BELGIUM

Trends and Developments

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Belgium's Energy Market and Renewable Energy Projects
Belgium historically covers the largest part of its electricity needs with its seven nuclear reactors at the Doel and Tihange nuclear plants. A gradual nuclear exit has been decided, with the first nuclear reactor to be closed in October 2022 and the last in October 2025.

There is political debate on whether these deadlines are feasible, and the nuclear phase-out may be delayed. It is however generally understood that the nuclear phase-out will happen eventually. The nuclear generation capacity will therefore gradually have to be replaced by (mostly or fully) other means of electricity production.

Quite apart from the nuclear phase-out, the ambitions for CO2 reduction and favourable support mechanisms have been strong drivers for investment in renewable energy projects in Belgium.

The Rise of Renewables
The share of renewables in both electricity production (MWh) and generation capacity (MW) has increased significantly over the last decade. Belgium's renewable energy installed capacity has risen from around 2.9 GW in 2010 to around 9.5 GW in 2019 and now represents around 39% of installed capacity.

Solar PV (in terms of installed capacity) and wind (in terms of generated electricity) have been the most prominent renewable energy technologies. In 2019, Belgium's production park consisted of 4.8 GW of PV solar installations and 3.8 GW of (onshore and offshore) wind installations.

A large part of PV solar capacity comes from small to medium-sized rooftop-mounted installations, but large-scale and ground-mounted PV installations have recently gained traction. An example is the 99.5 MWp "Kristal Solar Park", which became operational in 2019. It is the largest solar power plant in the Benelux. However, multi-MW PV projects remain rare and small to medium-sized projects still make up the bulk of installed PV capacity.

Another major factor in the growth of renewables has been wind energy. Operational onshore wind farms represent approximately 2.2 GW installed capacity. Developers include both local and international players.

Although onshore wind capacity continues to increase year on year, permitting and the risk of permit appeals is a major concern for developers. Moreover, on 25 June 2020 the Court of Justice of the European Union held that some of the rules which determine whether a permit can be granted for onshore wind farms in the Flemish region are incompatible with the EU environmental assessment rules. This ruling may, if only temporarily, complicate even further the permitting for onshore wind farms.

Although Belgium has a relatively short coastline, it has become a powerhouse for offshore wind energy over the past decade.

In May 2020 the Northwester2 project became operational. With the completion of this project, Belgium reached 1,775 MW installed offshore wind capacity, overtaking Denmark. Only the UK, Germany and China currently have more offshore wind capacity. When the "SeaMade" project becomes fully operational (expected in late 2020), Belgium will reach an installed offshore capacity of 2,262 MW. Moreover, Belgium's federal government has announced its ambition almost to double Belgium's existing offshore capacity in the next decade to reach a target of at least 4 GW by 2030. A major hurdle for this is the strengthening of the transmission grid in the westernmost part of the country: transmission system operator Elia is currently preparing the "Ventilus" project, referred to as an "electricity highway" to connect the grid with offshore wind farms.

Finally, in addition to solar PV and (onshore and offshore) wind energy, there is approximately 1.4 GW of hydro (mainly pumped hydro), 800 MW of biomass, and 292 MW of waste-based renewable energy production plant in Belgium.

Support Mechanisms
In order to support further investment in energy projects there are various support mechanisms, in particular the forthcoming capacity remuneration auction and various support regimes for renewables projects.

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Capacity Remuneration Auction

Due to the existence of baseload nuclear capacity on the one hand and the success of renewables on the other hand, gas-fired turbines have been mothballed due to the lack of price incentives to keep them operational. The current Belgian energy market does not provide sufficient price signals to trigger investment in much-needed (swing) capacity.

To ensure that such flexible power capacity is available to generate electricity when needed (eg, when there is little wind or sun), Belgium is in the process of introducing a capacity remuneration mechanism (CRM). This will take the form of capacity contracts that pay the successful bidders a premium in addition to their revenues on the electricity market.

The general principles were introduced through an amendment of the Electricity Act in 2019. However, the implementation has been delayed due to political disagreement on funding which in turn has delayed the EU state aid clearance process. On 1 July 2020 political agreement was reached on the financing of the CRM.

Support to Onshore Renewable Energy Projects

The Flemish, Walloon and Brussels regions of Belgium each have their own support systems for onshore renewable energy projects. While there are significant differences, all three regions apply a robust renewable energy support mechanism. A common trait is the use of tradable "renewable energy certificates" to support medium-sized and large onshore renewable energy projects.

Certificates are granted to generators and can be sold either to the grid operator (at a statutory guaranteed price) or to a purchaser on the market (at a freely negotiated price). Electricity suppliers are required to surrender a certain number of certificates at zero price (the "certificates quota"). If a supplier fails to surrender the required number of certificates, it is liable to an administrative fine. This creates market demand for certificates.

Tending Towards Grid Parity: Gradual Exclusion of Small-Scale Onshore Renewables from the Certificates Regimes

A few years ago installations of up to 10 kW were excluded from the certificates regimes in the Flemish and Walloon regions. Importantly, however, the change applies only to new installations. This is in line with consistent practice in Belgium: whilst the various support mechanisms have often been amended, the authorities have been careful to avoid retroactively removing support for existing installations.

