

Analysis of the implementation of EU provisions for the clean energy transition in selected Member States

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Glossary

ACC	Regulation (EU) 2022/2577 of 22 December 2022 laying down a framework to accelerate the deployment of renewable energy
DIR	Directive (EU) 2019/944 of 5 June 2019 on common rules for the internal market for electricity
RED	Directive (EU) 2018/2001 of 11 December 2018 on the promotion of the use of energy from renewable resources
REG	Regulation (EU) 2019/943 of 5 June 2019 on the internal market for electricity

Abbreviations

Art.	Article
kW	Kilowatt
Lit.	littera
MW	Megawatt

Executive summary

Since 2019 the European Union has introduced a range of new laws as part of its “Clean Energy for All Europeans” package. In 2022, the RePower EU Plan was launched with the aim of accelerating the deployment of renewable energy in response to the Russian invasion of Ukraine. Combined, these measures are expected to bring considerable benefits, especially for advancing the clean energy transition and for consumers. However, delivering these benefits depends on the timely and effective implementation of EU laws at the national levels.

This report assesses the implementation status and quality of a selection of 11 provisions from 4 EU laws in six EU countries (Austria, Bulgaria, France, Germany, Poland, and Spain). These 4 EU laws are **Directive (EU) 2019/944** on common rules for the internal market for electricity (**DIR**), **Regulation (EU) 2019/943** on the internal market for electricity (**REG**), **Directive (EU) 2018/2001** on the promotion of the use of energy from renewable resources (**RED**) and **Regulation (EU) 2022/2577** laying down a framework to accelerate the deployment of renewable energy (**ACC**).

After a brief introduction to the selected provisions (Chapter 1), this report presents **country fiches** on the selected countries (Chapter 3), the results of which are compiled in an **overall assessment** (Chapter 2). The table below shows an overview of the implementation status.

Table 1: Overview of implementation in the selected Member States (MS)

Provision	Implementation status	Delay	Implementation quality
Article 11 DIR (entitlement to a dynamic electricity contract)	Fully transposed: DE, FR, PL Partially transposed: AT, BG, ES	No delay: ES Partial delay: AT, BG Full delay: DE, FR, PL Range: 2 – 43 months	Quality depends on availability of smart meters (see below on Article 19 DIR)
Article 15 DIR (entitlement to act as active customers)	Fully transposed: PL Partially transposed: BG, FR, DE, PL, ES	No delay: DE, ES Partial delay: AT, FR Full delay: BG, PL Range: 2 – 34 months	Deficits in 2 MS: - too complicated (AT) - not specifying practical implementation of guarantees and rights (BG)
Article 17 DIR (demand response through aggregation)	Fully transposed: BG, PL Partially transposed: AT, DE, ES, FR	No delay: ES Partial delay: AT, FR Full delay: BG, DE, PL Range: 2 – 35 months	Insufficient quality in AT and BG
Article 19 DIR (smart metering systems)	Fully transposed: DE, FR, PL Partially transposed: AT, BG, ES	No delay: AT, ES, DE, FR Full delay: BG, PL Range: 6 – 35 months	Deployment progressing well in AT, ES, FR, and badly in BG, DE, PL
Article 32 (1) and (3) DIR (incentives for the use of)	Partially transposed: AT, BG, DE, FR, PL Not transposed: ES	Partial delay: AT, FR Full delay: BG, DE, PL	Considered effective or partially effective in FR and PL, requires further

flexibility in distribution networks)		Range: 2 – 35 months	measures in BG, DE, PL
Article 22 (1) REG (design principles for capacity mechanisms)	Fully compliant: PL Partially compliant: AT, FR, DE Not (yet) compliant: BG, ES	No fixed deadline for adaption of old capacity mechanisms	No deficits found (but implementation highly complex in FR, and need for developing further potential noted in AT)
Article 16 RED (organisation and duration of the permit-granting process)	Partially transposed: AT, BG, DE, ES, FR, PL	Partial delay: AT, ES, FR Full delay: BG, DE, PL Range: 6 – 30 months	Considered uncertain or unsatisfactory in AT, FR, PL
Article 17 RED (simple-notification procedure for grid connections)	Fully transposed: AT, DE, PL, ES Partially transposed: BG, FR	No delay: DE, PL, ES Full delay: AT, BG, FR Range: 1 – 28 months	No deficits found
Article 21 RED (renewable self-consumers)	Fully transposed: PL Partially transposed: AT, BG, DE, ES, FR	No delay: DE, ES, FR Partial delay: PL Full delay: AT, BG Range: 2 – 36 months	Considered good or sufficient in ES, FR, PL, and insufficient in AT, BG

Source: Ecologic Institute (2024)

Overall, partial transposition of the DIR and RED provisions clearly outweighs complete transposition. There was, however, only one instance of “no transposition at all” taking place. In particular, Article 16 RED has not been transposed completely in any of the selected Member States. Equally, delayed transposition of at least parts of the provisions clearly outweighs timely transposition, amounting to an average delay of more than 13 months per Member State and an average delay duration of around 19.5 months. As for the EU regulations that are directly applicable in the Member States’ legal systems, compliance could be assessed in relation to the provision of the REG where partial compliance outweighs both non-compliance and full compliance, but not in relation to the ACC provisions. Good quality of the implementation, in the sense of the implementation being considered effective, outweighs insufficient quality.

Although the findings of the implementation analysis of the selected EU provisions in the 6 Member States cannot be considered representative of the situation in the 27 Member States, some trends can be identified that suggest comparable findings in the Member States not included in this analysis.

1. **Successful implementation of dynamic electricity contracts largely depends on smart metering deployment.** At the same time, this good example of the coherence of the provisions analysed demonstrates the importance of implementing all the provisions of the EU energy sector regardless of whether they belong to the Clean Energy Package or to the new Fit for 55 Package.
2. **The organisation and duration of the permit-granting process remains particularly challenging** for Member States, especially due to the multitude of legal requirements: the provisions of the RED (II), the provisional and directly applicable provisions of the ACC and the requirements of the RED III that still need to be transposed. In addition, compliance with the maximum duration of the permit-granting process cannot

be ensured by law alone but requires adequate resources for the administration involved, possibly at different levels.

3. **Broad provisions, aspects of which are also contained in other EU provisions, are difficult to transpose** into national legal systems. This may explain why Article 15 DIR and, to a lesser extent, Article 17 DIR and Article 21 RED have not been transposed completely in most of the countries analysed.
4. **Flexibility in distribution network development is still hindered by a “traditional” view of the energy system**, especially in the mainly centralised energy systems. This is indicated by the remarkably low level of transposition of Article 32 (1) and (3) DIR in the Member States analysed.
5. **Countries are facing challenges replacing old capacity mechanisms** with new ones that comply with Article 22 (1) REG.
6. **Constantly and substantially delayed transposition by a Member State makes it very difficult to assess progress**, both at the Member State and EU level at any given point in time. This was revealed in the analysis of the transposition of the DIR and RED provisions, especially by Bulgaria and Poland.

1 Introduction

The “**Clean Energy for All Europeans**” package, adopted in 2019, provides a governance system for the EU’s energy market to move away from fossil fuels towards cleaner energy and to deliver on the EU’s Paris Agreement commitments to reduce greenhouse gas emissions. With the “**Fit for 55**” package, which aims to reduce greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels and to achieve climate neutrality in the EU by 2050, the Commission has initiated a review of existing legislation in the fields of climate and energy. The “Clean Energy for All Europeans” package addresses the design of the EU’s electricity market by introducing provisions on a more flexible and market-based price competition by **Directive (EU) 2019/944** on common rules for the internal market for electricity (**DIR**) and **Regulation (EU) 2019/943** on the internal market for electricity (**REG**), as well as an integration of a greater share of renewables through **Directive (EU) 2018/2001** on the promotion of the use of energy from renewable resources (**RED**). In the context of the RePower EU Plan adopted in 2022 in response to the Russian invasion of Ukraine, another adjustment of the electricity market was introduced by **Regulation (EU) 2022/2577 (ACC)** in order to accelerate the deployment of renewable energy by establishing temporary emergency rules to expedite and simplify permitting procedures.

These rules will yield considerable **benefits**, particularly for the advancement of the **clean energy transition** and for **consumers**. However, this presupposes that Member States implement these EU acts in a **complete, timely and adequate manner**.

This report aims to assess the **implementation status** and the **quality of the national implementing measures** of selected provisions of these EU acts in **Austria, Bulgaria, France, Germany, Poland, and Spain**.¹ Assessing the implementation status means examining whether the relevant provisions have been implemented at all, completely, and on time (**formal implementation**). The assessment of the quality of the implementation measures aims to examine whether a formally correct implementation hinders the effectiveness of the implemented EU provision according to its objectives (effet utile), i.e. if there are **quality deficits**. To this end, information on implementation in practice was taken into account where available.

The **deadlines for the implementation** of the relevant provisions are as follows:

- **Transposition deadline**² for the selected **DIR** provisions: **31.12.2020** (Art. 71 (1) DIR)
- Transposition deadline for the selected **RED** provisions: **30.6.2021** (Art. 36 (1) RED)
- **Compliance deadline**³ for the selected **REG** provision: **1.1.2020** (Art. 71 REG)
- Compliance deadline for the selected **ACC** provisions: **30.12.2022** (Art. 10 ACC).

In addition to these **country fiches** (Chapter 3), the report will include an **overall assessment** of the state and quality of the implementation of the relevant EU energy provisions in the selected Member States (Chapter 2) to provide a broader picture and indicate implementation trends and challenges to the extent possible.

¹ **Disclaimer:** This assessment was done within certain time and budget limits and cannot replace an in-depth assessment of the implementation of the relevant EU provisions in the relevant countries.

² This means that the relevant provisions of an **EU directive** need to be **transposed into the Member States’ legal systems** by this deadline.

³ This means that the relevant provisions of an **EU regulation** (that is **directly applicable in the Member States’ legal systems**) must be **complied with** by the entry into force of the regulation (the “deadline”).

The following EU provisions have been selected for the above-mentioned analysis:

- **Article 11 DIR** (entitlement to a dynamic electricity price contract)

Art. 11 entitles all final customers who have a smart meter installed to conclude a dynamic electricity price contract with at least one supplier in their market and every supplier who has more than 200,000 final customers. Dynamic electricity supply contracts are defined as electricity supply contracts between a supplier and a final customer that reflect the price variation in the spot markets, including in the day-ahead and intraday markets, at intervals at least equal to the market settlement frequency (Art. 2 (15)). Member States shall ensure that their national regulatory framework enables suppliers to offer such contracts, that final customers receive information on the opportunities, costs, and risks and that they monitor the developments of such contracts.

Dynamic prices can help optimise the use of electricity and empower customers. Consumers can reduce their electricity bills by managing and adjusting their consumption in response to price signals, especially by shifting their load to avoid consumption during peak price hours. The electricity system will benefit from demand response triggered by high prices, potentially reducing the need for additional investment in power generation and networks.

- **Article 15 DIR** (active consumers)

Art. 15 (1) DIR obliges Member States to ensure that final customers are entitled to act as active customers without being subject to disproportionate or discriminatory technical requirements, administrative requirements, procedures, and charges, and to network charges that are not cost-reflective. The subsequent paragraphs provide for specific manifestations of this general obligation. The Directive defines an active customer as a final customer – or a group of jointly acting final customers – who consumes or stores electricity generated within its premises located within confined boundaries or, where permitted by a Member State, within other premises, or who sells self-generated electricity or participates in flexibility or energy efficiency schemes, provided that those activities do not constitute its primary commercial or professional activity (Art. 2 (8)).

Active consumers contribute to developing the energy supply system into a decentralised and flexible system. The Directive aims to create a level playing field for customers who choose to become active and participate in markets. Art. 15 seeks to eliminate unnecessary burdens, making it more beneficial to become an active customer. This will strengthen the position of active customers in the energy sector and give them more information and control regarding their options.⁴

- **Article 17 DIR** (demand response through aggregation)

According to Art. 17 (1) DIR, Member States shall allow and foster participation of demand response through aggregation and allow final customers to participate alongside producers in all electricity markets in a non-discriminatory manner. “Aggregation” means a function performed by a natural or legal person who combines multiple customer loads or generated electricity for sale, purchase, or auction in any electricity market (Art. 2 (18)).

The aggregation through collection of consumers reduces optimisation complexity and the amount of required communication. With the enforcement of Art. 17 DIR, consumers will be able to access renewable energy generated or stored off-site more easily. This energy-sharing

⁴ Säcker, Berliner Kommentar zum Energierecht, 1st volume, 4th ed. 2019, Chapter 1: Grundlagen: internationale, europäische und verfassungsrechtliche Vorgaben des Energierechts, note 42.

concept also opens the possibility for consumers to decouple their household electricity bills from gas prices.⁵

• **Article 19 DIR** (smart metering systems)

According to Art. 19 (2) DIR, Member States shall ensure the deployment in their territories of smart metering systems that assist the active participation of customers in the electricity market. A “smart metering system” is an electronic system that is capable of measuring electricity fed into the grid or electricity consumed from the grid, providing more information than a conventional meter, and that is capable of transmitting and receiving data for information, monitoring and control purposes, using a form of electronic communication (Art. 2 (23)).

Smart meters can provide close to real time feedback on energy consumption, enabling consumers to better manage their use, save energy and lower their bills, for example, by adapting their energy usage to different energy prices throughout the day. In this respect, the deployment of smart metering systems is a pre-condition for dynamic price contracts according to Art. 11 DIR. Moreover, smart meters enable consumers to actively participate in energy communities and energy sharing schemes.⁶ When paired with smart meters, smart grids can respond to changes in supply and demand and are thus particularly well suited to cope with variations in the supply of energy from variable renewables sources.⁷

• **Article 32 (1) and (3) DIR** (incentives for the use of flexibility in distribution networks)

Art. 32 (1) obliges Member States to provide the necessary regulatory framework to enable and incentivise distribution system operators to procure flexibility services, including congestion management in their areas, in order to improve efficiencies in the operation and development of the distribution system.

According to Art. 32 (3), the development of a distribution system shall be based on a transparent network development plan that the distribution system operator shall publish at least every two years and shall submit to the regulatory authority. The network development plan shall include the use of demand response, energy efficiency, energy storage facilities or other resources to be used by the distribution system operator as an alternative to system expansion.

Both provisions aim to support the integration of installations generating electricity from renewable energy sources, facilitate the development of energy storage facilities and the electrification of the transport sector (recital 61). This helps to limit the scope of costly network expansions and enables faster integration of renewables into the system, benefitting both grid operators and consumers.

• **Art. 22 (1) REG** (design principles for capacity mechanisms)

In order to address remaining concerns about resource adequacy arising from an increasing share of renewable energy in the electricity system, Member States may, as a last resort, introduce capacity mechanisms as a back-up (Art. 21 (1) REG). According to Art. 2 (22) REG, “capacity mechanism” means a temporary measure to ensure the achievement of the necessary level of resource adequacy by remunerating resources for their availability, excluding measures relating to ancillary services or congestion management (Art. 2 (22)). As they carry the risk of distorting the internal electricity market, capacity mechanisms are only introduced if necessary. Art. 22 (1) therefore sets out design principles for national capacity mechanisms. Capacity

⁵ https://energy.ec.europa.eu/topics/markets-and-consumers/energy-consumer-rights/protecting-and-empowering-energy-consumers_en.

⁶ https://energy.ec.europa.eu/topics/markets-and-consumers/smart-grids-and-meters_en#benefits-for-consumers.

⁷ https://energy.ec.europa.eu/topics/markets-and-consumers/smart-grids-and-meters_en#benefits-for-consumers.

mechanisms shall, inter alia, be temporary, non-distortive, non-discriminatory and open to all types of resources, including storage and demand-side management.

Art. 22 (1) thus safeguards the internal electricity market from distortions and consumers from unnecessary costs of capacity mechanisms.

- **Art. 16 RED** (organisation and duration of the permit-granting process)

Art. 16 RED regulates the organisation and the duration of the permit-granting process for renewable energy installations and repowering. It obliges Member States to bundle their procedures in a way that the applicant shall not be required to contact more than one contact point for the entire process ("**one-stop shop**"). It also sets **time limits** for the permit-granting process (two years as a rule, one year for small installations and for repowering), and partly requires simplified procedures.

The shortening and simplification of permit-granting processes for renewable energy installations is a crucial enabler for achieving the EU energy and climate targets and enhances investment security.

- **Article 4 ACC** (Accelerating the permit-granting process for the installation of solar energy equipment) & **Article 5 ACC** (repowering of renewable energy power plants)

Art. 4 and 5 ACC are part of the **temporary emergency rules** to speed up the process of licensing renewables established in response to the Russian invasion of Ukraine. They stipulate **shorter approval periods** for **solar energy** (Art. 4: three months) and for the **repowering** of renewable energy plants (Art. 5: six months) and provide for simplified procedures and facilitations regarding environmental impact assessment. As provisions of an EU regulation, they are directly applicable in the Member States' legal systems.

In addition to the benefits mentioned under Art. 16 RED, Art. 4 and 5 ACC contribute to reducing the EU's dependency on fossil fuels and thus enhance **energy security**.

- **Art. 17 RED** (simple-notification procedure for grid connections)

Art. 17 RED also simplifies and accelerates the process of realising renewable energy projects. Installations of renewable self-consumers and demonstration projects with an electricity capacity of up to 10.8 kW, which may be extended to 50 kW under certain conditions, must be connected to the grid following a notification to the distribution system operator. This helps to better integrate renewable energy into the system and reduce the burden on active consumers.

- **Art. 21 RED** (renewable self-consumers)

Art. 21 (1) RED obliges Member States to ensure that consumers are entitled to become renewable self-consumers and specifies this obligation in the subsequent paragraphs, inter alia for jointly acting renewable self-consumers. "Renewables self-consumer" means a final customer operating within its premises located within confined boundaries or, where permitted by a Member State, within other premises, who generates renewable electricity for its own consumption, and who may store or sell self-generated renewable electricity, provided that, for a non-household renewables self-consumer, those activities do not constitute its primary commercial or professional activity (Art. 2 (14) RED).

Renewable self-consumers overlap with active customers according to Art. 15 DIR. The benefits of using self-generated electricity include lower energy bills, energy autonomy, reduced carbon emissions and the creation of new, local jobs.⁸

⁸ https://www.interregeurope.eu/sites/default/files/inline/Energy_self-consumption__Policy_brief_final.pdf.

2 Overall assessment

2.1 DIR & REG

2.1.1 Article 11 DIR (entitlement to a dynamic electricity price contract)

The provision on the entitlement to a dynamic electricity contract has been **fully transposed by half of the selected Member States**. **Austria, Bulgaria, and Spain** transposed Art. 11 DIR only partially. **Austria** and **Bulgaria** failed to transpose the obligation of Member States to ensure that final customers who have a smart meter installed can request to conclude a dynamic electricity price contract with at least one supplier in their market and every supplier that has more than 200,000 final customers (Art. 11 (1) DIR). In **Spain**, the provision on information about dynamic electricity tariffs for consumers does not specifically include any information about its risks, and no clear timeframe to monitor the development (Art. 11 (2) and (4) DIR).

To the extent that Art. 11 DIR was transposed, **Spain** implemented it within the time stipulated. In **Austria**, a part of the transposition was delayed, in **Bulgaria** most of it. In the remaining Member States, **transposition was fully delayed**. The period of delay ranged from 2 months (**France**) and 8 months (**Germany**) to around 31 months (**Austria**), almost 35 months (**Bulgaria**), and 43 months (**Poland**).

Regarding the **quality of the implementation**, there are mainly **differences between early and late movers**. These differences can chiefly be **attributed to the varying availability of smart meters**. In **Spain**, due to the widespread availability of smart meters, Art. 11 DIR was implemented early. As a result, the share of Spanish households with contracts for dynamic tariffs rose from 28% in 2015 to 42% in 2019. In **France**, on the other hand, suppliers have only been obliged to offer dynamic tariffs since July 2023, in **Germany** since January 2023. In **Poland**, the widespread implementation of dynamic tariffs depends on progress in deployment of smart meters, which is planned for a timeframe until 2028 as well as on the establishment of a central information system for the energy market, which has already been delayed from July 2024 to July 2025. The lack of an entitlement to dynamic electricity price contracts in Austria has resulted in only few suppliers offering such tariffs.

Deficits and delays in the implementation of dynamic electricity tariffs limit the possibilities of end consumers optimising their energy consumption and reduce the benefits of the electricity systems from demand response triggered by high prices.

2.1.2 Article 15 DIR (active consumers)

Art. 15 DIR on active consumers has **only been fully transposed in Poland**. In the other Member States, **transposition was only partial**, with **Austria** and **Germany** transposing Art. 15 DIR to a large extent. In **Austria, France, and Germany**, most elements of Art. 15 had already been reflected in the national law before DIR adoption. Therefore, no additional action was needed in relation to these elements.

In **Austria** and **Germany**, the entitlement to sell self-generated electricity through power purchase agreements (Art. 15 (2) lit. b) has not been transposed. Active customers that own an energy storage facility may still be subject to double charges in contravention of Art. 15 (5) lit. b in **France, Germany, and Spain**. In **France** and **Spain**, there is no provision addressing network charges not separately accounting for the electricity fed into and consumed from the grid (Art. 15 (2) lit. e). In **Spain**, the right of active customers to participate in flexibility and efficiency programmes (Art. 15 (2) lit. c) has not been implemented. In **Bulgaria**, transposition

does not cover the requirements of network charges and financial responsibility according to Art. 15 (2) lit. e and f, nor the requirement of Art. 15 (3) to not grant new rights under an existing scheme that does not account separately for the electricity fed into the grid and the electricity consumed from the grid.

To the extent that transposition took place, **Germany** and **Spain** implemented it within the time stipulated. Transposition was partially delayed by 2 months in France and 7 months in Austria. In Bulgaria, transposition was completely delayed by 34 months. In Poland, the only country that fully transposed the provision, transposition was delayed by 32 months. However, the provisions related to the energy storage system were transposed in **Poland** with a delay of 6 months.

Specific concerns regarding the **quality of the implementation** were raised in **Austria**, where the provisions regulating joint production plants, energy communities, and renewable energy communities are often criticised for being too complicated. Overall, it seems that the strong focus of the transposition on energy communities does not ensure a broad range of active consumption. As of today, most customers in Austria still do not engage in energy production or energy storage, meaning that the energy supply system is still largely centralised. In **Bulgaria**, the Energy Act essentially reiterates the Directive almost verbatim and does not specify on the practical implementation of the declared guarantees and rights for active customers. The success of the implementation in **Poland** largely depends on the actions to be taken by distribution system operators. Although transposition of the provisions on energy storage systems was introduced almost two years earlier than the other provisions on active customers, consumers more frequently opt for standalone solar installations due to the high installation costs of energy storage facilities.

Deficits and delays in the implementation of the provisions on active consumers hinder the development of the energy supply systems into a decentralised and flexible system, as can be seen from the **example of Austria** mentioned above.

2.1.3 Article 17 DIR (demand response through aggregation)

The provision on demand response through aggregation has been **fully transposed** in **Bulgaria** and **Poland**. In the other Member States, **transposition was only partial**, with **Germany** transposing the provision to a large extent.

In **Austria**, activity in aggregation is only explicitly provided for in the case of energy communities, but without specific regulations, as demanded by Art. 17 (3) DIR. In **Germany**, the regulatory framework does not contain all the elements required by Art. 17 (3) DIR, and it is not ensured that the regulatory authority establishes the technical requirements according to Art. 17 (5) DIR. In **France**, likewise, the regulatory framework does not completely conform to Art. 17 (3) DIR, while several elements are lacking in **Spain**.

Except for the parts transposed by **Spain**, **transposition was delayed in all Member States**, partially in **Austria** and fully in the remaining Member States. The period of delay ranged from 2 months (**France**), 8 months (**Austria** and **Germany**) to 32 months (**Poland**) and almost 35 months (**Bulgaria**).

Regarding the **quality of the implementation**, the mainly non-explicit authorisation of the activity in **Austria** is by no means sufficient to promote the participation of end customers in demand control through aggregation. However, Austria addresses aggregation in its draft law on the ELWG which shall replace the current ELWOG. In **Bulgaria**, applying the broad language of the Energy Act without the necessary development of secondary legislation and regulations would be practically unfeasible.

As far as the transposition of Art. 17 DIR is incomplete or has been substantially delayed, consumers have not been able to access renewable energy generated or stored off-site more easily.

2.1.4 Article 19 DIR (smart metering systems)

Art. 19 DIR on smart metering systems has been **fully transposed by half of the** six selected **Member States**. **Austria**, **Bulgaria**, and **Spain** transposed Art. 19 DIR only partially, **Spain** to a large extent. In **Austria**, **Bulgaria**, **France**, and **Germany**, most or all elements of Art. 19 had already been reflected in the national law before DIR adoption. Therefore, no additional action was needed in relation to these elements.

In **Austria**, a legal basis for recommending optimising the use of electricity by providing energy management services and developing innovative price formulas according to Art. 19 (1) is lacking, and it is not ensured that smart metering systems that do not meet the requirements of Art. 20 and Annex II DIR do not remain in force after 5 July 2031 according to Art. 19 (6). **Bulgaria** especially lacks provisions concerning final customers' contributions to the associated costs of the deployment (Art. 19 (4) DIR). In **Spain**, regular monitoring of smart metering deployment according to Art. 19 (4) DIR does not seem to have been transposed.

Transposition was mostly implemented within the stipulated time, except in two Member States. **Poland** completely transposed Art. 19 with a delay of 6 months, while **Bulgaria** delayed its partial transposition by almost 35 months.

As to the quality of the implementation, there are **big differences between the countries' successes in smart metering deployment**. While deployment is progressing well in **Spain**, **France**, and **Austria**, this is not the case for **Bulgaria**, **Germany**, and **Poland**.

In **Spain**, the mandatory installation of smart meters for consumers with a contractual power of 15 kW has led to a 99% coverage of smart meters in Spanish households by 31 December 2019. As a result, an increasing number of consumers are entering into contracts with dynamic price tariffs, reaching almost 14 million consumers at the same time. This made Spain one of the international frontrunners regarding the use of smart meters and the operation of a smart grid. **France** has achieved its deployment objective of 90% in 2021 so that the implementation of Art. 19 DIR can be considered effective as well. However, there has been an increased litigation on smart meters in France, driven by user concerns about potential health impacts, to which the state has reacted with clarifications and fines. Similarly, in **Austria**, the rollout of smart metering systems is progressing. By the end of 2022, 68.38% of the measuring points were equipped with smart metering systems.

In **Bulgaria**, the regulatory authority KEVR concluded in 2013 that "it could not draw a conclusive assessment on the economic feasibility of introducing smart metering in Bulgaria" and recommended the installation of up to 20% new smart metering devices, but not less than 10% by 2020. However, smart meter roll-out in Bulgaria currently stands at 0%. The Bulgarian Rules About the Measurement of the Electricity Volumes, established by KEVR as secondary legislation and last revised in 2021, notably omit any reference to smart metering. In **Germany**, even though the legal framework appears to be in line with Article 19 DIR, the deployment of smart metering systems is not progressing. At the end of 2022, less than 1% of German households were equipped with a smart metering system. Although this may change in the future due to the binding deployment targets, there exists no legal obligation to install smart meters until 2025 at the earliest, while in other cases there is no obligation to install them until 2028. In **Poland**, the largest operator, PGE, planned to install smart meters for 15% of customers by the end of 2023 and accomplished setting up 12.5% in the third quarter of 2023. However, the implementation of smart metering is connected to the establishment of the Central Information System

for the Energy Market (CSIRE), the implementation of which has already been delayed once from July 2024 to July 2025.

Being a **pre-condition for dynamic price contracts according to Art. 11 DIR**, delays in the deployment of smart metering systems also hinder consumers in adjusting their consumption to the electricity prices, which means that potential savings are lost. **On the other hand, progress in smart meter deployment per se is not sufficient to produce positive effects.** For example, the technical requirements set out in Austrian law do not enable customers to directly react to electricity demand, as it is not required for smart metering systems to be able to retrieve and display the current network status data.

2.1.5 Article 32 (1) and (3) DIR (incentives for the use of flexibility in distribution networks)

Art. 32 (1) and (3) DIR on incentives for the use of flexibility in distribution networks have been **completely transposed only in France**. They have **not been transposed in Spain and almost no elements were transposed in Austria**. In the other Member States, the provisions have been **partially transposed**.

In **Poland**, Art. 32 (3) DIR has been transposed completely. As to Art. 32 (1), only delegated legislation by ministerial regulation has been provided for but not enacted yet. In **Germany**, too, only Art. 32 (3) DIR has been transposed completely. Regarding Art. 32 (1), the main provision to procure flexibility services is suspended until the German regulatory authority has provided specifications, which has not yet happened. In **Bulgaria**, Art. 32 DIR has been transposed only in a very fragmentary way. Similarly, in Austria, only minor incentives for research and demonstration projects in flexibility services have been implemented.

To the extent that transposition took place, it was delayed in all selected Member States, fully in Bulgaria, Poland, and Germany and partially in the remaining countries. The delay period ranged from 2 months in **France**, 8 months in **Austria**, 16 months on average in **Germany**, to 32 months in Poland and almost 35 months in **Bulgaria**.

Regarding the quality of the implementation, it is effective in France where the French distribution system operator Enedis published its network development plan for the first time in March 2023. In **Poland**, the provisions implementing Art. 32 (3) have been partially enforced, since two out of the five largest Polish distribution system operators have already published their plans. Regarding Art. 32 (1), transposition in Poland and Germany requires further measures by the governments or the regulatory authorities, which does not seem to be sufficient to ensure effective implementation. In **Bulgaria**, practical implementation of the very fragmented transposition of Art. 32 DIR would require further updates of the relevant national regulations.

The incomplete or delayed transposition of Art. 32 DIR makes it more challenging to avoid costly network expansions, which would have a negative impact on both grid operators and consumers.

2.1.6 Article 22 (1) REG (design principles for capacity mechanisms)

The design principles for capacity mechanisms do not need to be transposed into national laws since the REG is **directly applicable in the Member States' legal systems**. That means that new capacity mechanisms must comply with the design principles in Art. 22 (1) REG and capacity mechanisms existing on 4 July 2019 must be adapted to these principles (Art. 22 (5)).

All Member States have some kind of capacity mechanism. The one in **Poland** has been **adapted** to Art. 22 (1) REG, while the mechanisms in **France, Austria, and Germany** do not fully comply with it (mostly regarding the provision of incentives for capacity providers to be

available in times of expected system stress, Art. 22 (1) lit. e) but adhere to it **to a large extent**. In **Bulgaria** and **Spain**, there are **plans to replace the old capacity mechanisms with a new one that complies with the design principles**. In **Spain**, a draft order on a Spanish capacity mechanism was published in 2021, but has not been adopted to date. Regarding the capacity payments in **Bulgaria**, the European Commission noted that they seem to fall under the rules for capacity markets and should be made compliant with them as soon as possible, but it is unclear when the introduction of a new capacity mechanism “in the process of market liberalisation” will take place.

Regarding the **quality of the implementation**, the operation of the decentralised capacity mechanism in **France** is highly complex, which makes any assessment difficult. In **Austria**, the national regulatory authority E-Control stated in its latest monitoring report that even if the current need for flexibility can be covered by the capacity mechanism, it will be necessary to further develop potential and to make this available for both the markets and the distribution grid in the upcoming years.

To the extent that capacity mechanisms have not been aligned with the requirements of Art. 22 (1) REG, the internal electricity market is not sufficiently protected from distortions, and consumers are not sufficiently protected from unnecessary costs.

2.2 RED & ACC

2.2.1 Article 16 RED (organisation and duration of the permit-granting process), Article 4 ACC (accelerating the permit-granting process for the installation of solar energy equipment), and Article 5 ACC (repowering of renewable energy power plants)

The provision on the organisation and duration of the permit-granting process in Art. 16 RED has **not been transposed completely in any of the selected Member States**. However, in **Austria** and **Germany** the provision was transposed **to a large extent**.

The provisions on the one contact point responsible for the permit-granting process (Art. 16 (1-3)) were only completely transposed in **Germany** and **Poland**. No country completely transposed Art. 16 (4) on facilitating the repowering of renewable energy plants through a simplified and swift permit-granting process. The provisions on the maximum duration of the permit-granting process (Art. 16 (4-7)) have only been fully transposed in **Austria** due to a general fall-back clause, limiting the time for deciding on applications to six months, which already existed before the RED. In **Germany**, the time limits have been transposed for most of the permitting procedures.

To the extent that Art. 16 RED has been transposed, transposition was **partly delayed** in **Austria**, where it seems that the provisions on the single contact point were transposed by most of the nine provinces. This mostly occurred in 2022, i.e. with a delay between 6 and 18 months. In **France**, Art. 16 (4) RED was transposed with a delay of 20 months, in **Spain** with a delay of 18 months (if at all) in addition to a 20 month-delay regarding transposition of Art. 16 (1). In the other Member States, transposition was **completely delayed** by, respectively, 14 months in **Germany**, nearly 28 months in **Bulgaria**, and 30 months in **Poland**.

The provisions on accelerating the permit-granting process for the installation of solar energy equipment (Art. 4 ACC) and repowering of renewable energy power plants (Art. 5 ACC) are **directly applicable in the Member States' legal systems**. However, in **France**, alignment with Art. 4 ACC has been provided for by law, in **Bulgaria** partly for Art. 4 and 5 ACC. In **Germany**, there are no legal provisions contradicting Art. 4 and 5 ACC, while some provisions exist

in **France** and **Spain**. How consistently Articles 4 and 5 ACC are applied in practice could not be investigated within the scope of this project.

