, 2019).

Even if Luxembourg intends to significantly increase its share of renewable energy in the electricity and heating sectors by 2030, it remains dependent on the cooperation with other EU Member States. This dependency is reflected by the fact that Luxembourg managed to achieve its 2020 renewable energy targets thanks to the EU cooperation mechanisms with Lithuania and Estonia. Indeed, these two countries helped to cover the remaining renewable energy gap to reach the national 2020 target – the share of renewables of 11% in the final energy consumption (International Energy Agency, 2020).

Figure 1 displays the annual deployment of PV and onshore wind between 2010 and 2019. It can be observed that the solar PV deployment took constantly place during the 2010's, however with a peak in 2012 and a decreasing trend since then. The annual new capacities were not that impressive compared to solar PV between 2010 and 2019, except in 2016, the year with the highest newly added onshore capacities in this decade.

¹ These 2030 objectives are set according to the target scenario with the upper range value of 25% (NECP, 2019).

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

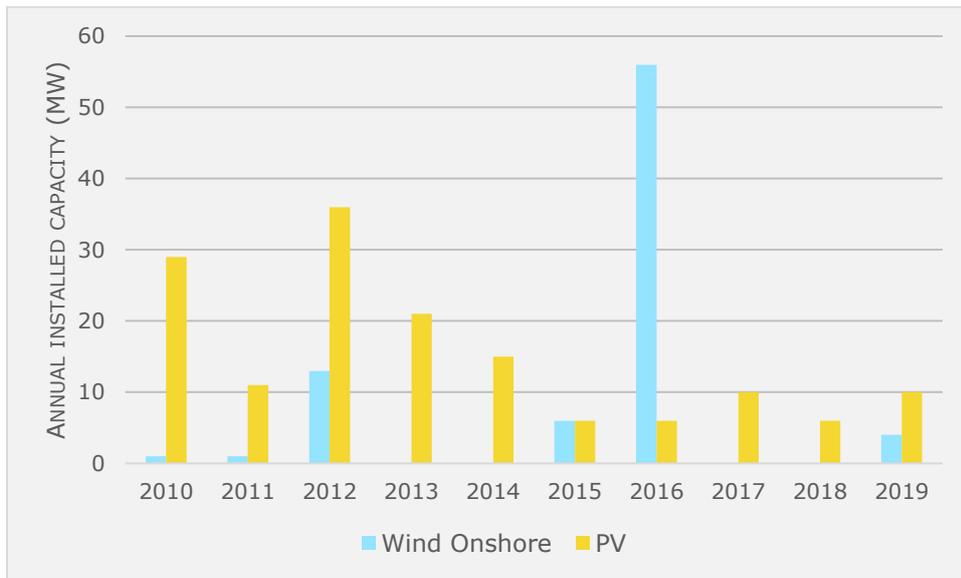


Figure 1: Annual installed capacity of PV and Wind power 2010-2019

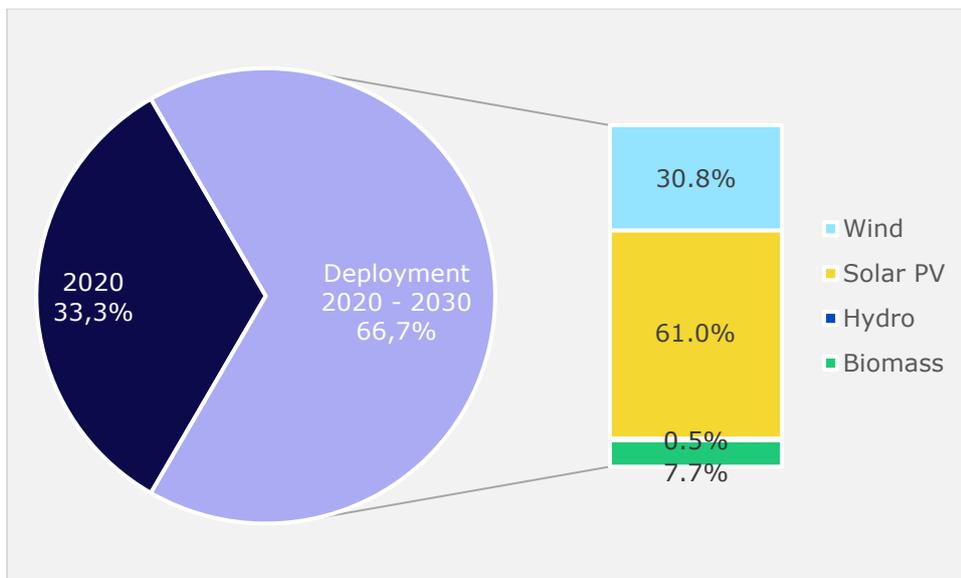


Figure 2: Planned deployment of RES-E 2020-2030 in relation to past deployment

2. Administrative and grid connection procedure

2.1. Relevant process steps

The first step in an implementation of a renewable energy project is the selection of a suitable location for the realisation of the project. Given the small size of Luxembourg's territory, this can pose a difficulty, particularly for onshore wind projects. For this reason, it is a common practice in Luxembourg for project developers to establish contact with the municipality and the local population in advance of any project, because active and transparent communication facilitates further implementation of the project. In addition, it enables the project developer to secure public and municipal approval for the project at

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

an early stage. During this stage, the project developer will also get in touch with the public grid operator CREOS to examine whether it is possible to connect the project to the grid in the selected location.

When the location for the onshore wind project is chosen, project developers will initiate the administrative authorisation procedure. The administrative authorisation procedure for onshore wind in Luxembourg includes inter alia the spatial planning and environmental impact assessment (EIA) procedure, as well as obtaining the operating permit for classified establishments (*commodo/incommodo*), the 'nature protection' permit, the building permit and an authorisation for obstacles to air navigation.

The implementation of the onshore wind project can take longer due to the authorisation of obstacles to air navigation from the Civil Aviation Authority (DAC) as well as the 'nature protection' permit, and in particular due to the studies on environmental and safety impacts of the project, if required by the Grand-Ducal Regulation of 15 May 2018 establishing the lists of projects subjected to an environmental impact assessment (EIA). According to Annex IV of this regulation, wind farms of at least 2 wind turbines with a total power of more than 100 kVA are subject to a case-by-case impact assessment (art. 2 and Annex IV Règlement Grand Ducal du 15 mai 2018), considering predefined selection criteria (Annex I Loi modifiée du 15 mai 2018). Given the requirements for the environmental impact assessment studies, preparing them can be tedious and time-consuming, especially for onshore wind projects. The result is that if some new species of fauna and flora become *protected species*, the project developer must start the procedure all over again.

Once the Ministry of Environment, Climate and Sustainable Development (*Ministère de l'Environnement, du Climat et du Développement durable - MECDD*) approved the impact assessment, the onshore wind project developer has to apply for the 'nature protection' permit, the operating permit for classified establishments (*commodo/incommodo*) and building permit. Since the competent authority for building permit is the municipality, the content and requests for an application may vary from municipality to municipality. In addition, the approval will only be granted if the application complies with the General Development Plan (PAG), where applicable, to the Special Development Plan (PAP) and ultimately to the building, public road and site regulations (art. 37 Loi du 19 juillet 2004).

For rooftop PV systems, the administrative authorisation procedure is simpler and requires fewer permits compared to onshore wind projects. However, like onshore wind projects, rooftop PV systems need to obtain the operating permit for classified establishments (*commodo/incommodo*), the 'nature protection' permit and the building permit. With respect to the operating permit for classified establishments (*commodo/incommodo*) rooftop PV systems only need to be reported to the Environment Agency, and this declaration includes certain information and plans of the installation (art.2 and Annex Loi du 26 juillet 1999).

When selecting the location for the rooftop PV system, the requirements set in the Regulation on Buildings, Public Roads and Sites must be taken into account, which are later relevant for the building permit. There are also specific requirements for PV systems to be installed on historical buildings. According to the Regulation, rooftop PV installations on buildings classified as national monuments need to be assessed by the National Sites and Monuments Service (*Service des sites et monuments nationaux - SSMN*) and the National Sites and Monuments Commission, and later approved by the Minister of Culture (art. 2 and art. 40 Loi du 18 juillet 1983).

In contrast to onshore wind projects, rooftop PV projects are not included in the list of projects that are subject to an environmental impact assessment contained in the Grand-Ducal Regulation of 15 May 2018. Therefore, no environmental impact assessment is

needed for this technology. This is because the solar potential is not yet sufficiently exhausted in Luxembourg. However, new regulations for the development of rooftop PV projects are currently underway (Zens, 2021).

After obtaining all the necessary permits, the project developer can apply to the grid operator for the connection of the installation to the grid. In Luxembourg, one public grid operator, CREOS Luxembourg S.A., is mainly responsible for the grid connection, although four other private operators are more active at the local level (Ville de Diekirch, Hoffmann Frères Energie et Bois s.à r.l., Ville d'Ettelbruck and Sudstrom S.à r.l. & Co S.e.c.s.).² In addition, it is more difficult to find an available connection point for renewable energy installations in the north of the country, because the grid infrastructure is not sufficiently expanded there.

2.1.1. Site selection

Process flow

Site selection is the first step in the implementation of a renewable energy project. For onshore wind, the project developer typically leases land suitable for the implementation of the project from the municipality. Two documents are important when deciding on the location for the construction of the onshore wind power installation: The General Development Plan (*plan d'aménagement general* - PAG) and the Special Development Plan (*plan d'aménagement particulier* - PAP).