Small-scale new renewable energy installations are generally profitable for households nowadays even without support in the form of certificates.

Another trend, which may become stronger, is the move away from certificates-based support towards investment aid. In 2019 wind installations of up to 300 kW were excluded from the certificates schemes in the Flemish region but became eligible for investment aid granted through a call process.

Support for Medium- and Large-Scale Renewable Energy Projects

Medium- and large-scale renewable energy installations continue to receive support through the certificates schemes. The level of support has however gradually been reduced to reflect falling costs, though again the reductions apply only to new projects. The support mechanisms effectively aim to "top up" revenue from the sale of energy up to the level required to achieve a certain return on investment.

A significant recent development in that respect was the Flemish regional Government's decision to reduce the level of return on investment ("factor R") in the formula to calculate the support level for new projects, with effect from 1 January 2020. The reduced yield parameter is 6.5% instead of 7,5% (for wind), 4.75% instead of 5% (for PV installations) and 10,5% instead of 12% (for biomass and combined head projects). This further reflects the "mainstreaming" of renewable energy in terms of project maturity and risk.

Competition-Based Support: Future Offshore Wind Farms

For all current offshore wind projects the support level was administratively set by the federal Government. For future projects a tender system will be used. The basic principles for this were inserted in the Electricity Act in 2019. One of those principles is that a successful bidder will obtain both a "domain concession" (somewhat comparable to a "seabed lease") and the permits required to construct and operate the wind farm. This "bundled" tendering of the domain concession and permits can be expected to speed up the timeline to complete projects.

The Impact of COVID-19

As in other countries, the COVID-19 crisis has led to a strong reduction of electricity demand in Belgium. At the same time, production of electricity from renewable sources reached record levels in the second quarter of 2020. Both elements together have triggered a significant increase in the number of hours with negative electricity spot prices. The European Commission's state aid policy aims to withhold subsidies for electricity produced at times of negative spot prices. It remains to be seen what effect the increasing number of hours with negative prices will have on projects.

The COVID-19 crisis also risked delaying completion of renewable energy projects. In the Flemish Region, a delay in commissioning carries a risk of loss of subsidy. To counter that the

Flemish government has granted a 120-day extension of what is effectively the time-limit to reach commissioning without losing the right to their current level of support.

The Brussels region has decided to postpone a reduction of the support levels until 1 January 2021 because of the COVID-19 crisis. The Walloon region has provided for a blanket suspension of hard time limits ("*Délais de rigueur*") including those relevant to renewable energy projects.

Additional Transmission Grid Interconnection and Smart Distribution Grid Deployment

Finally, Belgium is modernising its electricity grids and infrastructure.

For the transmission system, besides the "Ventilus" project mentioned above, there are several innovative investments, including the "Modular Offshore Grid" (MOG) in the North Sea. It is expected that the MOG will be fully operational by the end of 2020. This will mark the transition from a model where each offshore wind farm installs and operates its own export cable (known as the "spaghetti scenario") to one where the grid operator operates an integrated offshore grid.

Belgium is already relatively well interconnected, but it is further increasing its interconnectivity. On 31 January 2019, the 1 GW and 140-kilometre-long "Nemo" line linking Belgium and the UK became operational. Elia is also constructing the Aegro-project, an underground 1 GW connection between Belgium and Germany. This would make Belgium one of the most interconnected countries in the world.

Grid modernisation is also occurring at distribution level. The Walloon and Flemish regions recently passed legislation on the roll-out of smart (digital) meters. In the Flemish region, a universal roll-out is foreseen; in the Walloon region there is a limited opt-out possibility. The smart grids will allow for better management and development of decentralised energy production, including, eg, demand side management and batteries.

Conclusion and Market Outlook

Whilst maintaining its nuclear production capacity for now, Belgium has seen a strong increase in renewable energy production and has become a powerhouse for offshore wind development.

A delay in the envisaged nuclear phase-out may have an impact on investment in swing capacity, however it is expected that the capacity remuneration auction system, which is currently being developed, will provide incentives to boost investment in capacity (in particular gas-fired plant) in Belgium.

Strong investment in renewables is expected to continue, with an ambitious target aimed at almost doubling current offshore wind capacity by 2030 through tenders. It is also expected that the demand for renewable PPAs will see a strong increase within the context of CO2 reduction ambitions. Besides, the role-out of smart distribution grids is expected to boost efficient management of decentralised production and demand, creating opportunities for innovative solutions at both sides.

Finally, Belgium is also expected to cope with part of the nuclear phase-out through stronger transmission grid interconnections with the neighbouring energy markets.

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Bram Devlies focuses his practice on the energy sector, including renewable energy projects (solar/PV, on- and offshore wind, biomass/biosteam), security of supply (capacity mechanisms and strategic reserves), grid tariffs, subsidy mechanisms (such as green energy certificates including State aid issues), production and supply licences, district heating, agreements (including corporate Power Purchase Agreements (PPAs) and FIDIC agreements) and oil and gas regulations. Bram has experience with advising clients on EU and Belgian energy law. He is the author of several articles and publications about energy, speaks annually at the Flux 50 energy cluster "academy" and is an affiliated researcher at the KULeuven.

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