Assessing the **quality of implementation is challenging** for Art. 16 RED and Art. 4 and 5 ACC, **especially regarding the duration of the permit-granting process**. In **France**, the effectiveness of the 2023 Renewable Energy Acceleration Law (regarding the maximum time limit of three months in acceleration zones or renewable energy installations serving as an overriding public interest) remains uncertain. According to opinions of industries and observers, it does not provide the necessary changes to achieve France's energy target, and its influence will highly depend on forthcoming regulatory measures and resources allocated for its implementation. In **Austria**, where many former deficits of permit-granting for renewable energy installations have been addressed in recent years, the overall situation is still considered unsatisfactory. This is especially the case for the necessity to get several permits from different authorities for projects not subject to the UVP-G, but to the laws of the provinces. Therefore, the Austrian Government plans to introduce a Renewables Expansion Acceleration Act (Erneuerbaren-Ausbau-Beschleunigungs-Gesetz, EABG) for these projects. According to a key points paper from January 2023, only one permit shall be necessary (in accordance with the EABG), which includes a consolidated procedure. However, to date, no draft law has been presented. In **Poland**, the effectiveness of the transposition of the provisions on the single national contact point, which came into force in January 2024, is impaired by the fact that its operation has been delayed. Moreover, in the country fiches on **France**, **Germany**, and **Spain**, it has been noted that there are no legal consequences for exceeding the maximum duration of the permit-granting process. While this is correct insofar as the RED does not require that the Member States impose sanctions on their administrations for ensuring compliance with the time limits, compliance can still be enforced by EU law through the infringement procedure.

The incomplete or delayed implementation of Art. 16 RED and Art. 4 and 5 ACC hinders or delays the expansion of renewable energy installations and impairs investment security and ultimately energy security and the achievement of the EU and the Member States' energy and climate targets.

2.2.2 Article 17 RED (simple-notification procedure for grid connections)

Austria, **Germany**, **Poland**, and **Spain** have **completely transposed** the simple-notification procedure for grid connections according to Art. 17 RED. In Poland and Spain, Art. 17 had already been reflected in the national law before RED adoption. In Bulgaria and France, the provision has **not been fully transposed**.

In **France**, the simple-notification procedure for grid connections is only available for power installations with a maximum capacity of 3 kW instead of 10.8 kW as provided for in Art. 17 (1) RED. In **Bulgaria**, instead of a simple-notification procedure, only a simplified procedure has been introduced, which needs further development by an ordinance that has not yet been updated.

Of the countries that fully transposed Art. 21 RED, transposition was delayed by one month in **Austria**. The partial transposition was delayed by 25 months in **France** and 28 months in **Bulgaria**.

No deficits could be found as to the quality of the transposition.

To the extent that Art. 17 RED has not been implemented completely and in time, the expansion of renewable energy installations and the achievement of energy security and climate targets is delayed.

2.2.3 Article 21 RED (renewable self-consumers)

Art. 21 RED on renewable self-consumers has been **completely transposed** in **Poland** and **partially transposed** in the other selected Member States. However, in **Austria, France, Germany, and Spain**, most elements of the article were transposed. In **Austria** and **Germany**, most provisions had already been reflected in the national law before RED adoption.

In **Austria, France** and **Germany**, the enabling framework to promote and facilitate the development of renewables self-consumption (Art. 21 (6) RED) has not been transposed completely. In **France** and **Spain**, provisions on ensuring that consumers are entitled to install and operate electricity storage systems for self-consumption without liability for double charges (Art. 21 (2) lit. b) are missing, while in **Austria** there are restrictions on the remuneration of energy produced by renewable energy communities in contravention of Art. 21 (2) lit. d. In **Spain**, there are no provisions ensuring that collective self-consumption does not face additional network charges and other relevant charges, fees, levies, and taxes as requested by Art. 21 (4) RED, while in **Germany** there are some regulatory barriers to joint self-consumption. In **Bulgaria**, the voluntary application of charges or fees to renewable self-consumers does not meet the requirements of Art. 21 (3) RED.

In **Poland**, the only country that fully transposed Art. 21 RED, transposition was partially delayed by a range from 9 to 36 months. In the other Member States, transposition took place with a delay of 2 months in **Austria** and a delay of nearly 28 months in **Bulgaria**.

Regarding the **quality of the implementation**, solid financing initiatives to accelerate the deployment of renewables self-consumption have been established in **Spain**, covering i.e. the service sector, the residential sector, and public administrations. Additionally, citizens, companies, and public bodies have the possibility to contact the Citizen Information Service in Energy Efficiency and Renewable Energies for inquiries. In **France**, the total capacity of photovoltaic power generated for self-consumption reached approximately 2.3 GW by December 2023. Solar PV production (including surplus electricity injected into the grid) accounted for the bulk of this capacity (over 1.88 GW compared to 51 MW in 2018). In **Poland**, the implementation of the RED stirred controversy between 2021 and 2022, resulting in the rapid connection of tens of thousands of installations in a short period. In the subsequent months, the number of connected micro-installations drastically declined due to a change in the billing system. Currently, the situation has returned to the previous one. In **Austria**, it seems that the strong focus on renewables energy communities does not ensure a broad range of renewables self-consumption. As of today, most consumers in Austria do not engage in energy production or energy storage, resulting in the energy supply system remaining largely centralised. In **Bulgaria**, the transposing law simply repeats the overarching principles of Art. 21 RED, but specific regulations and rules to put these principles into effect are lacking.

To the extent that Art. 21 RED has not been implemented completely and in time in 5 out of 6 analysed countries, the benefits from using self-generated electricity such as cheaper energy bills, energy autonomy, reduced carbon emissions and the creation of local jobs cannot be fully realised.

2.3 Conclusions

Overall, partial transposition of the DIR and RED provisions clearly outweighs complete transposition.⁹ There was, however, only one instance in which a country did not transpose a

⁹ In April 2023, the European Commission initiated an infringement procedure against Austria for not having completely transposed the DIR, see the introduction to the country fiche on Austria in Chapter 3.

provision at all.¹⁰ In particular, Article 16 RED has not been transposed completely in any of the selected Member States. Equally, delayed transposition of at least parts of the provisions clearly outweighs timely transposition, amounting to an average delay of more than 13 months per Member State and an average delay duration of around 19.5 months.¹¹ As to the EU regulations, which are directly applicable in the Member States' legal systems, compliance could be assessed in relation to the provision of the REG where partial compliance outweighs both non-compliance and full compliance, but not in relation to the ACC provisions. Good quality of the implementation, in the sense of the implementation being considered effective, outweighs insufficient quality.

2.4 Trends and challenges

Clearly, an analysis of the implementation of the selected EU provisions in 6 Member States cannot be considered representative for the situation in the 27 Member States. Still, some trends may be identified that, with the necessary caution, suggest comparable findings in the Member States not included in this analysis.

2.4.1 Articles 11 (entitlement to a dynamic electricity price contract) and 19 DIR (smart metering systems)

Art. 11 and 19 DIR are connected in that the deployment of smart metering systems according to Art. 19 is a pre-condition for dynamic price contracts according to Art. 11. Consequently, the quality of the implementation of Art. 11 (in terms of successful implementation in practice) mainly depends on the availability of smart meters in the Member States concerned. In that respect, there are big differences between the countries' successes in smart metering deployment. It can be expected that these findings also apply to the other Member States.

At the same time, this good example of the coherence of the provisions analysed shows how important it is to implement all the provisions of the EU energy sector regardless of whether they belong to the Clean Energy Package or to the new Fit for 55 Package.

2.4.2 Articles 15 (active consumers) and 17 DIR (demand response through aggregation), 21 RED (renewable self-consumers)

Art. 15 DIR and 21 RED have in common that renewable self-consumers are a sub-category of active customers. Art. 15 on active customers is a broad provision, some aspects of which are contained in other EU provisions. To a lesser extent, this is also the case for Art. 21 RED on renewable self-consumers and Art. 17 DIR on demand response through aggregation. This makes transposition into the national legal systems difficult, which may explain why these provisions have not been transposed completely in most of the countries examined. Arguably, this will also be the case in most of the other Member States.

¹⁰ Spain with regard to Art. 32 (1) and (3) DIR.

¹¹ The European Commission has initiated infringement procedures against all 27 Member States for failure to notify complete transposition of the RED by the deadline of 30 June 2021, and in January 2023 referred Bulgaria (and Slovakia) to the Court of Justice of the EU for failure to notify any transposition measure by then, see https://ec.europa.eu/commission/presscorner/detail/en/ip_23_163.

2.4.3 Article 32 (1) and (3) DIR (incentives for the use of flexibility in distribution networks)

Compared with the other provisions analysed, Art. 32 (1) and (3) DIR on incentives for the use of flexibility in distribution networks has a remarkably low level of transposition in the Member States evaluated. This may be an indicator that flexibility in distribution network development is still hindered by a “traditional” view of the energy system, especially in the mainly centralised energy systems.

2.4.4 Article 22 (1) REG (design principles for capacity mechanisms)

Art. 22 (1) REG requires compliance with the design principles for capacity mechanisms where such capacity mechanisms exist. This is the case in all the Member States analysed. In some of these countries, the challenge is to replace old capacity mechanisms with a new one that complies with Art. 22 (1) REG (instead of adapting the existing ones). Other Member States can be expected to struggle with such a transition as well. It should be emphasised in this context that Art. 22 (5) REG does not provide for a deadline to adjust capacity mechanisms existing on 4 July 2019 to the requirements of Art. 22 (1) REG.¹²

2.4.5 Article 16 RED (organisation and duration of the permit-granting process), Article 4 ACC (accelerating the permit-granting process for the installation of solar energy equipment), and Article 5 ACC (repowering of renewable energy power plants)

The provision of the organisation and duration of the permit-granting process in Art. 16 RED has not been transposed completely and in time in any of the selected Member States. In particular, the provisions on the maximum duration of the permit-granting process (Art. 16 (4-7)) have only been fully transposed in one country due to a general fall-back clause that already existed in the national law before RED adoption. It can be expected that the situation is not substantially better in the other Member States.

The provisional provisions on accelerating the permit-granting process for the installation of solar energy equipment (Art. 4 ACC) and repowering of renewable energy power plants (Art. 5 ACC) are directly applicable in the Member States’ legal systems. In a few Member States, some legislative alignment has been provided for. How consistently Articles 4 and 5 ACC are applied in practice could not be investigated within the scope of this project, meaning that no trend could be inferred for other Member States.

It can generally be assumed that the organisation and duration of the permit-granting process remains particularly challenging for any Member State, especially due to the multitude of legal requirements: the provisions of the RED (II), the provisional and directly applicable provisions of the ACC, and the requirements of the RED III which still need to be transposed. In addition, compliance with the maximum duration of the permit-granting process cannot be ensured by law alone but requires adequate resources for the administration involved, possibly at different levels.

2.4.6 Delayed transposition

Generally, the quality of implementation could not be assessed regarding those countries that delayed transposition to such an extent that it took place only very recently. This was especially the case with **Bulgaria** and **Poland**, which delayed transposition of almost all the analysed provisions of the DIR and the RED at least partly by 27 to 43 months. By comparison,

¹² The wording “by 31 December 2019” refers to “commitments or contracts concluded” since Art. 22 (5) REG only entered into force on 1 January 2000 according to Art. 71 (2) REG.

transposition was only delayed by 20 months or more twice by **France** and once by **Austria**, **Germany**, and **Spain**.

This shows that constantly and substantially delayed transposition by a Member State makes it very difficult to assess that Member State's progress and ultimately EU progress at a given point in time.

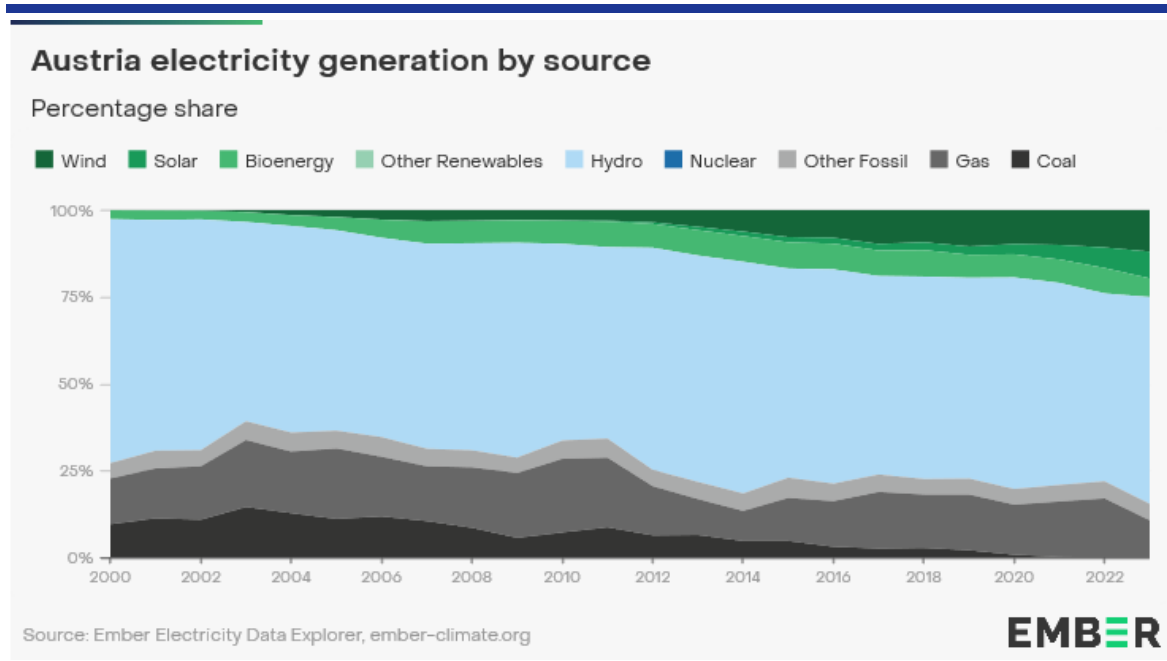
3 Country fiches

3.1 Country fiche Austria

3.1.1 Introduction

In 2020, 77,4% of Austria's power generation mix comes from renewable sources, mostly hydro and wind (figure 1). With the country's adoption of its Renewables Expansion Act, it aims at increasing its energy from renewable sources to 100% by 2030.

Figure 1: Austria's electricity mix by type of energy source, in percentage



Source: EMBER, 2024.¹³

In 2023, the share of renewables in Austria's electricity mix was 84,6%. 59,5% came from hydro/ marine power while wind energy made up 12%, solar energy 7,7% and bioenergy 5,3%. At the same time, Austria demonstrated an increase of net MW capacity of electricity from solar by 765 MW, from wind by 328 MW, from hydro and marine by 221 MW and a decrease of non-renewable capacity of 188 MW (Irena, 2023). Austria's plans to increase its share of renewable energies is mainly regulated through the following regulations:

- ▶ The Electricity Management and Organisation Act (*Elektrizitätswirtschafts- und -organisationsgesetz*, ELWOG), and subsequent amendments
- ▶ Renewables Expansion Act (*Erneuerbaren-Ausbau-Gesetz*, EAG) and subsequent amendments

¹³ <https://ember-climate.org/data/data-tools/data-explorer/>.

In addition, Austria plans to introduce a Renewables Accelerated Expansion Act (*Erneuerbaren-Ausbau-Beschleunigungs-Gesetz*, EABG) and to further develop the ELWOG into a Electricity Management Act (ELWG).

The federal state of Austria has only limited legislative competence in the field of energy law. According to Article 12 (1) of the Austrian constitution (Bundes-Verfassungsgesetz, B-VG), it can only adopt the legal framework (legislation as regards principles) while the implementing laws are to be adopted by the provinces. Within the scope of this country fiche, as a rule, only federal law could be assessed.

There is an **ongoing infringement procedure** against Austria due to the lack of implementation of the **DIR** into Austrian law. As of 19.4.2023, the European Commission sent to Austria a reasoned opinion.¹⁴ The Austrian Government has just submitted a draft law to replace the ELWOG and implement the remaining provisions of the DIR, the draft Electricity Management Act (Elektrizitätswirtschaftsgesetz, ELWG).¹⁵ In this context, it is also discussed to fully transfer the legislative competence for energy law to the federal government.¹⁶ However, this would require an amendment to the constitution.

3.1.2 Implementation

3.1.2.1 Article 11 DIR (entitlement to a dynamic electricity price contract)

Implementation status

Some of the provisions of Art. 11 DIR were already enshrined in Austrian law before the DIR entered into force, such as the monitoring provisions. Some provisions have been implemented **2.5 years after the transposition deadline**. Still, **implementation cannot be considered complete** as described below.

Dynamic electricity tariffs are possible (Art. 11 (1) DIR), and some energy providers are already offering them. However, there is no explicit legislation regulating dynamic electricity price contracts. Although, they are mentioned by § 80 (4a) ELWOG. **There is no entitlement to dynamic electricity price contracts for final consumers.**

According to § 80 (4a) ELWOG, electricity suppliers offering dynamic price contracts must inform customers about the opportunities, costs, and risks of these contracts (Art. 11 (2) DIR).

There is no specific obligation for the regulatory authorities to monitor market developments in relation to dynamic electricity price contracts (Art. 11 (2) and (4) DIR). However, this is likely to be covered by general monitoring pursuant to § 21 (2) E-ControlG.

Before switching to a dynamic electricity price contract, suppliers must obtain the end customer's consent in accordance with § 80 (4a) ELWOG (Art. 11 (3) DIR).

§ 80 (4a) ELWOG entered into force on 21.7.2023, thus **not on time (delay of more than 2.5 years)**.

It is worth mentioning that Austria addresses dynamic electricity price contracts in its draft law on the ELWG which shall replace the current ELWOG.

Quality of the implementation

¹⁴ https://ec.europa.eu/commission/presscorner/detail/EN/inf_23_1808.

¹⁵ https://www.bmk.gv.at/recht/begutachtungsverfahren/ELWG-EnDG_E-ControlG.html.

¹⁶ Ennser/Kollmann, "Elektrizitätswirtschaft ante portas", RdU 2023, 05a, p. 102 ff.

Due to the lack of an entitlement to dynamic electricity price contracts, few electricity suppliers were offering such by the end of 2023.¹⁷ This indicates that contracts with dynamic electricity price tariffs are still far from being the norm in Austria, which severely limits the possibilities for end customers to optimize their energy consumption.

3.1.2.2 Article 15 DIR (active consumers)

Implementation status

Most provisions of Article 15 of the DIR were already incorporated in Austrian law **before the DIR entered into force**. Some provisions have been implemented with a **delay of 7 months**. However, **implementation cannot be considered complete**.

The entitlement to act as an active customer (Article 15 (1) DIR) is regulated **only partially** in Austrian law. The basic definitions of the market roles set out in § 7 ELWOG do not contain active consumers or active consumption. According to § 7 (1) No. 40 ELWOG, customers are “end consumers, electricity traders as well as electricity companies that purchase electricity”. Additional activities are not covered. According to § 7 (1) No. 45 ELWOG, “natural or legal person[s] or registered partnership[s] that [make] electricity available to other natural or legal persons” generally act as energy suppliers. Producer is every person that generates electricity according to § 7 (1) No. 17 ELWOG. **Multiple roles are not provided for**. Exceptions are only provided for joint production plants, citizen energy communities and renewable energy communities as described below. Only energy communities and renewable energy communities are explicitly entitled to consume, store, or sell self-generated electricity.

However, there are no legal restrictions on the ability of other end users to consume or store electricity generated on site. There are no fees or charges for electricity that is not fed into the grid. Self-generated electricity can be regularly sold on the market. The implementation of a legal claim to act as an active consumer is therefore not required.

Active consumers are subject to the same technical requirements, administrative requirements, procedures and charges, and network charges as any electricity producer (Article 15 (1) DIR). There is an exception only for micro-generation plants with a capacity of 0.8 kW or below. According to § 66a ELWOG, these do not require an own measuring point and are free from the general producer’s duties set out in §§ 66, 85 ELWOG. This means, for example, that they do not have to participate in a balancing group or provide generation schedules or other data to the grid operator. Neither do they need a permission.

As far as can be seen, **active customers are not explicitly entitled to sell self-generated electricity through power purchase agreements** as provided for in Article 15 (2) lit. b of the DIR. However, this seems to be the standard in practice.

As far as can be seen, there are no legal restrictions on participation in flexibility schemes and efficiency schemes (Article 15 (2) lit. c DIR).

As there is no definition of active consumption or the role of active customers in Austrian law, the delegation of the installation, operation, and maintenance of an energy system to a third party should not have any legal consequences such as the third party being an active customer (Article 15 (2) lit. d DIR).

Active customers are subject to the same network charges as any electricity producer feeding electricity into the grid (Article 15 (2) lit. e DIR). This follows from §§ 51 ff. ELWOG, which do not distinguish between active customers and other producers.

¹⁷ <https://www.automagazin.at/e-mobility-warum-kein-weg-an-variablen-stromtarifen-vorbeifuehrt/>.

According to § 86 ELWOG, there is a balance responsible party for each balancing group (Article 15 (2) lit. f DIR). Since all network users, except micro-producers (see above), must participate in a balancing group, it should be ensured that they are financially responsible for the imbalances they cause in the electricity system.

Austrian law distinguishes between individual and jointly-acting active customers (Article 15 (3) DIR). While there is no regulation on individual active consumption, jointly-acting active consumers can choose between different models that can give them several privileges according to §§ 16a ff. ELWOG – joint production plants, citizen energy communities and renewable energy communities. §§ 16a ff. ELWOG primarily regulate the specialties arising from joint production, such as the rights and obligations of the members among each other. The distinction should therefore be proportionate.

As far as can be seen, there is no existing scheme in Austria that does not separately account for electricity fed into the grid and electricity consumed from the grid (Article 15 (4) DIR).

Article 15 (5) DIR has not explicitly been transposed into Austrian law. However, § 44 ELWOG determines the parties that are entitled to a network connection (Art. 15 (5) lit. a DIR). The provision does not make specific mention of end users with an electricity storage facility. However, it includes all electricity producers which does not exclude the ones that also store electricity. § 16d ELWOG provides the legal minimum requirements for community energy production and mentions the energy storage facilities in so far as network operators must be informed if they are part of an energy community. § 16d ELWOG entered into force on 1.8.2021, thus **not on time** (delay of 7 months). There are no fees or charges for electricity that is not fed into the grid (Art. 15 (5) lit. b DIR). Since there is no specific regulation on the permit-granting process for energy storage systems, the general rules apply (Art. 15 (5) lit. c DIR). There is no legal restriction on providing several services simultaneously (Art. 15 (5) lit. d DIR).

Quality of the implementation

Besides the lack of an entitlement to sell self-generated electricity through power purchase agreements, there are some concerns regarding the quality of the implementation.

The provisions regulating joint production plants, energy communities, and renewable energy communities are often criticized for being too complicated.¹⁸

It can be discussed if the privilege to micro-generation plants should apply also for medium-small customer systems.

Overall, it seems that the strong focus on energy communities does not ensure a broad range of active consumption.¹⁹ As of today, most customers in Austria do still not engage in energy production or energy storage. The energy supply system is still largely centralized.

3.1.2.3 Article 17 DIR (demand response through aggregation)

Implementation status

Austria has implemented the provisions of Article 17 DIR **only very partially**. Some of the provisions were already enshrined in Austrian law before the DIR entered into force. Some provisions have been implemented **8 months after the transposition deadline**. Still, **implementation cannot be considered complete** as described below.

¹⁸ Cf. e.g. Höhne, Unsere Position zum Erneuerbaren-Ausbau-Gesetz (EAG), <https://dialog.our-power.coop/blog/unsere-position-zum-erneuerbaren-ausbau-gesetz-eag/>.

¹⁹ Cf. Höhne, Unsere Position zum Erneuerbaren-Ausbau-Gesetz (EAG), <https://dialog.our-power.coop/blog/unsere-position-zum-erneuerbaren-ausbau-gesetz-eag/>.

There is no explicit regulation of demand control through aggregation at federal level. As far as can be seen there is also no explicit regulation at regional level.

Although § 7 ELWOG contains basic definitions, the different market roles are partly unclear.²⁰ According to its No. 40, customers are “end consumers, electricity traders as well as electricity companies that purchase electricity”. Additional activities are not covered in legislation but are also not prohibited.

Only for energy communities is activity in aggregation explicitly provided for in accordance with §§ 7 (6a), 16b ELWOG. However, specific regulations, as provided for in Art. 17 (3) DIR, are also missing here.

§§ 7 (6a), 16b ELWOG entered into force on 28.7.2021, thus **not on time** (delay of 8 months).

Quality of the implementation

The (non-explicit) authorisation of the activity is by no means sufficient to promote the participation of end customers in demand control through aggregation. Optimization remains complex. However, Austria addresses aggregation in its draft law on the ELWG which shall replace the current ELWOG. The draft law provides for a claim for end customers to participate in demand control through aggregation.²¹

3.1.2.4 Article 19 DIR (smart metering systems)

Implementation status

Most provisions of Art. 19 DIR were already enshrined in Austrian law before the DIR entered into force, so no implementation was needed. However, **implementation cannot be considered complete** due to several deficits.

As far as can be seen, there is **no legal basis in Austria for a recommendation to optimize the use of electricity through the provision of energy management services or the development of innovative pricing formulas** (Article 19 (1) DIR). However, there are several legal acts that promote energy efficiency, the most important of which is the Federal Energy Efficiency Act (Bundes-Energieeffizienzgesetz – EEffG). For example, § 9 (2) EEffG requires bigger companies to either establish an energy or environmental management system or to carry out an external energy audit at regular intervals. The provision was already in force before the DIR.

Moreover, Austria decided to introduce smart metering systems (Art. 19 (1) DIR). According to § 83 (1) ELWOG, the then Austrian Federal Ministry for Labour and Economy, Family and Youth was mandated to introduce smart metering systems based on a cost-benefit assessment (Art. 19 (2) DIR). The assessment has been carried out and turned out positive. The deployment of smart meters was then legally enshrined in § 1 (1) of the Smart Meter Implementation Regulation (Intelligente Messgeräte-Einführungsverordnung – IME-VO). According to this, the grid operators are obliged to install smart metering systems at 95 % of the metering points by the end of 2024. The obligation was already included in Austrian law before the DIR entered into force, so no implementation was needed. Only the deployment targets were postponed several times.

The Smart Meter Requirement Regulation (Intelligente Messgeräte-Anforderungsverordnung – IMA-VO) outlines the mandatory minimum technical requirements for smart metering systems. According to § 3 No. 12 IMA-VO, smart metering systems must be in line with data protection law (Art. 19 (1) DIR). According to § 3 No. 7 IMA-VO, they must also communicate through

²⁰ Ennser/Kollmann, “Elektrizitätswirtschaft ante portas”, RdU 2023, 05a, p. 102 ff. (103).

²¹ Ennser/Kollmann, “Elektrizitätswirtschaft ante portas”, RdU 2023, 05a, p. 102 ff. (104).

encrypted channels. The provision was already in force before the DIR, so no implementation was needed.

Moreover, the technical requirements for smart metering systems set out in the IMA-VO ensure that these systems assist the active participation of customers in the electricity market (Article 19 (2) DIR). According to § 3 No. 2 IMA-VO, smart metering systems must, inter alia, provide end users with data on their energy consumption levels. This requirement is also legally enshrined in § 84 (3) ELWOG. This enables customers to better control their consumption.

The aspect of interoperability (Art. 19 (3) DIR) is stipulated in § 3 No. 5 and 6 IMA-VO, according to which smart metering systems must be able to communicate with at least four external flow meters as well as with external devices of the customer's power plant.

There is no specific regulation for the bearing of costs regarding the introduction of smart meters (Art. 19 (4) DIR). However, the general provisions provide for the final customers to contribute to these costs. According to § 51 (1) ELWOG, all grid users must pay a grid usage fee. Pursuant to § 51 (2) No. 6 ELWOG, this includes a fee for metering services. According to § 57 (1) ELWOG, the fee for metering services also covers the costs for the installation of metering equipment. As a result, the end customers as network users bear the costs of the deployment. According to § 51 (2) ELWOG, the state regulatory authority E-Control sets a maximum price for metering services, which is publicly accessible and therefore transparent. According to § 51 (1) ELWOG, the grid usage fee must comply with the principles of equal treatment of all grid users, cost orientation, and as far as possible, causal fairness. It is therefore non-discriminatory.

According to § 2 (2) IME-VO, the federal regulatory authority "E-Control" monitors the deployment (Art. 19 (4) DIR). The network operators are obliged to report annually to the Federal Minister of Economy, Family and Youth as well as to E-Control on the progress of the deployment, on the costs incurred, the experience gained during installation, data protection, consumption trends among end consumers and the grid situation. Based on this, E-Control publishes an annual monitoring report according to § 2 (3) IME-VO.

Art. 19 (6) DIR is partially implemented in Austrian law through § 1 (2) IME-VO, which states that smart meters that were implemented before IME-VO 2011 and do not meet the technical criteria set out in IME-VO 2011, may remain installed. All technical requirements as mandated in EU 2019/944 Article 20 that Article 19 refers to, are implemented in Austrian law through IME-VO 2011. However, **it is not ensured that smart metering systems that do not meet the requirements do not remain in operation after 5 July 2031.**

Quality of the implementation

Apart from the lack of a legal basis for recommendations on energy efficiency and the remaining uncertainty regarding the phase-out of non-compliant smart metering systems, there are no significant concerns regarding the quality of the implementation.

The rollout of smart metering systems in Austria is progressing. By the end of 2022, 68,38 % of the measuring points were equipped with smart metering systems.²²

The technical requirements set out in § 3 IMA-VO do not enable customers to directly react to electricity demand as it is not required that smart metering systems are able to retrieve and display the current network status data.

²² E-Control, „Bericht zur Einführung von intelligenten Messsystemen in Österreich 2023“, p. 16.

3.1.2.5 Article 32 (1) and (3) DIR (incentives for the use of flexibility in distribution networks)

Implementation status

Austria has not yet implemented Article 32 (1) and (3) DIR. The existing regulatory framework is only partly in line with the provision. Some provisions have been implemented after the transposition deadline. Still, implementation cannot be considered complete as described below.

As far as can be seen, the procurement of flexibility services is not explicitly regulated at federal level. Accordingly, there are no specific legal obstacles for distribution system operators to procure flexibility services. However, **there are no further incentives or specifications** regarding the procedure.

Exemptions from system usage fees are only provided for research and demonstration projects in flexibility services according to § 58a ELWOG. This may provide a certain, but very limited incentive for the development of flexibility services in Austria.

§ 58a ELWOG entered into force on 28.7.2021, thus **not on time** (delay of 8 months).

Austria has not yet implemented Article 32 (3) DIR.

A grid development plan for the expansion of the distribution grid is not provided for in Austrian law. This is planned to be introduced by the draft of the ELWG for grids with at least 50,000 connected metering points.²³

Quality of the implementation

The minor incentives for research and demonstration projects are insufficient to ensure the procurement of flexibility services in accordance with the requirements of the DIR.

3.1.2.6 Article 22 (1) REG (design principles for capacity mechanisms)

Implementation status

In Austria, there is essentially one capacity mechanism, the “grid reserve” (Netzreserve), which is regulated in §§ 23a f. ELWOG. **It complies partly, but not fully with the design principles set out in Art. 22 (1) lit. a-i REG.**

(a) According to § 23b (2) and (7) ELWOG, grid reserve contracts must not exceed a duration of two years, while one-year or seasonal contracts are the rule.

(b) The impact of the grid reserve on competition and trade cannot be conclusively assessed here. The mechanism is, apart from one exceptional case according to § 23b (1) No. 1 ELWOG, open to plant operators outside Austria, ensuring that cross-zonal trade is not limited. The largely competition-compatible design principles suggest that market distortions are limited. Furthermore, the providers of the grid reserve are subject to a marketing prohibition (§ 23b (7) ELWOG), meaning that they cannot simultaneously market their electricity. This should ensure that these plants are not advantaged and do not compete with regular electricity producers.

(c) The grid reserve may only be applied if a need has been identified. This follows from §§ 23a (2) and 23b (1) ELWOG, according to which the control area manager must procure only “the determined need for grid reserve”. Even if the grid reserve is not explicitly limited to the identified need, this should not pose a problem, as such limitation can be achieved through a European law-compliant interpretation of the norm.

²³ Ennser/Kollmann, “Elektrizitätswirtschaft ante portas”, RdU 2023, 05a, p. 102 ff. (104); Tätigkeitsbericht 2020 E-Control, p. 115.

(d) The tender procedure must be transparent, non-discriminatory and market based according to § 23b (1) ELWOG.

(e) As far as can be seen, **the grid reserve does not provide incentives for capacity providers to be available in times of expected system stress** besides general contract law.

(f) The remuneration for the grid reserve is determined through the competitive tendering process. According to § 23b (5) and (6) ELWOG, the control area manager must select the offers with the most favourable prices.

(g) The technical conditions for participation must be communicated in advance according to § 23b (2) ELWOG. Providers are selected in a two-stage process of which the first stage involves checking whether the providers meet the technical requirements.

(h) The grid reserve is open to all resources without restriction.

(i) As far as can be seen, **there are no penalties that apply to grid reserve providers that are not available in times of system stress**. According to § 99 (2) ELWOG, sanctions only apply to other rule violations such as the non-compliance with the marketing prohibition set out in § 23b (7) ELWOG.

Quality of the implementation

Apart from the lack of incentives and penalties to ensure availability of capacity providers in times of system stress, there are no significant concerns regarding the quality of the national rules. The national regulatory authority “E-Control” communicated in its latest monitoring report, that even if the current need for flexibility can be covered it will be necessary to further develop potential that can be used and to make this available for both the markets and the distribution grid in the upcoming years.²⁴

3.1.2.7 Articles 16 RED, 4 and 5 ACC (organisation and duration of the permit-granting process)

Implementation status

Art. 16 RED has been largely transposed into Austrian law, but **not completely and not always in time (delay of 6-18 months)**. An exact assessment is difficult since permit-granting for most renewable energy installations is mainly governed by the laws of the nine autonomous provinces. Articles 4 and 5 ACC do not need to be transposed into Austrian law. How consistently Articles 4 and 5 ACC are applied in practice cannot be investigated within the scope of this project.

In Austria, the permit-granting of renewable energy installations is partly subject to federal legislation as regards principles for electricity management (Art. 12 (1) no. 2 BV-G, see the introduction), but the Federation has so far refrained from doing so to a significant extent. Therefore, the provinces are almost free to legislate in this area.²⁵ In addition, the provinces have the competence for matters not assigned to the Federation (Art. 15 (1) BV-G) such as building laws and nature protection laws. To sum up, permit-granting of renewable energy installations is, as a rule, within the competences of the autonomous provinces.