The General Development Plan (PAG) (Guichet.lu, 2018a) contains a set of regulatory requirements for the future land use in the municipal territory and divides the municipal territory in different land use zones. The initiative to draw up or amend a General Development Plan lies exclusively with the board of aldermen (*collège échevinal*). However, project developers can contact the board of aldermen and request the initiation of amendments to the General Development Plan (art.3 Loi du 19 juillet). Such request can be expressed in oral or writing. The drawn up or amended General Development Plan has to be approved by the municipal council (*conseil communal*) and the Minister for Home Affairs (art. 3 and art. 4 Loi du 19 juillet). If the drawn up or amended General Development Plan affects also green zones, it needs to be approved also by the Ministry of the Environment, Climate and Sustainable Development (art.26 Loi du 19 juillet 2004) (for more information see section 2.1.2).

Special Development Plans (PAP) (Guichet.lu, 2018b) are subordinate plans to General Development Plan and have to be in line with the municipal building regulations. They implement and specify the type and the extent of land use in a particular zone in the General Development Plan or part of the zone. There are two forms of Special Development Plans: (1) 'new development' Special Development Plan (*PAP 'nouveau quartier'*) for undeveloped zones and (2) 'existing development Special Development Plan (*PAP 'quartier existant'*) for the existing and already developed zones (art. 31 Loi du 17 avril 2018).

In some cases, the Special Development Plan needs to be amended. These cases cover for example a change of a defined use of a land plot, which requires amending the General Development Plan; cases when the planned activity requires division of several plots of land; or any activity which deviates from the General or the Special Development Plan or the municipal building regulations (art. 27 Loi du 19 juillet 2004).

² <https://web.ilr.lu/FR/Particuliers/Electricite/Informations-utiles/Les-acteurs-du-marche>

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

If a natural or legal person plans an activity (planned development) on a zone or part thereof which are already defined in the General Development Plan, the person can apply for a Special Development Plan. For an existing development, this right is limited to the municipality only (art. 106 Loi du 19 juillet 2004).

Special development plans and any amendments to these plans need to be approved by the municipal council and the Minister for Home Affairs (art. 30 Loi du 19 juillet 2004) (for more information on the procedure see section 2.1.2).

In cases where areas are not predefined for renewable energy projects within both PAG and PAP, the project developer must contact the municipality, which possesses land that is potentially buildable according to the Special Development Plan. The municipalities are entitled to declare part of the municipal territory to be a development zone (*zone de développement*). This decision requires the proposal of the planning commission and approval by the municipal council and the Minister for Home Affairs. This includes any part of the municipal territory, which is of particular interest for regional or national development projects (art. 42 Loi du 19 juillet 2004).

Conformity with the (draft) General Development Plan (PAG) and, where applicable, with the Special Development Plan (PAP) is relevant when applying for a building permit for renewable energy systems (for more information see section 2.1.2 'Administrative authorisation'). This permit will be granted for the PAG and/ or PAP compliant constructions only (art. 37 Loi modifiée du 19 juillet 2004).

If onshore wind or solar power systems are planned to be constructed closer than 30 metres from woods or forests (of at least of one hectare), watercourses (without the possibility to connect to the local sewage system) and protected areas of local, national or EU interest (Natura 2000), the project developer will need to apply for a 'nature protection' permit. In addition, this permit needs to be obtained if the construction of renewable energy systems is planned in the 'green zones' specified in the General Development Plan (PAG) (art. 26 Loi du 18 juillet 2018). Typically, 'green zones' include agricultural land, forests, horticultural areas, public parks and other green areas³ (for more information see section 2.1.2. 'Administrative authorisation').

For rooftop PV systems there are certain requirements that need to be taken into account when selecting a roof for construction. According to the Regulation on Buildings, Public Roads and Sites, rooftop PV installations on buildings classified as national monuments need to be assessed by the National Sites and Monuments Service (*Service des sites et monuments nationaux* – SSMN) and the National Sites and Monuments Commission, and later approved by the Minister of Culture (art. 2 and art. 40 Loi du 18 juillet 1983). The aim of these requirements is to maintain safety standards, respect urban planification and the preservation of cultural heritage of buildings. As of January 2020, 550 were classified as national monuments in Luxembourg (SSMN, 2020). An updated list of nationally protected buildings is regularly published on the website of the government⁴.

In order to encourage greater use of roofs for PV systems in Luxembourg, a solar cadastre tool has been established to provide an overview of roofs that can be used for the development of solar energy. This tool is publicly available⁵.

Although municipalities are willing to make an efficient use of buildable areas for renewable energy projects, the site selection stage may be perceived as an obstacle

³ <https://bit.ly/3fQi7W0>

⁴ https://ssmn.public.lu/fr/patrimoine/patrimoine_protege.html

⁵ https://map.geoportail.lu/theme/energie?version=3&zoom=12&X=678496&Y=6428569&lang=fr&rotation=0&layers=1360-1813&opacities=1-1&bgLayer=basemap_2015_global

because of the rather small size of the territory of Luxembourg. This limitation is especially relevant for onshore wind projects (Uhres, 2021 and Zens, 2021).

Deadlines

General Development Plan (PAG) and Special Development Plan (PAP). For both, the PAG and the PAP, the spatial planning procedure follows the same procedure where the Minister for Home Affairs approves the plan or amendments to the plan within 3 months after receiving the opinion of the municipal council (*conseil communal*) (art. 18 Loi du 19 juillet 2004).

Rooftop PV systems on preserved buildings. The approval is given by the Minister of Culture within 6 months after the project developer submitted the request for the construction of the rooftop PV on a so-called preserved building (art. 10 Loi du 18 juillet 1983).

Detected barriers

Territorial constraints for wind onshore. Taking into account the rather small size of the country, there are real problems in finding a potential land for the construction of an onshore wind power plant in Luxembourg. As the municipalities are very close to each other, projects are sometimes delayed due to this municipal proximity where diverging interests arise. Therefore, an early and dynamic communication with the municipalities is crucial in order to find land available for the implementation of the project (Uhres, 2021).

Security constraints. The development of onshore wind energy projects can be challenging due to the safety standards for air traffic control (ATC) radars and the associated obstacle limitation surfaces (*les aires de limitation d'obstacles* (OLS)). The coexistence of ATC-radars and wind turbines can be complicated (renewable energy vs. flight safety conflict) and the Directorate of Civil Aviation (*Direction de l'Aviation Civile* – DAC) can refuse to approve a project for safety reasons, i.e., if the project is considered as an obstacle to air navigation. In addition, even if the DAC has approved a project, a separate authorisation should be obtained for cranes for the construction of wind turbines. Currently, the construction of a third radar is planned in Luxembourg despite significant delay in the project⁶, which, if approved, would furthermore aggravate the development of onshore wind farms by reducing the land available for onshore wind projects (Paperjam, 2014; Uhres, 2021).

Municipality reluctance for onshore wind projects. Even though all municipalities are signatories to the Climate Pact (art.1 Loi modifiée du 13 septembre 2012), some are reluctant to embark on the energy transition path, in particular by struggling to engage in active communication with project developers. This resistance can be explained in terms of political orientation at the local level where parties affiliated to the right of the political spectrum are less inclined to commit to energy transition and the development of renewable energy. Therefore, the political commitment of local authorities may represent a barrier for onshore wind deployment as they will be reluctant to lease land to developers of renewable energy projects (Uhres, 2021, Thinnes, 2021 and Zens, 2021).

Identified good practice

Active upstream communication with the local population and municipality. Active communication upstream of the project is one of the key factors for an easier acceptance by both the municipality and the local population. As a general rule, developers are keen in holding information events so that as much information as

⁶ <https://csv.lu/questions-parlementaires/43720/>

possible about the project is made available to the population and the municipality in the early implementation stage already. This increases the likelihood of approvals at municipal level (including spatial planning approvals), especially since the transparency of the processes enables a better understanding of the environmental impacts of the planned onshore wind project (PV, Uhres 2021 and Zens, 2021).

Willingness of the municipality. Luxembourg's 102 municipalities have all signed the Climate Pact (art.1 Loi modifiée du 13 septembre 2012) and are thus committed to the energy transition. In addition, the state strongly encourages municipalities to designate land that can be used for renewable energy purposes in order to increase the number of renewable energy projects in the municipalities. Municipalities that promote several energy projects in their territory therefore receive state subsidies to support renewable energy project developers (Guichet.lu, 2020; art. 9 Loi du 15 décembre 2017).

Implementation of the solar cadastre tool. Considering that the potential of rooftop PV is still not widely used in Luxembourg, the Ministry of Energy has set up a planning tool available on the internet in 2020⁷. This tool allows project developers to visualise not only the available roof surfaces but also the ground surfaces, resulting in a state incentive to develop solar energy for both types of panels. This incentive policy is part of the government's desire to encourage and facilitate the construction of large photovoltaic installations throughout the country (Gouvernement.lu, 2019a).

2.1.2. Administrative authorisation

Process flow

The administrative authorisation procedure for onshore wind in Luxembourg includes the spatial planning and environmental impact assessment (EIA) procedure (if required), as well as obtaining the operating permit for classified establishments (*commodo/incommodo*), the 'nature protection' permit, the building permit and an authorisation for obstacles to air navigation.

For rooftop PV systems, the administrative authorisation procedure is simpler and requires fewer permits compared to onshore wind projects. However, like onshore wind projects, rooftop PV systems need to obtain the operating permit for classified establishments (*commodo/incommodo*), the 'nature protection' permit and the building permit.

Spatial planning

General development plan (PAG)

As mentioned under section 2.1.1 'Site selection', the initiative to prepare or amend a General Development Plan lies solely with the board of aldermen (*collège échevinal*). However, project developers can request (in written or orally) the board of aldermen to initiate the amendments to the plan (Guichet.lu, 2018a; art. 7 Loi du 19 juillet 2004). The process of amending the General Development Plan includes five stages: (1) the submission of application or declaration, (2) the publication of the application and organisation of a public hearing, (3) the first ('provisional') vote of the municipal council, (4) the second ('final') vote of the municipal council, and (5) the decision of the Minister for Home Affairs (Guichet.lu, 2018a; art. 10-18 Loi du 19 juillet 2004).

⁷https://map.geoportail.lu/theme/energie?version=3&zoom=8&X=667917&Y=6394482&lang=fr&rotation=0&layers=656&opacities=1&bgLayer=basemap_2015_global

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

If the drawn up or amended General Development Plan affects also 'green zones', it needs to be approved also by the Ministry of the Environment, Climate and Sustainable Development (Guichet.lu, 2018a; art. 26 Loi du 19 juillet 2004).

If the local authority decides to adopt or amend a General Development Plan, it needs to organise a participatory public hearing to provide relevant information to all interested parties. For that reason, within 15 days the local authority has to deposit the draft General Development Plan in the Town Hall and publish information on this on the local website and in at least four national newspapers. Then the public has 30 days to submit their written comments or objections to the College of the mayor and aldermen. Within these 30 days the local authority has to organise at least one information event. The College of the mayor and aldermen will invite all the persons who raised objections to the public hearing and record their comments and objections in a report (Guichet.lu, 2018a; art. 12 and 13 Loi du 19 juillet 2004).

After the 'provisional' vote of the municipal council, followed by the approval of the Minister for Home Affairs, the draft General Development Plan or draft amendment to the General Development Plan is published in the Town Hall, and the public has 30 days to familiarize themselves with the draft plan or draft amendment to the plan. In addition, an announcement about the possibility to inspect the draft plan or draft amendment to the plan has to be published in at least 4 national newspapers and on the website of the municipality. If interested parties do not object to the draft plan or draft amendment within 30 days (see above), they lose their right to appeal. Those who have submitted their comments or objections within the set deadline will be summoned by the board of aldermen to settle the dispute (Guichet.lu, 2018a; art. 11 to 13 Loi du 19 juillet 2004).

In the next step, the 'final' vote of the municipal council takes place. After this voting, the draft General Development Plan or draft amendment to the General Development Plan is published in the Town Hall again for a period of 8 days and the public can inspect it for 15 days. The persons who submitted their objections after the 'provisional' vote will be informed of the outcome of their objections by registered letter and they have a period of 15 days from this notification to submit further complaints to the Minister for Home Affairs if their objections have not been considered by the municipal council. Persons who do not agree with the amendments made in the course of the 'final' vote can submit their objections within 15 days of the publication of the draft amendment in the Town Hall (following the 'final' vote of the municipal council) (Guichet.lu, 2018a; art.15 and 16 Loi du 19 juillet 2004).

Ultimately, the newly adopted PAGs or amendments to the PAGs need to be approved by the Minister for Home Affairs. If the minister agrees to the objections of third parties, he can change the decision of the municipal council on the final approval of the General Development Plan. Otherwise, the third party has the right to bring an action before the court to annul the Minister's decision (Guichet.lu, 2018a; art. 18 Loi du 19 juillet 2004).

Special Development Plan (PAP)

If natural or legal persons plan to carry out specific activities in zones or in part of a zones specified in the General Development Plan, they can apply for a Special Development Plan (PAP).

As stated in section 2.1.1., the Special Development Plan needs to be amended if a defined use of a land plot has to be changed, resulting in an amendment to the General Development Plan and if the planned activity requires the division of several plots of land (Guichet.lu, 2018b; art. 26 Loi du 19 juillet 2004).

Natural or legal persons can apply for a Special Development Plan only for planned activities (planned developments) in a zone or part of it, which are already defined in the

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

General Development Plan. For an existing development, only municipality can apply for a PAP (Guichet.lu, 2018b; art. 27 Loi du 19 juillet 2004).

The application procedure includes four stages: (1) submission of an application or declaration, (2) the publication of the submitted application, (3) (single) vote of the municipal council, and (4) the decision of the Minister for Home Affairs (Guichet.lu, 2018b; art. 10-18 and art.30 Loi du 19 juillet 2004).

To submit an application for a Special Development Plan for a new development, two prerequisites need to be met. First, applicant (natural or legal person) has to present a document authorising him to carry out the planned activity on the specific plot(s) of land. This document should contain written consents of at least half of the owners who own at least half of the surface of the concerned land. Second, the applicant has to contact and consult a town and country planner on the planned activity before submitting the application for a Special Development Plan (Guichet.lu, 2018b; art. 30 Loi du 19 juillet 2004).

Once the Special Development Plan has been drawn up and the application file is complete, the application can be submitted to the board of aldermen. The board will then launch the procedure for the adoption of the Special Development Plan (Guichet.lu, 2018b; art. 11-13 and art. 30 Loi du 19 juillet 2004).

The second stage concerns the public consultation of the draft Special Development Plan. Thus, the draft PAP has to be deposited at the Town Hall within 15 days of the application receipt and the local population can consult it for 30 days. In addition, the draft plan is published in at least 4 national newspapers as well as on the website of the respective municipality. Within the above indicated 30 days any interested third party can submit their comments and objections (in writing) to the board of aldermen. If this 30-days deadline is missed, the third party loses his right of appeal (Guichet.lu, 2018b; art. 30 Loi du 19 juillet 2004).

After public consultation procedure the single vote of the communal council takes place. The board of aldermen submits to the municipal council not only the draft Special Development Plan, but also any related documents, such as an evaluation made by the assessment unit, but also the written comments and objections received during the public consultation. The single vote procedure will end with one of the following decisions by the communal council: (1) the draft plan is adopted as submitted by the board of aldermen or is amended in line with the suggestions from the assessment unit or the public (during 30-days public consultation period); (2) the draft plan is amended for other reasons than those in item (1), which results in the entire procedure being repeated from the beginning; or (3) the draft plan is rejected, and the application process is closed (Guichet.lu, 2018b; art. 30 Loi du 19 juillet 2004).

In the last step, the municipal council submits the approved draft Special Development Plan for approval to the Minister for Home Affairs. In contrast to the General Development Plan (PAG), third parties are not granted the right to appeal the decision of the Minister. Nevertheless, persons who submitted their objections to the municipal council during the public consultation and disagree with the decision of the Minister for Home Affairs may request an annulment of the decision at the court (Guichet.lu, 2018b; art. 30 Loi du 19 juillet 2004).

Environmental Impact Assessment (EIA)

Before applying for various approvals required, namely the building permit, the authorisation of obstacles to air navigation and the 'nature protection' permit, the *onshore wind* project developer must carry out an environment impact assessment (EIA), if required by the Grand-Ducal Regulation of 15 May 2018 (art. 2 Règlement Grand Ducal

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

du 15 mai 2018). According to Annex IV, wind farms of at least 2 wind turbines with a total power of more than 100 kVA are subjected to a case-by-case impact assessment (art. 2 and Annex IV Règlement Grand Ducal du 15 mai 2018).

The EIA procedure is relatively lengthy as it involves a total of seven stages. For case-by-case impact assessments, the procedure starts with the preliminary EIA (screening). In this stage, the applicant submits all necessary elements (described below) to assess the need for an EIA study to the Ministry of the Environment, Climate and Sustainable Development, more specifically to the Procedures and Planning Department at the Ministry (Guichet.lu, 2019a; art. 6 Règlement Grand Ducal).

The application includes the following elements (Règlement Grand Ducal du 15 mai 2018, Annex III):

- The description of the project (a description of the physical characteristics of the entire project, the project location with a particular emphasis on the environmental sensibility of the impacted geographical areas)
- The description of the environmental elements likely to be impacted by the project
- The description of any effect that could impact the environment (expected residues, emissions, generation of waste and use of natural resources in particular soil, land, water and biodiversity)

If the project may, by any means, affect a 'Natura 2000' area, the applicant has also to proceed to flora, fauna, habitat (FFH) impact assessment (art. 32 Loi du 18 juillet 2018). The Ministry for the Environment ensures that the EIA and the 'Natura 2000' assessment are optimally coordinated.

If in the screening stage the Ministry for the Environment, Climate and Sustainable Development decides that an EIA is deemed necessary, it will consult other competent authorities concerned with the possibility to express their opinion about the level of details of the information provided by the project developer, before entering scoping stage (Guichet.lu, 2020; art.7 Loi du 15 mai 2018).

In the scoping stage, the Ministry defines the scope and the level of detail of the information to be provided in the EIA report. The EIA report should at least include: (1) a description of the project (incl. information on the site, design, dimension of the project, etc.), (2) its likely significant impacts on the environment, (3) measures to avoid, prevent or reduce these likely significant impacts, or compensate the likely negative environmental impacts, (4) alternative solutions, and (5) a non-technical summary of data provided in the EIA report (art. 6 Loi du 15 mai 2018).