An exception to this rule is permit-granting for renewable energy installations that are subject to Environmental Impact Assessment (EIA). In this matter legislation is the business of the Federation (Art. 10 (1) no. 7 BV-G) which has enacted the Environmental Impact Assessment

²⁴ E-Control, 7.2.2022, “Flexibilitätsangebot und -nachfrage im Elektrizitätssystem Österreichs 2020/2030“, p. 190.

²⁵ Cf. Storr, Energierecht 3. Kapitel note 3.56 (status 15.3.2022, rdb.at).

Act 2000 (Umweltverträglichkeitsprüfungsgesetz, UVP-G). According to § 3 (3) UVP-G, if an environmental impact assessment (EIA) must be performed for a project, the competent authority shall apply the substantive approval provisions required for the implementation of the project under federal or provincial administrative law, also to the extent that they fall in the domain of the municipalities, in a consolidated procedure (consolidated development consent procedure). According to § 39 (1) UVP-G, the Provincial Government shall have competence for the procedures, which shall extend to all investigations, decisions, and inspections under the relevant administrative provisions according to § 5 (1).

Thus, the UVP-G transposed Art. 16 (1) RED in setting up one contact point responsible for the permit-granting process and establishing that the permit-granting process covers the necessary administrative permits and comprises all relevant procedures. The provisions of the UVP-G also foresee that the contact point guides the applicant through the process, provides him with the necessary information, and involves other administrative authorities, according to Art. 16 (2) (see especially § 5 (2) and (3) UVP-G). According to § 5 (1) UVP-G, **the relevant application documents shall be filed electronically, where technically feasible, which does not exactly correspond to Art. 16 (2)** that requires a choice by the applicant as to the form to submit the documents.

Although this does not seem to be prescribed by law, a manual of procedures for developers has been made available online according to Art. 16 (4).

According to § 7 (2) and (3) UVP-G, the permit-granting process shall not exceed 9 months with regard to projects subject to an EIA procedure (listed in column 1 of Annex 1) and not exceed 6 months with regard to projects subject to a simplified procedure (listed in columns 2 or 3 of Annex 1). In addition, in the latter case, it shall be reduced by three months under certain circumstances (§ 7 (4) UVP-G). Thus, the timelines of the UVP-G do not exceed the maximum of two years as prescribed by Art. 16 (4).

However, the UVP-G applies only to certain renewable energy installations such as wind energy installations of a certain size, certain hydropower plants, and some installations applicable to biomass plants.²⁶ Most renewable energy installations do not need an EIA.²⁷

The permit-granting process for renewable energy installations that are not subject to the UVP-G is governed by the laws of the nine autonomous provinces.²⁸ According to federal fundamental legislation for electricity management, the provinces may in their implementation laws prescribe that these installations may be subject to a simplified permit-granting procedure or to a notification procedure.

It is not possible, within the scope of this study, to fully assess the implementation of Art. 16 RED by the laws of these nine autonomous provinces, especially not regarding the exact time of implementation. However, the main lines are described here.

Most of the electricity management laws of the provinces (ELWG oder ELWOG of the respective province) have introduced one contact point responsible for the permit-granting process (16 (1) and (2) DIR), although **it seems that they were mostly introduced in 2022, thus with a delay of 6-18 months**. The submission of relevant documents in digital form is foreseen in most provinces, although this is sometimes mandatory instead of depending on the choice of

²⁶ See Annex 1 Z 6, Z 30-42, and e.g. Z 1a, Z 2c UVP-G.

²⁷ <https://www.diepresse.com/13432449/energiewende-stillstand-ist-fatal-wir-brauchen-einen-masterplan>.

²⁸ ELWOG of Vorarlberg; K-ELWOG of Kärnten; NÖ ELWOG 2005 of Niederösterreich; Oö ELWOG 2006 of Oberösterreich; Stmk ELWOG 2005 of Steiermark; Bgld. ELWOG 2006 of Burgenland; WELWOG 2005 of Wien (Vienna); LEG of Salzburg; TEG 2012 of Tirol.

the applicant according to (16 (2) RED). The provisions on contact points also include the online publication of a manual of procedures according to Art. 16 (3) RED.

Regarding the maximum time for the permit-granting process for renewable energy installations in general (Art. 16 (4) RED), only the electricity management acts of Kärnten and Vorarlberg provide for specific provisions in line with the DIR. The other provincial laws only state that the competent authority shall work towards the speedy completion of procedures and to draw up timetables or request them from other authorities. However, there is a general provision in the Federal General Administration Procedures Act (AVG) that limits the time for deciding on applications to six months (§ 73 (1) AVG). This provision is applicable as long as the competent legislator (at federal or provincial level) has not introduced specific provisions deviating from this time limit, such as the nine months in § 7 UVP-G mentioned above.²⁹ It thus seems that the maximum time for the permit-granting process in those provinces that have not provided for specific time limits is 6 months which is compatible with Art. 16 (4) RED. This is also supported by § 7(5) ElWG Vorarlberg which prescribes that the maximum time for decisions in § 73 AVG is applicable to the permit-granting process for renewable energy installations.

This means that the one-year maximum time for installations with an electrical capacity of less than 150 kW (Art. 16 (5) RED) seems to be met by as well. This is definitively the case for Kärnten where the time limits of the RED have been transposed (§ 9a (5) no. 2 K-ELWOG). However, in those provinces where such installations are not exempt from permit-granting at all, the electricity management acts provide for a simplified procedure with a maximum time of three months. Most provincial laws also provide for easy access to simple procedures for the settlement of disputes concerning the permit-granting process, including alternative dispute resolution mechanisms.

Regarding **repowering** of renewable energy plants (Art. 16 (6) RED), **only Vienna has a provision that clearly provides for a simplified permit-granting process** (§ 7 (4) WELWG 2005). Some electricity management acts make the application of a simplified procedure dependent on the electrical capacity of the installation, other laws do not provide for simplified procedures for repowering. While § 9a (5) no. 2 K-ELWOG refers to the timelines of the RED, the other laws conform to the one-year time limit via either the 3-month time limit for simplified procedures, or the subsidiary 6-month time limit of § 73 (1) AVG.

Articles 4 and 5 ACC do not need to be transposed into Austrian law. Some elements of the ACC have nevertheless been introduced into national legislation, such as Art. 3 on the overriding public interest of renewable energy installations which has been incorporated in § 7 (5) UVP-G in 2023 stating that energy transition projects are in the high public interest. This has not been the case, however, with Art. 4 and 5 ACC. How consistently Articles 4 and 5 ACC are applied in practice cannot be investigated within the scope of this project.

Quality of the implementation

Although many former deficits of Austrian permit-granting for renewable energy installations have been addressed in recent years, **the overall situation is still considered unsatisfactory**. This is especially the case for the necessity to get several permits from different authorities for projects not subject to the UVP-G but to the laws of the provinces.³⁰ Therefore, the Austrian Government plans to introduce a Renewables Expansion Acceleration Act (Erneuerbaren-Ausbau-Beschleunigungs-Gesetz, EABG) for these projects. According to a key points paper of January 2023, only one permit, i.e. according to the EABG, shall be necessary, which includes

²⁹ Hengstschläger/Leeb AVG § 73 note 5 (status 1.3.2018, rdb.at).

³⁰ Bundesministerium Arbeit und Wirtschaft und Bundesministerium Klimaschutz, Umwelt, Energie, Mobilität, Innovation und Technologie, Vortrag an den Ministerrat: Erneuerbaren-Ausbau-Beschleunigungsgesetz („EABG“), 43a/16, p. 1, file:///D:/Downloads/43a_16_mrv-1.pdf.

a consolidated procedure. Further provisions shall lead to an acceleration of the permit-granting process, e.g. that solar energy installations on sealed surfaces shall not be subject to permit-granting.³¹ However, to date, no draft law has been presented. This is expected to delay the expansion of renewable energy installations.

3.1.2.8 Article 17 RED (simple-notification procedure for grid connections)

Implementation status

Art. 17 RED has been transposed into Austrian law through § 17a ELWOG 2010. **Transposition is complete and almost in time** (delay of 1 month).

Art. 17 (1) RED has been transposed into Austrian law through § 17a (1) to (5) ELWOG 2010 by an amendment which came into force on 28.7.2021, thus almost in time. § 17a ELWOG 2010 applies to renewable electricity generation facilities and units and demonstration projects with an electrical capacity of up to 20 kW. Austria thus made use of the option in Art. 17 (2) to increase the threshold for the simple-notification procedure for grid connections above 10.8 and up to 50 kW. According to § 17a (3) and (5) ELWOG 2010, the grid connection must take place after a positive decision by the district system operator (DSO) within four weeks, or, in the absence of such a decision, after the same period. § 17a (4) ELWOG 2010 allows the DSO, within four weeks, to reject the requested grid connection on grounds of safety concerns or technical incompatibility of the system components and to propose an alternative connection point. The DSO must justify its decision.

Quality of the implementation

There are no significant concerns regarding the quality of implementation. In the most recent amendment to the ELWOG in 2023, definitions regarding grid connection were clarified in § 7 (no. 48, 53 and 56).³²

3.1.2.9 Article 21 RED (renewable self-consumers)

Implementation Status

Most provisions of Article 21 of the RED were already incorporated in Austrian law before the RED entered into force. Some provisions have been implemented 2 months after the transposition deadline. Still, **implementation cannot be considered complete** as described below.

The right to become a renewables self-consumer (Article 21 (1) RED) is explicitly regulated only for renewable energy communities according to § 79 (1) of the Renewables Expansion Act (Erneuerbaren-Ausbau-Gesetz – EAG). However, there are no legal restrictions on end customers individually installing their own systems and consuming or storing the electricity they generate. There are no fees or charges for electricity from renewable sources that remain on their premises. Self-generated electricity can be regularly sold on the market. Therefore, the implementation of a specific entitlement is not required.

Self-consumers are not subject to discriminatory or disproportionate procedures or charges (Article 21 (2) lit. a RED). They are, on the contrary, privileged in some cases. For example, solar power plants with a capacity of 20 kW or below are free of the regular grid access fee according to § 17a (6) ELWOG. Incidentally, they are subject to the same procedures as any producer of renewable energy. The system usage fees must comply with the principles of

³¹ See Bundesministerium Arbeit und Wirtschaft und Bundesministerium Klimaschutz, Umwelt, Energie, Mobilität, Innovation und Technologie, Vortrag an den Ministerrat: Erneuerbaren-Ausbau-Beschleunigungsgesetz („EABG“), 43a/16, file:///D:/Downloads/43a_16_mrv-1.pdf.

³² Ennser/Kollmann, „Elektrizitätswirtschaft ante portas“, RdU 2023, 05a, p. 102 ff. (106).

equal treatment of all system users, cost orientation and, as far as possible, causal fairness according to § 51 (1) ELWOG. Further charges do not apply.

There are no legal restrictions on the installation and operation of electricity storage systems (Article 21 (2) lit. b RED). Renewable energy communities are explicitly entitled to store self-produced energy according to § 79 (1) EAG.

Self-consumers do not lose their rights and obligations as final customers (Article 21 (2) lit. c RED).

For the self-generated renewable energy that they feed into the grid, renewable self-consumers in general can be subject to the same funding schemes as any producer of renewable energy (Article 21 (2) lit. d RED). Most important is the market premium (Marktpremie) set out in §§ 45 ff. EAG. Special regulations only apply to renewable energy communities. According to § 80 (2) EAG, **only a maximum of 50 % of the energy produced by the renewable energy community can be promoted by the market premium.**

Renewable energy self-consumers are not subject to any fees or charges besides the regular network charge (Article 21 (3) RED).

As mentioned above, there are several ways to engage jointly in renewable self-consumption (Article 21 (4) RED). Besides the general provisions set out in §§ 16a ff. ELWOG on joint production plants and citizen energy communities, § 79 EAG specifically regulates renewables energy communities and entitles them to become renewables self-consumers. There are no legal restrictions on sharing the self-produced energy within the community on site.

Austrian law distinguishes between individual and jointly-acting renewables self-consumers. While there is no regulation on individual renewables self-consumption, renewables energy communities are specifically regulated. However, §§ 79 f. EAG primarily regulate the specialties arising from joint production, such as the rights and obligations of the members among each other. The distinction should therefore be proportionate.

Since there is no definition of renewables self-consumption in Austria, there are no restrictions on the division of ownership and operation of an electricity system (Article 21 (5) RED).

The regulatory framework in Austria generally allows for the facilitation and development of renewable self-consumption. However, **it does not contain all the elements listed in Article 21 (6) of the RED.** For example, there is **no specific support for low-income households beyond the usual support schemes** (lit. a). The **lack of regulation of individual self-consuming** can be considered an unjustified regulatory barrier (lit. c). Austria's national energy and climate plan contains a short summary of the policies and measures under the enabling framework.

§§ 79 f. EAG entered into force on 28.7.2021. Thus, **implementation did not take place on time** (delay of 2 months).

Quality of the implementation

Apart from the formal implementation deficits outlined above (restrictions on remuneration of energy produced by renewable energy communities, incompleteness of the regulatory framework), there do not appear to be significant regulatory barriers to renewables self-consumption in Austria.

However, it seems that the strong focus on renewables energy communities does not ensure a broad range of renewables self-consumption. As of today, most consumers in Austria do not

engage in energy production or energy storage. The energy supply system is still largely centralized.

3.1.3 Summary

Art. 11 DIR has not been fully transposed into Austrian law. Some parts of the implementation took place on time while other parts were delayed by about 2.5 years. No quality deficit was found.

Art. 15 DIR has been incorporated largely, but not completely, in Austrian law even before the DIR entered into force. Some provisions have been implemented with a delay of 7 months. Implementation is not yet complete. There is a strong focus on energy communities that does not apply to individual active customers. Therefore, a broad range of active consumption is not ensured. No other quality deficit was found.

Art. 17 DIR has been transposed only very partially into Austrian law. Some parts of the implementation took place on time while other parts were delayed by about 8 months. No quality deficit was found.

Art. 19 DIR has been incorporated largely, but not completely, in Austrian law even before the DIR entered into force. The rollout of smart metering systems in Austria is progressing. No quality deficit was found.

Art. 32 (1) and (3) DIR have not been transposed into Austrian law. The existing regulatory framework is only partly in line with the provision. No quality deficit was found.

Art. 22 (1) REG does not require any transposition into Austrian law. The existing capacity mechanism complies largely but not fully with the design principles set out in Art. 22 (1) REG. No quality deficit was found.

Art. 16 RED has been transposed largely but not completely into Austrian law. Permit-granting processes are mainly governed by the laws of the provinces. Transposition did not take place on time in all cases (delay of 6-18 months). The overall situation is still considered unsatisfactory since several permits from different authorities are required in some cases. No other quality deficit was found.

Art. 4 and 5 ACC do not require any transposition into Austrian law. Some elements of the ACC have nevertheless been introduced. How consistently Articles 4 and 5 ACC are applied in practice cannot be investigated within the scope of this project.

Art. 17 RED has been transposed completely into Austrian law almost on time (delay of 1 month). No quality deficit was found.

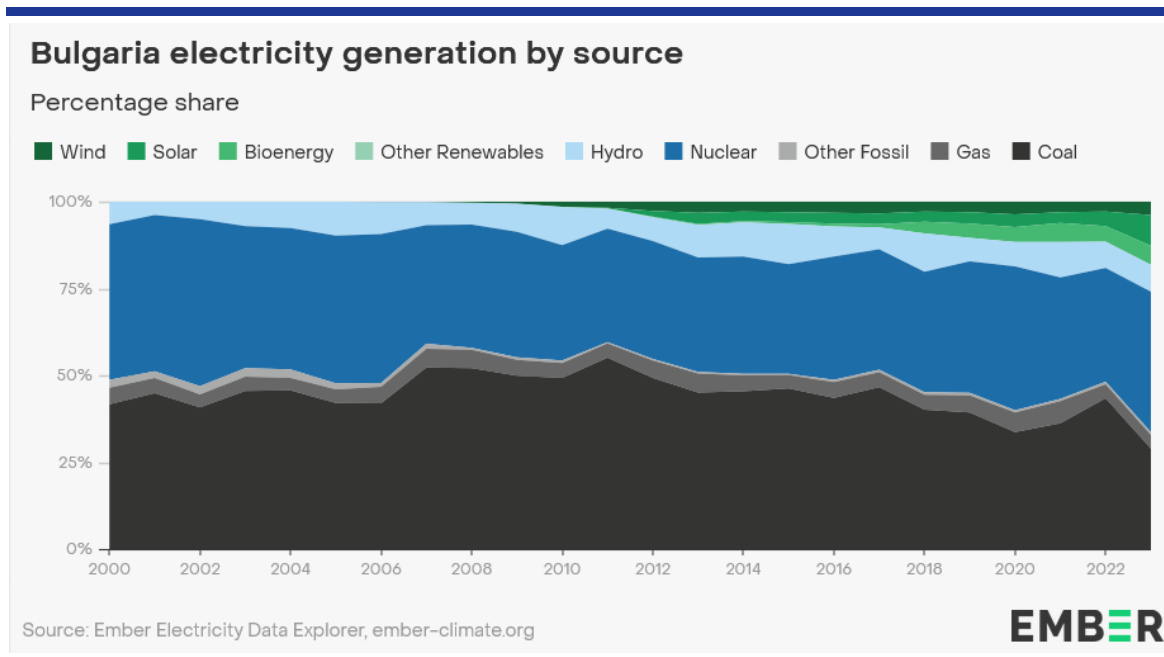
Art. 21 RED has been incorporated largely, but not completely, in Austrian law. While most provisions were already incorporated into Austrian law before the DIR entered into force, some provisions have been implemented with a short delay of 2 months. There is a strong focus on renewables energy communities that does not apply to individual renewables self-consumers. No other quality deficit was found.

3.2 Country fiche Bulgaria

3.2.1 Introduction

In 2023, Bulgaria's electricity mix was dominated by nuclear (40%) and coal (29%) energy. Additionally, solar energy constitutes 9% of the electricity mix, hydro – 8%, bioenergy – 5%, gas – 4%, wind – 4%, and other fossil fuels – 1%. Between 2006 and 2019, coal had always surpassed nuclear energy in electricity generation. Similarly, in 2022, coal was the number one energy source (43%) and nuclear the second (33%). **Error! Reference source not found.** provides a summary.

Figure 2: Bulgaria electricity generation by source



Source: EMBER, 2024.³³

The country's energy market is dominated by state-owned players, e.g., Bulgarian Energy Holding.

There are three important coal regions in Bulgaria: Stara Zagora, Pernik, and Kyustendil, where in total around 43 000 people are employed.³⁴ In late September 2023, the government's decision to submit Bulgaria's Territorial Just Transition Plans (TJTPs) to the European Commission sparked protests by workers in thermal power plants and coal mines. The TJTPs relate to the energy transition in the three coal regions. Protesters expressed multiple conditions for the government, including a request for the Recovery and Resilience Plan (RRP) to be withdrawn and revised regarding decarbonisation. In 2022, Bulgaria did not receive €96 million as it failed to submit its plan. Negotiations between protesters and the government resulted in guarantees that coal power plants will remain open until 2038 and that private thermal power plants will not be administratively closed but will operate on a market-oriented basis.³⁵

In December 2023, the European Commission approved grant support of BGN 2.3 billion (EUR 1.1 billion) under the Just Transition Fund's Regional Development Program 2021-2027 for the three coal regions of Stara Zagora, Kyustendil, and Pernik.

³³ <https://ember-climate.org/data/data-tools/data-explorer/>.

³⁴ Milcheva (2023).

³⁵ Svobodna Evropa (2023).

Regarding natural gas, Bulgaria formerly purchased 2.9 billion cubic meters of gas annually from Russia through a long-term agreement that was in effect until 2022. In April 2022, Gazprom halted natural gas shipments to Bulgaria due to the government's refusal to pay in roubles. Bulgaria has since secured alternative gas sources from Azerbaijan and the USA. The Gas Interconnector Greece–Bulgaria, linking the Greek and Bulgarian natural gas pipeline networks, became operational on 1 October 2022. On 10 December 2023, a gas interconnector between Bulgaria and Serbia opened; it will secure the two countries with gas from Azerbaijan.

Initially, Bulgaria obtained an EU exemption allowing the continued import of Russian oil by sea until December 2024, but the Bulgarian Parliament later decided to bring forward the cessation of oil from Russia to 1 March 2024.³⁶

Bulgaria has the highest level of energy poverty in the EU, with more than a quarter of the population unable to properly heat their homes.³⁷

The main energy provisions in Bulgaria are included in the Energy Act³⁸, the Energy from Renewable Sources Act³⁹ (ERSA) and the Energy Efficiency Act⁴⁰.

The Energy Act entered into force in 2003, has been amended multiple times since then. The latest changes to the act were adopted by Parliament at the beginning of October 2023, but vetoed by the President at the end of that same month. The President expressed concerns that the impacts of a full energy market liberalisation had not been fully considered. The draft law was returned to the National Assembly for a new discussion and was re-adopted on 10 November 2023.

The ERSA was initially introduced in 2011 and has undergone several amendments in the years that followed – the latest one on 13 October 2023. On 22 December 2023, an addendum to the law was included.

The Energy Efficiency Act was introduced in 2008 and was last amended in 2021.

3.2.2 Implementation

On 23 January 2023, the European Commission announced it was referring Bulgaria, alongside Slovakia, to the Court of Justice, as the two countries were the only Member States that had failed to transpose the Renewable Energy Directive (RED) into national legislation.⁴¹ The deadline for transposing the directive had been 1.5 years prior - 30 June 2021.

Similarly, in April 2023, regarding Directive (EU) 2019/944 (DIR), the Commission sent “a reasoned opinion to Bulgaria for not having indicated in a sufficiently clear and precise manner all the provisions in national legislation by which it considered that each provision of the Directive was transposed”.⁴² The Commission had already sent a letter of formal notice two years prior. The various articles of the DIR, relevant for this research, were transposed into Bulgarian law at different times. For example, while smart metering has been present in Bulgarian law since 2012, Art. 11 DIR was only implemented with the latest amendment of the Energy Act on 17 November 2023 (see the DIR subchapters below).

³⁶ Jack (2023).

³⁷ Lloyd (2022).

³⁸ National Assembly of the Republic of Bulgaria (2023).

³⁹ National Assembly of the Republic of Bulgaria (2023a).

⁴⁰ Ministry of Energy of the Republic of Bulgaria (n.d.).

⁴¹ European Commission (2023).

⁴² European Commission (2023a).

Regulation (EU) 2022/2577 (ACC) entered into force on 30 December 2022. The ACC articles, relevant for this research, were transposed into Bulgarian law through the latest amendment of the ERSA on 13 October 2023.

This chapter examines the implementation of several EU provisions in Bulgaria, presented in sub-chapters.

3.2.2.1.1 Article 11 DIR (entitlement to a dynamic electricity price contract)

Implementation status

Article (Art.) 11 of Directive (EU) 2019/944 (DIR) has been almost **completely transposed** in the Bulgarian Energy Act. Some provisions had been in the Energy Act since 2015, while others entered into force on 17 November 2023 – **almost 35 months after the deadline** set by the directive. The transposition is nearly verbatim, and the Energy Act implements the provisions of all paragraphs of Art. 11 of DIR. Art. 38a (1) of the Energy Act contains provisions about suppliers informing final customers about opportunities, costs, and risks of dynamic electricity price contracts. Art. 38a (7) mentions that the customer's consent is needed to switch to a dynamic electricity price contract. Both articles had been in force since 2015. Although Art. 19a of the Energy Act omits the word “monitor”, it nevertheless mandates that the Bulgarian Energy and Water Regulatory Commission (KEVR) shall publish an annual report on the main developments of dynamic contracts. Art. 19a entered into force on 17 November 2023.

Furthermore, additional provisions in the Energy Act define dynamic price contracts:

“A contract with a dynamic price for electrical energy’ is a supply contract for electrical energy between a supplier and an end customer with an installed intelligent measuring system that reflects fluctuations in the price of spot markets, including day-ahead and intraday market segments, at intervals that are at least equal to the frequency of market imbalance settlement.” (Additional provisions, Art. 13a, Energy Act; in force since 17 November 2023)

Moreover, Art. 38b (9) (in force since 2 February 2021) regulates that “End suppliers and electricity traders provide residential end customers the opportunity to enter into contracts with a fixed term and fixed price, as well as contracts with a dynamic price for electrical energy - for customers with installed intelligent commercial measuring devices.” According to Art. 27a, last amended in June 2020, KEVR shall also create and maintain a platform for comparing offers for the supply of electrical energy. Last amended on the same date, Art. 38i (1) (in force since 26 June 2020) stipulates that “The platform under Article 21, paragraph 1, item 27a is a unified, central, public web-based information system that provides access to current information about offers for the supply of electrical energy. End customers with expected annual consumption below 100,000 kWh have free access to the platform for comparing offers for the supply of electrical energy, including offers for contracts with a dynamic price for electrical energy.”

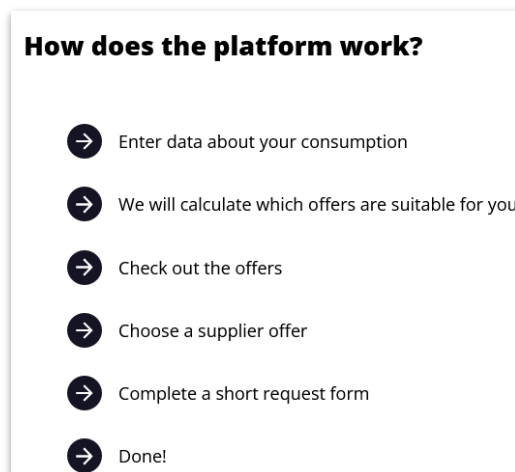
However, there is no transposition into Bulgarian law of the requirement for Member States to “ensure that final customers who have a smart meter installed can request to conclude a dynamic electricity price contract with at least one supplier and with every supplier that has more than 200 000 final customers”, per Art. 11 (1) DIR. In the currently adopted Energy Act text itself the 200 000 customers reference is omitted, although there had been discussions during the deliberation of the law to include it.

Quality of the implementation

Art. 11 DIR has been almost completely transposed into Bulgarian law, despite a 35-month delay regarding the transposition of some of its provisions. As the latest amendments of the Energy Act entered into force only recently – on 17 November 2023 - an assessment of the quality of the implementation of the provisions of Art. 11 of DIR proves difficult. As

of February 2024, no hints of quality deficits could be found. A positive development since earlier amendments of the Act include the creation of the KEVR platform, which can be accessed via <https://platforma.dker.bg/> and through which consumers can compare offers, choose suppliers, and fill out request forms (Figure 3).

Figure 3: Screenshot from the KEVR platform



Source: KEVR.⁴³

3.2.2.1.2 Article 15 DIR (active consumers)

Implementation status

Art. 15 of DIR has been partially transposed in Art. 92c (in force since 13 October 2023) of the Bulgarian Energy Act with a delay of almost 34 months, and in the following manner:

- ▶ Art. 92c (1) deals with the entitlement of final customers to act as active customers without discrimination (per Art. 15 (1) DIR).
- ▶ Art. 92c (2) regulates guarantees for active customers (per Art. 15 (2) DIR). However, it leaves out information about charges, according to Art. 15 (2e, 2f).
- ▶ Art. 92c (3) partially transposes Art. 15 (4) and its provisions for the rights of customers subject to existing schemes. The Energy Act does not include the first part of the DIR article about Member States with existing schemes that do not account separately for the electricity fed into the grid and the electricity consumed from the grid not granting new rights under such schemes after 31 December 2023.
- ▶ Art. 92c (6-7) list the rights of active customers who own energy storage facilities (per Art. 15 (5) DIR).

Additionally, Art. 92c (5) of the Bulgarian Energy Act specifically mandates that “Active customers may own energy storage facilities.”

Error! Reference source not found. in the Annex⁴⁴ provides a comparison of the two legal texts.

It should be noted that the DIR and the Energy Act have similar definitions for an “active client”. Both definitions emphasise that the active client is an end client or a group of jointly acting end

⁴³Available online in Bulgarian at <https://platforma.dker.bg/>. Last accessed 10 December 2023.

⁴⁴ The annexes to the country fiches of Bulgaria, Poland and Spain are contained in Sina, Stephan, Deyana Kocher, Maria Niewiła-Rej, Madeleine Pumberger, Ramiro de la Vega (2024): Analysis of the implementation of EU provisions for the clean energy transition in selected Member States. Annexes to the country fiches for Bulgaria, Poland and Spain. Ecologic Institute, Berlin.

clients who consume or store the electricity produced in their facilities and sell this energy or participate in flexibility or energy efficiency schemes. The main difference between the two definitions is that the DIR clearly specifies that the active client can consume, or store energy produced not only in their premises but also in other premises if this is allowed by the Member State. The Energy Act is a bit unclear by specifying that energy may be stored or produced “within premises located within confined boundaries”.

Quality of the implementation

Art. 15 DIR has been partially transposed into Bulgarian law with a delay of almost 34 months. Similar to Art. 11, due to the recent implementation of the latest amendments to the Bulgarian Energy Act, assessing the quality of the implementation of the provisions outlined in Art. 15 of DIR is challenging. The Energy Act essentially reiterates the Directive almost verbatim and does not specify on the practical implementation of the declared guarantees and rights for active customers. As of February 2024, there is no literature on the subject available and **the only indications of deficits discernible are the omission of information about accounting existing schemes (per Art. 15 (3)), as well as information about the charges (per Art. 15 (2e, 2f)), as mentioned above.**

3.2.2.1.3 Article 17 DIR (demand response through aggregation)

Implementation status

Art. 17 DIR has been largely replicated in the Bulgarian Energy Act, albeit with a delay of almost 35 months. The latest amendment of the Energy Act from 17 November 2023 also introduces the transposition of Art. 17 of DIR. Art. 92d of the law transposes Art. 17 of DIR almost verbatim: Art. 92d (1) of the Energy Act corresponds to Art. 17 (1) of DIR; Art. 92d (2) to Art. 17 (2); Art. 92d (3) to Art. 17 (3). Art. 92d (4-7) to Art. 17 (4), and Art. 92d (8) to Art. 17 (5). For a comparison of the two legal texts see **Error! Reference source not found.** in the Annex.⁴⁵

Quality of the implementation

Art. 17 DIR has been transposed completely and almost verbatim into the Bulgarian Energy Act, but with a delay of nearly 35-months. Much like the previous two articles, the recent updates to the Bulgarian Energy Act pose challenges in evaluating the effective implementation of the provisions outlined in Art. 17 DIR.

As with the previous articles, it would be practically impossible to apply the general wording of the Energy Act without appropriate development of the secondary legislation and the regulations. For example, the Bulgarian Power Market Rules contain a historical definition of “aggregator” which is completely different to the notion of Art. 17 DIR and the new Energy Act provisions. The role of the “aggregator of facilities” was introduced in the regulations in its capacity as a supplier of fast (minute) and slow (cold) replacement reserve within the balancing energy market. It needs to be a producer or trader and to have a licence for coordination of a balancing group. Thus the role of the ‘aggregator’ as per Art. 17 DIR as a market participant is not regulated by the Power Market Rules. Thus, the DIR aggregators cannot participate in the organised electricity market (IBEX) too.

Further, KEVR is required to approve a methodology for the formation of the financial compensation due to aggregators as per Art. 17 (4) DIR and Art. 92d (4-7), which has not been done yet. The technical regulations about the measurement of electricity also need to be updated to

⁴⁵ See footnote 44.

allow for easy installation of smart metering devices and the possibility of optimised consumption.

As of February 2024, no literature on this subject is available, and there are no apparent indications of other quality deficits.

3.2.2.1.4 Article 19 DIR (smart metering systems)

Implementation status

Art. 19 DIR has been partially transposed into the Energy Act. Some parts of Art. 19 DIR have been present in Bulgarian legislation since 2015, while a partial transposition of Art. 19 (4) was carried out almost 35 months after the deadline, set by the directive.

Smart metering has been present in the Energy Act of Bulgaria since 2012. For example, according to its Art. 21 (1), in force since March 2015, KEVR “conducts an assessment of economic feasibility regarding the implementation of smart metering systems based on proposals from network operators. If the implementation is economically justified, it develops deployment schedules, ensuring the operational compatibility of smart metering systems while adhering to appropriate standards, best practices, and their significance for the development of the internal electricity and natural gas market.” Moreover, according to the Energy Act:

- ▶ One of KEVR’s main principles as the creation of incentives enabling measures for improving energy efficiency through the introduction of smart grids (Art. 23, in force since July 2012).
- ▶ The above-mentioned assessment should have been conducted by 3 September 2012. In the case of proven economic feasibility based on proposals from network operators, KEVR should have prepared schedules for the implementation of smart metering systems for electricity and natural gas (Art. 191 (1), in force since July 2012).
- ▶ The introduction of smart metering systems for electricity must happen within a 10-year timeframe. With a positive assessment for the installation of smart meters for at least 80% of customers, smart metering systems would have needed to be ensured by 2020 (Art. 191 (2)).

Nevertheless, Art. 19 DIR has been transposed only partially into the Energy Act in the following way:

- ▶ Art. 21 (1, item 46; In force since 17 November 2023) of the Energy Act contains a transposition of Art. 19 (2) DIR, by stating that KEVR conducts an analysis and assessment of the costs and benefits associated with the introduction of smart metering systems based on information provided by network operators, along with a schedule for their implementation.
- ▶ Art. 21 (1, item 20; In force since 2012) further transposes the second and third sentence of Art. 19 (3) of DIR through its regulation of KEVR’s responsibility to conduct an assessment of the economic feasibility regarding the implementation of smart metering systems based on proposals from network operators: in the event that the implementation is economically justified, it develops schedules for their introduction, ensuring operational compatibility of smart metering systems while adhering to appropriate standards, best practices, and recognising their significance for the development of the internal markets for electricity and natural gas. It is not clear why there are two items regulating the same matter, item 20, and item 46 of Art. 21 (1) of the Energy Act. Regardless, these regulations do not anticipate a re-assessment by KEVR in instances of negative or otherwise uncertain initial evaluations.