When the EIA report is prepared, the project developer will submit it to the Ministry for the Environment, Climate and Sustainable Development. The competent authority will assess the report and request the advice on the approval of the report from other authorities concerned. If the EIA report does not contain all the required information, the project developer may supplement it based on the recommendations made by the competent authority and other authorities concerned (Emwelt.lu, 2019; art. 7 Loi du 15 mai 2018).

Once the competent authority has reviewed and accepted the EIA report, the project developer presents the project to the public (art. 8 Loi du 15 mai 2018). It is published on the governmental website 'environmental portal' and in at least four daily Luxemburgish newspapers. Any third parties that are directly impacted by the planned project, are invited to submit their suggestions or observations on the project within 30 days. Following the consultations involving the general public and the authorities concerned, the competent authority shall issue its motivated conclusion within a period of

3 months, taking into account the justified suggestions and objections provided during the consultations (art. 10 Loi du 15 mai 2018).

If the Ministry for the Environment, upon consulting other competent authorities, decides that the nature of the project is in line with the relevant legislation (e.g., the Law on classified buildings, the Law on the Protection of Natura and Natural Resources, the Law on water protection and management, etc.) the EIA of the project should be approved.

In contrast to onshore wind projects, *rooftop PV systems* are not included in the list of projects that are subject to an environmental impact assessment contained in the Grand-Ducal Regulation of 15 May 2018. Therefore, no environmental impact assessment is needed for this technology. This is because the solar potential is not yet sufficiently exhausted in Luxembourg. However, new regulations for the development of rooftop PV projects are currently underway (Zens, 2021).

The operating permit for classified establishments (*commodo/incommodo*)

The operating permit for classified establishments (*commodo/incommode*) is relevant for onshore wind and rooftop PV projects. Natural or legal persons who intend to operate an establishment or engage in an activity listed in the nomenclature of classified establishments have to apply for an operating permit for classified establishments (*commodo/incommodo*). This permit specifies the development and operating conditions for various types of establishments and activities that are necessary for the environment protection, as well as to ensure the safety of workers, the public and the neighbourhood in general (Guichet.lu, 2019b; art. 1 Loi du 10 juin 1999).

The procedure for obtaining an operating permit for classified establishments varies depending on the class to which the establishment or activity is attributed (there are several classes of establishments and activities i.e., 1, 1A, 1B, 2, 3, 3A, 3B or 4). As far as onshore wind energy is concerned (1) single onshore wind turbines with a power greater than 100 kVA and (2) onshore wind farms consisting of two wind turbines and more with a total power exceeding 100 kVA fall under class 1 establishments (art. 5, Annex I Règlement grand-ducal du 10 mai 2012). For class 1 establishments, applicants have to send three copies of the application which is available online⁸ (by registered mail) to the Environment Agency (*Administration de l'Environnement*). The Agency will then forward one copy of the application to the Inspectorate of Labour and Mines (*Inspection du travail et des mines*). In addition to these three copies, the applicant needs to submit one copy of the application for each municipality bordering the selected site within a radius of 200 metres and submit two additional copies if the project requires a water protection and management approval (Guichet.lu, 2019b; art.7 Loi du 19 juin 1999).

In the next step, the Environment Agency examines the application and (by letter) informs the applicant within 45 days of receipt of the permit application whether the application is complete or not. In the case of an incomplete application, the Agency will request the applicant to submit the missing information. The request for supplementing the application can be made only *once*. This additional information can be provided to the Environment Agency within 120 days. Upon a written request of the applicant and only for justified reasons, this deadline can be extended by 30 days. If the applicant fails to submit the additional information requested within this deadline, the Agency will no longer consider this application. If, however, the additional requested information is submitted, the Environment Agency will once again examine the completeness of the application. If it considers the application complete, it will inform the applicant about it

⁸ <https://guichet.public.lu/en/entreprises/urbanisme-environnement/commodo-incommodo/autorisations-commodo/commodo.html>

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

within 25 days from the receipt of the additional information. If, after examining the supplemented application, the Agency still considers that the application is not complete, it will invite the applicant to a hearing within 7 days and report on the application within 15 days of the hearing. This report is then sent to the applicant (Guichet.lu, 2019b; art. 9 Loi du 19 juin 1999).

If the application is considered complete, the Environment Agency will launch the public inquiry procedure. In a first step, the Agency will send a copy of application to the municipality in question as well as to municipalities bordering the selected site within a radius of 200 metres. Then, no later than within 10 days from the receipt of complete application the municipal authority has to display a notice about the application in the town hall as well as at the site of the planned establishment. Moreover, the authority has to deposit the application file in the town hall so that any interested parties have the possibility to consult it. Finally, the information on the application has to be published in at least four daily newspapers. All publication costs have to be covered by the applicant (Guichet.lu, 2019b; art. 10 Loi du 19 juin 1999).

The general public has 15 days to consult the application. After that, all written comments and objects will be collected by the mayor and his representative to discuss them with the interested parties during a public inquiry (*enquête commodo/incommodo*). No later than 20 days from the deadline for publication, the municipal authority has to send the minutes of the inquiry and the decision of the board of the mayor and aldermen to the Environment Agency (Guichet.lu, 2019b; art. 10 Loi du 19 juin 1999).

After 45 days from the day when the decision of the municipality concerned became known, both competent authorities - the Environment Agency and Inspectorate of Labour and Mines - have to inform the applicant, the municipality concerned and, where applicable, also municipalities within 200m from the boundaries of the installation of its decision. The municipality concerned and other municipalities within 200m from the boundaries of the installation have to display all the necessary information for 40 days. In addition, the municipality concerned shall (by registered letter) inform about the final decision all interested parties who submitted their comments and objections. Alternatively, it can publish a notice on the final decision in at least 4 newspapers. Here, too, the applicant bears the cost of publication (Guichet.lu, 2019b, art. 7 and art.9-13 Loi du 19 juin 1999).

Rooftop PV systems fall under class 4, which are subject to the requirements laid down in the Grand-Ducal regulation, which means that they only must be reported to the Environment Agency.

In general, for both technologies covered in this report, onshore wind and rooftop PV, the issue of the operating permit for classified establishments is not perceived as problematic by the project developers because the competent authorities respect the statutory deadline, and do not hinder the implementation of projects (Uhres, 2021 and Zens, 2021).

'Nature protection' permit

The construction of *rooftop PV systems* and *onshore wind turbines* requires obtaining the 'nature protection' permit (available online⁹) from the Ministry of the Environment, Climate and Sustainable Development (the application has to be submitted to the Department of the Environment). This permit needs to be applied for any construction

⁹ <https://environnement.public.lu/dam-assets/documents/emweltprozeduren/conservationdelanature/Nouvelle-construction.pdf>

that might impact landscape conservation and the protection of fauna and flora (art.1 Loi du 19 janvier 2004).

This permit is compulsory for any construction project or modification of construction within a distance of less than 30 metres from woods and forests, watercourses or protected areas. These protected areas include 65 areas of communal, national or community interest (Emwelt.lu, 2020; art. 40 Loi du 19 janvier 2004) as well as 66 areas included in 'Natura 2000' (Emwelt.lu, 2021), which are accessible online.

The application for a 'nature protection' permit has to be submitted to the Department of the Environment at the Ministry of the Environment, Climate and Sustainable Development. The permit application procedure begins with the compilation of an application file by the project developer. The application file must contain among other things extracts from the land register (scale of 1:2,500) and the topographical map (scale of 1:20,000) to indicate the location of the project (available on the website Guichet.lu¹⁰) as well as a copy of the construction or alteration plans with an indication of the measures (in the case of construction). The application is then sent in four copies (one original and three copies) to the Department of Environment. If the project is also subject to a water permit, there is no need for the applicant to file a separate application for a 'nature protection' permit. In this case, the applicant should only send the water permit application to the Water Management Authority which will then forward the application to the Department of the Environment (Guichet.lu, 2019c; art. 12 Loi du 19 janvier 2004).

The 'nature protection' permit is normally issued within 2 months from the moment of receiving a complete application (Guichet.lu, 2019c).

The 'nature protection' permit represents a considerable obstacle in the administrative authorisation procedure, even though there is a 2-month time limit for obtaining this permit, it is nonetheless recurrently exceeded. This delay could be explained by the lack of staff within the Department of the Environment, which could therefore be overwhelmed by the number of requests. On the other hand, the list of fauna and flora is revised constantly according to the life cycle of biodiversity, and project developer must comply to it and adjust the permit application accordingly (Uhres, 2021).

Building permit

The building permit for the construction of *onshore wind installations* and *rooftop PV systems* must be applied for from the mayor of the municipality. It is relevant to state that the content of the application may differ from municipality to municipality and therefore, the applicant has to verify which documents are needed. The building permit will only be granted if the construction works comply with the General Development Plan (PAG), the Special Development Plan (PAP) and the building, road, and site regulations (Guichet.lu, 2019d; art. 37 Loi du 19 juillet 2004).

Once the application for a building permit has been accepted by the mayor, the mayor will issue a certificate, which the applicant should display on the construction site. In addition, an announcement on the issue needs to be published on the website of the municipality. Also, this certificate should mention that the local population may consult the application at the municipality. Objections to the issue of the building permit can be raised within three months from the display of the certificate on the issue of the building permit on the site of construction work (Guichet.lu, 2019d; art. 37 Loi du 19 juillet 2004).

¹⁰ https://act.public.lu/fr/publications/commandes-documents.html?r=f%2Faem_theme%2Ftags_theme%3Aact%5Ctopo-1-20000&

For rooftop PV projects, an approval by the Ministry of Culture can be required if the project is meant to be developed on a protected or historical building (art. 15 Loi du 18 juillet 1983).

The building permit expires automatically if the project developer has not started the significant construction work within one year of obtaining the permit. For justified reasons this deadline can be extended by the mayor twice. Each extension cannot be longer than one year (Guichet.lu, 2019d; art. 37 Loi du 19 juillet 2004).

Authorisation of obstacles to air navigation

The Directorate of Civil Aviation (*Direction de l'Aviation Civile - DAC*) is the competent authority for the approval of obstacles to air navigation (Guichet.lu, 2021; art. 30 Règlement du grand-ducal du 17 mai 2006). This approval is relevant for *onshore wind projects*.

The following objects require an approval from DAC (Guichet.lu, 2021; art. 30 Règlement du grand-ducal du 17 mai 2006):

- objects exceeding a height of 100 metres above the ground in residential areas (grouping of at least 10 residences)
- objects exceeding a height of 60 metres above the ground outside residential areas.

The applicant can submit application to the DAC by e-mail or by post. A standard application form can be downloaded from the government website.¹¹ The application should among other things include the geographic GPS coordinates, the exact date of construction and the exact geographic coordinates and dimensions, such as height and elevation, of the project. In addition, for wind turbines, the application must attach a plan providing a general overview and a sectional view of the object(s). It should be noted that the use of cranes for the construction of wind turbines necessitates a separate approval from the DAC (Guichet.lu, 2021).

Obtaining the authorisation of obstacles to air navigation can be complicated on the one hand, due to the strict standards related to air safety perimeters and on the other hand, due to the procedure itself for the construction of onshore wind projects. Even if a project developer obtains the authorisation for a project, an additional application has to be obtained for the crane needed for the construction of the project and obtaining this additional permit may be delayed or refused (Uhres, 2021). For more information see section 2.1.1 ('Detected barriers').

Deadlines

Spatial planning

General Development Plan (PAG)

For the relevant deadlines related to the adoption or amendment of the General Development Plan see 'Process flow' sub-section above (General Development Plan (PAG)).

Special Development Plan (PAP)

For the relevant deadlines related to the application for a Special Development Plan see 'Process flow' sub-section above (Special Development Plan (PAG)).

¹¹ <https://guichet.public.lu/en/entreprises/sectoriel/aviation/espace-aerien-aerodromesatm-ans/obstacles-navigation-aerienne.html>

Environmental Impact Assessment (EIA)

No later than ninety days (3 months) after the public consultation and, if applicable, cross-border consultation, the Ministry of the Environment sends the reasoned conclusion to the project developer and also, where appropriate, to the competent authorities which were included in the decision process (art.7-10 Loi du 15 mai 2018).

The operating permit for classified establishments (*commodo/incommodo*)

For the relevant deadlines related to the application for the operating permit for classified establishments (*commodo/incommodo*) see 'Process flow' sub-section above (The operating permit for classified establishments (*commodo/incommodo*)).

'Nature protection' permit

The 'nature protection' permit must be issued by the Ministry of the Environment, Climate and Sustainable Development (Department of the Environment) within 2 months of receiving the complete application file (Guichet.lu, 2019c).

Building permit

There is no specific deadline for the issue of a building permit as this depends on the decision of the mayor of each municipality. However, in the case of a rooftop PV system on a protected or historical building, the authorisation will be provided by the Ministry of Culture within 6 months of the submission of full application (art. 15 Loi du 18 juillet 1983).

The building permit expires automatically if the project developer has not started the significant construction work within one year of obtaining the permit. For justified reasons this deadline can be extended by the mayor twice. Each extension cannot be longer than one year (Guichet.lu, 2019d; art. 37 Loi du 19 juillet 2004).

Approval from the Directorate of Civil Aviation

The application for the construction of onshore wind turbines higher than 614 metres above sea level has to be submitted no later than 3 months before the construction. In other cases, 15 days before the construction of an installation to be considered an obstacle to air navigation. Once approved, the authorisation is of indefinite duration if the location, height, and nature of the project do not change during the project (Guichet.lu, 2021; art. 29 Règlement du grand-ducal du 17 mai 2006).

Detected barriers

The length of the EIA procedure. This EIA approval proves to be a major obstacle when planning an onshore wind project for several reasons. First, there are uncertainties about the duration of the EIA since the assessment of the project is carried out on a case-by-case basis. Second, the project developer cannot determine the cost of the environmental impact assessment in advance. This step is usually relatively costly, because given the specific nature of certain studies, the developer usually needs to commission an expert office to analyse the environmental impact of the project. The environmental impact assessment is therefore complex and can lead to considerable delays in project implementation (Uhres, 2021).

The variation of environmental criteria. The aim of the EIA is to assess the impact of a project on the environment, including the biosphere on the selected site. The fauna and flora to be protected may vary from year to year and therefore the Ministry of the Environment, Climate and Sustainable Development regularly adapts the list of protected species. These revisions represent an additional cost to project developers because if a new species has been added to the list of protected fauna and flora, the environmental

assessment must be restarted in order to meet the adjusted environmental requirements. According to the interviewed stakeholders, this usually results in longer EIA approval process, hence significantly delaying the implementation of a project. For example, the wild cats have recently become a new animal species to be protected and this change has led to significant delays in some project planning (Uhres, 2021).

Difference among regions. According to the interviewed stakeholder working in the wind energy sector, the local communities in northern Luxembourg have become used to wind power projects since the first turbines were built there in 1996 (Gouvernement.lu, 2020b). Considering all the wind farms authorised under the legislation on classified establishments (Loi du 10 juin 1999), the majority of them are located in the north of the territory (Environment Agency, 2021a). Over the years, local communities have become better informed about the potential environmental or safety impacts of wind power plants. In the south of the country, however, the local population is rather sceptical about the development of new wind power projects in their vicinity. This resistance is based on the lack of information on the one hand and a higher density on the other hand (PV Uhres, 2021). In addition, the municipalities in south have less know-how in the field of renewable energy (due to the lower number of projects implemented there), which leads to more stringent requirements for obtaining building permits and greater difficulties in connecting to the electricity grid (Uhres, 2021).

Political commitment on the part of the municipalities. Even if the 102 municipalities are signatories of the Climate Pact, some are less inclined to allow the development of projects on their territory for political reasons. As one stakeholder pointed out, municipalities with more right-wing political parties in power are less inclined to provide available sites for renewable energy projects and to issue building permits. In addition, these municipalities can, beyond their influence on their own territory, hinder the administrative authorisation process of their neighbouring municipalities, in particular by blocking the issue of operating permits for classified establishments (*commodo/incommodo*), if they are located within 200m radius of the planned installation (Uhres, 2021, Thinnes, 2021 and Zens, 2021).

Lengthy issuing process for the 'nature protection' permit. Although there is a legal deadline for the issue of the 'nature protection' permit (2 months of receiving the complete application), concerns were raised about the pace of issuing this permit. In practice, if the developer does not insist on the continuation of the procedure, whether by telephone or e-mail, this step may take longer. Given the various studies required and the environmental criteria that can be adapted as the project continues, the developer may face significant delays. In addition, a lack of staff at the Ministry of the Environment, Climate and Sustainable Development may add delays in the issuing of the required 'nature protection' permits, resulting in a delay of the development of the entire project (Uhres, 2021).

Identified good practice

Possibility to download documents for the authorisation procedure online. Even if the use of a digital system is not yet systematic in Luxembourg, some documents for the authorisation procedure can be downloaded from the Government websites. This is notably the case for the application for authorisation of obstacles to air navigation (DAC-ADM4101)¹², the application for an operating permit for classified establishments

¹² <https://guichet.public.lu/en/entreprises/sectoriel/aviation/espace-aerien-aerodromesatm-ans/obstacles-navigation-aerienne.html>

(*commodo/incommodo*)¹³, and the 'nature protection' permit (e.g., the order of topographic map¹⁴ (scale 1:20.000) required for the 'nature protection' permit)¹⁵.

2.1.3. Grid connection permit

Process flow

In Luxembourg, renewable energy producers are entitled to the connection of their plants to the electricity grid. The distribution system operator (DSO) is obligated to connect the eligible installations according to objective, transparent and non-discriminatory criteria (art. 5 Loi du 3 février 2021).

The grid connection is based on the grid connection agreement, a standard contract drawn up by the grid operator, requiring prior authorisation from the Luxembourg Regulatory Institute (*Institut Luxembourgeois de Régulation* - ILR) (art. 4 (4) Règlement grand-ducal du 1er août 2014). Hence the regulator oversees the practical and procedural arrangements required to ensure non-discrimination, effective competition and functioning of the electricity market (art. 54 (4) Loi du 1er août 2007). In addition, each DSO should determine the technical conditions for connecting the project to the medium and high-voltage networks, which is subject to the approval procedure (art. 57 Loi du 1er août 2007). The regulator's decision is then submitted to the Ministry of Energy and Spatial Planning, because the construction of new electricity facilities is subject to prior individual authorisation by the Ministry (art. 15 (1), art. 5(3) Loi du 1er août 2007). This authorisation is not required for renewable energy installations with a rated electrical output of less than 10 MW (art. 15 (4) Loi du 1er août 2007).