The Energy Act does not provide further transposition of Art. 19 of DIR. However, it contains an additional provision, which entered into force with the act's latest amendment in November 2023. This represents an **incomplete transposition of Art. 19 (4), as it lacks provisions for cost-bearing and only alludes to the subject:**

- ▶ When installing a commercial smart meter device, the end consumer must receive mandatory information about the functions and operational compatibility that the intelligent measuring device can support, the services it can provide, and the benefits realistically achievable from owning the specific intelligent measuring device at the specific moment. Additionally, the end consumer must receive information on any associated costs that may incur (Art. 120 (12)).
- ▶ Transmission and distribution network operators, at least once every two years, review and publish on their websites information regarding the costs associated with the installation of smart metering devices. They track these costs' evolution according to technological developments and any updates to the metering system (Art. 120 (13)).

Quality of the implementation

Although smart metering has been present in Bulgarian law since 2012, Art. 19 DIR has been transposed only partially into the Energy Act. Some parts of it have been present in Bulgarian legislation since 2015, while a partial transposition of Art. 19 (4) was carried out nearly 35 months after the deadline, set by the directive. Even with the earlier inclusion of smart metering systems into Bulgarian law from 2012, an article⁴⁶ from 26 September 2023 cites findings of the Power Barometer 2023⁴⁷ and calls smart meters “a myth for Bulgaria and the region”. **Although no immediate quality deficits in the implementing legal acts could be found, there are concerns regarding the actual implementation in the near future since Power Barometer 2023 finds that smart meter roll-out in Bulgaria currently stands at 0% (Error! Reference source not found.).**

KEVR made an assessment of the economic feasibility regarding the implementation of smart metering systems in 2013.⁴⁸ In that assessment KEVR concluded that “it could not draw a conclusive assessment on the economic feasibility of introducing smart metering in Bulgaria”. That is why KEVR recommended installation of up to 20% new smart metering devices, but not less than 10% by 2020. The activity had to be financed by EU funds.

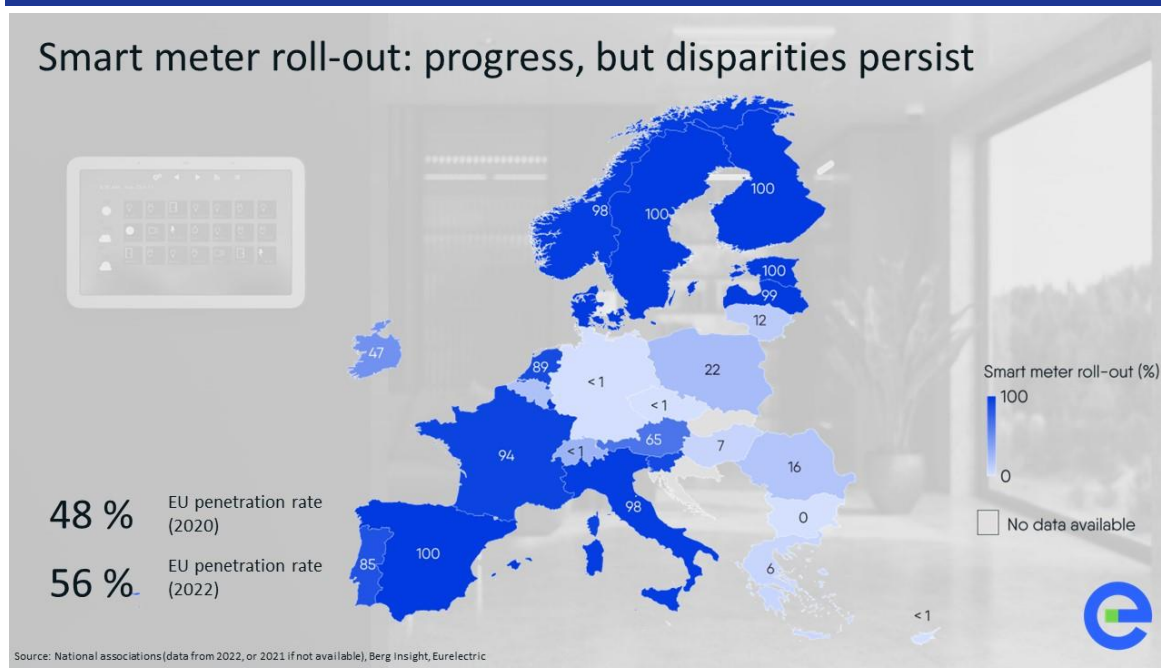
The Bulgarian Rules About the Measurement of the Electricity Volumes, established by KEVR as secondary legislation and last revised in 2021, notably omit any reference to smart metering. This regulation would typically delineate the minimal technical and functional criteria for smart metering.

⁴⁶ Economic.bg (2023).

⁴⁷ Union of the Electricity Industry (2023).

⁴⁸ KEVR (2013).

Figure 4: Smart meter roll-out in Europe



Source: Union of the Electricity Industry (2023).⁴⁹

3.2.2.1.5 Article 32 (1) and (3) DIR (incentives for the use of flexibility in distribution networks)

Implementation status

The transposition of the two articles is fragmentary and while certain parts have been present in Bulgarian law since 2015, the remaining and very partial transposition happened almost 35 months after the deadline set by the directive.

Art. 23 (15) of the Bulgarian Energy Act merely includes similarities to the text of Art. 32 (1) DIR. It entered into force in 2015 and refers to the general principles of KEVR:

In the exercise of its regulatory powers, the commission is guided by the following general principles:

“(15) Creating incentives for operators of transmission and distribution networks to provide system services to end customers, enabling the implementation of measures to improve energy efficiency through the introduction of smart grids, taking into account the costs and benefits associated with each measure while ensuring system security.” (Art. 23 (15), Energy Act).

The above text does not cover the provisions of Art. 32 (1) DIR which requires grid operators to procure flexibility services, while Art. 23 (15) Energy Act refers to services to be provided by the operators to clients. Presently, flexibility services, procurement principles, and procedures are not regulated in Bulgarian legislation.

⁴⁹ Ibid.

Art. 21 (1) also refers to KEVR but its item 30a was introduced in the latest amendment of the law on 17 November 2023:

“The Energy and Water Regulatory Commission:

30a. (new - State Gazette, issue 96 of 2023, in force as of November 17, 2023) monitors the plans of electricity distribution network operators for the development of the distribution network and presents, in its annual report, an assessment of the necessary medium-term and long-term flexibility services, planned investments for the next five to ten years, with a special focus on the essential distribution infrastructure needed for connecting new generating capacities and new loads, including electric vehicle charging points. It also covers the use of consumption optimization, energy efficiency, energy storage facilities, or other resources that distribution network operators use as an alternative to expanding the system.” (Art. 21 (1, item 30a), Energy Act).

Art. 32 (3) DIR requires regular network development plans meeting certain criteria, to be submitted to the regulatory authority. Art. 21 (1) of the Energy Act is a provision on the monitoring of such plans and the corresponding annual reports. The text of the article does not say anything about the approval or rejection of the plans. Therefore, Art. 21 (1) only indirectly acknowledges that there are such plans for the development of the distribution system and that the regulatory authority is involved. There is no other provision of the Energy Act directly dealing with the plans.

Quality of the implementation

The transposition of the two articles is fragmentary. The Bulgarian Energy Act merely includes similarities to the text of Art. 32 (1) DIR, while it also only indirectly acknowledges parts of Art. 32 (3) DIR. Certain parts of the articles had been present in Bulgarian law since 2015, but the rest of the very partial transposition happened **close to 35 months after the deadline**, set by the directive. Similar to the previous articles, the recent updates to the Bulgarian Energy Act pose challenges in evaluating the effective implementation of the provisions of Art. 32 (1) and (3) DIR. As of January 2024, no literature on this subject is available. Moreover, practical application of the requirements of DIR would be possible only if relevant regulations are properly updated.

3.2.2.1.6 Article 22 (1) REG (design principles for capacity mechanisms)

Implementation status

There are two old capacity payments in Bulgaria that seem to fall under capacity payments according to the REG and need to be made compliant with Art. 22 (1) REG, which does not seem to have happened yet. A new capacity mechanism that complies with Art. 22 (1) REG from the beginning is planned, but it is unclear when it will be introduced.

In its 2019 NECP, the Bulgarian Government stated that “Bulgaria will focus its efforts on developing and implementing a capacity mechanism that ensures the security and adequacy of the system and enables electricity producers to receive an additional income from participating in the market for electricity”.⁵⁰ Additionally, the plan included the following measure for market integration: “Implementation of a market-based electricity system capacity mechanism for a period of 10 years. Regulation (EU) No 2019/943 on the internal market for electricity allows Member States to implement a capacity mechanism, where concerns arise as regards the adequacy of national resources. This mechanism should function in line with market principles and comply with the requirements for CO₂ limit values of 550 gCO₂ of fossil fuel per kWh of

⁵⁰ Republic of Bulgaria (2019).

electricity and the limit value of 350 kgCO₂ of fossil fuel on average per year per installed kW from 1 July 2025” (p. 232).

In its “Strategy for Sustainable Energy Development of the Republic of Bulgaria until 2030 with a Horizon until 2050” from 2020, the Bulgarian Government further stated that: “To overcome potential adequacy issues accompanying the transition to a new market model, it is envisaged that a common capacity mechanism will be introduced by July 1, 2021. This mechanism aims to ensure the necessary level of security in accordance with the calculated reliability coefficient. Capacity providers will be obligated to deliver energy when needed to guarantee supply security during so-called system stress events or when the available dispatchable reserve for the operator is lower than the level required for the safe management of the grid”.⁵¹

In 2021, Bulgaria published its implementation plan in accordance with Art. 20 of the Regulation (EU) 2019/943 (REG).⁵² According to it, “In the process of market liberalization, the Bulgarian side foresees removing the role of the public supplier, as well as the existence of quotas. Following the anticipated full liberalization of the market, all producers will sell the electricity they generate on the open market.” The implementation deadline for this measure is given as “immediately after the realization of point 1.1 and simultaneously with the introduction of the capacity mechanism.” Point 1.1 related to the termination of the long-term contracts of two CHP power plants – AES Galabovo Maritsa East 1 and ContourGlobal Maritsa East 3 – and had a deadline of 30 June 2021. At the time of writing, however, these two contracts were still active (but with set expiration dates), although no additional long-term contracts for coal-fired power plants are planned in Bulgaria.⁵³ The contract for Maritsa East 1 expires in 2026, while the contract for Maritsa East 3 expires in February 2024. As the full liberalisation of the Bulgarian energy market is yet to happen, **the announced capacity mechanism has not been introduced yet, and no corresponding rules have been transposed into Bulgarian law.**

In its opinion⁵⁴ on the implementation plan of Bulgaria, the Commission states that “NEK’s⁵⁵ purchases are not on a market basis” but rather included in the respective power purchase agreements (PPAs) of Maritsa East 1 and Maritsa East 3 with NEK “and decisions by the regulatory authority on the regulated prices (in the case of the ‘quota obligations’), distorts competition in the electricity market.” The Commission further states that “the prices for the regulated market segment as well as the payments under the PPAs contain a capacity payment for availability of the eligible producers. The Commission notes that such capacity payments seem to fall under the rules for capacity mechanism of the Electricity Regulation and they should thus be made compliant as soon as possible”. As of February 2024, **there is no indication that there have been developments in this regard.**

In September 2023, plans related to the energy transition in the three coal regions of Bulgaria sparked protests by employees in thermal power plants and coal mines (see Introduction). The number one request of the workers was “Ensuring a capacity mechanism for coal-fired power plants as critical infrastructure for the country’s energy system.”⁵⁶ In October 2023, the government and protesters reached an agreement to “Introduce a capacity mechanism, i.e., support for maintaining the capacity to ensure electricity supply in case of shortages, and initiate

⁵¹ Republic of Bulgaria (2020).

⁵² Republic of Bulgaria (2021).

⁵³ Bulgarian National Television (2023).

⁵⁴ European Commission (2021).

⁵⁵ Kozloduy NPP, Natsionalna Elektricheska Kompania (NEK) is a national company and one of the main power providers in Bulgaria.

⁵⁶ Podkrepa (2023).

procedures to maintain the necessary composition of synchronized operational and backup generating sources - by December 31, 2023."⁵⁷

Quality of the implementation

Regarding Art. 22 (1) REG, there are two current capacity payments in Bulgaria that seem to fit within the scope outlined in the REG. However, these payments have yet to be aligned with Art. 22 (1) REG. Additionally, plans are underway for a new capacity mechanism that will comply with Art. 22 (1) REG from its outset, though the timeline for implementation is uncertain. In general, various plans and strategies are being developed to address capacity mechanisms in Bulgaria.

3.2.2.1.7 Article 16 RED (organisation and duration of the permit-granting process), Article 4 ACC (Accelerating the permit-granting process for the installation of solar energy equipment) and Article 5 ACC (repowering of renewable energy power plants)

Implementation status

Art. 16 RED and Art. 4 and Art. 5 ACC have been partially transposed into Bulgarian law through the latest amendment of the ERSA - with a delay of nearly 28 months.

A side-by-side comparison can be found in **Error! Reference source not found.** of the Annex.⁵⁸ The following is a summary of the transposition of the most important elements of the three articles into Bulgarian law, as well as the similarities and the differences between the EU legislation and the Bulgarian implementation:

Contact points

Art. 16 (1-3) RED deals with the concept of single contact points to facilitate the entire administrative permit application and granting process for renewable energy projects.

Similarly to the RED, the ERSA establishes an administrative service centre in each municipality to provide instructions and information on procedures for energy facilities, including those for renewable energy (Art. 22). The act includes a variety of provisions for the administrative functions provided by the service centre, in line with the RED. The Sustainable Energy Development Agency is presently in the process of developing the manual of procedures for developers as outlined in Art. 16(3) RED. This manual is required to be distributed to each Municipal Centre for dissemination. However, there is ambiguity surrounding how local nuances and administrative specifics will be incorporated into the overarching manual, and whether each Municipality will be legally obligated to adhere to its guidelines.

Moreover, the ERSA does not make it clear whether applicants are able to submit documents in digital form, which is a requirement of Art. 16 of the RED. There is also no provision in the Bulgarian act for the manual of the contact point to address "distinctly also small-scale projects and renewables self-consumers projects".

Permit-granting processes

Art. 16 (4-5) of the RED examines **permit-granting processes**.

The ERSA specifies timeframes for issuing building permits and use permits of "no more than two years from the submission of the request" (Art. 22 (7)), aligning with the RED requirements. Similarly, the Bulgarian law transposes the one-year permit-granting process deadline for

⁵⁷ Todor Petrov (2023).

⁵⁸ See footnote 44.

installations with an electrical capacity of less than 150 kW. It does not, however, include any provisions for extending this period in “extraordinary circumstances”, per Art. 16(5) of the RED.

Repowering

Art. 16 (6) of the RED and Art. 5 of the ACC look at **permit-granting processes for repowering** of existing renewable energy plants.

The ERSA determines the conditions for repowering in Bulgaria, by stating that: “When carrying out the repowering of an object for the production of electrical energy from renewable sources, when the total installed capacity of the object is not increased, the connection procedure is not carried out” (Art. 26a (1)). This is done when “the total installed capacity is expected to increase by no more than 50 percent compared to the existing installed capacity of the site” (Art. 26a (2)).

A period of up to one year is implemented regarding necessary permits for “the construction, reconstruction and commissioning of the sites for the production of energy from renewable sources”, similarly to the text of Art. 16(6), which deals with the “repowering of existing renewable energy plants”. Again, there is no mention of extending this period in “extraordinary circumstances”. The ERSA does not, however, address the six-month deadline for permit-granting processes for the repowering of projects, mentioned in Art. 5(1) ACC.

Art. 16 (8) RED deals with **simple-notification procedures** for grid connections for repowering projects. Provisions for these are not fully transposed in Bulgarian law, although Art. 26 (15) ERSA does so for demonstration projects: “For installations for the production of electricity from renewable sources or installations for the self-consumption of electrical energy, and demonstration projects with installed electrical capacity up to 10.8 kW, inclusive, a simplified connection procedure is envisaged [...]”.

Art. 5(4) ACC, regulating the exemption of solar installations from environmental impact assessments in the case that their repowering does not require additional space, is entirely transposed in Art. 26a (3) ERSA.

Solar energy equipment

In the ACC, Art. 4 regulates permit-granting processes for the installation of **solar energy equipment** and energy storage assets in particular. The stipulation that these processes shall not exceed three months has not been transposed into Bulgarian law. However, regarding the permit-granting of solar energy equipment with a capacity of 50 kW or less, the ERSA not only transposes the text of Art. 4 (3) ACC but also directly refers to the ACC:

When submitting an application for the issuance of a building permit for the construction of an installation for the production of electrical energy from solar energy for own consumption with a total installed capacity of 20 kW to 50 kW in existing buildings and structures in urbanised areas, including on roofs and their facade constructions and in their adjoining land properties, and if no response is received within one month from the chief architect of the municipality, the building permit is considered to have been issued under the conditions of art. 4, paragraph 3 of Council Regulation (EU) 2022/2577 of 22 December 2022 establishing a framework for accelerating the deployment of energy from renewable sources (OB, L 335/36 of 29 December 2022), referred to as hereinafter “Regulation (EU) 2022/2577”, provided that the total installed capacity of the site for the production of electrical energy from solar energy does not exceed the power provided for the connection of the building/structure as a customer site. (Art.17(5), ESRA).

There is no transposition of the requirements of Art. 4 and Art. 5 ACC for “all decisions resulting from the permit-granting processes” to be made public.

Quality of the implementation

Art. 16 RED, as well as Art. 4 and Art. 5 of ACC have been partially transposed into Bulgarian law with a delay of nearly 28 months, with a variety of gaps persisting:

- ▶ Regarding contact points, there is no information about whether applicants can submit documents in digital form. There is also no provision for the manual of the contact point to address “distinctly also small-scale projects and renewables self-consumers projects”.
- ▶ Regarding permit-granting processes, there is no mention of extending the period for issuing permits in “extraordinary circumstances”.
- ▶ Similarly, regarding permit-granting processes for repowering, there is no transposition of the requirement to extend the period for issuing in “extraordinary circumstances”. The ERSA also does not address the six-month deadline for permit-granting processes for the repowering of projects.
- ▶ The transposition of provisions for simple-notification procedures is only done for demonstration projects.
- ▶ Provisions that permitting-granting processes for the installation of solar energy equipment must not exceed three months has not been transposed into Bulgarian law.
- ▶ There is no transposition in Bulgarian law of the requirement for “all decisions resulting from the permit-granting processes” to be made public.

Apart from these formal implementation deficits, no other quality deficits could be found.

3.2.2.1.8 Article 17 RED (simple-notification procedure for grid connections)

Implementation status

Art. 17 RED, which deals with simple-notification procedures for grid connections, has been transposed into Bulgarian law to a limited extent and with a delay of 28 months.

Article 26 (15) ERSA mentions renewable energy installations, self-consumer installations, and demonstration projects, all with a power capacity of up to 10.8 kW. However, Art. 26 (25) ERSA does not provide for a “simple-notification procedure”, but only for a “simplified procedure” that has to be further developed in Ordinance No. 6 of 24.02.2014 on the connection of electricity producers and customers to the transmission or distribution networks. The Ordinance has not been updated yet. Moreover, Art. 26 (15) ERSA implies that the grid connection shall be completed within 30 days after the grid operator has provided a statement on the conditions for connection. This contradicts Art. 17 RED which requires just a notification to the grid operator and not a request for a statement of the grid connection conditions.

Quality of the implementation

Art. 17 RED has been partially transposed into ERSA with a delay of 28 months. The ERSA text does not outline a “simple-notification procedure” but instead refers to a “simplified procedure” which needs further development through an ordinance that hasn’t been updated yet, indicating a significant shortfall in implementation. Additionally, Art. 26(15) of ERSA suggests that grid connection must be completed within 30 days after the grid operator provides a statement on connection conditions. This contradicts Art. 17 of RED, which only requires notification to the grid operator without necessitating a statement on connection conditions.

3.2.2.1.9 Article 21 RED (renewable self-consumers)

Implementation status

Provisions of Art. 21 RED have been partially transposed into the ERSA and the Energy Act in Bulgaria with a delay of nearly 28 months.

The newest version of the ERSA establishes Art. 18a, which, in line with the text of Art. 21 RED, gives a definition of renewables self-consumers and includes provisions for their rights and obligations (Art. 18a (2)), activities and joint self-consumption (Art. 18a (3)), relations with operators (Art. 18a (4)), promotion of self-consumption (Art. 18a (5)), installations (Art. 18a (6)), and progress review (Art. 18a (7)).

The text of Art. 18a shares several common provisions regarding renewables self-consumers with Art. 21 RED, although there are also some differences in terminology and specific requirements. One example is Art. 21 (2) RED, which explicitly mentions the possibility for self-consumers to act individually or through aggregators – the latter of which is not mentioned in the ERSA but in the new Art. 92c of the Energy Act (in force since 13 October 2023). Added in the latest amendment, Art. 92c specifically states that “active customers may act directly or through aggregation”.

Error! Reference source not found. in the Annex⁵⁹ provides a side-by-side comparison.

Quality of the implementation

Art. 21 RED has been partially transposed into Bulgarian law with a delay of nearly 28 months. The provisions of Art. 21 (3), however, have not been correctly transposed in Bulgarian law. For example, while the RED mentions the possibility of applying charges to renewables self-consumers and sets a threshold of 8% for installations exceeding the total capacity of a Member State (Art. 21 (3b)), neither of the Bulgarian laws mention this threshold but allow for charges to be imposed based on other conditions not provided for in Art. 21 (3). The only reference to installations with a total installed electrical capacity of more than 30 kW is found in Art. 30 (1) ESRA. The article does not, however, talk about non-discriminatory and proportionate charges and fees, but rather about contractual matters: “Article 30. (1) (Amended - State Gazette, issue 17 of 2015, in force from March 6, 2015, amended - State Gazette, issue 86 of 2023, in force from October 13, 2023) Producers of electrical energy from renewable sources, whose energy facilities have a total installed capacity exceeding 30 kW, conclude an access contract with the operator of the transmission or distribution network under general conditions approved by the KEVR and announced on the internet page of the operator of the respective distribution network before concluding the contract for the purchase of electrical energy.”

Additionally, while the RED highlights that remuneration for self-generated renewable electricity should reflect its market value and may consider its long-term value to the grid, environment, and society, the ERSA refers to support schemes without specifying the requirement to align remuneration with these values. However, this is not necessarily a transposition deficit. If the support schemes used in Bulgaria reflect the market value of the electricity (which they should do according to Art. 4 RED) this would be sufficient, as consideration of the long-term value is not mandatory.

Finally, the ERSA simply repeats the overarching principles in Art. 21 RED. It lacks specific practical regulations and rules regarding how the requirements outlined in Art. 21 of RED will be put into effect.

⁵⁹ See footnote 44.

3.2.3 Summary

The findings show that although there have been attempts to transpose EU energy provisions into Bulgarian law as recently as November 2023, there are persistent gaps in transposition. Transposition has been as late as close to three years (i.e., in the case of DIR), and still, in most cases, it is not complete.

Art. 11 DIR has been almost completely transposed into Bulgarian law, despite a 35-month delay regarding the transposition of some of its provisions. There is a clear lack of transposition into Bulgarian law of the requirement for Member States to “ensure that final customers who have a smart meter installed can request to conclude a dynamic electricity price contract with at least one supplier and with every supplier that has more than 200 000 final customers”. In the Energy Act text that is presently in effect, the reference to 200,000 customers is not included, despite discussions that took place during the law's deliberation regarding its potential inclusion. An advancement noted since previous amendments of the Act is the establishment of the KEVR platform. Through this platform, consumers have the ability to compare offers, select suppliers, and complete request forms. As of January 2024, no other quality deficit in the implementation of its provisions has been found following the recent amendments to the Energy Act.

With a delay of almost 34 months, Art. 15 DIR has been partially transposed into Bulgarian law, and assessing the quality of its implementation is challenging due to recent amendments to the Energy Act. The Energy Act essentially reiterates the Directive almost verbatim and does not specify on the practical implementation of the declared guarantees and rights for active customers. As of January 2024, no literature is available, and the only discernible implementation deficit involves omissions regarding accounting existing schemes (per Art. 15 (3)) and information about charges (per Art. 15 (2e, 2f)).

Art. 17 DIR has been almost completely transposed into Bulgarian law but with a delay of nearly 35 months. Similar to earlier provisions, applying the broad language of the Energy Act without the necessary development of secondary legislation and regulations would be practically unfeasible. Evaluating the effective implementation of Art. 17 DIR is challenging due to recent updates to the Bulgarian Energy Act; as of February 2024, there is no literature on the subject, and no apparent indications of quality deficits have been identified.

Art. 19 DIR has been only partially transposed into the Energy Act. Some parts of it have been present in Bulgarian legislation since 2015, while a partial transposition of Art. 19 (4) was carried out **almost 35 months after the deadline**, set by the directive. Concerns arise as smart meters have been labelled a "myth" for Bulgaria and the region, raising uncertainties about future implementation. Additionally, in 2013, KEVR conducted an assessment on the economic viability of implementing smart metering systems which concluded that a definitive evaluation of the economic feasibility in Bulgaria couldn't be reached. Notably, the Bulgarian Rules About the Measurement of Electricity Volumes, last revised in 2021, do not include any provisions regarding smart metering, which would typically establish minimum technical and functional criteria for such systems. No other quality deficit was found.

Findings indicate fragmentary transposition of the Art. 32 (1) and (3) DIR, occurring close to 35 months after the deadline, set by the directive, although certain parts had been present in Bulgarian law since 2015. The recent updates to the Bulgarian Energy Act complicate assessing the articles' effective implementation, and as of January 2024, no literature is available on this subject.

Generally, the DIR requires that customers are allowed access to electricity markets to allow them to trade their flexibility and self-produced electricity. However, these rights are not

practically granted to self-consumers, including through aggregators. There are no rules for the provision of aggregation services, or for customers' access to, for example, the organised electricity market. It's necessary to enable customers to trade their flexibility and self-produced energy in their bilateral contracts with suppliers and end suppliers.

Concerning Art. 22 (1) REG, there are two existing capacity payments in Bulgaria that appear to fall within the scope of capacity payments as outlined in the REG. These payments need to be brought into compliance with Art. 22 (1) REG, which does not appear to have occurred thus far. There are plans for a new capacity mechanism that aligns with Art. 22 (1) REG from its inception, but the timeline for its implementation remains unclear. Generally, various plans and strategies deal with capacity mechanisms in Bulgaria.

Art. 16 RED and Art. 4 and Art. 5 ACC, have been partially transposed into Bulgarian law with a delay of nearly 28 months, leaving several gaps. Contact points lack clarity on digital document submission and addressing small-scale and renewable self-consumption projects. Permit-granting processes lack provisions for extending deadlines in extraordinary circumstances. Repowering processes lack extensions in extraordinary circumstances and don't address the six-month deadline. Simple-notification procedures are only applied to demonstration projects. The requirement for solar energy equipment installation permits to be processed within three months is not transposed. There is no provision in Bulgarian law for making all permit-related decisions public. Beyond these formal implementation issues, no other quality deficit was found.

Art. 17 RED has been partially transposed into ERSA with a delay of 28 months. The ERSA does not specify a "simple-notification procedure" but instead mentions a "simplified procedure," which requires additional elaboration through an ordinance that remains outdated, signalling a deficiency in implementation. Furthermore, Article 26(15) ERSA implies that grid connection should be finalized within 30 days after the grid operator furnishes a statement on connection conditions. This contradicts Art. 17 RED, which solely mandates notification to the grid operator without the requirement for a statement on connection conditions.

Art. 21 RED has been partially transposed into Bulgarian law with a delay of nearly 28 months, and the provisions of Art. 21 (3) have not been transposed correctly. The Bulgarian laws lack clarity on applying charges to renewables self-consumers and focus on contractual matters rather than non-discriminatory and proportionate charges. Additionally, the ERSA refers to support schemes without explicitly requiring certain alignments with Art. 21 RED, potentially leaving room for interpretation. **It is worth noting that ERSA simply repeats the overarching principles in Art. 21 of the RED.** However, it lacks practical regulations and rules for implementing the requirements outlined in Art. 21.

Generally, regarding the quality of the implementation, there were no hints of quality deficits discernible. In the vast majority of cases, this was due to the transposition of EU provisions happening with the latest amendments of the Bulgarian laws, which happened merely a few months before the writing of this text. These recent updates to the laws posed challenges in evaluating the effective implementation of the provisions. Another shortcoming was that due to the recent amendments, no supporting literature was found in most cases.

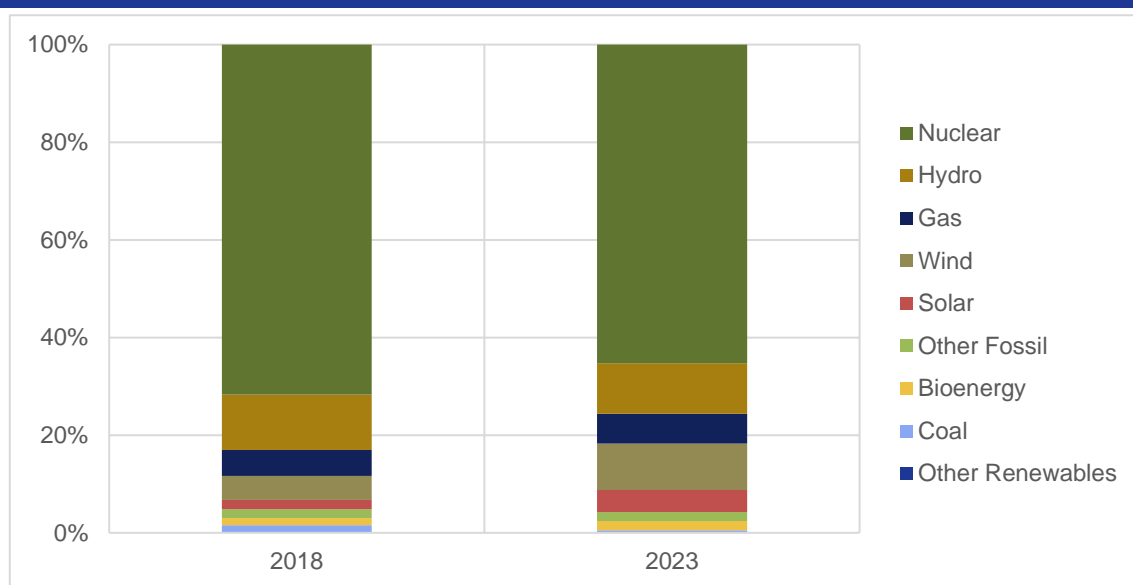
The recent amendments to the Energy Act, however, could result in positive developments for Bulgaria's energy sector. For example, as Bulgaria finally prepares to liberalise its energy market (per the latest amendment of the Energy Act), new capacity mechanisms will be necessary, and the entry into force of legislation such as Art. 22 (1) REG may be taken more seriously. Previous amendments to the act have indeed resulted in positive developments and practical solutions – i.e., the creation of the KEVR platform through which energy consumers can compare offers, choose suppliers, and fill out request forms.

3.3 Country fiche France

3.3.1 Introduction

France has a very low-carbon electricity mix largely due to nuclear power (see Figure 5). In 2023, the largest source of electricity generation in France was nuclear (65%), followed by hydro (10%). Sources of wind and solar PV were at 9% and 5%.

Figure 5: France's electricity mix



Source: Ember (2024); note: the figure shows the share of annually generated electricity for each source.

In early March 2023, France introduced the 2023 Renewable Energy Law (*Loi relative à l'accélération de la production d'énergies renouvelables*) which aims to increase the share of renewable electricity by simplifying permitting procedures and applications. In June 2023, France promulgated the 2023 Nuclear Energy Law (*Loi relative à l'accélération des procédures liées à la construction de nouvelles installations nucléaires*) which removes the objective to decrease the share of nuclear power in its electricity mix from 70% to 50% by 2035 and aims to accelerate the construction of new nuclear reactors. The portion of electricity production from nuclear energy will be sustained at "over 50%" until 2050. On 8 January 2024, France published a draft bill on "energy sovereignty". Notably, this draft lacks any targets and may eliminate existing targets aligned with the RED. The bill fails to adequately address renewable energy sources. However, consultations are currently ongoing and the draft bill has faced criticism from observers.⁶⁰

The main French legal framework of the energy sector is compiled in the French Energy Code (*code de l'énergie*) which is built on the combination of various laws. Many relevant laws or decrees amend and introduce new provisions to the Energy Code, namely the French law on climate and energy (*LOI n° 2019-1147 du 8 novembre 2019 relative à l'énergie et au climat*), the 2023 Renewable Energy Acceleration Law (*LOI n° 2023-175 du 10 mars 2023 relative à l'accélération de la production d'énergies renouvelables*) or the French law on transposing the directive 2019/944 (*Ordonnance n° 2021-237 du 3 mars 2021 portant transposition de la*

⁶⁰ Paul Messad, "France Backtracks on Renewables Targets, Amends Draft 'Energy Sovereignty' Bill" (Euroactiv France, 2024), <https://www.euractiv.com/section/energy-environment/news/france-u-turns-on-renewable-and-nuclear-targets-in-new-bill-amid-criticism/>.

directive (UE) 2019/944). The French law on climate and energy notably enshrines into law the objective of carbon neutrality for 2050 in response to the climate emergency and the Paris Agreement and sets a number of quantified objectives for the energy sector. It is an extensive document amending and complementing besides the Energy Code, the Environmental Code, the General code of local and regional authorities and other codes and laws. Other French legal frameworks relevant for the transposition of the DIR and RED and related to the ACC are the Environmental Code (*code de l'environnement*), the Planning Code (*code de l'urbanisme*) or the Consumer Code (*code de la consommation*).

The French Energy Code is an extensive code with over 1000 pages and is continuously amended and complemented by French laws (e.g. *ordonnance n° 2021-237*). French laws related to the green transition may also amend the Planning Code or the Environmental Code.

In 1945, France decided to nationalize the public electricity service, including production, transport, distribution, and supply, assigning it to *Électricité de France* (EDF). Although the market was opened for competition in 2007, EDF has continued to maintain significant dominance in both generation and supply.⁶¹ The main regulatory authority regulating the energy markets in France is the French Energy Regulatory Commission (CRE, *Commission de régulation de l'énergie*). It is an independent public body and supervises grid development and electricity market transactions. The two leading electric utility companies in relation to revenue for 2022 were the company EDF, with a revenue of 111.100 million euros and *Engie SA* with a revenue of 69.770 million.⁶²

3.3.2 Implementation

3.3.2.1 Article 11 DIR (entitlement to a dynamic electricity price contract)

Implementation status

Art. 11 DIR is **fully transposed into French law**, mainly through art. L332-7 of the French Energy Code. It was amended in the Energy Code through the French law, *ordonnance n°2021-237* of March 3, 2021 – art. 20. As the transposition deadline for the DIR was 31 December 2020 according to art. 71 (1) DIR, the provisions were implemented too late with a **delay of 2 months**.

Art. L332-7 introduces a definition on dynamic electricity price contracts. It outlines that dynamic electricity price contracts can be proposed by any supplier (*fournisseur*) to customers equipped with a smart metering system. Any electricity supplier that supplies more than 200,000 sites is required to offer a customer equipped with a smart meter on their request a dynamic electricity price contract. This offer must reflect price variations at intervals at least equal to the market settlement frequency. A list of suppliers concerned is published annually by the CRE. Although art. L332-7 does **not mention that at least one supplier needs to offer the option** to conclude a dynamic electricity price, it is **redundant in practice** as every supplier with more than 200,000 sites has to offer a dynamic electricity price contract. The French energy market is dominated by huge suppliers (see introduction).

Conditions of variations in market prices under this offer are defined by deliberation of the CRE. Suppliers will inform customers on the opportunities, costs and risks associated with a dynamic pricing offer in accordance with 4° of art. L224-3 of the Consumer Code. Suppliers put warning systems in place in the event of a significant variation in market prices (art. L332-7).

⁶¹ Cour des comptes, "Organisation of the Electricity Market," 2022, <https://www.ccomptes.fr/system/files/2022-10/20220705-Organisation-electricity-markets-summary.pdf>.

⁶² Statista, "Leading Utility Companies in France as of December 2022, Based on Revenue," n.d., <https://www.statista.com/statistics/1278893/france-utility-companies-revenue-ranking/>.

For electricity and natural gas, the CRE is competent to monitor transactions between suppliers, traders and producers, as well as transactions on organized markets (art. L131-2). It monitors the implementation of the dynamic pricing contracts provided for in article L. 332-7 and their impact on consumer bills. It particularly monitors the impact and development of dynamic pricing electricity contracts and assesses the risks that these offers could entail. It ensures that such offers do not lead to abusive practices. The CRE has the competence to formulate opinions and propose any measure to promote the smooth operation and transparency of the retail market, particularly in terms of pricing (art. L131-2).

Art. L332-7 stipulates that suppliers obtain the customer's consent before switching to a dynamic electricity price contract.

According to art. L134-15-1 the Energy Regulatory Commission publishes once a year a report on the development of dynamic pricing contracts, their impact on consumers' bills and, in particular, the volatility of prices.

Quality assessment

Art. 11 DIR is **fully transposed into French law**. There are no significant concerns regarding the quality of implementation. However, the obligation for suppliers supplying more than 200,000 sites to provide dynamic pricing contracts only started with 1 July 2023, according to the deliberation of the CRE in May 2021 (*délibération de la CRE n°2021-135*). Therefore, the actual application of the obligation for suppliers supplying more than 200,000 sites to provide dynamic pricing contracts started with a **delay of 29 months**. The deliberation of the CRE in May 2021 also modified its definition of so-called "dynamic offers" to stay in compliance with the DIR: This type of offer must have a price indexed for at least 50%, based on one or more price indices of spot wholesale markets (daily or sub-daily market) in the view of the current energy supply crisis. This definition will be expanded for a duration of three years starting from July 1, 2023. This definition aligns dynamic pricing offers with market offers that financially incentivize consumers to adjust or shift their consumption within a day in response to short-term signals and protect them from extreme price fluctuation as the electricity price is fixed in advance.

3.3.2.2 Article 15 DIR (active consumers)

Implementation status

Art. 15 DIR is **only partially transposed into French Law**, in particular through articles L315-1 to L315-8 of the French Energy Code. In France, following the provisions of the law on the energy transition for green growth (*L. n° 2015-992 du 17 août 2015 relative à la transition énergétique pour la croissance verte*), the first rules related to self-consumption were adopted by ordonnance in 2016 (*Ord. n° 2016-1019 du 27 juillet. 2016 relative à l'autoconsommation d'électricité*) and included in the Energy Code.

There is **no provision in the French Energy Code exclusively dedicated to active customers** and their rights. Instead, it contains articles that address parts of the EU directive for active customers under chapter V on self-consumption (prosumers).

Art. 15 (1)

French Law includes several provisions on self-consumption. Art. L111-91 stipulates the right to access the grid which is guaranteed by the operator (*gestionnaire*) to ensure the well-functioning of self-consumption. The Renewable Energy Acceleration Law introduced a third paragraph to art. L111-91 outlining the obligation of operators to develop access protocols to their networks which are transparent and non-discriminatory. Art. L315-6 ensures that operators of public electricity distribution networks implement necessary technical and contractual

arrangements, including the metering of electricity, to enable self-consumption to be carried in a transparent and non-discriminatory manner.

Art. 15 (2)

Rights of active consumers are partially regulated in the French Energy Code under Chapter V Self-consumption:

- a) Renewable energy communities and citizen energy communities (a form of active consumers) have the right to operate directly or through aggregation (art. L291-2 and art. L292-2). Art. R314-1 includes a definition of aggregators: A legal or natural person responsible for selling the electricity produced by an installation on the markets on behalf of the producer.
- b) The right to sell self-generated electricity is regulated in art. L331-1f. and further determined in articles L315ff. Art. L315-1 outlines that produced electricity can be either used immediately or after a storage period. Art. L315-5 provides that in the event of a self-consumption installation with a maximum installed capacity set by decree, exceeding its associated consumption, the electricity fed into the grid if not sold to a third party, will be transferred free of charge to the manager of the public distribution network.
- c) According to recital 51ff. DIR, smart meters should be built in a way that encourages decentralised generation and energy efficiency and can therefore be considered an efficiency scheme. Smart meters are defined and regulated in art. L341-3 and L341-4 and by decree.
- d) According to art. L315-1, the self-producer's installation may be owned and or managed by a third party. The third party may be entrusted with the installation and management, including maintenance, of the production installation. However, they need to remain subject to the instructions of the self-producer. The third party themselves will not be considered a self-producer.
- e) Art. L315-3 clarifies that the CRE establishes specific electricity public distribution network usage tariffs for consumers participating in self-consumption operations defined in articles L315-1 and L315-2 (individual or collective), so that these consumers will not be subject to network charges that do not reflect the costs born by network managers. However, **this section does not specifically address that network charges do not account separately for the electricity fed into and consumed from the grid.** Art. L341-2 and art. L341-3 lay out the methodology of calculating tariffs for the use of the public transmission network and public distribution networks and assure that they will be calculated in a transparent and non-discriminatory manner.
- f) The financial responsibility for imbalances is regulated in art. L321-15: Anyone operating on the electricity markets (including consumers for sites where they have exercised their right under art. L331-1) is responsible for imbalances they cause in the electricity market. They can contract a responsible party for this purpose.

Art. 15 (3)

Art. L315-1 and L315-6 include a definition on individual (and collective) auto-consumption and lay out the necessary technical and contractual measures by distributors to enable self-consumption operations (transparent and not discriminatory). There is no unduly justified difference in treatment of individual (individual self-consumption) and jointly-acting active customers (collective self-consumption).

Differences are justified. For example, as collective self-consumption involves the public grid for energy-sharing, there are different tariffs grid tariffs in place (introduced by Law No. 2021-

248, CRE needs to establish a tariff for self-consumption). Collective self-consumers can choose between the standard distribution grid tariff (TURPE – national network access tariff) and TURPE tariff specifically for collective self-consumption (facultative).

Art. 15 (4)

As far as can be seen, there is no existing scheme in France that does not separately account for electricity fed into the grid and electricity consumed from the grid. Therefore, Art. 15 (4) is not pertinent in France.

Art. 15 (5)

Art. 15 (5) RED is only partially implemented, since **active customers that own an energy storage facility are still subject to double charges**. Electricity storage is regulated by art. L352-1 to L352-2 and art. D352-1 to D352-11 of the Energy Code. Art. L352-1 of the Energy Code defines energy storage in the electric system.

Active consumers that own an energy storage facility have the right to a grid connection within a reasonable time, see general rules under art. L111-91. Article D315-5 of the Energy Code states that an electricity storage unit produced in the context of self-consumption is considered as the one of a producer in the operation. This implies that storing electricity qualifies the operator of the electricity storage facility both as a producer and a consumer. In this case, the owner of the energy storage facility is **twice subject to the standard distribution grid tariff** and therefore subject to double network charges. There is no provision that allows providing several services simultaneously.

Quality assessment

Art. 15 DIR has only been **partially implemented** into French law and to a large extent even **before the DIR entered into force**. However, in particular provisions on renewable energy communities and citizen energy communities were implemented with a delay of 2 months. Active customers that own an energy storage facility are still subject to double charges. In addition, there is no provision addressing that network charges do not account separately for the electricity fed into and consumed from the grid. Apart from the implementation deficits, there do not appear to be significant regulatory barriers to active consumption in France.

3.3.2.3 Article 17 DIR (demand response through aggregation)

Implementation status

Art. 17 DIR is **only partially transposed into French Law**, in particular through articles L271-1 – L271-4 and articles R271-1 – R271-15 of the French Energy Code. Some provisions were modified in March 2021 with a **delay of implementation by 2 months**. The French Energy Code does **not include a specific section on aggregation**.

Art. 17 (1)

The participation of demand response means the ability of customers to reduce their consumption and resell energy on the electricity market. Art. R314-1 defines an aggregator as a legal or natural person responsible for selling the electricity produced by an installation on the markets on behalf of the producer. The right to participate alongside producers is provided in art. L331-1f.

Art. 17 (2)

According to art. L322-9, the distribution system operator negotiates freely with producers, suppliers, or other market actors of his choice to establish contracts necessary for covering losses, ancillary services, and, if applicable, flexibility services in a non-discriminatory manner. “Other

market actors” includes participants engaged in aggregation (see definition in art. R314-1). In this context, **technical capabilities are not taken into consideration in French law**. The responsibilities of transmission system operators in accordance with the DIR are laid out in art. L321-6.

Art. 17 (3)

In the French Energy Code, demand response is particularly addressed through provisions regulating temporary energy reduction of final consumers (*l'effacement de consommation d'électricité*) in articles L271-1 to L271-4. It is a mechanism to foster temporarily decreasing electricity consumption during peak demand periods to balance supply and demand. In this context, there is a relevant regulatory framework in place and its modalities are also set out by decree. The French multiannual energy plan also includes an annual demand response exclusive tender (*l'appel d'offres effacement*, art. L271-4) which gives the awarded demand response capacities the chance for additional remuneration for electrical power made available by reduction over a specific period of time.

- a) According to art. 271-2 final consumers receive remuneration for each of their temporary energy reduction either directly through their supplier or on the energy market or through an adjustment mechanism by a deletion operator (*opérateur d'effacement*). The deletion operator cannot be a transmission system operator or distribution system operator. It can carry out its operations independently of the agreement of the electricity supplier. There is no requirement of consent of other market participants.
- b) Rules regarding temporary energy reduction of final consumers regulated in articles L271-1 to L271-4 clearly assign roles and responsibilities to these electricity undertakings. Demand response in the sense of “upward flexibility”, an increase in electricity consumption to absorb excess electricity production from renewable energies is only indirectly covered by these provisions.
- c) Provisions on smart meters include rules on the exchange of data and are applied to all market actors (for details see the transposition of Art. 19 DIR into French law below).
- d) The financial responsibility for imbalances is regulated in art. L321-15: Anyone operating on the electricity markets (therefore including participants engaged in aggregation) is responsible for imbalances they cause in the electricity market.
- e) As there is no section specifically dedicated to aggregation in the French Energy Code, there are **no provisions on contracts between final customers and independent aggregators**. Regarding temporary energy reduction of final consumers, the Council of State (*Conseil d'État*) specifies by decree methods used to characterize and certify temporary energy reduction. The decree also sets out requirements for technical approval of deletion operators, the procedures for issuing such approval, and penalties applicable to ensure compliance with approval requirements.
- f) There is **no conflict resolution mechanism** between market participants engaged in aggregation and other market participants in the French Energy Code.

Art. 17 (4)

The Council of State clarified the responsibilities of network operators and suppliers in Section No. 388150 of July 13, 2016. It outlined the necessary financial payment by the deletion operator to the supplier for the costs incurred by the supplier to compensate for the electricity price they must continue to inject to maintain the overall supply-demand balance. This payment is also in line with the right to property on a constitutional level and community law due to the

decision of the Council of State No. 387506 of May 13, 2016 on the remuneration of a good whose ownership has been transferred.

Art. 17 (5)

Art. L271-2 includes technical requirements for participation of demand response in all electricity markets (see above). They are further defined by decree and outlined in the French multi-annual energy plan. There are various mechanisms in place to trade energy consumption reduction, e.g. through the balancing mechanism operated by the French transmission system operator, RTE (*Réseau de Transport d'Electricité*) or traded between market players on the energy market, via the so-called mechanism "NEBEF". For both, the energy actually "deleted" (*l'énergie effectivement effacée*) is valued.

Quality assessment

Overall, Art. 17 DIR is only partially transposed into French law, since there are no provisions on contracts between final customers and independent aggregators or conflict resolution mechanisms between market participants engaged in aggregation. Regarding the quality of implementation, there are no significant concerns. Demand-side participation and temporary energy reduction are an important pillar of the French multiannual energy plan. France has established ambitious goals in terms of active demand-side participation in electricity markets in its latest multiannual energy plan.⁶³ It specifically focuses on temporary energy reduction of final consumers. Art.11 Decree No. 2020-456 on the multi-year energy plan outlines the objectives for the development of various types of temporary energy reduction capacities, aiming for 4.5 GW by 2023 and 6.5 GW by 2028.

3.3.2.4 Article 19 DIR (smart metering systems)

Implementation status

Art. 19 DIR has **fully been transposed** into French law. Several provisions in the French Energy Code address smart meters, in particular articles L 341-4. Provisions in the French Energy Code were again amended through the law n°2015-992 17 August 2015 - Art. 201 (V). and law n°2017-227 24 February 2017 - Art. 18. In 2010, the French Council of State adopted a decree on smart metering systems for public electricity networks.

Art 19 (1-3)

Article 19 of the DIR requires Member States to roll-out smart meters that enable consumers to actively participate in the electricity market.

Art. L341-4 of the French Energy Code outlines that operators of public electricity transmission and distribution networks implement systems which allow suppliers to offer different prices to their customers according to the time of the year or day, and encourage network users to limit their consumption during periods when the consumption of all consumers is the highest. In line with art. L322, a public distribution network operator must ensure data management. They make the metering data available to consumers (ensure daily availability) as well as alert systems related to their consumption levels, and comparison elements based on local and national consumption data statistics. Users of the networks and third parties authorized by users have access to it in a transparent and non-discriminatory manner, adapted to their respective needs, and subject to confidentiality rules in art. R331-4 and R341-5. These provisions promote energy efficiency, empower final customers and facilitate active participation of costumers.

⁶³ Ministère de la Transition Écologique et Solidaire, "Programmation Plurianuelle de l'énergie," 2019, <https://www.ecologie.gouv.fr/sites/default/files/TRER2006667D%20signe%CC%81%20PM.pdf>.

Art. R341-6 of the French Energy Code clarifies that a decree of the energy minister, based on the proposal of the CRE, will specify, taking into account interoperability requirements of the system, the functionalities and specifications of the metering devices. The specifications and cost elements of metering devices⁶⁴ are subject to review by the Energy Regulatory Commission prior to their implementation.

In 2010, a decree of the Minister of State and Minister for Ecology, Energy, Sustainable Development and Land Use Planning made the implementation of smart meters mandatory for operators of public electricity transmission and distribution networks (*décret n° 2010-1022*). It establishes the conditions for the widespread deployment of smart meters (deployment rate of 90 %) and specifies the terms of financial responsibility for the smart metering system through the usage tariffs of public electricity networks.

The decision of the CRE on 17 July 2014 sets out the incentive-based regulatory framework for the smart metering system. In its Decisions of 7 July 2011, the CRE suggested to deploy the Enedis (former ERDF, *Électricité Réseau Distribution France*) smart-metering system “Linky” and therefore contracted then the project due to its exceptional technical, industrial and financial features.

Art. 19 (4)

According to art. R341-7 the actual costs incurred for metering devices implemented by public network operators in accordance with a decree (see art. R. 341-6) are included in the charges to be covered by the tariffs for the use of public electricity transport and distribution networks. A significant sum, approximately €5 billion, is calculated for investment in the project during the 2014 to 2021 timeframe. To distribute these costs over a period, a tariff-smoothing mechanism shall be implemented, ensuring that the expenses coincide with the time when the anticipated benefits are realized. The incurred expenses are currently allocated to a dedicated “Linky account” (“Smoothing adjustment account”, see CRE decision of 17 July 2014 on determining the incentive-based regulatory framework for ERDF's smart metering system for low voltages (LV) ≤ 36 kVA). The 2014 decision of the CRE further stipulates that the monitoring of the smart metering systems takes place regularly and if forecasted deployment percentages are not met, penalties are charged based on specific rules.

Art. 19 (5)

The deployment of smart meters has not been negatively assessed in France.

Art. 19 (6)

The Linky smart meters meet the EU standards. The protocol (IEC 62056-7-5) allows energy management systems to get the necessary data from Linky Smart meters (and from other type of industrial meters).

Quality assessment

Art. 19 DIR has **fully been transposed** into French law. France has achieved its deployment objective of 90% in 2021 so that **implementation of Art. 19 DIR can be considered effective**. However, there has been an increased litigation on smart meters in France, driven by user concerns about potential health impacts, challenging their rollout. In particular, administrative authorities have faced appeals seeking to overturn various decisions made by municipal councils or mayors to either suspend or prohibit the installation of 'Linky' meters within their

⁶⁴ Accounts for metering devices under the responsibility of public electricity distribution network operators serving more than one hundred thousand customers.

jurisdictions.⁶⁵ The Council of State has then published clarifications (see Decision No. 426060). From January 2023, fines are imposed on households declining the installation of a Linky smart meter, with an annual charge of €50.⁶⁶

3.3.2.5 Article 32 (1) and (3) DIR (incentives for the use of flexibility in distribution networks)

Implementation status

Art. 32 DIR is (partially) transposed in article L322-11 of the French Energy Code with a **delay of 2 months**. It was amended in the Energy Code through *ordonnance* n° 2021-237 of 3 March 2021 - Article 25.

Art. 32 (1)

France provides a regulatory framework that allows and provides incentives to distribution system operators to procure flexibility services.⁶⁷ Art. L322-8 outlines the responsibilities of the distribution system operator, including the definition and implementation of investment and development policies for distribution networks to enable the connection of consumer, producer, and storage installations, as well as interconnection. They are also responsible to implement energy efficiency measures and promote the integration of renewable energies into the network. According to art. L322-9, the distribution system operator negotiates freely with producers, suppliers, or other market actors of its choice to establish contracts necessary for covering losses, ancillary services, and, if applicable, flexibility services in a non-discriminatory manner. The modalities and rules for providing ancillary services and flexibility services to each operator of a public electricity distribution network, except those related to loss coverage, are approved by the Energy Regulatory Commission before their implementation.

In this framework distribution system operators are able to procure flexibility services. While the Energy Code does **not repeat every aspect of Art. 32 (1)**, e.g. congestion management, it provides **the regulatory framework necessary to allow and provide incentives to distribution system operators to procure flexibility services**.

Art. 32 (3)

Art. L322-11 **fully transposes** Art. 32 (3) DIR **almost verbatim with a delay of 2 months**.

Art. L322-11 clarifies that the distribution system operator publishes at least every two years a network development plan. This network development plan provides transparency regarding the medium and long-term flexibility services that are necessary and outlines the planned investments for the next five to ten years, with a particular emphasis on the main distribution infrastructure needed to connect new production capacities and new loads, including electric vehicle charging points. It also includes the use of electricity consumption reduction, energy efficiency, energy storage facilities, or other resources that the distribution system operator must consider as alternatives to network expansion. The network development plan will be

⁶⁵ Radio France Internationale, "Growing Resistance to 'connected' Linky Electrical Meter in France," 2019, <https://www.rfi.fr/en/france/20190802-growing-resistance-linky-electrical-meter-france>; The Connexion, "Bordeaux Court Rules Linky Electricity Meters Not Obligatory," 2020, <https://www.connexionfrance.com/article/French-news/Bordeaux-court-rules-Linky-electricity-meters-not-obligatory>.

⁶⁶ Hannah Thompson, "Millions Who Refuse Linky Meter at France Home Will Have to Pay Extra" (The Connexion, 2022), <https://www.connexionfrance.com/article/French-news/Millions-who-refuse-Linky-meter-at-France-home-will-have-to-pay-extra>.

⁶⁷ Sophie Fabrégat, "Stockage et Flexibilités : Une Meilleure Prise En Compte Par Les Réseaux" (Actu Environnement, 2021), <https://www.actu-environnement.com/ae/news/reseau-electrique-flexibilite-stockage-efacement-renouvelables-37170.php4>.

submitted to the Energy Regulatory Commission. The Energy Regulatory Commission may request modifications to the plan.

Quality assessment

Art. 32 (1) is partially transposed and (3) DIR is completely transposed (both with a delay of 2 months) and **implemented effectively**. In March 2023, the French distribution system operator, Enedis, published its network development plan for the first time.⁶⁸

3.3.2.6 Article 22 (1) REG (design principles for capacity mechanisms)

Implementation status

The French capacity mechanism approved by the European Commission is mainly regulated in art. L335-1ff. as well as art. R335-1ff. Two important characteristics are: market-wide and decentralized. The mechanism is open to all potential types of capacity providers, in particular demand response operators, and based on auctions and trading. The effective operation of the capacity mechanism is **highly complex**, given the numerous and extremely technical regulatory provisions of the Energy Code in art. R335-1ff. The system's functioning heavily relies on the French transmission system operator, RTE, who is responsible not only for certifying production or demand response capacities but also for assessing the potential capacity obligation on each obligated party (resulting, in a simplified manner, from the peak consumption in the capacity guarantees register), determining peak periods, evaluating risks of system failure, monitoring discrepancies between certified and actual capacities, and more.

To accommodate the subsidiary and temporary nature of the capacity mechanism, the French legislator has specified in art. L335-2 the conditions under which the French capacity mechanism can be suspended if no difficulty in resource adequacy is identified (Art. 22 (1a) and (1c) REG).

The impact of these mechanisms on competition and trade cannot be conclusively assessed, however the European Commission approved this capacity mechanism without raising any concerns regarding its creation of undue market distortions. This capacity mechanism takes into account "the interconnection of the French market with other European markets" (see above and art. L335-2), and the rules governing "cross-border contributions to the security of supply in France" are covered by art. R335-9ff. Therefore, it encourages cross-border trade (Art. 22 (1b) REG). According to art. L335-4 capacity providers are selected in a transparent and non-discriminatory manner (Art. 22 (1d) REG). The competitive selection process is ensured by art. L335-1ff.

According to art. L335-7 and art. L335-1ff. a supplier, network operators and large electricity consumers are obliged to hold capacity guarantees equivalent to the consumption of their clients, otherwise face sanctions. Capacity guarantees can also be bought from capacity providers. The "obligated actors" are therefore obliged to be available in times of expected system stress (**partially transposes Art. 22 (1e) REG**).

Art. 22 (1f) REG results from the auctions and trading of capacity guarantees outlined above, technical requirements for participation are usually included (see also art. L335-2). **Art. 22 (1g) REG** is particularly **difficult to assess given the capacity mechanism's decentralized character**.

⁶⁸ Arnaud Garrigues, "Enedis Met En Consultation Son Plan de Développement Sur Les 10 Ans à Venir" (La Gazette des Communes, 2023), <https://www.lagazettedescommunes.com/858066/enedis-met-en-consultation-son-plan-de-developpement-sur-les-10-ans-a-venir/>.

Art. L335-3 stipulates that any capacity of a production facility (*capacité d'une installation de production*) or a temporary reduction capacity (*capacité d'effacement de consommation*) can be contracted between the operator of that capacity and the manager of the public transmission network. The capacity mechanism is technology neutral which means that all technologies apply, including energy storage or demand side management (Art. 22 (1h) REG). According to art. L335-2 the mechanism should give priority to guarantees of demand response over guarantees from power plants when prices are equal.

Art. R355-81 determines that contracts concluded with selected providers specify appropriate penalties in the event of partial or total non-performance of the commitments described in the submitted offer or in the specifications of the call for tenders (Art. 22 (1i) REG). The penalties paid by the operators for a delivery year contribute to the fund of the multi-year contractualization system laid out in art. R335-82.

According to art. L335-6, a decree of the Council of State precises the application of these provisions. Decree No. 0266 of 17 November 2018 included and amended provisions in the regulatory section of the Energy Code (see art. R335-1ff.).

Quality assessment

Apart from the high complexity of the French capacity mechanism already addressed above, there are no significant concerns regarding the quality of the national rules.

[3.3.2.7 Articles 16 RED \(organisation and duration of the permit-granting process\), Art. 4 ACC \(Accelerating the permit-granting process for the installation of solar energy equipment\) and Art. 5 ACC \(repowering of renewable energy power plants\)](#)

Implementation status

France has numerous administrative procedures for permit-granting in place. The different procedures are regulated mainly by the Planning Code, the Environmental Code and the Energy Code. Each procedure has its own timelines and appeal processes. Some provisions, e.g. regarding the single contact points are partially implemented, even before the RED entered into force. Provisions related to the administrative procedures for permit-granting were implemented by introducing so-called acceleration zones (*zones d'accélération*) with a delay of 20 months.

Art. 16 (1-3) RED

France has **only partially implemented the single contact point referred to in Art. 16 (1-3) RED**. There is no sufficient regulatory framework in place regarding a contact point that explicitly assists the applicant in coordinating the permit-granting processes and providing information upon request.

However, efforts are underway to establish a permit-granting process that covers necessary administrative authorizations in France.

Due to the lengthy and complex administrative procedures French law is currently making efforts to bring the various procedures together, under a so-called "single window" (*guichet unique*). Law No. 2017-180 and Decrees No. 2017-81 and No. 2017-82 introduced a new single environmental authorization applicable to certain renewable energy production installations. The legislative provisions are covered by art. L181-1 and following of the Environmental Code. The single environmental authorization allows various administrative decisions that were previously part of fragmented procedures to be grouped into a single procedure, regardless of whether these procedures fall under environmental law (despite the name "environmental authorization").

Art. 6 of the Renewable Energy Acceleration Law introduces in the Environmental Code (art. L181-28-10) officials designated by the State to support the processing of renewable energy development projects and industrial projects necessary for the energy transition. The official is tasked to facilitate administrative procedures for petitioners, coordinate the work of the departments or provide support to local authorities in their efforts to plan the energy transition.

These provisions do **not include any guidance for the applicant** throughout the whole process or the **possibility to submit relevant documents in digital form**. Also, a **manual of procedures for developers of renewable energy products projects** has **not yet been made available** under the Environmental or Energy Code.

Art. 16 (1) RED was **partially implemented, even before the RED entered into force**. **Art. 16 (2) and (3) RED are not implemented**.

Art. 16 (4) and (5) RED

In France, the administrative process to obtain the necessary environmental and construction permits is **highly complex and long**. Various preliminary administrative authorizations must be obtained simultaneously by different authorities, the extent varies depending on the project and installation. Due to the diversity of renewable sources and their associated installations there is **no uniform regulatory framework for renewable power installations**.

French law does **not include maximum time limits for its whole permitting procedure** (including all required authorizations). Different time limits for each procedure must be summed up and depend on the characteristics of each installation. In particular for small self-consumption installations simplified procedures are in place (see below) and shorten the permit-granting procedure (Art 16 (5) RED).

Most renewable energy installations require for their establishment a **Planning Code permit**. They are often subject to the requirement of a building permit according to art. L421-1 of the Planning Code as “constructions, even without foundations, must be preceded by the issuance of a building permit”. Some installations depending on their size or capacity are subject to specific provisions. Mount-grounded photovoltaic panels, for instance, are exempt from any formalities under the Planning Code if their power capacity is less than 3kW and their maximum height does not exceed 1.8m (art. R421-2 (c)), except in certain protected areas. Installing photovoltaic panels on the roof of an existing building does not constitute a new construction, but it does alter the external appearance of an existing structure. They are generally subject to prior declaration (solar plants under 250kW). Regarding the competent authority to decide on a building permit or prior declaration, according to general rules the competence is typically assigned to the mayor (for energy installations acting on behalf of the state).

Depending on the characteristics of the project, installations require various **authorizations under the Environmental Code**. Most renewable energy projects need to conduct impact assessments and public inquiries while other procedures and authorizations only apply to specific types of renewable energy projects. Subject to special regulations are in particular Installations Classified for Environmental Protection (ICPE) in art. L511-1 Environmental Code and the regime for the regulation of Installations, Works and Activities (IOTA) impacting water and aquatic environments in art. L214-3 of the Environmental Code.

Simplified procedures apply to small self-consumption installations, especially domestic photovoltaic plants or wind installations. They are exempt from building permits, according to art. R122-3 and art. R122-20, they are naturally excluded from the scope of application of the ICPE or IOTA legislation and for example from conducting impact assessments.

According to art. L311-1 Energy Code, every energy production installation requires the issuance of an **operating permit** (art. L311-1ff.). However, there are several exceptions for renewable energy. Art. L311-6 Energy Code stipulates that installations with an installed capacity equal to or less than a threshold set by decree are exempt from any formality in this regard. For example, wind, solar and hydrothermal installations with a capacity lower than or equal to 50 MW are exempt from applying for an operating permit (see art. R311-2 Energy Code). Implicitly these simplified procedures (see exemptions for building permits above) shorten the permit-granting process of power plants with a low capacity. Therefore, **Art. 16 (5) RED may only partially be implemented** regarding domestic photovoltaic plants or wind installations.

Current situation

With the adoption of the **Renewable Energy Acceleration Law** in 2023, the maximum time period for the permit-granting of renewables projects located in acceleration zones is three months. However, it may be extended to four months, decided by the competent authority (art. 7 Renewable Energy Acceleration Law, art. L181-10-1 Environmental Code). Regarding projects in the acceleration zones, these legal provisions **partly implement Art. 16 (4), albeit with delay of 20 months**. However, establishing acceleration zones is a highly complex endeavour, effectiveness remains uncertain, potentially adding an additional layer of planning complexity.

Art. 16 (6) RED

Repowering is not specifically addressed in the French Energy Code. Therefore, Art. 16 (6) RED is **only partially implemented in a very limited scope**.

Art. L311-1 Energy Code clarifies that only new installations need to apply for an operating permit. Installations whose installed **capacity is increased by max. 25%** for those using hydraulic energy and **by max. 20%** for those using other energies, are not considered new installations and therefore do not have to obtain authorization under the Energy Code. In this limited scope, the procedure is simplified as no new permit is required.

Art. 9 of the 2023 Renewable Energy Acceleration outlines that the potential environmental impacts of the repowering project are assessed in relation to significant potential impacts resulting from the modification or extension compared to the initial project. However, this only applies for 18 months from the enactment of the law (March 10, 2023).

Art. 16 (7) and (8) RED are not specifically covered by the French Energy Code.

Art. 4 and Art. 5 ACC

As regulations are directly applicable, no implementation of the ACC at the national level is required. In the case of France, the 2023 Renewable Energy Acceleration Law (adopted in March 2023) introduced several mechanisms aimed at simplifying environmental procedures which ensure shorter permit-granting processes. It gives local municipalities power to identify renewable acceleration zones in which permitting will be accelerated. In addition, renewable energy projects will have the **status of overriding public interest under certain conditions**.

The maximum time period for the permit-granting of projects located in the acceleration zones is **three months**. However, it may be extended to four months, decided by the competent authority (art. 7 Renewable Energy Acceleration Law, art. L181-10-1 Environmental Code). The provision on the maximum time period of three months is included in the section on the single environmental authorization in the Environmental Code. This provision will apply after a fixed date by decree or one year from the enactment of the law (March 10, 2023). Unlike the ACC, the 2023 Renewable Energy Acceleration Law is **not a temporary bill**.

Apart from Art. 9 Renewable Energy Acceleration Law regarding the softening of the environmental impact procedure (see above under Art. 16 (6) RED), there is **no provision on repowering introduced into the French law that concretely aligns with Art. 5 ACC**.

Quality assessment

Art. 16 RED is **insufficiently implemented into French law**, because the single contact points are only partially implemented, legally binding maximum durations are unclear (contingent on renewable source and associated installations), procedures necessary for permit-granting are numerous and repowering is only addressed in a very limited scope. In the cases of a legally binding maximum duration, there are no legal consequences for exceeding it. It is therefore unclear how France ensures that the maximum duration is not exceeded. The Renewable Energy Acceleration Law introduces a maximum time limit of three months for renewables projects located in the so-called acceleration zones and thereby **transposes Art. 16 (4) RED with a delay of 20 months into French law**. However, the effectiveness of the 2023 Renewable Energy Acceleration Law (regarding the maximum time limit of three months in acceleration zones or renewable energy installations serving as an overriding public interest) remains uncertain. Municipalities have the competence to define acceleration zones. Local authorities are able to incorporate acceleration zones into their urban planning documents using a simplified amendment process. The objective of France is for municipalities to report them to the official designated by the State by December 31, 2023.⁶⁹ The influence of the 2023 Renewable Energy Acceleration Law will highly depend on forthcoming regulatory measures and resources allocated for its implementation.⁷⁰ In 2023, the assessment of the draft updated National Energy and Climate Plan of France outlines that France has not achieved its 2020 target of a 23 % share of energy from renewable sources in gross final consumption of energy.⁷¹

Apart from these implementations deficits and regulatory unclarities, there are no significant concerns regarding the quality of implementation.