The procedure for the connection to the low-voltage grid is as follows. In the first step, the operators of the installations to be connected to the low-voltage grid are required to apply to the grid operator for a grid connection. For this purpose, they must a) submit a certified copy of the corresponding entry in the cadastre b) a general plan c) the specifications of the installation to be connected (art. 41 (4) Loi du 1er août 2007). Subsequently, the grid operator submits the applicant a grid connection offer including grid connection permit and a draft agreement of the grid connection. The grid connection offer and related documents must be submitted to the renewable energy producer within 10 working days. The offer is valid for a period of 6 months (art. 2 (3) Loi du 1er août 2007).

When the grid operator receives the confirmation of the grid connection offer from the renewable energy producer, the grid connection work can start. The grid connection agreement will be signed by the renewable power plant operator when the grid connection work is completed. The signed grid connection agreement must be returned to the grid operator. The meter will be put into operation only after the signed grid connection agreement has been returned to the grid operator (art. 2 Loi du 1er août 2007).

The procedure for the connection of renewable power plants to a medium-voltage or a high-voltage grid differs in the following respects. First, the operator of renewable power plant has to conclude an additional agreement with the grid operator - the agreement on

¹³ <https://guichet.public.lu/en/entreprises/urbanisme-environnement/commodo-incommodo/autorisations-commodo/commodo.html>

¹⁴ https://act.public.lu/fr/publications/commandes-documents.html?r=f%2Faem_theme%2Ftags_theme%3Aact%5Ctopo-1-20000&

¹⁵ <https://environnement.public.lu/dam-assets/documents/emweltprozeduren/conservationdelanature/Nouvelle-construction.pdf>

the use of the grid and the established connection. Second, the operators of power plants to be connected to medium-voltage grid may also conclude a business agreement with the distribution grid operator (art. 2 Loi du 1er août 2007).

The DSO is in charge for metering all electrical energy transmitted or distributed through its network. It ensures that it is counted at least at each point where the electric energy is injected or withdrawn from a grid or produced in self-generation (art. 18 Loi du 3 février 2021). Power plants with an electricity rated output of 200 kW must be equipped with a meter recording the load curve (art. 4 (2) Règlement grand-ducal du 1er août 2014).

Deadlines

The grid operator is obliged to submit the applicant a grid connection offer within 10 working days. The grid connection deadline is 30 working days (art. 2 (3)) Loi du 1er août 2007).

Detected barriers

Existence of a single public electricity grid operator. In Luxembourg, there is only one active public electricity grid operator, CREOS Luxembourg S.A. (CREOS), which is in charge of the transmission and distribution of electricity. As far as wind energy is concerned, CREOS oversees almost all grid connections. CREOS has also connected almost all solar power installations under the call for tenders in 2018. Due to their dominant position in the market, only limited market share is allocated to other distribution companies (Electris, ORES and Enovos) and this results in limited potential technological development (International Energy Agency, 2020). However, no significant delays in connecting the installations to the grid have been communicated by the stakeholders interviewed for this report.

Identified good practice

No good practice related to this process step was identified.

2.1.4. Corporate legal fiscal

Process flow

Guarantee of origin

All operators of new renewable power plants are required to obtain a guarantee of origin for electricity produced from renewable energy sources (art. 3 (1) Règlement grand-ducal du 1er août 2014). The guarantees of origin are issued by the regulator, the Luxembourg Regulatory Institute (*Institut Luxembourgeois de Régulation* - ILR) which supervises the transfer and the cancellation of the guarantee (art. 3(4) Règlement grand-ducal du 1er août 2014). The guarantee of origin is valid for 12 months from the moment of issue. One guarantee is issued for 1MWh of produced electricity (art.3 (2) Règlement grand-ducal du 1er août 2014).

The applicant bears the costs related to the preparation of application file for the guarantees of origin. If application is incomplete, the regulatory authority will refuse to issue the guarantees of origin. In addition, after notifying the operator, the regulatory authority may carry out inspections on the site of the power plant. If irregularities are discovered, no guarantee of origin will be issued either (art. 3 (4) Règlement grand-ducal du 1er août 2014).

Except in cases of fraud, the regulatory authority automatically recognises permits issued by another Member State or a competent body of the European Union (art. 3 (4) Règlement grand-ducal du 1er août 2014).

Deadlines

The guarantees of origin for the electricity produced from renewable energy sources is valid for 12 months of the issue. It expires as soon as it has been used (art. 3 (1) Règlement grand-ducal du 1er août 2014).

Detected barriers

No barriers related to this process step were identified.

Identified good practice

No good practices related to this process step were identified.

3. Use of IT systems

In recent years, considerable efforts have been devoted to the development of digital services. As a matter of fact, the Ministry of Digitalisation released a 'Strategy e-governance 2021-2025' to promote and encourage the digitalisation of public services (Gouvernement.lu, 2021c). Moreover, COVID-19 pandemic has been an additional driver for further digitalisation of public services. Since public consultations have been hindered by the pandemic, new communication channels are now being used to ensure a transparent and dynamic communication. The fact remains that the IT use also depends on the level of digitalisation at the municipal level (Uhres, 2021). Thus, despite the state's willingness to embark on the path of digitalisation, the application process cannot be fully carried out digitally yet. For the time being, some documents for the authorisation can be downloaded from the governmental website.

Spatial Planning

Some spatial planning documents (e.g., graphic and written parts of the General Development Plan) can be found on the municipalities' website. These documents can be downloaded as for instance the PAG of the city of Luxembourg¹⁶.

Authorisation of obstacles to air navigation

The request for the authorisation of obstacles to air navigation (DAC-ADM4101)¹⁷ may be directly downloaded on the government's website but still needs to be sent in paper form to the competent authorities.

'Nature protection' permit

The application for the 'nature protection' permit can be downloaded on the governmental website¹⁸. Also, given the required information which must be included in

¹⁶ <https://data.public.lu/fr/datasets/pag-ville-de-luxembourg/>

¹⁷ <https://guichet.public.lu/en/entreprises/sectoriel/aviation/espace-aerien-aerodromesatm-ans/obstacles-navigation-aerienne.html>

¹⁸ <https://environnement.public.lu/dam-assets/documents/emweltprozeduren/conservationdelanature/Nouvelle-construction.pdf>

the application, the extract from the land register may be accessed online¹⁹, such as the extract from the topographical map²⁰.

The operating permit for classified establishments (*commodo/incommodo*)

The application for the operating permit for classified establishments can be completed on the website MyGuichet.lu, before being printed and send per paper format to the competent authorities. To proceed with the online application, the applicant must possess a Luxembourgish identity card containing an electronic certificate or a LuxTrust product²¹.

4. Complaint procedure

Unless otherwise stipulated by specific legal acts, anyone who believes that they have been negatively impacted by the decision of an administrative body can bring an action before the administrative court. However, before going to the court, they can first submit an internal complaint to the competent authority (out-of-court procedure). As a general rule, appeals to the administrative courts need to be submitted no later than within 3 months of the day on which the decision in question was received or the day on which the complainant became aware of the decision in question (Guichet.lu, 2012; art. 1 and art. 16 Loi du 21 juin 1999).

Below relevant deviations from the general rule are provided.

General Development Plan (PAG) and Special Development Plan (PAP)

Both General Development Plan and Special Development Plan need to be approved by the Minister for Home Affairs, after their approvals by the communal council. With regard to General Development Plan, third parties have the right to object to the decision of the Minister and if he agrees with the objections, he may uphold the complaint and amend the draft plan of the communal council, and finally approve the amended plan. In the case of a Special Development Plan, interested parties cannot object to the decision of the Minister. In both cases, however, persons who have lodged a complaint with the communal council during the publication period (30 days) and disagree with the Minister's response can appeal to the court, requesting the annulment of the Minister's decision (Guichet.lu, 2018a; Guichet.lu, 2018b).

The PAG and the PAP decisions of the communal council may be appealed to the administrative court within 40 days of the publication of the decision (art. 20, art. 32 Loi du 19 juillet 2004).

Building permit

As mentioned in section 2.1.2, once the application for a building permit has been accepted by the mayor, the mayor will issue a certificate, which the applicant should display on the construction site. The period of appeal before the administrative courts begins to run three days from the date of posting of the said certificate (art. 37 Loi du 19 juillet 2004).

The operating permit for classified establishments (*commodo/incommodo*)

The applicant can appeal to the administrative court against an administrative or ministerial decision within 40 days of the date of receipt of the final decision. In the event

¹⁹ <https://extraits.geoportail.lu/?lang=fr>

²⁰ https://act.public.lu/fr/publications/commandes-documents.html?r=f%2Faem_theme%2Ftags_theme%3Aact%5Ctopo-1-20000&

²¹ <https://bit.ly/3vr2Xx3>

of silence by the competent authorities, an appeal can be submitted to the administrative court within 40 days after the expiry of the deadline for examining the application and making a decision (art. 19 Loi du 10 juin 1999). In addition, those environmental organisations who have been active in the field of environmental protection for at least 3 years can be approved by the Ministry of the Environment, Climate and Sustainable Development. From then on, they can exercise their rights as a civil party and protect the collective interests in the field of environmental protection (art. 29 Loi du 10 juin 1999).