3.3.2.8 Article 17 RED (simple-notification procedure for grid connections)

Implementation status

Art. 17 (1) RED

Art. 17 (1) RED is **only partially implemented** in the French Energy Code. The relevant provision was only included by a French law (*ordonnance n°2023-816 du 23 août 2023 - art. 3*) in 2023 (**delay of 25 months**). A simplified-notification procedure with a maximum duration of one month to be connected to the grid is only available to any power installations with a capacity of 3 kW or less according to art. L342-8 (I) Energy Code. This provision does not include many specifics regarding the simple notification procedure. The provision only stipulates that the proposed connection agreement is sent to the application by the network operator within one month from the receipt of their complete connection request. For other renewable power installations, the connection period shall not exceed twelve months. Non-compliance with these deadlines may result in payment of compensation according to a scale set by decree.

⁶⁹ Ministère de la Transition Écologique et de la Cohésion des Territoires, "Planification Des Énergies Renouvelables et Donnée," January 29, 2024, <https://www.ecologie.gouv.fr/planification-des-energies-renouvelables-et-donnees>.

⁷⁰ Perrine Mouterde, "What's in the Draft Bill to Accelerate Renewable Energy in France" (Le Monde, 2023), https://www.lemonde.fr/en/environment/article/2023/01/31/what-s-in-the-draft-bill-to-accelerate-renewable-energy-in-france_6013894_114.html?random=1313278902&random=32233650.

⁷¹ European Commission, "COMMISSION STAFF WORKING DOCUMENT: Assessment of the Draft Updated National Energy and Climate Plan of France," 2023, https://commission.europa.eu/system/files/2023-12/SWD_Assessment_draft_updated_NECP_France_2023.pdf.

Art. 17 (2) RED

The French legislator did not include a simple notification procedure for installations with an electrical capacity of above 10,8 kW and up to 50 kW. However, the French supplier Enedis offers a simplified procedure for small projects under 36 kW, with a maximum duration of three months to be connected to the grid.⁷²

Quality assessment

Apart of the implementation deficits outlined above (mainly that the simple-notification procedure is only open to power installations with a capacity of 3kW or less), there are no significant concerns regarding the quality of implementation.

3.3.2.9 Article 21 RED (renewable self-consumers)

Implementation status

Art. 21 RED is **largely transposed** into French law (**implementation on time**). Self-consumption is particularly regulated in articles L315-1 to L315-8 of the French Energy Code. The *ordonnance* n°2021-236 du 3 mars 2021 amended and introduced provisions in the French Energy Code on renewables self-consumers as well as law n° 2017-227.

Art. L315-1 Energy Code ensures that consumers are entitled to become renewable self-consumers.

Art. 21 (2) RED

Art. 111-91 Energy Code provides consumers the right to have access to the network to inter alia ensure the well-functioning of self-consumption.

- a) Art. L315-1 includes a definition of individual and art. L315-2 of collective self-consumption, including the right to generate renewable energy, including for their own consumption and storing their renewable energy. Small self-consumption installations can transfer any surplus electricity without being subject to charges to the network operator.
- b) In the French Energy Code there are **no specific provisions on electricity storage systems**, however definitions of individual and collective self-consumption include the possibility to use the generated renewable energy after stockage.
- c) Regarding their rights and obligations as final consumers, there are **no contradictory provisions** in the French Energy Code.
- d) Renewables self-consumers are entitled to remuneration under French law (see art. L121-27, L311-12 or 314-1). The decision in 2017 (*arrêté du 9 mai 2017*) guarantees a feed-in tariff (*EDF obligation d'achat*) for 20 years, which reflects well the market value of that electricity and takes into account its long-term value to the grid, the environment and society.

Art. 21 (3) RED

The French Energy code does not apply non-discriminatory as well as proportionate charges and fees to renewables self-consumers in the relevant provisions on self-consumption.

Art. 21 (4) RED

⁷² "Demandes de Raccordement Pour Les Installations ≤ 36 kVA" (www.photovoltaique.info, n.d.), <https://www.photovoltaique.info/fr/realiser-une-installation/raccordement/demarches-de-raccordement/demandes-de-raccordement-pour-les-installations-36-kva/>.

Art. L315-2 ensures that renewables self-consumers located in the same building can engage jointly in activities referred to in paragraph 2 and that they are permitted to arrange sharing of renewable energy. The same is possible for sites within a one-kilometer radius in form of an extended collective self-consumption. There is **no provision on additional fees, charges, levies, or taxes**.

Art. 21 (5) RED

Art. L 315-1 further transposes Art. 21 (5) RED as the self-producer's installation may be owned and or managed by a third party. The third party may be entrusted with the installation and management, including maintenance, of the production installation. However, they need to remain subject to the instructions of the self-producer. The third party themselves will not be considered a self-producer.

Art. 21 (6) RED

In order to support the development of self-consumption, the French government has established a framework for self-consumption.

Law Decree No. 2015-992 of 17 August 2015, Article 119, granted the French government the authority to establish a legal framework for the advancement of self-production and self-consumption schemes.

Law No. 2017-227 introduces a favorable tax framework for operators of installations with a capacity below 1 MW. The maximum limit for this tax exemption is 240 MWh per site annually. Under this beneficial regime, operators are exempted from the Contribution to the Public Electricity Service (CSPE) and local taxes on final electricity consumption for the portion consumed on-site. In the self-consumption tender, this exemption has been "secured" for producers to eliminate the risk of possible modification or removal, while also compensating for the amounts of TURPE and potential TICFE.

The first call for tenders to provide support for self-consumption for a volume of 40 MW was launched in August 2016. Over the period of 2016 to 2022, ten tender periods allocated support to 528 projects totaling 187 MW. The updated specifications for the 2021-2026 period aim to streamline project remuneration, anticipating a further boost to their development. In parallel, since October 2021, a specific support mechanism through a tariff order has established through a tariff order for small solar installations (<500 kW) on buildings, sheds, or shelters engaged in self-consumption.⁷³

Notably, for installations under 100 kW, there is a five-year investment premium ranging from 6 c€/kWh to 10 c€/kWh for self-consumption operations with surplus sales. A feed-in tariff only for the surplus injected into the grid for installations over 100 kW individual self-consumption installations are not subject to TCFE (local taxes on electricity consumption), see above. Furthermore, individual installations without power or production limits are not subject to the variable part of TURPE on self-consumed electricity, as it does not pass through the public grid. In contrast, collective self-consumption lacks these exemptions, and future tenders aim to offset these expenses through the remuneration of successful participants.

Therefore, France provides incentives and promotes the development of renewable self-consumption. In particular, there are support schemes for self-generated renewable electricity that they feed into the grid through special tariffs in place. Also, a favorable tax regime facilitates the access to finance. The tariffs scheme ensures that renewables self-consumers contribute in an adequate and balanced way to the overall cost sharing of the system when electricity is

⁷³ Plan de mise en œuvre des autorités françaises Août 2022, L'article 20 du règlement (UE) 2019/943 du Parlement européen et du Conseil du 5 juin 2019 sur le marché intérieur de l'électricité.

fed into the grid. The French Energy Code does **not include provisions specifically addressed to low-income or vulnerable households** or include provisions specifically on **incentives to building owners and tenants**.

Regarding the summary of policies and measures to include in the NCEP, the draft NCEP 2023 of France only includes aspects on self-consumption and few incentives for renewables self-consumers. The draft does however not include a summary in line with Art. 21 (6) RED.

Quality assessment

Apart from implementation deficits outlined above (no provisions on energy storage, additional charges or fees, provisions addressing low-income or vulnerable households or incentives to building owners and tenants), there are other concerns regarding the quality of implementation.

3.3.3 Summary

Art. 11 DIR has been transposed completely into French law, but not on time (delay of 2 months). No significant quality deficits could be found.

Art. 15 DIR has been partially transposed into French law and to a large extent even before the DIR entered into force. However, in particular provisions on renewable energy communities and citizen energy communities were implemented with a delay of 2 months. There is no provision in the French Energy Code exclusively dedicated to active customers and their rights. Network charges are calculated in a transparent and non-discriminatory matter; however, the relevant section does not specifically address that network charges do not account separately for the electricity fed into and consumed from the grid. Furthermore, there is a need for further transposition in the area of energy storage, where double charging is still possible. Apart from this, no significant quality deficits could be found.

Art. 17 DIR has been partially transposed, but not completely into French law. The regulatory framework does not contain all the elements required by Art. 17 (2) and (3) DIR, in particular regarding the conflict resolution mechanism. Transposition did partially not take place on time (delay of 2 months). No significant quality deficits could be found.

Art. 19 DIR has been incorporated completely into French law even before the DIR entered into force, so no transposition was needed. No significant quality deficits of the regulatory framework could be found, and the deployment of smart metering systems has been progressing according to plan, despite the increasing litigation on smart meters in France.

Art. 32 (1) DIR has largely been implemented into French law (delay of 2 months). While the Energy Code does not repeat every aspect of Art. 32 (1), e.g. congestion management, it provides the regulatory framework necessary to allow and provide incentives to distribution system operators to procure flexibility services. Art. 32 (3) DIR has been transposed completely into French law, but not on time (delay of 2 months). No significant quality deficits could be found. In March 2023, the French distribution system operator, *Enedis*, published its network development plan for the first time.

Art. 22 (1) REG does not require any transposition into French law. The existing, decentralized French capacity mechanism approved by the European Commission in 2016 does largely comply with the design principles set out in Art. 22 (1), but due to its complexity it is difficult to assess full compliance. Due to its complexity, it is likely that changes will be made in the future. No significant quality deficits could be found.

Art. 16 RED has been partially transposed into French law. There are many different permitting processes depending on type and size of the power plant (Planning Code permit, authorizations under the Environmental Code, operating permit). Transposition did partially not

take place on time. The 2023 Renewable Energy Acceleration Law transposes Art. 16 (4) RED with a delay of 20 months into French law. There is a need for further transposition of the contact points as well as repowering of power installations. Furthermore, provisions regarding the permit-granting procedure lack clarity. Regarding the quality of the implementation, it should be noted that there are no legal consequences for exceeding the legally binding maximum duration for permit-granting processes.

Art. 4 and 5 ACC do not require any transposition into French law. However, the 2023 Renewable Energy Acceleration Law aligns with Art. 4 ACC and is not just temporary. Provisions on accelerating repowering are only included indirectly. How consistently Articles 4 and 5 ACC are applied in practice cannot be investigated within the scope of this report.

Art. 17 RED has only been transposed partially into French law and not on time (delay of 25 months). The simple notification procedure is only open to power installations with a capacity of 3 kW or less. No significant quality deficits could be found.

Art. 21 RED has been incorporated largely, but not completely in French law (on time). There are provisions on storage systems missing in the French law and only included implicitly. The French Energy Code does not include provisions specifically addressed to low-income or vulnerable households or include provisions specifically on incentives to building owners and tenants. A summary in line with Art. 21 (6) RED is currently missing in the draft NCEP 2023 of France. Apart from this, no significant quality deficits could be found.

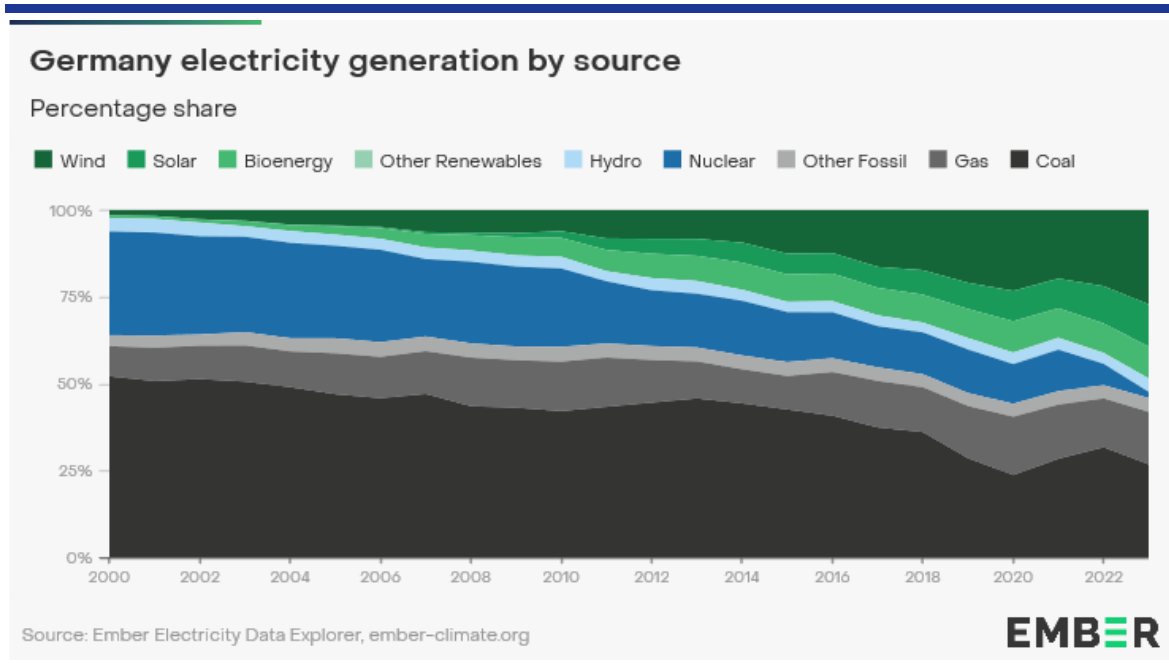
3.4 Country fiche Germany

3.4.1 Introduction

The electricity mix in Germany is diverse and dynamic. Traditionally, electricity was mainly generated from lignite, nuclear power and hard coal. Natural gas also played a role.

In 2002, the phase-out of nuclear power was enshrined in German law and implemented in the following years. The last nuclear power plants were shut down on 15.4. 2023. In 2020, Germany decided to phase out coal by the end of 2038. At the same time, the current federal government is pushing the nationwide expansion of renewable energy. In 2022, the share of renewables in gross electricity generation was 44 %.

Figure 6: Germany's electricity mix by type of energy source, in percentage



Source: EMBER, 2024.⁷⁴

By 2030, at least 80 percent of gross electricity consumption is supposed to come from renewable energies according to the national target set out in § 1 (2) of the Renewable Energy Act (Erneuerbare-Energien-Gesetz – EEG). To achieve this, the legal framework has been adjusted in many places. While some of these adjustments were already in force before the relevant EU legislation, most of them were afterwards and often not on time. In the meantime, most of the provisions examined have been largely implemented in Germany. Still, there is room for improvement.

The main acts of German energy law are:

1. The Energy Industry Act (Energiewirtschaftsgesetz – EnWG),
2. The Renewable Energy Act (Erneuerbare-Energien-Gesetz – EEG).

⁷⁴ <https://ember-climate.org/data/data-tools/data-explorer/>.

3.4.2 Implementation

3.4.2.1 Article 11 DIR (entitlement to a dynamic electricity price contract)

Implementation status

Germany has implemented all provisions of Article 11 of the DIR. Implementation can therefore be considered **complete**. While some provisions were already in force before the DIR, the remaining provisions were **not implemented on time** (delay of 8 months).

Germany has implemented an entitlement to dynamic electricity price contracts (Article 11 (1) DIR) in § 41a (2) of the Energy Industry Act (Energiewirtschaftsgesetz - EnWG). According to this, electricity suppliers are obliged to offer contracts with dynamic electricity tariffs to final customers if they have a smart metering system. They must also provide comprehensive information about the advantages and disadvantages of such contracts (Article 11 (2) DIR). Implementation of the entitlement did not take place on time. The provision first entered into force on 27.7.2021 for suppliers with more than 200,000 final customers as foreseen as a minimum in Article 11 (1) DIR. As of 1.1.2022, the obligation applies to suppliers with more than 100,000 final customers, and as of 1.1.2023, it will apply to all electricity suppliers.

The German Federal Network Agency (Bundesnetzagentur – BNetzA) is responsible for monitoring the electricity markets (Article 11 (2) DIR) in accordance with § 35 EnWG. § 35 (1) no. 10 EnWG explicitly stipulates monitoring of market supply and price volatility for dynamic electricity price contracts. The provision entered into force on 27.7.2021. Thus, the implementation did not take place on time as well.

It is a general principle of German law that contracts can only be amended with the consent of both parties as provided by Article 11 (3) DIR. Unilateral amendments are only permitted in exceptional cases where there is a legal or contractual basis. While there is no legal basis for switching tariffs, a contractual basis can be agreed on within narrow limits. In any case, the customer may terminate the contract without notice in the event of a unilateral amendment pursuant to § 5 (3) of the Basic Electricity Supply Regulation (Stromgrundversorgungsverordnung – StromGKV). The provision entered into force already on 10.5.2012, so no implementation was required.

Under § 63 (1) EnWG, the regulatory authority BNetzA is obliged to publish an annual report on the results of its monitoring activities, including monitoring pursuant to Section 35 no. 10 EnWG which includes the requirements of Article 11 (4) DIR. The provision entered into force already on 1.11.2008, so no implementation was required.

Quality of the implementation

There are no significant concerns regarding the quality of implementation. Even if § 41a EnWG does not explicitly stipulate that every customer can request the conclusion of a dynamic electricity price contract with at least one supplier, this is nevertheless ensured since all suppliers have to offer dynamic contracts from 1.1.2023.

3.4.2.2 Article 15 DIR (active consumers)

Implementation status

Most provisions of Article 15 of the DIR were already incorporated in German law before the DIR entered into force. However, **implementation cannot be considered complete**.

The entitlement to act as an active customer (Article 15 (1) DIR) is not explicitly regulated in German law. However, there are no legal restrictions on the ability of end users to consume or store electricity generated on site. There are no fees or charges for electricity that is not fed

into the grid. Self-generated electricity can be regularly sold on the market. The implementation of a legal claim is therefore not required.

As far as can be seen, **active customers are not entitled to sell self-generated electricity through power purchase agreements** as provided for in Article 15 (2) lit. b of the DIR. § 41 EnWG, which regulates the minimum content of power purchase agreements, does not contain any statement on active consumption.

As far as can be seen, there are no legal restrictions on participation in flexibility schemes and efficiency schemes (Article 15 (2) lit. c DIR).

As there is no specific regulation on active consumption in German law, the delegation of the installation, operation and maintenance of an energy system to a third party should not have any legal consequences such as the third party being an active customer (Art. 15 (2) lit. d DIR).

Active customers are subject to the same network charges as any electricity producer feeding electricity into the grid (Article 15 (2) lit. e DIR). This follows from the Electricity Network Charge Regulation (Stromnetzentgeltverordnung – StromNEV), which makes no distinction between active customers and other producers.

According to § 4 of the Electricity Grid Access Regulation (Stromnetzzugangsverordnung – StromNZV), the network users of each balancing group must appoint a balance responsible party (Article 15 (2) lit. f DIR).

German law does not distinguish between individual and jointly-acting active customers (Article 15 (3) DIR).

As far as can be seen, there is no existing scheme in Germany that does not separately account for electricity fed into the grid and electricity consumed from the grid (Article 15 (4) DIR).

Active customers that own an energy storage facility have the right to a grid connection according to § 17 (1) EnWG (Article 15 (5) lit. a DIR). The technical conditions must be published by the network operator according to § 19 (1) EnWG.

There are no special charges for energy storage (Article 15 (5) lit b DIR). However, **double charging is possible in some cases**. For example, according to § 118 (6) EnWG, energy storage systems can be exempted from grid fees, but only for a period of 20 years. Furthermore, double taxation is only excluded for pumped storage plants according to § 9 (1) of the Electricity Tax Act (StromStG). Battery storage systems are not covered by this provision.

Quality of the implementation

Apart from the implementation deficits outlined above (lack of an entitlement to sell self-generated electricity through power purchase agreements, possibility of double charging for energy storages), there do not appear to be significant regulatory barriers to active consumption in Germany.

3.4.2.3 Article 17 DIR (demand response through aggregation)

Implementation status

The main provisions of Art. 17 DIR have been implemented in Germany with a **delay of 8 months**. However, **implementation cannot be considered complete**.

Demand response through aggregation in Germany is mainly regulated by § 41d EnWG. The provision entered into force on 27.7.2021 and therefore not in time. Accordingly, final customers

and producers have a claim against wholesalers, electricity suppliers and other balance responsible parties to open their balance group and thus to participate in flexibility markets (Art. 17 (1) DIR). This should also ensure that aggregators are treated in a non-discriminatory manner (Art. 17 (2) DIR), as only a reasonable fee may be charged for the opening of the balance group.

The right to enter electricity markets (Art. 17 (3) lit. a DIR) directly results from the described claim. It must not be outruled according to § 41d (2) EnWG. Moreover, the electricity supplier must not prohibit its final customers from entering the electricity markets according to § 41 (7) EnWG.

However, **the regulatory framework in Germany does not contain all the elements required by Art. 17 (3) DIR.**

Some of the **roles and responsibilities of the market participants** (lit. b) can be derived from Section 41d (1) EnWG. Accordingly, the balance responsible parties must not only grant access to the balance groups, but also provide services. However, **it remains unclear which services are owned.** Further specification of the rights and obligations can be determined by the regulatory authority (BNetzA) according to § 41d (3) EnWG. However, such specifications have not yet been made.

This also applies to the **rules for data exchange** (lit. c).

Moreover, it seems that there is **no obligation for aggregators to be financially responsible for the imbalances that they cause** (lit. d).

Electricity suppliers may not impose undue payments on final consumers due to the conclusion of contracts with aggregators (lit. e). This follows from § 41d (1) EnWG. Accordingly, only an appropriate fee may be charged.

There is **no specific conflict resolution mechanism** according to lit. f.

According to § 41d (1) EnWG, balance responsible parties are entitled to claim remuneration for opening the balance group (Art. 17 (4) DIR). The compensation must be appropriate. This is the case if it does not exceed the coverage of the resulting costs. According to § 41d (3) EnWG, the regulatory authority (BNetzA) is entitled to stipulate that the tariff may also cover administrative costs. However, it has not yet done so.

Moreover, **it is not ensured that the regulatory authority establishes the technical requirements as provided for in Art. 17 (5) of the DIR.** According to § 41d (3) EnWG, the regulatory authority is entitled, but not obliged, to specify technical requirements for the participation of load control in all electricity markets. Thus, it is not mandatory to include participation involving aggregated loads in these requirements. However, **the regulatory authority has not yet specified any technical requirements**, either.

Quality of the implementation

Apart from the implementation deficits outlined above (insufficient regulatory framework, lack of specification of technical requirements), there are no other significant concerns regarding the quality of the implementation.

3.4.2.4 Article 19 DIR (smart metering systems)

Implementation status

Germany has implemented all provisions of Article 19 of the DIR. **Implementation can therefore be considered complete.** Although there were some minor changes, all provisions were already in force before the DIR, so **no implementation was required.**

As far as can be seen, there is no legal basis in Germany for a recommendation to optimize the use of electricity through the provision of energy management services or the development of innovative pricing formulas (Article 19 (1) DIR). However, there are several legal acts that promote energy efficiency, the most important of which is the Energy Efficiency Act (EnEfG). For example, § 8 EnEfG requires companies with an annual energy consumption of more than 7.5 gigawatt-hours to establish an energy or environmental management system, and the Directive on the Federal Promotion of Energy and Resource Efficiency in the Economy (Richtlinie der Bundesförderung für Energie- und Ressourceneffizienz in der Wirtschaft - EEW) subsidizes energy management software and other energy efficiency measures.

The introduction of smart metering systems (Article 19 (1) DIR) is governed by the Measuring Point Operation Act (Messstellenbetriebsgesetz – MsbG). According to § 29 MsbG, the metering point operator is obliged to install smart metering systems at 95% of metering points by 2032, with binding targets starting from 2028 resp. 2025. § 21 MsbG defines the technical requirements for smart metering systems. According to this, smart metering systems must be equipped with a smart meter gateway that is open to further applications and services such as energy management systems and smart grids. In order to ensure compliance with EU data protection regulations, § 19 MsbG requires the certification of metering systems. In addition to the general provisions of §§ 19, 21 MsbG, more specific data protection regulations are contained in §§ 49 ff. MsbG. According to these, personal data must be anonymized or pseudonymized. As far as can be seen, none of these provisions contradict the EU data protection rules.

Moreover, the technical requirements for smart metering systems set out in § 21 MsbG ensure that these systems assist the active participation of customers in the electricity market (Article 19 (2) DIR). According to this, smart metering systems must, inter alia, be able to retrieve the current electricity feed-in as well as the current network status data. This enables customers to react to demand and, for example, market their flexible consumption.

The technical requirements set out in § 21 MsbG are in line with the functionalities set out in Article 20 DIR (as required by Article 19 (3) DIR). In particular, smart metering systems must accurately measure the actual electricity consumption, provide customers with information on the actual time of use, and provide validated historical consumption data at no additional cost. Moreover, smart metering systems must be interoperable according to § 22 MsbG. The technical requirements for interoperability are specified in a guideline of the Federal Office for Information Security (Bundesamt für Sicherheit in der Informationstechnik – BSI).⁷⁵

According to § 7 (2) MsbG, the system point operators have to charge final customers for the costs of deploying smart metering systems up to a certain price limit defined in § 30 MsbG (Article 19 (4) DIR). The Federal Ministry for Economics and Climate Protection (Bundesministerium für Wirtschaft und Klimaschutz – BMWK) publishes a monitoring report every four years according to § 48 (1) MsbG.

Quality of the implementation

Even though the legal framework in Germany appears to be in line with Article 19 of the DIR, **the deployment of smart metering systems is not progressing**. At the end of 2022, less than 1 % of German households were equipped with a smart metering system.⁷⁶ This may change in the future due to the binding targets set out in § 45 MsbG. However, the legal obligation to install smart meters does not start until 2025 at the earliest, while in other cases there is no obligation to install them until 2028. In most cases, consumers are not yet in a

⁷⁵ BSI TR-03109 „Technische Vorgaben für intelligente Messsysteme und deren sicherer Betrieb“, 22.9.2021.

⁷⁶ ACER - CEER Energy Retail and Consumer Protection 2023 Market Monitoring Report, p. 94.

position to adjust their consumption to the electricity prices, which means that potential savings are lost.

3.4.2.5 Article 32 (1) and (3) DIR (incentives for the use of flexibility in distribution networks)

Art. 32 (1)

Implementation status

Germany has **not yet fully implemented** the provisions of Article 32 (1) DIR.

The regulatory framework in Germany generally allows distribution system operators to procure flexibility services. This was already the case before the DIR entered into force. Beyond this, Germany adopted further provisions to implement the EU legislation with a **delay of 8 to 24 months**.

To fully implement Art. 32 (1) DIR and create further incentives, Germany has enacted § 14c EnWG. The provision regulates the type and nature of flexibility services. Thereafter, flexibility services must be procured in transparent, non-discriminatory, and market-based procedures, just as stipulated in Art. 32 (1) DIR. § 14c EnWG entered into force on 27.7.2021 (delay of 8 months). In accordance with § 118 (28) EnWG, **it is suspended until the German Federal Network Agency (Bundesnetzagentur – BNetzA) has defined or approved certain specifications**. Since this has not yet happened, § 14c EnWG has not yet had any legal effect. Implementation can therefore not be considered complete.⁷⁷

In addition to the main provision in § 14c EnWG, there are several further provisions on flexibility services. For example, § 13a EnWG allows grid operators to switch off the generation of remote-controlled power plants with a capacity of over 100 kw in the event of a congestion. Moreover, § 14a EnWG regulates simplified grid access for flexible loads at the low-voltage level and thus creates a framework for greater supply of flexibility services. § 13a EnWG entered into force on 1.10.2021 (delay of 10 months), § 14a EnWG on 1.1.2023 (delay of 2 years). Thus, the implementation did not take place on time.

Quality of the implementation

Apart from the implementation deficits outlined above (lack of definition of certain specifications, lack of incentives), there are no significant concerns regarding the quality of the implementation.

Art. 32 (3)

Implementation status

Germany has implemented all provisions of Article 32 (3) DIR. **Implementation can therefore be considered complete**. However, the provisions were **not implemented on time** (delay of 8 months).

The development of the distribution system in Germany is based on a “network expansion plan” (Netzausbauplan) in accordance with § 14d EnWG. This plan must be submitted by the distribution system operators to the regulatory authority for the first time by 30.4.2024 and every two years thereafter. In particular, the network expansion plan must include the planned optimization, reinforcement, renewal, and expansion measures as well as necessary energy efficiency and demand management measures over the next five and ten years and present them in a transparent manner. The distribution system operators must publish the network expansion plan in accordance with § 14e (4) No. 2 EnWG four weeks after completion.

⁷⁷ BeckOK EnWG/Assmann, 8. Ed. 1.9.2023, EnWG § 14c Rn. 28, 29.

§§ 14d and 14e EnWG both entered into force on 27.7.2021. Thus, the implementation did not take place on time.

Quality of the implementation

There are no significant concerns regarding the quality of implementation. The fact that Germany uses the term "network expansion plan" instead of "network development plan" does not lead to any differences in content. It can be concluded that the different wording only underlines the difference between distribution network and transmission network.

3.4.2.6 Article 22 (1) REG (design principles for capacity mechanisms)

Implementation status

In Germany, there are essentially two capacity mechanisms – the “capacity reserve” (Kapazitätsreserve) and the “grid reserve” (Netzreserve). Both mechanisms **largely, but not fully comply with the design principles set out in Art. 22 (1) lit. a-i REG.**

(a) The capacity reserve is procured for a period of 2 years according to § 8 (1) of the Capacity Reserve Regulation (Kapazitätsreserveverordnung – KapResV). The grid reserve, according to § 5 (1) of the Grid Reserve Regulation (Netzreserveverordnung – NetzResV), is also limited to a contract duration of 24 months, with deviations possible in exceptional cases.

(b) The impact of these mechanisms on competition and trade cannot be conclusively assessed here. Both capacity mechanisms are open to plant operators outside Germany, ensuring that cross-zonal trade is not limited. The largely adhered-to design principles suggest that market distortions are limited. Furthermore, both mechanisms are subject to a marketing prohibition (§ 7 NetzResV, § 3 (2) KapResV), meaning that producers participating in the capacity mechanism cannot simultaneously market their electricity. This should ensure that these plants are not advantaged and do not compete with regular electricity producers.

(c) Both mechanisms may only be applied if a need has been identified. The capacity reserve is explicitly limited to the identified need according to § 7 KapResV. The grid reserve is not explicitly limited as per § 4 NetzResV. However, this should not pose a problem, as such limitation can be achieved through a European law-compliant interpretation of the norm.

(d) For the capacity reserve, § 13e (2) EnWG and § 6 KapResV explicitly stipulates that capacity providers be selected through a transparent, non-discriminatory, and competitive process. The details of this process are further specified in §§ 13 ff. KapResV. The procurement procedure for the grid reserve is regulated less detailed. § 4 NetzResV merely stipulates that the respective need is first published by the transmission system operators, and producers can then express their interest. Subsequently, selection is primarily based on technical suitability and, in case of equal suitability, on price.

(e) **Neither the capacity reserve nor the grid reserve provide incentives for capacity providers to be available in times of expected system stress** besides the penalties set out in § 34 KapResV (see below). For the capacity reserve, § 27 (1) KapResV stipulates that it must be constantly available, without, however, containing corresponding incentives. For the grid reserve, there is no such regulation at all.

(f) In both mechanisms, remuneration is generally determined competitively, **albeit with restrictions**. For the capacity reserve, remuneration is determined directly through the competitive tendering process according to § 19 KapResV. However, according to § 12 KapResV, a certain maximum value must not be exceeded. For the grid reserve, remuneration is negotiated according to § 4 NetzResV. However, the costs for providing the capacity are reimbursed in any case as per § 6 NetzResV.

(g) In both mechanisms, the technical conditions for participation are communicated in advance. For the capacity reserve, this follows from § 9 KapResV, and for the grid reserve from § 4 NetzResV.

(h) Both mechanisms are open to all resources without restriction.

(i) For the capacity reserve, § 34 KapResV provides for contractual penalties in case the plant is not available as planned. The amount of the penalty depends on the time at which the plant is unavailable. It amounts to a maximum of 20 percent of the remuneration agreed for the entire provision period. **For the grid reserve, a corresponding regulation does not exist. Sanctions are not provided for**, as far as can be seen.

Quality of the implementation

Apart from the deficits outlined above (lack of incentives for capacity providers to be available in times of system stress, restrictions of the competitive bidding process, lack of sanctions in some cases), there are no other significant concerns regarding the quality of the national rules.

3.4.2.7 Articles 16 RED, 4 and 5 ACC (organisation and duration of the permit-granting process)

There are several different permit-granting processes in Germany, depending on the type and size of the power plant. While most of these are regulated at the state level, some are regulated at the regional level. Therefore, this report can only provide an overview of the most important regulations. These can be found in the following legislation:

3. The Federal Immission Control Act (BImSchG), which applies to most power plants above a certain size (e.g. wind turbines with a height of 50 m and above),
4. The Water Resources Act (Wasserhaushaltsgesetz – WHG), which applies to power plants with a connection to water such as hydroelectric or geothermal power plants,
5. The Federal Mining Act (Bundesberggesetz – BergG), which applies to certain geothermal power plants,
6. The Building Codes of the regions, which apply to smaller power plants.

Implementation status

Germany has implemented most of the provisions of Art. 16 RED with a **delay of 14 months**. However, **implementation is not yet complete**.

Germany has set up contact points (Art. 16 (1) RED) for most permitting procedures according to § 10 (5a) Nr. 1 BImSchG, § 11a (2) WHG and § 57a (2) BBergG. Each of these provisions refers to §§ 71 ff. of the Administrative Procedure Act (Verwaltungsverfahrensgesetz – VwVfG) which generally regulate the working procedures of contact points. According to these provisions, contact points shall assist the applicant coordinating permit-granting processes and provide information upon request (Art. 16 (2) RED). According to § 71e VwVfG, applicants may communicate with the contact points in digital form (Art. 16 (2) RED). The contact points are obliged to make available a manual of procedures according to § 10a (5a) Nr. 2 BImSchG, § 11a (3) WHG and § 57a (3) BBergG. All of the described provisions concerning contact points entered into force on 18.8.2021. Thus, the implementation did not take place in time.

Germany has implemented the maximum time limits set out in Art. 16 (4) and (5) RED for most of the permitting procedures. Within the scope of the BImSchG, a maximum duration of

seven months already applied before the RED entered into force according to § 10 (6a) BImSchG. According to § 11a (5) WHG and § 57a (5) BBergG the permit-granting process within their scope shall not exceed one year resp. two years. The latter provisions entered into force on 18.8.2021. Thus, the implementation did not take place in time.

As far as can be seen, there is **no specific procedure for the settlement of disputes** concerning the permit-granting process in Germany (Ar. 16 (5) RED).

According to § 16b BImSchG, a simplified permit-granting process applies to repowering projects within the scope of the BImSchG (Art. 16 (6) RED). However, **the WHG and BBergG do not contain corresponding provisions**.

In some cases, where smaller power plants do not require a permit under the BImSchG, the WHG or the BBergG, the permit-granting process is governed by the Building Codes of the regions. These cannot be fully reviewed in this report. At first glance, however, it appears that only Bavaria has implemented (at least most of) the provisions of Art. 16 RED in § 65 of the Bavarian Building Code (Bayrische Bauordnung – BayBO).

While regulations are directly applicable, no implementation of the ACC at the national level is required. In the case of Germany, there are **no provisions that contradict Art. 4 and 5 ACC**.

With the Act amending the Spatial Planning Act and other regulations (Gesetz zur Änderung des Raumordnungsgesetzes und anderer Vorschriften) of 3.3.2023, Germany adopted various amendments to the law to ensure the application of the ACC. They mainly relate to the exemptions from the obligation to carry out an environmental impact assessment permitted under Article 6 ACC. This is also expected to shorten the duration of the procedure within the scope of Article 5 ACC. However, there are no provisions on the implementation or specification of Articles 4 and 5 ACC. How consistently Articles 4 and 5 ACC are applied in practice cannot be investigated within the scope of this project.

Quality of the implementation

Apart from the implementation deficits outlined above (lack of a procedure for the settlement of disputes, lack of simplified permit-granting processes in some cases), there are also concerns about the quality of the implementation of Art. 16 (4) and (5) RED (maximum durations for permit-granting processes). Even if in most cases there is a legally binding maximum duration, there are no legal consequences for exceeding it. It is therefore unclear how Germany ensures that the maximum duration is not exceeded. This is expected to delay the expansion of renewable energy installations.

Moreover, § 11a (5) WHG allows to extend the permit-granting process within the scope of the WHG by up to 24 months if the review of requirements under EU environmental legislation is associated with an increased expenditure of time. This is generally permissible in accordance with Article 16 (7) of the RED. However, it is unclear in which cases the review of requirements under EU law is so time-consuming that an extension of the duration of the procedure is justified.

3.4.2.8 Article 17 RED (simple-notification procedure for grid connections)

Implementation status

Germany has implemented all provisions of Article 17 RED **on time. Implementation can be considered complete**.

The grid connection of renewable energy systems in Germany is regulated in § 8 Renewable Energy Act (Erneuerbare-Energien-Gesetz – EEG). According to this, producers have a claim

against the distribution system operator for immediate connection to the grid. According to § 8 (3) EEG, the distribution system operator may propose a different grid connection point but must bear the additional costs resulting from this. In principle, he cannot refuse the connection. If the grid capacity is not sufficient for the connection of the system, the distribution system operator is obliged to optimize, reinforce, or expand the grid according to §§ 8 (4), 12 EEG. However, it is a general principle of German law that claims can be rejected if they are impossible to enforce (§ 275 BGB).

According to § 8 (5) EEG, the grid operator must submit a time schedule for the grid connection immediately upon receipt of the producer's application. If this is not done within one month, systems with an installed capacity of up to 10.8 kW can be connected to the grid without further intermediate steps according to § 8 (5) EEG if the legal requirements are met. This includes § 12 (2) EEG, according to which the technical requirements must be met.

In addition, according to § 8 (7) EEG, special rules will apply from 1.1.2025 for systems with an installed capacity of up to 30 kW to further accelerate the grid connection process. In particular, grid operators must provide a web portal through which connection applications can be submitted.

§ Section 8 (5) of the EEG came into force on January 1, 2021. Thus, the implementation took place on time. The more extensive provisions of § 8 (7) EEG, applying from 1.1.2025, refer to the non-mandatory provision of Art. 17 (2).

Quality of the implementation

There are no significant concerns regarding the quality of the implementation.

3.4.2.9 Article 21 RED (renewable self-consumers)

Implementation Status

Most provisions of Article 21 of the RED were already incorporated in German law before the RED entered into force. However, **implementation cannot be considered complete**. As far as can be seen, no further action was taken to implement the EU legislation so far.

The right to become a renewables self-consumer (Article 21 (1) RED) is not explicitly regulated in Germany. However, there are no legal restrictions on end customers installing their own systems and consuming or storing the electricity they generate. There are no fees or charges for electricity from renewable sources that remains on their premises. Self-generated electricity can be regularly sold on the market according to § 21a EEG. Therefore, the implementation of a specific entitlement is not required.

Self-consumers are not subject to discriminatory or disproportionate procedures or charges (Article 21 (2) lit. a RED). They are subject to the same procedures as any producer of renewable energy. For example, they must equip their systems with technical devices that allow the actual feed-in to be retrieved at any time according to § 10b (1) EEG. In addition, self-consumers are subject to the same charges as any other producer. The calculation of network charges is based on the Electricity Network Charge Regulation (Stromnetzentgeltverordnung – StromNEV), according to which the charge depends on the amount of electricity fed into the grid. This ensures that the network charge is proportionate and cost-reflective. Further charges do not apply.

There are no legal restrictions on the installation and operation of electricity storage systems (Article 21 (2) lit. b RED). Self-consumers do not lose their rights and obligations as final customers (Article 21 (2) lit c RED).

According to §§ 19, 21 EEG, renewable self-consumers are in most cases entitled to receive a fixed remuneration for the electricity that they feed into the grid (Article 21 (2) lit. d RED). This remuneration corresponds at least to the market value.

Renewable energy self-consumers are not subject to any fees or charges besides the regular network charge (Article 21 (3) RED).

Although it is not forbidden to engage jointly in self-consuming (Article 21 (4) RED), there are some regulatory barriers. This is because only one legal entity can operate a power system and only one electricity meter can be used. Customers located in the same building can, for example, jointly install a solar system on the roof of the building. However, they must act as a single legal entity towards the network operator. In most cases, this requires the formation of an association, which can create problems when one of the residents moves out. The fact that there is only one electricity meter can cause additional administrative burdens in sharing cost and revenues. According to § 21 (3) EEG, there is a special support scheme for solar systems on multi-apartment buildings, the “tenant electricity surcharge” (Mieterstromzuschlag). However, this does not apply to jointly operated solar systems, but only to those operated by a single party (which may be the building owner or a third party) that delivers the electricity directly to the building's tenants. Overall, the implementation of Article 21 (4) RED cannot be considered complete.

Since there are no special regulations for self-consumers in Germany, there are no restrictions on the division of ownership and operation of an electricity system (Article 21 (5) RED).

The regulatory framework in Germany generally allows for the facilitation and development of renewable self-consumption. However, **it does not contain all the elements listed in Article 21 (6) of the RED**. For example, there is no specific support for low-income households beyond the usual support schemes (lit. a). The lack of regulation of joint self-consuming can be considered an unjustified regulatory barrier (lit. c).

Quality of the implementation

Apart from the implementation deficits outlined above (regulatory barriers on joint self-consumption, deficits of the regulatory framework), there do not appear to be significant regulatory barriers to renewables self-consumption in Germany.

3.4.3 Summary

Art. 11 DIR has been transposed completely into German law, but not in time (delay of 8 months). No quality deficits could be found.

Art. 15 DIR has been incorporated largely, but not completely, in German law even before the DIR entered into force. There is a need for further transposition regarding energy storage, where double charging is possible in some cases. Apart from this, no quality deficits could be found.

Art. 17 DIR has been transposed largely, but not completely into German law. The regulatory framework does not contain all the elements required by Art. 17 (3) DIR. Transposition did not take place on time (delay of 8 months). No quality deficits could be found.

Art. 19 DIR has been incorporated completely into German law even before the DIR entered into force, so no transposition was needed. Even if no quality deficits of the regulatory framework could be found, the deployment of smart metering systems is not progressing.

Art. 32 (1) DIR has not been fully implemented into German law. The national provision requires that the federal regulatory authority defines further specifications which has not yet

happened. The implemented parts have been delayed by 8-24 months. Art. 32 (3) DIR has been transposed completely into German law, but not in time (delay of 8 months). No quality deficits could be found.

Art. 22 (1) REG does not require any transposition into German law. The existing capacity mechanisms do largely, but not fully comply with the design principles set out in Art. 22 (1) REG. There are no incentives for capacity providers to be available in times of expected system stress. Sanctions are not provided for all existing capacity mechanisms. No quality deficits could be found.

Art. 16 RED has been transposed largely, but not completely into German law. There are many different permit-granting processes depending on type and size of the power plant. Art. 16 RED has been transposed for most, but not all of them. Transposition did not take place on time (delay of 14 months). Regarding the quality of the implementation, it should be noted that there are no legal consequences for exceeding the legally binding maximum duration for permit-granting processes. Moreover, the conditions for an extension are unclear in some cases.

Art. 4 and 5 ACC do not require any transposition into German law. There are no provisions that contradict Art. 4 and 5 ACC. How consistently Articles 4 and 5 ACC are applied in practice cannot be investigated within the scope of this project.

Art. 17 RED has been transposed completely into German law on time. No quality deficits could be found.

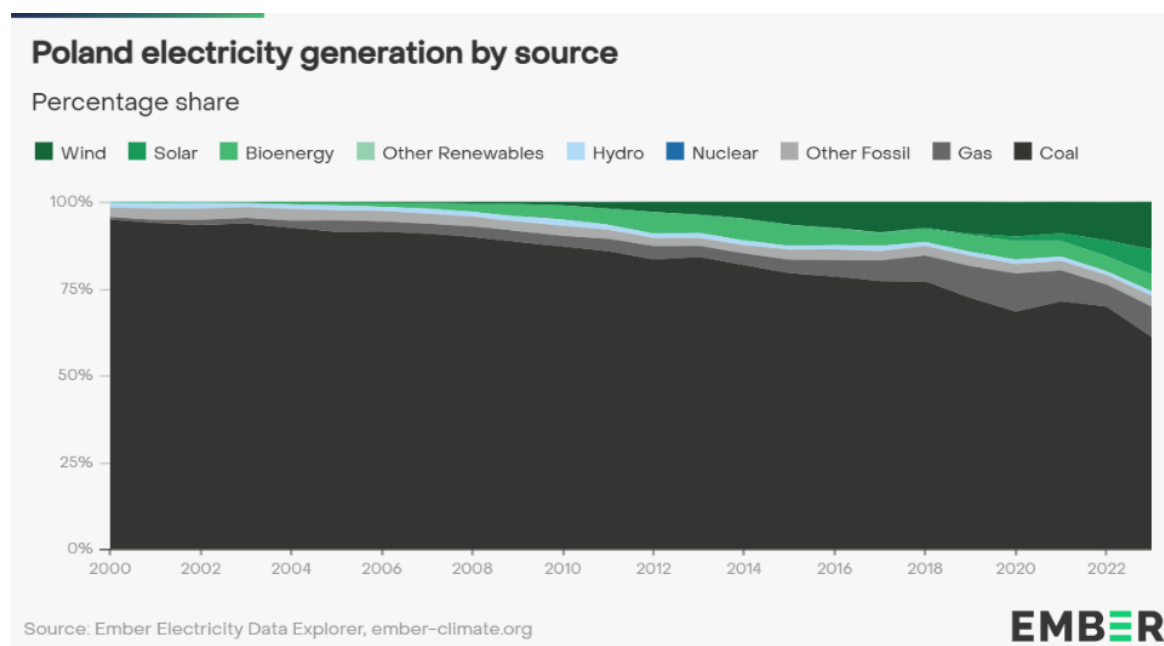
Art. 21 RED has been incorporated largely, but not completely, in German law even before the DIR entered into force. There are regulatory barriers to engage jointly in self-consuming. Apart from this, no quality deficits could be found.

3.5 Country fiche Poland

3.5.1 Introduction

Polish electricity generation, due to historical reasons is mostly relying on coal. Up until European Union membership in 2004 almost all of its power and heat production came from coal. Nowadays, the situation is significantly improving. According to Ember, in 2018, renewable energy sources (wind, solar, bioenergy and other renewables) generated 19,65 TWh, accounting for 11,6% of the total produced. This share is increasing. According to the latest data, in 2023 Polish power plants produced 43,43 TWh energy coming from renewable energy sources, constituting 25,74%⁷⁸.

Figure 7: Poland electricity generation by source, percentage share



Source: Ember Electricity Data Explorer, 2024

⁷⁸ Electricity Data Explorer | Open Source Global Electricity Data | Ember (ember-climate.org).

Polish ambitions are also on the rise. On March 5th, the European Commission published the updated National Energy and Climate Plan submitted by the Polish government. According to it, Poland declares to achieve by 2030 a 29.8% share of renewable energy sources in gross final energy consumption, which is 7-9 percentage points higher than in the currently applicable NECP⁷⁹. Simultaneously, the target for the share of renewable energy sources in electricity production is set at 50.1%, in heating at 32.1%, and in transport at 17.7%. It's also worth noting that recent legal changes in Poland toward green transformation have been initiated. These changes are mainly reflected in two legislative acts – the Act of July 28, 2023, amending the Energy Law and some other laws⁸⁰, and the Act of August 17, 2023, amending the Renewable Energy Sources Act and some other laws⁸¹. Nevertheless, there is still much work ahead for Poland, as evident in the following analysis.

3.5.2 Implementation

3.5.2.1 Article 11 DIR (entitlement to a dynamic electricity price contract)

Implementation status

Poland has implemented all provisions of Article 11 of the DIR completely but with a delay of 43 months. The dynamic electricity price contract was introduced into Polish law by the Act of July 28, 2023, amending the Energy Law and certain other acts⁸². While most of the provisions in this amendment are already in force since September 7, 2023, those specific to dynamic tariffs will come into effect on August 24, 2024 resulting in a delay of 43 months.

However, it is worth adding that currently in Poland, in some cases, it is already possible to take advantage of dynamic electricity price contracts. There are no legal obstacles for such a solution to be in effect, and offers, especially for large energy consumers, are available⁸³.

Article 11 (1) DIR

Poland has implemented Article 11(1) of the DIR in Article 5 § 4f and § 4g of the Energy Law (Prawo Energetyczne). According to these, electricity suppliers with more than 200,000 final customers are obligated to offer dynamic electricity tariff contracts to final customers if they have a smart metering system.

Article 11 (2) DIR

Article 11 (2) has been transposed through Article 5, § 6h and as well as Article 23, § 2, Point 18b lit. c. According to these provisions the electricity supplier informs consumers in a transparent and comprehensible manner about the costs, benefits, and risks associated with a dynamic electricity price contract, while the monitoring of these contracts is overseen by the President of the Energy Regulatory Office.

Article 11 (3) DIR

According to Article 5, § 4h, a condition that must be met before entering into a dynamic electricity price contract is obtaining consent from the consumer by the supplier, which is a reflection of Article 11 (3) of the DIR.

Article 11 (4) DIR

⁷⁹ https://commission.europa.eu/publications/poland-draft-updated-necp-2021-2030_en.

⁸⁰ <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20230001681>.

⁸¹ <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20230001762>.

⁸² <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20230001681>.

⁸³ <https://www.ure.gov.pl/pl/urzed/informacje-ogolne/edukacja-i-komunikacja/ure-w-mediach-1/11390,Gawin-Taryfa-dynamiczna-pozwoli-lepiej-wykorzystywac-spadki-cen-energii.html>.

In Article 11 (4) of the DIR, it is stated that Member States or their regulatory authorities shall monitor and publish an annual report for at least a ten-year period after dynamic electricity price contracts become available. In Article 33 of the Energy Law, which transposes this provision, it is mentioned that the President of the Energy Regulatory Office shall publish the first monitoring report of dynamic electricity price contracts by May 30, 2025. There is no information available regarding the duration for which the Energy Regulatory Office will continue to publish such a report.

Table 6 in the Annex⁸⁴ provides a comparison of the provisions of Article 11 DIR and provisions from Polish law.

Quality of the implementation

The provisions of Article 11 DIR have been implemented completely but with a delay of 43 months. The provisions were implemented in July 2023 and will come into effect in August 2024. In the context of formal implementation deficits, there is no information on how long the President of the Energy Regulatory Office will continue to publish the report (Article 11 (4)), but it does not seem to be a major concern. More significant aspect is that the implementation of dynamic electricity price contracts depends on the progress in the widespread deployment of smart meters (planned for a timeframe until 2028) and the establishment of the Central Information System for the Energy Market (CSIRE - Centralny System Informacji Rynku Energii)⁸⁵. This system will serve as a repository for all technical and commercial data necessary for the operation of the retail electricity market. Therefore, **it will be crucial for the widespread adoption of these contracts by consumers. Unfortunately, the implementation of this system has already been delayed once**, moving from July 1, 2024, to July 1, 2025⁸⁶. It is worth adding that dynamic tariffs will be mandatory for all prosumers using the new net-billing settlement system.

It is worth to mention the practical consequences of the late implementation of Article 11 of the DIR. Without dynamic prices, it is difficult to optimize the use of electricity and empower customers. Consumers are not able to reduce their electricity bills by managing and adjusting their consumption in response to price signals, for example, by shifting their load to avoid consumption during peak price hours. Because of the delay, the Polish electricity system does not benefit from demand response triggered by high prices yet, thus it does not reduce the need for additional investment in generation and networks.

3.5.2.2 Article 15 DIR (active consumers)

Implementation status

Poland has implemented the provisions of Article 15 of the DIR completely but with a delay of 32 months for active customers and with a delay of 6 months for energy storage. The concept of 'active customers' was introduced into Polish law by the Act of July 28, 2023, amending the Energy Law and certain other acts⁸⁷. This act came into effect in September 2023, which means **a delay of 32 months**. The provisions related to the energy storage system

⁸⁴ The annexes to the country fiches of Bulgaria, Poland and Spain are contained in Sina, Stephan, Deyana Kocher, Maria Niewiata-Rej, Madeleine Pumberger, Ramiro de la Vega (2024): Analysis of the implementation of EU provisions for the clean energy transition in selected Member States. Annexes to the country fiches for Bulgaria, Poland and Spain. Ecologic Institute, Berlin.

⁸⁵ <https://www.teraz-srodowisko.pl/aktualnosci/Projekt-ustawa-taryfy-dynamiczne-inteligentne-liczniki-korzystacy-13342.html>

⁸⁶ <https://www.wnp.pl/energetyka/wazny-energetyczny-projekt-lapie-poslizg,712902.html>

⁸⁷ <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20230001681>

were implemented by the Act of May 20, 2021, amending the Energy Law and certain other acts⁸⁸. This act came into effect in July 2021, which means **a delay of 6 months**.

Article 15 (1) DIR

Poland has implemented Article 15 (1) of the DIR in a new Chapter 2f - Active Customer, Article 11zr. According to the provision, an active customer cannot be burdened with discriminatory technical requirements, procedures, and additional fees, including network fees that do not accurately reflect the costs associated with network access.

Article 15 (2) DIR

The transposition of Article 15 (2) was achieved through various articles: Article 11zp for lit. (a), 11zq for lit. (d), 11zr for lit. (e), and Article 3, § 13e for lit. (b) and (c). Additionally, some provisions were partially implemented through the Act of May 20, 2021, amending the Energy Law and several other acts, specifically within the section dealing with the principles of the measurement system's operation – involving meters and remote reading systems (Chapter 2c - Principles of the Measurement System Operation). Furthermore, the Act of October 29, 2021, amending the Renewable Energy Sources Act and several other acts⁸⁹, introduced a new system for settling prosumers. These provisions pertain to the requirements for 'accounting separately for the electricity fed into the grid and the electricity consumed from the grid'.

No provision directly linked to lit. (f) of Article 15 (2) of the DIR could be found. However, it is worth adding that the imbalance periods have been factored into the formula for calculating the price of the energy at which consumers sell the energy they feed into the grid (Article 4b and 4c, which were introduced in the aforementioned Act of October 29, 2021, amending the Renewable Energy Sources Act and certain other acts).

Article 15 (3) DIR

No direct transposition of Article 15 (3) of the DIR into Polish law could be found. Poland has decided to take advantage of the opportunity to not implement the provisions outlined in Article 15 (3).

Article 15 (4) DIR

According to Article 15 (4) of the DIR, Member States that have existing schemes that do not account separately for the electricity fed into the grid and the electricity consumed from the grid, shall not grant new rights under such schemes after 31 December 2023.

Poland has already implemented a new billing system – net-billing, which was introduced by the Act of October 29, 2021, amending the Renewable Energy Sources Act and certain other acts. Thus, the deadline mentioned in the Directive has been maintained. Customers have the option to switch to a new scheme at any time, but currently, it is a less favorable option for them. If they choose to do so, it is only to take advantage of financing programs, such as heat pump incentives, which require using the new billing system for photovoltaics. The financing program for this is for example "Mój Prąd" (My electricity).

Article 15 (5) DIR

The provisions from Article 15 (5) have been incorporated into the Energy Law through the Act of May 20, 2021, amending the Energy Law and certain other laws. This amendment aimed to transpose, among others, the DIR. This amendment of the Energy Law opened the possibility of using energy storage in various areas of the power system, effectively regulated the concessioning issue, and completely exempted the storage of electrical energy from tariff obligations.

⁸⁸ <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20210001093>

⁸⁹ <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20210002376>.

Additionally, the double charging of network and distribution fees for energy imported and exported from storage (in relation to Article 15(5), lit. b)) has also been eliminated. The conditions for connecting energy storage systems have been regulated. The deadline for issuing connection terms for networks with a nominal voltage not exceeding 1 kV has been set at 30 days. For storage systems connected to networks with a nominal voltage higher than 1 kV, this deadline is 150 days (in accordance with the Article 15 (5), point a) of the DIR, which has been incorporated into Article 7, paragraph 8g Polish Energy Law).

The connection fee for electrical energy storage will be equal to half of the actual costs incurred for the connection in accordance with Article 15 (5), lit. c) of the DIR, which has been incorporated into Article 7, paragraph 8, point 6 in Polish Energy Law. Energy storage systems with a total installed capacity not exceeding 10 MW do not require a concession. However, if their installed capacity exceeds 50 kW, they are obligated to be registered in a registry maintained by the Transmission System Operator or the relevant Distribution System Operator for the respective area (in accordance with Article 15(5), lit. c) of the DIR, which has been incorporated in this regard into Article 43g, § 3 of the Polish Energy Law). A prosumer owning an electrical energy storage system is required to inform the appropriate Distribution System Operator about this fact, specifying the type of energy storage used in the renewable energy micro-installation. In this regard, the 'discriminatory provisions' were abolished in the Act of December 15, 2022, concerning the special protection of certain natural gas consumers in 2023, due to the gas market situation⁹⁰, which introduced changes in the Energy Law. After the regulations changed, the capacity of the energy storage and the capacity of the micro-installation no longer sum up if the capacity of the energy storage is lower than the capacity of micro-installation. This provision limits the possibility of simultaneous input of energy into the grid from a photovoltaic installation and an energy storage and does not encourage prosumers to do so.

The fact that active customers who own an energy storage facility are allowed to provide multiple services simultaneously (Article 15 (5) point (d) of the DIR) is evident in the Act of July 28, 2023, amending the Energy Law and some other laws, which introduced the definition of an active consumer (Article 3, § 13e of the Energy Law).

Table 7 in the Annex⁹¹ provides a comparison of the provisions of Article 15 DIR and provisions from Polish law.

Quality of the implementation

Poland has implemented the provisions of Article 15 of the DIR completely but with a delay. The concept of 'active customers' was introduced into Polish law in July 2023 and came into effect in September 2023. **This is a delay of 32 months.** The provisions related to the energy storage system were implemented in May 2021 and came into effect in July 2021. **This is a delay of 6 months.**

The regulations concerning active customers have only recently been incorporated into Polish law, making it challenging to assess the quality of the implementation of Art. 15 DIR. **The success of this solution largely depends on the actions taken by distribution system operators.**

Although the regulations that facilitate the implementation of energy storage systems were introduced nearly two years before the other provisions related to active consumers, it is not evident that energy storage systems have significantly gained popularity in Poland. Despite substantial subsidies, consumers more frequently opt for standalone solar installations instead

⁹⁰ <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20220002687>.

⁹¹ See footnote 84.

of installations with energy storage systems due to the high installation costs. According to PIME (Polska Izba Magazynowania Energii) estimates, currently, there are approximately 11,000 on-site storage units operating in Poland, with a total capacity exceeding 100 MW and a storage capacity of over 130 MWh⁹². For comparison, in Poland there are almost 1.4 million photovoltaic installations⁹³.

Due to the delay, active consumers will contribute later to the development of the energy supply system into a decentralised and flexible system.

3.5.2.3 Article 17 DIR (demand response through aggregation)

Poland has implemented Article 17 of the DIR completely but with a delay of 32 months. The article was implemented through the Act of July 28, 2023, amending the Energy Law and certain other acts. **The act is in force since September 2023.**

Article 17 (1) DIR

Article 3, § 11j of the Energy Law states that a demand response is a change in the electricity consumption of an end consumer compared to their usual or current electricity consumption in response to market signals, including changes in electricity prices over time or financial incentives, or as a result of accepting an offer by the consumer, submitted individually **or as part of aggregation**. This corresponds to Article 17 (1) of the DIR.

Article 17 (2) DIR

In Article 9g of the Energy Law, there are provisions stating that services must be procured based on transparent and non-discriminatory market procedures according to Article 17 (2) DIR.

Article 17 (3) DIR

According to Article 5b³ of the Energy Law, which refers to Article 17 (3) lit. a) of the DIR, entities intending to engage in aggregation, including aggregators, have the right to enter the electricity markets and participate in these markets without the consent of other market participants. A reference to lit. b-e can be found in Article 9, paragraphs 3-4 of the Energy Law. According to these Polish provisions, the Minister responsible for energy is mandated to define detailed conditions for the operation of the power system through an executive regulation. Article 5a¹ also mentions non-discriminatory rules, while Article 5b² addresses the exchange of information between energy companies.

In accordance with paragraph 19, point 2 of the regulation dated March 22, 2023, regarding the specific conditions for the functioning of the power system in the agreement or agreements for the provision of electricity transmission or distribution services, the system user, in relation to each of their resources connected to the network or the entity authorized by them:

- specifies the entity responsible for balancing;
- may indicate the provider of balancing services.

This provision can be linked to Article 17 (3) lit. d. It is also worth adding that the process of settling imbalances encompasses all users of the national power system, regardless of whether they provide balancing services or not. This is based on the provisions of Article 54, paragraph 1, and Article 55, paragraph 1, of Regulation 2017/2195. In Poland, settlements for imbalances are conducted by the Transmission System Operator (Regulation of the Minister of Climate and

⁹² <https://www.gov.pl/web/klimat/moc-zaintstalowana-w-magazynach-energii>.

⁹³ <https://www.ure.gov.pl/badania-statystyczne/wynikowe-informacje-statystyczne/publikacje-miesieczne#informacja-statystyczna-o-energii-elektrycznej>.

Environment dated March 22, 2023, on detailed conditions for the operation of the power system, Chapter 5, § 23).

A conflict resolution mechanism between market participants engaged in aggregation and other market participants, including responsibility for imbalances according to Article 17 (3) lit. f) DIR, can be found in Article 31a of the Energy Law under the responsibilities of the Negotiation Coordinator.

Article 17 (4) DIR

No direct reference to Article 17 (4) of the DIR in Polish energy law could be found. Poland has decided to take advantage of the opportunity to not implement this provision.

A reference Article 17 (5) of the DIR can be found in Article 9g of the Energy Law in § 4, point 2c. It pertains to the technical requirements for participation in demand response, including by aggregators, which are developed based on the technical characteristics of all electricity markets and the ability of end consumers to act as demand response providers. According to Article 9g, § 6a of the Energy Law, the electrical power system operator defines technical requirements for participation in demand response and participation through aggregation in electricity trading, the balancing market, and the provision of system services. These requirements are developed based on the technical characteristics of the relevant processes and the technical capabilities of consumers to act as demand response providers.

Table 8 in the Annex⁹⁴ provides a comparison of the provisions of Article 17 DIR and provisions from Polish law.

Quality of the implementation

Poland has implemented Article 17 of the DIR completely. The implementation was delayed until September 2023, when the Act of July 28, 2023, amending the Energy Law came into effect. **This is a delay of 32 months.** Demand response services have been available for some time. PSE S.A. (Polskie Sieci Elektroenergetyczne), the electricity transmission system operator, fulfils its obligations related to ensuring the safe operation and balancing of the national electricity system, in part, through the procurement of system services. One of these services is the Interventional Offer-Based Demand Reduction by consumers, which involves the voluntary and temporary reduction of power consumption from the electrical grid or shifting its consumption in time⁹⁵.

For the time being, it is difficult to assess the quality of the implementation in the context of Demand Response through aggregation, as these are provisions that have only recently come into effect. It has the practical consequences that due to the delay, consumers are still not able to more easily access off-site generated or stored renewable energy yet.

3.5.2.4 Article 19 DIR (smart metering systems)

Poland has implemented provisions of Article 19 of the DIR completely but with a delay of 6 months. The provisions of Article 19 about smart metering have been incorporated into the Energy Law through the Act of May 20, 2021, amending the Energy Law and certain other laws. These provisions are in force since July 2021. Apart from that, some issues that can be related to this topic (CSIRE, dynamic tariffs) have also been included in other acts, such as the recent amendment to the Energy Law.

Article 19 (1) and Article 19 (2) DIR

⁹⁴ See footnote 84.

⁹⁵ <https://www.pse.pl/uslugi-dsr/interwencyjna-redukcja-poboru>.

Starting with Article 19 (1) of the DIR, topics such as energy management services and the development of innovative pricing formulas are dealt with the Act of July 28, 2023, amending the Energy Law and certain other acts. These issues have already been discussed in previous articles of the DIR. The introduction of smart metering systems in Poland was planned earlier, in accordance with the implementation schedule outlined in Chapter 2c of the Energy Law, under Article 11t [Installation of remote reading meters]. According to the plan, by December 31, 2028, at least 80% of consumers will be using smart metering. This is also related to Article 19 (2) of the DIR.

Article 19 (3) DIR

References to Article 19 (3) of the DIR can be found in Article 11x of the Energy Law, which describes the requirements that measurement systems must meet.

Article 19 (4) DIR

References to Article 19 (4) can be found in the Energy Law in Article 11t – Installation of remote reading meters. According to this article, the operator covers the costs of purchasing the remote reading meter, its installation and activation, as well as the necessary infrastructure costs unless the installation is requested by the customer. However, it is worth emphasizing that according to the Regulation of the Minister of Climate and Environment of November 29, 2022, regarding the method of shaping and calculating tariffs and the method of settlements in the electricity market, the calculation of distribution fees by operators includes the costs of installing meters. Therefore, these costs are passed on to the customers. However, such provisions do not appear to be discriminatory.

Article 19 (5) DIR

Article 19 (5) does not apply to Poland and Article 19 (6) has been transposed into the Energy Law in Article 11t, point 14. Electrical energy system operators are obligated to adapt remote reading systems to specified requirements by July 4, 2031.

Table 9 in the Annex⁹⁶ provides a comparison of the provisions of Article 19 DIR and provisions from Polish law.

Quality of the implementation

Poland has implemented provisions of Article 19 of the DIR completely but with a delay of 6 months. The implementation was delayed until July 2021, when the Act of May 20, 2021, amending the Energy Law and certain other laws, came into effect. Although it is worth to mention, that the implementation of smart metering is related with the establishment of the Central Information System for the Energy Market (CSIRE - Centralny System Informacji Rynku Energii). Unfortunately, the implementation of this system has already been delayed once, moving from July 1, 2024, to July 1, 2025.

Poland's largest operator, PGE, planned to install smart meters for 15% of customers by the end of 2023. In the third quarter of 2023, PGE had replaced 12.6% of meters⁹⁷. This timeline aligns with the schedule outlined in the legislation. In the near future, it's also worth sticking to the schedule. Smart meters can provide close to real time feedback on energy consumption, enabling consumers to better manage their use, save energy and lower their bill, for example, by adapting their energy usage to different energy prices throughout the day. Moreover, smart meters enable consumers to actively participate in energy communities and energy sharing schemes. Delaying implementation will also postpone the advantages of utilising these benefits. Delay will also affect the development of renewable energy sources. This is because smart grids, combined with smart meters, can respond to changes in supply and demand, making

⁹⁶ See footnote 84.

⁹⁷ <https://pgedystrybucja.pl/strefa-klienta/liczniki-zdalnego-odczytu/lzo2/zainstalowane-liczniki>.

them particularly well suited to cope with fluctuations in the supply of energy from variable renewable sources.

3.5.2.5 Article 32 (1) and (3) DIR (incentives for the use of flexibility in distribution networks)

Poland has partially implemented mentioned provisions of Article 32 of the DIR but with a delay of 32 months. Poland has transposed Article 32 (3) DIR through the Act of July 28, 2023, amending the Energy Law and certain other acts which is in force since September 7, 2023. **Article 32 (1) has not been transposed into Polish law yet, although the law refers to them.**

Article 32 (1) DIR

Article 32 (1) concerning the necessary regulatory framework to allow and provide incentives to distribution system operators to procure flexibility services is reflected in the Energy Law, specifically in Article 9 - Delegated Legislation - detailed conditions for the operation of gas, electrical, and district heating systems - in paragraphs 3-4. The provisions state that the minister, taking into account the equal treatment of electrical energy system users, will specify detailed conditions for the operation of the electrical energy system in a specific regulation. The regulation should include, among other things, the scope, conditions, and methods for utilizing flexibility services by the electrical distribution system operator, the method of grouping resources used for the provision of balancing services and flexibility services, as well as the conditions for cooperation between electrical energy system operators in the utilization of flexibility services. Such regulation has not been created yet, and it is unclear when it will be established. Thus **Article 32(1) has not been transposed into Polish law yet.**

Article 32 (3) DIR

The equivalent of Article 32 (3) of the DIR in Polish law is Article 16 of the Energy Law - Development Plan of an energy company or system operator. According to § 4, the electrical distribution system operator prepares a development plan for meeting current and future electricity demand for a period of no less than 6 years and updates this plan every 2 years. The plan is meant to ensure transparency regarding the electrical distribution system operator's need for flexibility services and should encompass the utilization of demand response, energy efficiency, energy storage, or other resources that the operator considers as an alternative solution to network expansion.