'Nature protection' permit

The applicant is entitled to appeal against the decision of the Minister of the Environment, Climate and Sustainable Development refusing the 'nature protection' permit to the administrative court (art. 58 Loi du 19 janvier 2004).

Environmental Impact Assessment (EIA)

The decision on the EIA approval may be appealed before an administrative court by the project developer or the environmental organisations approved by the Ministry of the Environment, Climate and Sustainable Development (art. 29 Loi du 10 juin 1999). The appeal must be lodged within 40 days (art. 21 Loi du 15 mai 2018).

5. Specific features to ease administrative procedure

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

Table 2: Specific features to ease administrative procedures

| Specific feature | Existing | Short description |
|--|-----------------|--|
| Simultaneous procedures | no | |
| National contact points and one-stop-shops | no | |
| Application of 2+1 and 1+1 rules | no | |
| Simple notification procedure | no | |
| Pre-planning | yes | As there are no pre-defined areas for renewable energy technologies, the project developers will usually contact the local government ahead of the administrative procedure to find out about a potential location for their projects and have a dynamic communication from the beginning (Uhres, 2021; Thinnes, 2021; Zens, 2021). |
| Pre-application consultation | no | |
| Project acceptance measures | yes | Since the project developers must get in touch with the local authorities first, this process facilitates the exchange of information not only with the authorities but also with the local population. As a result, obtaining a building permit is facilitated and accelerated due to the transparency of information to the target audience (Uhres, 2021; Zens, 2021). |
| Measures to streamline litigation by third parties | no | |

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

| | | |
|-------|----|--|
| 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 Luxembourg.

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 | N.A. |
| Process duration | According to the Luxembourg Renewable Energy Association (<i>Société luxembourgeoise des énergies renouvelables - SOLER</i>), the average process duration for onshore wind projects is 2-3 years. However, if the EIA stage is delayed due to the request of the Ministry of the Environment for additional information, a project may take up to 10 years. The EIA stage is defined as the most critical within the overall administrative procedure (Uhres, 2021). |
| Project approval rates | N.A. |
| Costs of administrative processes | Usually, the applicant is responsible for covering the costs of all assessments and public hearings. The costs of a construction permit vary based on the relevant municipality, necessary public hearings and assessments, the size of the construction, etc (Uhres, 2021). |
| Share of permits that are legally challenged | N.A. |
| Share of legal challenges that are overruled | N.A. |
| Stakeholder interests | <p>It can be observed that the public participation rights are generally well included into the various procedures. This is because permits require public consultation so that the local natural and legal persons can make comments or objections regarding a specific project. In addition, the environmental organisations report good cooperation with the authorities. The number of appeals remains relatively low because the environmental standards are relatively strict for both renewable energy technologies – onshore wind and PV (Uhres, 2021; Zens, 2021).</p> <p>Since 2020, many participation procedures have been switched to an online procedure, which did not necessarily lead to a worse involvement of the public, but in some cases even to easier participation due to the more convenient organisation and the possibility of participation over a large distance. However, this switch has given way to a difficulty in reaching older people who are still less used or not used to the online public consultation process (Uhres, 2021).</p> |

References

- Emwelt.lu, 2019. Evaluation des incidences sur l'environnement (EIE). Available at: <<<https://environnement.public.lu/fr/support/faqs/faq-eie-new.html>> [Accessed 23 March 2021].
- Emwelt.lu, 2020. Zone protégées d'intérêt national. Available at: <<https://environnement.public.lu/fr/natur/biodiversite/mesure_3_zones_especes_proteges/zones_protegees_interet_national.html> [Accessed 16 March 2021].
- Emwelt.lu, 2021. Les zones Natura 2000 au Grand-Duché de Luxembourg. Available at: <<https://environnement.public.lu/fr/natur/biodiversite/mesure_3_zones_especes_proteges/natura_2000.html> [Accessed 16 March 2021].
- Environment Agency, 2021. Relevé des parcs éoliens autorisés en vertu de la législation sur les établissements classés. Available at: <<https://environnement.public.lu/dam-assets/documents/emweltprozeduren/etablissements_classes/eoliennes/2001-eoliennes-autorisees.pdf> [Accessed 9 April 2021].
- Guichet.lu, 2021. Obstacles à la navigation aérienne, 2021. Available at: <<<https://guichet.public.lu/en/entreprises/sectoriel/aviation/espace-aerien-aerodromesatm-ans/obstacles-navigation-aerienne.html>> [Accessed 14 May 2021].
- Guichet.lu, 2020. Investment aid for the protection of the environment. Available at: <<<https://guichet.public.lu/en/entreprises/financement-aides/aides-environnement/industrie-services/aide-protec-environnement.html>> [Accessed on 5 May 2021].
- Guichet.lu, 2019a Environmental impact assessment (EIA). Available at: <<<https://guichet.public.lu/en/entreprises/urbanisme-environnement/incidences-environnementales/evaluation-environnementale/incidences-environnement-eie.html>> [Accessed 12 April 2021].
- Guichet.lu, 2019b Operating permit for classified establishments ('commodo/incommodo'). Available at: <<<https://guichet.public.lu/en/entreprises/urbanisme-environnement/commodo-incommodo/autorisations-commodo/commodo.html>> [Accessed 23 March 2021].
- Guichet.lu, 2019c 'Nature protection' permit. Available at: <<<https://guichet.public.lu/en/entreprises/urbanisme-environnement/construction-amenagement-site/travaux-bois-eau-zone-protegee/autorisation-protection-nature.html#bloub-6>> [Accessed 17 March 2021].
- Guichet.lu, 2019d Building permit. Available at: <<<https://guichet.public.lu/en/entreprises/urbanisme-environnement/construction-amenagement-site/construction-transformation-demolition/permis-construire.html>> [Accessed 13 March 2021].
- Guichet.lu, 2018a. Amendment of a general development plan (PAG). Available at: <<<https://guichet.public.lu/en/entreprises/urbanisme-environnement/construction-amenagement-site/construction-transformation-demolition/plan-amenagement-general.html>> [Accessed 23 April 2021].
- Guichet.lu, 2018b. Application for a special development plan (PAP). Available at: <<<https://guichet.public.lu/en/entreprises/urbanisme-environnement/construction-amenagement-site/construction-transformation-demolition/plan-amenagement-particulier.html>> [Accessed 23 April 2021].

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

- Guichet.lu, 2012. Challenging administrative decisions. Available at: <<https://guichet.public.lu/en/citoyens/citoyennete/voies-recours-reglement-litiges/contestation-decision-administrative/recours-decision-administrative.html>> [Accessed 28 May 2021].
- Gouvernement.lu, 2021 Stratégie gouvernance électronique 2021-2025. Available at: <https://gouvernement.lu/fr/dossiers.gouv_ctie%2Bfr%2Bdossiers%2Bstrategie_gouvernance_electronique_2021_2025%2Bstrategie_gouvernance_electronique_2021_2025.html> [Accessed 21 May 2021].
- Gouvernement.lu, 2020 Visite du ministre de l’Énergie Claude Turmes du parc éolien de Mompach: le premier de repowering au Luxembourg, 2020. Available at: <https://gouvernement.lu/fr/actualites/toutes_actualites/articles/2020/12-decembre/17-turmes-parc-eolien-mompach.html#:~:text=Construites%20en%201996%20sur%20le,éolienne%20de%20type%20Enercon%20E115> [Accessed 13 March 2021].
- Gouvernement.lu, 2019 Accord de coalition 2018-2023. Available at: <<https://gouvernement.lu/fr/publications/accord-coalition/2018-2023.html>> [Accessed 15 May 2021].
- International Energy Agency, 2020. Luxembourg 2020: Energy Policy Review. Available at: <<https://www.iea.org/reports/luxembourg-2020>> [Accessed 16 December 2020].
- Luxembourg statistics portal, 2021. Renewable electricity generation by process 1955-2019. Available at: <<https://statistiques.public.lu/stat/TableViewer/summary.aspx>> [Accessed 18 May 2021].
- NECP, 2019. Ministry of Energy and Spatial Planning and Ministry of the Environment, Climate and Sustainable Development. Plan national intégré en matière d’énergie et de climat du Luxembourg pour la période 2021-2030 (NECP Luxembourg). Available at: <https://ec.europa.eu/energy/sites/default/files/documents/lu_final_necp_main_fr.pdf> [Accessed 4 January 2021].
- PV magazine, 2017. Available at: <<https://www.pv-magazine.com/2017/05/15/luxembourg-bets-on-solar-additional-2-4-gw-planned-by-2050/>> [Accessed 25 May 2021].
- Service des sites et monuments nationaux (SSMN), 2020. Available at: <https://ssmn.public.lu/fr/patrimoine/patrimoine_protege.html> [Accessed 23 April 2021].

Interviews

- Uhres, G., 2021. Société Luxembourgeoise des Energies Renouvelables S.A (SOLER). Interviewed on 1 March 2021.
- Thinnes, F., 2021. Luxembourg GreenPeace. Interviewed on 4 March 2021.
- Zens, P., 2021. Eurosolar Lëtzebuerg asbl. Interviewed on 5 March 2021.

Legislation

- Loi du 18 juillet 2018 concernant la protection de la nature et des ressources naturelles. Available at: <<http://legilux.public.lu/eli/etat/leg/loi/2018/07/18/a771/jo>> [Accessed 19 April 2021].

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

- Loi du 18 juillet 1983 concernant la conservation et la protection des sites et monuments nationaux. Available at: <<http://legilux.public.lu/eli/etat/leg/loi/1983/07/18/n1/jo>> [Accessed 25 March 2021].
- Loi du 19 juillet 2004 concernant l'aménagement communal et le développement urbain. Available at: <<http://legilux.public.lu/eli/etat/leg/loi/2004/07/19/n1/jo>> [Accessed 12 April 2021].
- Loi du 15 mai 2018 relative à l'évaluation des incidences sur l'environnement et portant modification de la loi modifiée du 25 mai 1964 concernant le remembrement des biens ruraux, de la loi modifiée du 10 juin 1999 relative aux établissements classés, la loi modifiée du 19 janvier 2004 concernant la protection de la nature et des ressources naturelles et la loi modifiée du 19 décembre 2008 relative à l'eau. Available at: <<http://legilux.public.lu/eli/etat/leg/loi/2018/05/15/a398/jo>> [Accessed 16 May 2021].
- Loi du 21 avril 1993 relative à l'agrément de personnes physiques ou morales privées ou publiques, autres que l'Etat pour l'accomplissement de tâches techniques d'étude et de vérification dans le domaine de l'environnement. Available at: <<http://legilux.public.lu/eli/etat/leg/loi/1993/04/21/n3/jo#:~:text=V1.9.7%20%2D%20202010071413-.Loi%20du%2021%20avril%201993%20relative%20%C3%A0%20'agr%C3%A9ment%20de,le%20domaine%20de%20'l'environnement>> [Accessed 19 April 2021].
- Loi du 15 décembre 2017 relative à un régime d'aides à la protection de l'environnement et modifiant la loi du 17 mai 2017 relative à la promotion de la recherche, du développement et de l'innovation ; la loi du 20 juillet 2017 ayant pour objet la mise en place d'un régime d'aide à l'investissement à finalité régionale. Available at: <<http://legilux.public.lu/eli/etat/leg/loi/2017/12/15/a1108/jo>> [Accessed 6 May 2021].
- Loi modifiée du 13 septembre 2012 portant sur la création d'un pacte climat avec les communes et modification de la loi modifiée du 31 mai 1999 portant institution d'un fonds pour la protection de l'environnement. Available at: <<http://legilux.public.lu/eli/etat/leg/loi/2012/09/13/n1/jo>> [Accessed 15 May 2021].
- Loi du 10 juin 1999 relative aux établissements classés. Available at: <<http://legilux.public.lu/eli/etat/leg/tc/2014/05/14/n1/jo>> [Accessed 21 March 2021].
- Loi du 19 janvier 2004 concernant la protection de la nature et des ressources naturelles modifiant la loi modifiée du 12 juin 1937 concernant l'aménagement des villes et autres agglomérations importantes; complétant la loi modifiée du 31 mai 1999 portant institution d'un fonds pour la protection de l'environnement. Available at: <<http://data.legilux.public.lu/file/eli-etat-leg-memorial-2004-10-fr-pdf.pdf>> [Accessed 12 March 2021].
- Loi du 3 février 2021 modifiant la loi modifiée du 1er août 2007 relative à l'organisation du marché de l'électricité. Available at: <<http://data.legilux.public.lu/file/eli-etat-leg-loi-2021-02-03-a94-jo-fr-pdf.pdf>> [Accessed 19 May 2021].
- Loi du 1er août 2007 relative à l'organisation du marché de l'électricité. Available at: <<http://data.legilux.public.lu/file/eli-etat-leg-memorial-2007-152-fr-pdf.pdf>> [Accessed 9 March 2021].

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

- Loi du 3 février 2021 modifiant la loi modifiée du 1^{er} août 2007 relative à l'organisation du marché de l'électricité. Available at: <<http://legilux.public.lu/eli/etat/leg/loi/2021/02/03/a94/jo>> [Accessed 12 May 2021].
- Loi du 17 avril 2018 concernant l'aménagement du territoire et modifiant la loi modifiée du 16 août 1967 ayant pour objet la création d'une grande voirie de communication et d'un fonds des routes; la loi modifiée du 15 mars 1979 sur l'expropriation pour cause d'utilité publique; la loi modifiée du 19 juillet 2004 concernant l'aménagement communal et le développement urbain. Available at: <<http://data.legilux.public.lu/file/eli-etat-leg-loi-2018-07-18-a771-jo-fr-pdf.pdf>> [Accessed 24 May 2021].
- Loi du 21 juin 1999 portant règlement de procédure devant les juridictions administratives et modifiant la loi générale des impôts, la loi modifiée du 1^{er} mars 1952 modifiant certaines dispositions relatives aux impôts directs, la loi du 27 août 1977 concernant le statut des fonctionnaires entrés au service d'institutions internationales, la loi modifiée du 10 août 1991 sur la profession d'avocat, la loi modifiée 13 mars 1993 relative à l'exécution en droit luxembourgeois de la Directive No. 89/665 du Conseil du 21 décembre 1989 portant coordination des dispositions législatives, réglementaires et administratives relatives à l'application des procédures de recours en matière de marchés publics, la loi du 7 novembre 1996 portant organisation des juridictions de l'ordre administratif. Available at: <<http://data.legilux.public.lu/file/eli-etat-leg-memorial-1999-98-fr-pdf.pdf>> [Accessed 28 March 2021].
- Loi du 21 mai 1999 concernant l'aménagement du territoire. Available at: <<http://data.legilux.public.lu/file/eli-etat-leg-memorial-1999-61-fr-pdf.pdf>>. [Accessed 18 March 2021].
- Règlement du Grand-Ducal du 29 janvier 2004 concernant la protection de la nature et des ressources naturelles. Available at: <file:///Users/Kana97/Desktop/http_data.legilux.public.lu_file_eli-etat-leg-memorial-2004-10-fr-pdf.pdf> [Accessed 20 March 2021].
- Règlement grand-ducal du 17 mai 2006 déclarant obligatoire le plan d'occupation du sol « Aéroport et environs ». Available at: <<http://data.legilux.public.lu/file/eli-etat-leg-memorial-2006-101-fr-pdf.pdf>> [Accessed 13 March 2021].
- Règlement du Grand-Ducal du 1^{er} août 2014 relatif à la production d'électricité basée sur les sources d'énergie renouvelables. Available at: <<http://legilux.public.lu/eli/etat/leg/rgd/2014/08/01/n1/jo>> [Accessed 4 January 2021].
- Règlement du Grand-Ducal du 1^{er} août 2007 relative à l'organisation du marché de l'électricité. Available at: <<http://legilux.public.lu/eli/etat/leg/loi/2007/08/01/n13/jo>> [Accessed 4 January 2021].
- Règlement du Grand-Ducal du 10 mai 2012 portant nouvelles nomenclature et classification des établissements classés et modifiant le règlement Grand-Ducal modifié du 14 septembre 2000 concernant les études de risques et les rapports de sécurité & le règlement Grand-Ducal modifié du 7 mars 2003 concernant l'évaluation des incidences de certains projets publics et privés sur l'environnement. Available at: <<http://legilux.public.lu/eli/etat/leg/rgd/2012/05/10/n2/jo>> [Accessed 2 March 2021].

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

- Règlement du Grand-Ducal du 15 mai 2018 établissant les listes de projets soumis à une évaluation des incidences sur l'environnement. Available at: <<http://legilux.public.lu/eli/etat/leg/rgd/2018/05/15/a399/jo>> [Accessed 23 March 2021].
- Règlement du Grand-Ducal du 15 mai 2018 relative à l'évaluation des incidences sur l'environnement et portant modification. Available at: <<http://legilux.public.lu/eli/etat/leg/loi/2018/05/15/a398/jo>> [Accessed 22 March 2021].
- Règlement du Grand-Ducal du 21 août 20107 relative à l'organisation du marché de l'électricité. Available at: <<http://legilux.public.lu/eli/etat/leg/loi/2007/08/01/n13/jo>> [Accessed 29 March 2021].
- Règlement du Grand-Ducal du 18 juillet 2018 concernant la protection de la nature et des ressources naturelles. Available at: <<http://legilux.public.lu/eli/etat/leg/loi/2018/07/18/a771/jo>> [Accessed 18 March 2021].
- Règlement du Grand-Ducal du 25 mai 2012 concernant la nomenclature et classification des établissements classés. Available at: <<http://data.legilux.public.lu/file/eli-etat-leg-memorial-2012-105-fr-pdf.pdf>> [Accessed 22 March 2021].
- Règlement du Grand-Ducal du 29 janvier 2004 concernant la protection de la nature et des ressources naturelles. Available at: <file:///Users/Kana97/Desktop/http_data.legilux.public.lu_file_eli-etat-leg-memorial-2004-10-fr-pdf.pdf> [Accessed 20 March 2021].
- Règlement Grand-Ducal du 10 mai 2012 concernant la nomenclature et la classification des établissements classé. Available at: <<http://data.legilux.public.lu/file/eli-etat-leg-memorial-2012-105-fr-pdf.pdf>> [Accessed 14 April 2021].
- Règlement Grand-Ducal du 26 juillet 1999 fixant les prescriptions générales pour les établissements du secteur agricole qui relèvent de la classe 4 en matière d'établissements classés. Available at : <<http://data.legilux.public.lu/file/eli-etat-leg-memorial-1999-100-fr-pdf.pdf>>. [Accessed 28 May 2021].