Table 10 in the Annex⁹⁸ provides a comparison of the provisions of Article 32 DIR and provisions from Polish law.

Quality of the implementation

Poland has partially implemented the mentioned provisions of Article 32 of the DIR. The implementation of Article 32(3) has been delayed by 32 months until September 2023 when the Act of July 28, 2023, amending the Energy Law came in force. **Article 32 (1) have not been transposed into Polish law yet**, so it is not possible to assess the quality of the implementation. In addition to the provision in the Energy Law which refers to Article 32(1), **Ministerial regulation is required but it is not yet available.**

When it comes to Article 32 (3), the provisions of the implementing legislation have been partially enforced. Two out of the five largest Polish Distribution System Operators have published

⁹⁸ See footnote 84.

their plans. The plan for the years 2020-2025 can be found on the websites of Tauron⁹⁹. The ENEA's plan for the years 2023-2028¹⁰⁰ is also available.

Delays in implementation can make it more challenging to avoid costly network expansions. It will have a negative impact on both network operators and consumers and also for distributed generation.

3.5.2.6 Article 22 (1) REG (design principles for capacity mechanisms)

Article 22 (1) REG has been implemented and is being applied in practice. Poland has made use of the authorisation to introduce capacity mechanisms under certain conditions according to Article 21 of the REG. The capacity market was introduced in Poland by the Act of December 8, 2017, on the capacity market **so Polish legal act already existed before the regulation**. The first capacity auction took place on November 15, 2018. The initial year of capacity delivery was 2021. According to Article 22 (5) of the Regulation, Poland had to adjust its mechanisms to meet the requirements of Chapter 4 of the Regulation. The changes were introduced by the Act of July 23, 2021, amending the Act on the capacity market and certain other acts¹⁰¹ and concern in particular Articles 22 (4), 23 (6) and 25 (2). As indicated in the act, the amendment serves the implementation of Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity.

During the first five capacity auctions, Poland primarily supported existing or planned coal-fired power plants. It was only when emission limits excluded them from participating in auctions that the diversification process of the Polish energy sector was unlocked¹⁰². Starting from July 2025, support for power plants emitting more than 550 g CO₂/kWh within the capacity market or similar mechanisms must be prohibited according to Article 22 (4) lit. b REG¹⁰³. However, these are not the only reasons for phasing out coal capacity, including factors such as age, technical condition of power plants, or declining revenues.

As part of the current reform of the design of the electricity market, a provision has been agreed upon that potentially allows the extension of the participation of coal assets in the capacity market until 2028. In December 2023, the European Parliament and the Council of the European Union reached an agreement that power plants emitting more than 550 g CO₂/kWh will retain access to one-year capacity contracts, which must expire by the end of 2028. Coal-fired units will not participate in the main auction but in an additional competitive procedure, subject to the approval of the European Commission in case of a gap in covering the demand for capacity.

References to Article 22 (1) of the REG directive can be found in various provisions of the mentioned law. The temporary nature is defined by Article 41 (1) of the Capacity Market Act¹⁰⁴. Lit. b can be connected with Chapter 2 - Participation of Foreign Capacity in the Capacity Market - Article 6 and lit. c with Article 7, paragraph 1. Articles 60-67 of this act address issues related to remuneration for the performance of capacity obligations and the settlement process, especially article 60 - Appointment and Calculation of Compensation for Capacity Obligation. The matter of penalties is discussed in Article 59, stating that a capacity provider who fails to fulfil

⁹⁹ Tauron, Plan Rozwoju w zakresie zaspokojenia obecnego i przyszłego zapotrzebowania na energię elektryczną; <https://www.tauron.pl/tauron-dystrybucja,-d-,pl/plan-rozwoju>.

¹⁰⁰ Enea, Plan Rozwoju Enea Operator na lata 2023-2028; <https://www.operator.enea.pl/ospolce/komunikaty/szczegoly/22-plan-rozwoju-enea-operator-na-lata-2023-2028?department=teczka-prasowa>.

¹⁰¹ <https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20210001505/T/D20211505L.pdf>.

¹⁰² <https://www.forum-energii.eu/rynek-mocy-drogo-drozej-najdrozej>.

¹⁰³ See also <https://www.forum-energii.eu/po-2025-r-wegiel-bedzie-wychodzil-z-polskiego-systemu-energetycznego-falami>.

¹⁰⁴ <https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20180000009/U/D20180009Lj.pdf>.

their capacity obligation is subject to a penalty payable to the operator. Incentives are addressed in Article 66, which establishes a bonus for delivering capacity beyond the value specified in the agreement. Article 82 mentions the market rules, which define the conditions for cooperation between the operator and other participants in the capacity market. This aspect can be connected with lit. (g). Lit. (g) can be also connected with Chapter 3 – General certification and Chapter 4 – Certification for the Main Auction and Additional Auctions. The selection of providers is ensured through capacity auctions, which are also mentioned in the law in the Chapter 5 - Capacity Auctions - Article 29 to Article 40, especially in article 30 - Course of Capacity Auctions The Act of July 23, 2021, amending the Capacity Market Act and certain other laws, streamlined areas related to energy storage, allowing them to participate in the capacity market as well.

Table 11 in the Annex¹⁰⁵ provides a comparison of the provisions of Article 22 (1) REG and provisions from Polish law.

Quality of the implementation

The regulations have been implemented and are being applied in practice. Poland adjusted the capacity market mechanisms to meet the requirements of Chapter 4 of the Regulation and the changes were introduced by the Act of July 23, 2021, amending the Act on the capacity market and certain other acts. Art. 22 (1) protects the internal electricity market from distortions and consumers from unnecessary costs of capacity mechanisms.

[3.5.2.7 Articles 16 RED \(organisation and duration of the permit-granting process\), Article 4 ACC \(accelerating the permit-granting process for the installation of solar energy equipment\), and Article 5 ACC \(repowering of renewable energy power plants\)](#)

Poland has only partially implemented provisions of Article 16 of the RED with a delay of 30 months. The provisions of Article 16 of the RED in paragraphs 1-3 have been transposed into Polish law through the Act of August 17, 2023, amending the Act on Renewable Energy Sources and some other laws. Chapter 7a - The National Contact Point for Renewable Energy Matters was added to the Renewable Energy Sources Act and transposes the directive's provisions. **These provisions came into effect on January 1, 2024, which means a delay of 30 months.** However, for now, the Point has not been opened, and its opening is being delayed. At the same time, while the ACC Regulation is already in force, corresponding **provisions have not yet been incorporated into Polish law.**

According to the provisions in the Renewable Energy Sources Act, the National Contact Point provides support in administrative procedures related to decisions enabling the connection of renewable energy installations to the grid and the generation of energy from renewable sources. Support is understood as sharing information on environmental conditions, building regulations, concessions, connection requirements, required documents, deadlines, etc. The regulations also mention a guide for the generation of energy from renewable sources, containing information regarding engaging in activities as a renewable energy prosumer or another electric power producer. According to Article 160b of the Act on Renewable Energy Sources, the guide is made available through the website. It is worth noting that by June 30 of each year, the minister prepares a report on the operation of the national contact point, highlighting the most frequently asked questions, categorized by administrative procedures. Additionally, the minister issues recommendations for the removal of administrative barriers and the improvement of proceedings. The regulations also include information about the necessity of processing personal data.

¹⁰⁵ See footnote 84.

Paragraphs 4-7 of Article 16 were not incorporated into Polish law. Additionally, practical experience indicates that the actual duration of procedures can vary depending on the type of installation, potentially extending up to 58 months. However, it is worth noting that the latest amendment to the Renewable Energy Sources Act exempted installations with a capacity of up to 150 kW from the requirement to obtain a building permit, thereby simplifying the procedure.

Article 16 (8) of the directive was transposed by Article 20, § 1 of the Renewable Energy Sources Act into Polish law.

Table 12 in the Annex¹⁰⁶ provides a comparison of the provisions of Article 16 RED and provisions from Polish law.

Quality of the implementation

Poland has only partially implemented provisions of Article 16 of the RED with a delay of 30 months. At this moment, it is not possible to assess the quality of the implementation of the National Contact Point, as it recently came into effect in January 2024, resulting in **a delay of 30 months.** Moreover, **the point has not been opened yet.** In the context of repowering, it is easy to find information regarding the increase in the capacity of renewable energy micro-installations. In such cases, it is sufficient to inform the distribution operator about the change (Article 20, § 2). In some cases, the distribution system operator may refuse to increase the capacity of micro-installations if it poses a risk to the power system or if there are no economic and technical conditions for grid connection. There is no information about repowering bigger installations. This means that this part of Article 16 of the RED has not been implemented in Polish law.

No information could be found whether the requirements of Articles 4 and 5 ACC are adhered to in Polish permit-granting practice. The lack of implementation of Art. 16 RED and Art. 4 and 5 ACC has a negative impact on the development of renewable energy sources. This is because the shortening and simplification of permit-granting processes for renewable energy installations contributes to achieving the EU energy and climate targets and enhances investment security.

3.5.2.8 Article 17 RED (simple-notification procedure for grid connections)

The national provisions already existed before the EU legal acts, so that implementation of Article 17 RED II was no necessary to that extent. The provisions of Article 17 of the RED II Directive are reflected in the Energy Law, with a particular emphasis on Article 7 of this law. These regulations came into effect before the directive itself became enforceable and were incorporated into Polish law through the Act of June 22, 2016, amending the Act on renewable energy sources and some other acts¹⁰⁷.

The provisions of Article 7 of the Energy Law, specifically paragraph 8d⁴, specify that when an entity applying to connect a micro-installation to the distribution network is connected to the network as an end-user, and the capacity of the micro-installation does not exceed the limit specified in the issued connection conditions, the connection to the network is executed based on the notification of the micro-installation connection submitted to the energy company after the installation of the necessary protective devices and measuring and settlement equipment. In other cases, the connection of the micro-installation to the distribution network is contingent on a network connection agreement. The costs associated with installing protective devices and measuring and settlement equipment are covered by the operator of the power distribution system. According to paragraph 8d⁷, the energy company is obliged to connect the micro-

¹⁰⁶ See footnote 84.

¹⁰⁷ <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20160000925>.

installation to the network within 30 days from the submission of the notification. These procedures apply to all micro-installations, i.e., installations up to 50 kW. The minimum capacity of 10.8 kW mentioned in the directive is thus maintained. However, in accordance with paragraph 8d¹⁰, the operator may restrict the operation or disconnect from the network a micro-installation with an installed capacity greater than 10 kW if the generation of electrical energy in this micro-installation poses a safety threat to the network. After the safety threat to the network ceases, the operator is obligated to promptly restore the previous state.

Table 13 in the Annex¹⁰⁸ provides a comparison of the provisions of Article 17 RED and provisions from Polish law.

Quality of the implementation

The national provisions already existed before the EU legal acts, so that implementation of Article 17 RED II was no necessary to that extent. The regulations have been implemented on time and are being applied in practice. No quality deficits could be found.

3.5.2.9 Article 21 RED (renewable self-consumers)

Poland has implemented provisions of Article 21 of the RED completely but through various legislative acts. **Some of the provisions** (e.g. principles concerning the sale of surplus energy produced by prosumers) **appeared in the legal framework on time, but some with a delay.** The peer-to-peer concept came into effect as a part of the Act of August 17, 2023, amending the Renewable Energy Sources **in October 2023 with a delay of 27 months. The longest delay amounts to 36 months.**

Article 21 (1) RED

The definition of a "prosumer" was introduced into Polish law eight years ago through the Act of June 22, 2016, amending the Renewable Energy Sources Act and certain other acts. **So in that case the national provision already existed before the EU legal act.**

According to the old definition, a prosumer was an end-user generating electric energy solely from renewable energy sources in a micro-installation for personal consumption unrelated to any economic activity. Over the years, although owners of micro-installations had the option to sign a relevant agreement and sell energy, in practice, a more popular method of settlement was the cashless system known as net metering.

Article 21 (2) RED

The Act of October 29, 2021, amending the Renewable Energy Sources Act and certain other acts¹⁰⁹, introduced principles concerning the sale of surplus energy produced by prosumers. On the other hand, the peer-to-peer concept of Article 21 (2) of RED II was only introduced into Polish energy law by the Act of August 17, 2023, amending the Renewable Energy Sources Act and certain other acts. This act came into effect in October 2023, so the implementation was **delayed by 27 months.** The Act of May 20, 2021, amending the Energy Law and certain other acts, abolished the imposition of double fees for energy storage facilities. Polish prosumers retain their rights and obligations as end-users, and the compensation for the energy fed back into the grid reflects the market value of electricity. The principles of settlement are defined by Article 4 of the Renewable Energy Sources Act, outlining the reconciliation of the amount of electric energy introduced and drawn from the grid by the prosumer. **This act came into effect in July 2021, so it was on time.**

Article 21 (3) RED

¹⁰⁸ See footnote 84.

¹⁰⁹ <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20210002376>.

The exceptions of Article 21 (3) have not been used in Polish law. Polish prosumers do not incur fees for the generated electrical energy remaining within their premises. However, the DIR does not require such fees to be imposed; it merely states that Member States may do so. Furthermore, as already mentioned, through the Act of May 20, 2021, amending the Energy Law and certain other laws, the double charging of network and distribution fees for energy imported and exported from energy storage has been eliminated.

Article 21 (4) RED

Article 21 (4) has been incorporated into Polish law through the addition of two new definitions in the Act of October 29, 2021, amending the Renewable Energy Sources Act. These refer to the definitions of "prosumient zbiorowy" (collective prosumer), which came into effect in April 2022, so **with a delay of 9 months**, and "prosumient wirtualny" (virtual prosumer) - points 27b and 27c in Article 2, which will come into effect in July 2024, so with **a delay of 36 months**.

Article 21 (5) RED

Paragraph 5 of Article 21 RED has been transposed by the definition of a representative of prosumers from the same Renewable Energy Sources Act - point 29b in Article 2 and it came into effect in April 2022, **with a delay of 9 months**.

Article 21 (6) RED

Article 21 (6) is reflected in many Polish regulations. Even the definitions of the prosumers can be associated with article 21 (6). Letters e and f can be referred to the method of settling prosumers - Article 4 of the Renewable Energy Sources Act. What is more, there are grant programs available in Poland, that prosumers can benefit from, such as "Mój Prąd" (My Electricity)¹¹⁰, "Czyste Powietrze" (Clean Air)¹¹¹, and municipal umbrella programs. As attachments to the National Plan for Energy and Climate for the years 2021-2030, Poland has submitted a document outlining the current situation and forecasts under existing policies and measures, as well as an assessment of the effects of planned policies and measures¹¹².

Table 14 in the Annex¹¹³ provides a comparison of the provisions of Article 21 RED and provisions from Polish law.

Quality of the implementation

Poland has implemented provisions of Article 21 of the RED II completely. Some of the provisions (e.g. principles concerning the sale of surplus energy produced by prosumers) **appeared in the legal framework on time, but some with a delay**. The peer-to-peer concept came into effect as a part of the Act of August 17, 2023, amending the Renewable Energy Sources **in October 2023 with a delay of 27 months**.

Renewable self-consumers overlap with active customers according to Art. 15 DIR. The benefits from using self-generated electricity include cheaper energy bills, energy autonomy, reduced carbon emissions and the creation of new, local jobs. But it is worth adding, the change in prosumers' settlement system stirred controversy in Poland between 2021 and 2022. Many Poles invested in photovoltaics to secure net metering settlement for the next 15 years. This resulted in the rapid connection of tens of thousands of installations in a short period. In the subsequent months, the number of connected micro-installations drastically declined. The decline was due to a decrease in customer interest following a change in the billing system. Currently, the situation has returned to normal. Between 15,000 and 20,000 micro-installations are

¹¹⁰ <https://mojprad.gov.pl/>.

¹¹¹ <https://www.czyscstepowietrze.gov.pl/>.

¹¹² <https://www.gov.pl/web/klimat/krajowy-plan-na-rzecz-energii-i-klimatu>.

¹¹³ See footnote 84.

connected monthly to the grid. Nevertheless, the change to allow prosumers to sell energy was not introduced in a good way. Furthermore, the settlement procedures are opaque. It is also unspecified whether the selling and buying prices of energy are gross or net prices. In practice, consumers often do not fully understand their electricity bills.

It is worth noting that the introduced definition of a collective prosumer did not gain much interest. Consequently, in the latest amendment to the Renewable Energy Sources Act, a new entity was introduced - "prosumient lokatorski"¹¹⁴ (tenant prosumer), which may potentially gain more attraction.

3.5.3 Summary

Art. 11 DIR has been transposed completely into Polish law, but not in time. The dynamic electricity price contract was introduced into Polish law on July 28, 2023. The provisions related to dynamic tariffs will come into effect on August 24, 2024, with a delay of 43 months.

No immediate quality deficits could be found, but there are concerns regarding the actual implementation in the near future. The implementation depends on the progress in deployment of smart meters and the establishment of the Central Information System for the Energy Market (CSIRE - Centralny System Informacji Rynku Energii), while the implementation of this system has already been delayed for a year.

Art. 15 DIR has been transposed into Polish law completely. Poland has decided to take advantage of the opportunity to not implement the provisions outlined in Art. 15 (3). The transposition of Article 15 DIR was delayed because the concept of 'active customers' was introduced into Polish law in July 2023 and came into effect in September 2023 with a delay of 32 months. The provisions related to the energy storage system were implemented in May 2021 and came into effect in July 2021 with a delay of 6 months.

No immediate quality deficits were identified. However, due to the recent incorporation of 'active customers' into Polish law, assessing the quality of the implementation has become challenging. Although provisions regarding energy storage were implemented earlier, they did not result in an increased interest in these systems.

Art. 17 DIR has been transposed into Polish law completely. Poland has decided to take advantage of the opportunity to not implement the provisions outlined in Art. 17 (4). The article was not implemented on time and was delayed until September 2023 when the act stated in July 2023 came into effect. This is a delay of 32 months. For the time being, it is difficult to assess the quality of the implementation of demand response through aggregation, as these provisions have only recently come into effect.

Art. 19 DIR has been transposed completely into Polish law. Article has been incorporated to Polish law in May 2021 and has come into effect in July 2021 with a delay of 6 months. The meters are being replaced in Poland, but complete implementation of smart metering is related with the establishment of the Central Information System for the Energy Market (CSIRE – Centralny System Informacji Rynku Energii) while the implementation of this system has already been delayed for a year.

Article 32 (1) DIR has not been transposed into Polish law yet. While relevant provisions have been added to the Energy Law in July 2023, they require executive legislation which is still not adopted, although the law refers to them. Ministerial regulation is required but it is unclear when it will be established. In this context, the main issue is that the changes in the law were adopted so late – only in 2023.

¹¹⁴ <https://www.gov.pl/web/rozwoj-technologie/prosumient-lokatorski-z-podpisem-prezydenta>.

Art. 32 (3) DIR has been transposed into Polish law, but with a delay until July 2023 and has come into effect in September 2023 with a delay of 32 months. The article has been partially enforced. Two out of the five largest Polish Distribution System Operators have published their plans.

Art. 22 (1) REG is applied in Poland as Regulation 2019/943 is applicable in Member States' legal systems since January 1, 2020, and the regulations must conform to the design principles for the capacity mechanism. Poland has made use of the authorisation to introduce capacity mechanisms under certain conditions according to Article 21 of the REG. According to Article 22(5) of the Regulation, Poland had to adjust its mechanisms. The regulations have been implemented and are being applied in practice. **Art. 16 RED** has been only partially transposed into Polish law. Paragraphs 1-3 have been transposed into Polish law in August 2023. Paragraphs 4-7 of Article 16 were not incorporated into Polish law. A provision corresponding to Article 16 (8) is present in the Renewable Energy Sources Act. At this moment, it is not possible to assess the quality of the implementation of the national contact point as it came into effect in January 2024 with a delay of 30 months. Unfortunately, for now, the Point has not been opened. In the context of repowering, it is easy to find information regarding the micro-installations but there is no information about repowering bigger installations.

The ACC Regulation has been in force since December 30, 2022; however, corresponding provisions have not yet been incorporated into Polish law. No information could be found whether the requirements of Articles 4 and 5 ACC are adhered to in Polish permit-granting practice.

Art. 17 RED has been transposed completely into Polish law. Corresponding regulations came into effect before the directive itself became enforceable and were incorporated into Polish law in June 2016. The regulations have been implemented on time and are being applied in practice. No quality deficits could be found.

Art. 21 RED has been incorporated into Polish law completely but through various legislative acts. **Some of the provisions** (e.g. principles concerning the sale of surplus energy produced by prosumers) **appeared in the legal framework on time, but some with a delay.** The peer-to-peer concept came into effect as a part of the Act of August 17, 2023, amending the Renewable Energy Sources **in October 2023 with a delay of 27 months. The longest delay amounts to 36 months.**

Only Article 21 (3) has not been utilized in Polish law; however, its application is non-obligatory. The implementation of the directive stirred controversy in Poland between 2021 and 2022, resulting in the rapid connection of tens of thousands of installations in a short period. In the subsequent months, the number of connected micro-installations drastically declined due to a change in the billing system. Currently, the situation has returned to the previous one.

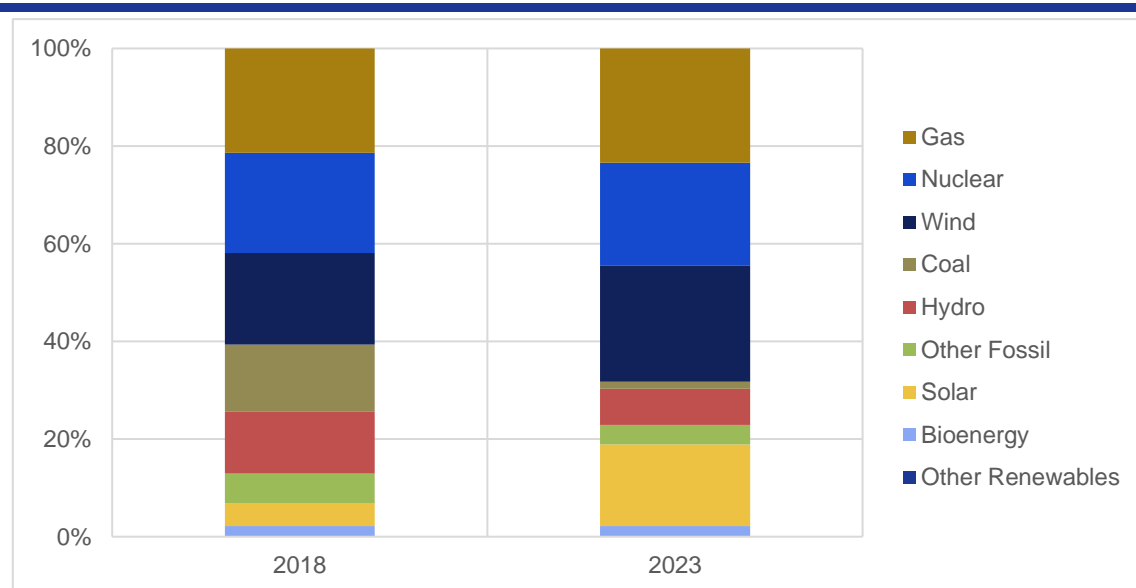
3.6 Country fiche Spain

3.6.1 Introduction

The Spanish electricity market has witnessed a paradigm shift over the past decades, driven by both legislative reforms and technological advancements.

Reflecting on the evolution of Spain's electricity mix, a clear shift is evident. The 1990s were characterized by a reliance on coal (40%), nuclear power (35%), and hydropower (15-20%).¹¹⁵ However, by 2023, the landscape transformed with renewables supplying over 50% of the country's electricity. Wind (24%) and solar (17%) energy have become the bedrock of this renewable surge, complemented by significant contributions from nuclear power (21%) and hydro power (7%).¹¹⁶ The diminishing role of coal, now at a mere 1%, underscores Spain's commitment to achieve a 100% renewable energy sector by 2050.

Figure 8: Spain's electricity mix



Source: Ember (2024); Note: the figure shows the share of annually generated electricity for each source.

The preamble of order TED/189/2023 highlights the government's commitment to innovative technologies and the significant decrease in the costs of wind and solar technologies. This, combined with Spain's favorable conditions for developing such projects - abundant solar and wind resources, low population densities across much of the territory, a comprehensive presence in the industrial value chain, ample labor resources, and a sophisticated financial sector – has facilitated this transformative shift.

The regulatory framework of the Spanish electricity system has undergone a profound transformation in recent years as result of the need to adapt to the challenges from the energy transition and in compliance with Spain's ambitious objectives of decarbonization. This transformation has also been reinforced by the gradual adaptation of national regulations to the European regulatory framework and, more recently, due the energy crisis caused by Russia's invasion of Ukraine. The main energy law in Spain is Law 24/2013 (*Ley del sector eléctrico*), enacted

¹¹⁵ Palomo, Helena. 2023. "El Mix Energético en España: El Crecimiento de las Energías Renovables." Energy Spacewell (blog). March 10, 2023. <https://www.dexma.com/es/blog-es/el-mix-energetico-en-espana-el-crecimiento-de-las-energias-renovables/>.

¹¹⁶ Red Eléctrica. 2023. "Red Eléctrica, Generación vista en gráfica, Estructura de la generación por tecnologías 2019-2023." redeia. <https://www.ree.es/es/datos/generacion/estructura-generacion>.

in 2013 and updated in 2023. This legislation includes numerous definitions and regulates various aspects of the electricity market, such as generation, transmission, distribution, and commercialization, but also emphasizes the market's security, efficiency and transparency. It also delegates the economic and technical management of the electricity system to the state administration and assigns the responsibility of grid management to the operator *Red Eléctrica de España* (REE).

Relevant legal amendments for the electricity market were adopted in various other laws (Royal Decrees or Orders). In some cases, they amend the *Ley del sector eléctrico*, in most cases they amend sections of former Royal Decrees. This results in a high number of legal acts and makes the revised legislative framework very challenging to navigate.

Simultaneously, Spain's commitment to combating climate change is also outlined in the National Climate and Energy Plan (*Plan Nacional Integrado de Energía y Clima*) and the 2050 Decarbonisation Strategy (*Estrategia de Descarbonización a 2050*), which undergo regular revisions to ensure alignment with evolving environmental and technological landscapes.

3.6.2 Implementation

3.6.2.1 Article 11 DIR (entitlement to a dynamic electricity price contract)

Implementation status

Spain has transposed **most** of Article 11 of the DIR into national law. The transposition was carried out in the context of several laws and **within the given timeframe** of the DIR. These laws comprise the *Ley del sector eléctrico* as well as Royal Decree 216/2014 and Royal Decree 446/2023.

Firstly, Article 8 of the *Ley del sector eléctrico* regulates the contractual freedom on the electricity market. This allows market participants on the electricity market to freely agree on the terms and conditions of their electricity purchase and sales contracts; however, contracts with dynamic electricity tariffs are not further specified therein.

Contracts with dynamic electricity tariffs are covered by Article 5 of the Royal Decree 216/2014, which allows consumers to conclude contracts with dynamic electricity tariffs where prices vary hourly. This includes households that already use smart meters integrated into the grid as well as households without smart meters for which an hourly estimate is made.¹¹⁷ The methodology for estimating the dynamic electricity price is regulated in Article 6, 7 and 8 of Royal Decree 216/2014 and was updated by Royal Decree 446/2023.

Also, the provision on information about dynamic electricity tariffs for consumers is covered by Royal Decree 216/2014. Its Article 19 stipulates that operators must inform their customers about the costs, services and technical requirements for dynamic billing, but **does not include information about its risks**. In addition, the process of providing information is supported by the *Comisión Nacional de los Mercados y la Competencia* (CNMC), which is an independent public body, subject to parliamentary scrutiny. In accordance with Article 20 of Royal Decree 216/2014, this commission provides detailed information about the electricity market on its website on a regular basis, including available market contracts and their underlying price developments. However, **no clear timeframe** is specified for the CNMC to **monitor the development of dynamic electricity tariffs**. It is therefore unclear to what extent the provisions of Article 11 (4) DIR, which require annual reporting for at least 10 years, are met.

¹¹⁷ Eguileta, Iago. 2023. "Qué es el Precio Voluntario para el Pequeño Consumidor o PVPC." Madrid: El Economista. <https://www.eleconomista.es/actualidad/noticias/12320772/06/23/que-es-el-precio-voluntario-para-el-pequeno-consumidor-o-pvpc.html>.

Quality of the implementation

The early implementation of Article 11 DIR has led to a boost in contracts with dynamic tariffs in Spain. The share of Spanish households with contracts for dynamic tariffs rose from 28% in 2015 to 42% in 2019.¹¹⁸ These figures are remarkable, since Spain exceeded all other European countries combined in dynamic tariff contracts in 2019, primarily by implementing these contracts as the default choice with an opt-out option.¹¹⁹ **On the one hand, the timely and thorough transposition of Article 11 DIR into Spanish law has contributed to these positive developments. On the other hand, also the widespread availability of smart meters was a major factor driving the implementation of dynamic tariffs (see Article 19 DIR below).** Against this backdrop, the roll-out of contracts with dynamic tariffs can largely be regarded as a success in Spain.

3.6.2.2 Article 15 DIR (active consumers)

Implementation status

Article 15 of the DIR on active customers was primarily **implemented** through the *Ley del sector eléctrico* and partly through Royal Decree 244/2019, albeit **incompletely**. The parts that were realised have been implemented **within the given timeframe** of the DIR. There is, however, no article in the *Ley del sector eléctrico* that deals exclusively with active customers. Instead, the Law contains several articles that address parts of the DIR regarding active customers indirectly. For instance, the right to act as an active customer is indirectly regulated by Article 9 (1a) and (1b) on self-consumption and in Art. 4 of Royal Decree 244/2019. They allow consumers to either consume self-generated electricity or to act as producers in the event of electricity surpluses. These surpluses are subject to the same treatment as the energy generated by other production facilities (Art. 9 (5) *Ley del sector eléctrico*). This indicates that no disproportionate or discriminatory requirements are imposed on the electricity sold by consumers.

The rights of active consumers are regulated in the *Ley del sector eléctrico* in a fragmented manner:

- a) The right to operate as aggregators is regulated in Article 49 (1) 2 of the *Ley del sector eléctrico* on demand management. It stipulates that consumers as well as operators of storage facilities may participate directly and indirectly via independent marketers or aggregators in the production of demand-side management services.
- b) As previously mentioned, the sale of self-generated surplus electricity by consumers is allowed and regulated in Art. 9 (5) of the *Ley del sector eléctrico* and Art. 4 of Royal Decree 244/2019.
- c) The right of active customers to participate **in flexibility and efficiency programmes has not been implemented.**
- d) The right of consumers to have access to their consumption data and, by explicit agreement and free of charge, to grant the relevant parties access to their metering data is covered by the *Ley del sector eléctrico* (Art. 44 (1m)). However, the **right to entrust third parties with the installation, operation and maintenance of their equipment is not mentioned.**

¹¹⁸ Morell, Chaves, and Gómez. 2020. "The Spanish experience with dynamic tariffs." Florence School of Regulation. Accessed January 29, 2024. <https://fsr.eui.eu/the-spanish-experience-with-dynamic-tariffs/>.

¹¹⁹ Hussain, Abbas, and María Paula Torres. n.d. "Time to Pick up Pace of Dynamic Electricity Pricing." Frontier Economics. Accessed December 8, 2023. <https://www.frontier-economics.com/uk/en/news-and-articles/articles/article-i6106-time-to-pick-up-pace-of-dynamic-electricity-pricing/>.

- e) The right to be subject to reasonable, transparent and non-discriminatory network charges has been mostly implemented. On the one hand consumers have the right to be supplied at easily and clearly comparable, transparent and non-discriminatory prices (Art. 44 (1i) *Ley del sector eléctrico*). On the other hand, consumers are entitled to the same treatment as commercial producers, when selling self-generated electricity (Art. 9 (5) *Ley del sector eléctrico*). Therefore, consumers are not subject to any discrimination within the scope of their activities. However, the **law does not stipulate that the electricity fed into the grid and the electricity purchased must be reported as separate items** when calculating grid charges.
- f) Customers are obliged to pay for the electricity services they receive in accordance with the conditions laid down in the *Ley del sector eléctrico* (Art. 44 (3b)). This includes that they pay a compensation in proportion to the activity they carry out when financial imbalances occur on the electricity grid (Art. 19 (3) *Ley del sector eléctrico*).

The implementation of different provisions for active customers acting individually or collectively remains unclear under the *Ley del sector eléctrico*. The provisions on self-consumption (Art. 9), renewable energy communities (Art. 12 bis) as well as citizens' energy communities (Art. 12 ter) partly fall under the definition of active consumer and can be understood as indirect ways of regulating them separately. However, these provisions do not cover all necessary rights and obligations of active consumers, they do not contain any unjustified or disproportionate differences from one another. Article 15 (3) of the DIR can therefore be regarded as largely fulfilled.

Likewise, **Art. 15 (4) and 15 (5) a, b and c have not been transposed** within the *Ley del sector eléctrico*. As a result, there is no regulation that allows active customers to switch to contracts with separate reporting of electricity fed into and purchased from the grid from 31 December 2023 onwards. Similarly, **not all rights of active customers with storage systems are covered**. What is covered, however, is their right to provide multiple services at the same time (Art. 49 (1) and (2) *Ley del sector eléctrico*), including direct and indirect demand-side energy management services.

Quality of the implementation

In summary, the Spanish law remains unclear when it comes to the utilization of storage facilities, the participation in flexibility and efficiency programs, and the reporting of consumed and produced electricity for active customers. Neglecting these aspects might prevent active customers from participating in the electricity market.

Spain has already taken some good steps towards implementing the legislation for active consumers, but some aspects are still missing.¹²⁰ On the one hand, Spain's legislation has already triggered beneficial developments, for example in the roll-out of smart meters and contracts with dynamic tariffs. On the other hand, there are certain limitations, including the legislation's inability in promoting the expansion of storage facilities and the technical challenges in telecommunications, which impede full consumer engagement in the electricity market.

From a political perspective, there is also evidence that more action is desired to support active customers. The Spanish Ministry for Ecological Transition and Demographic Challenges recognises self-consumption as one of the cornerstones that needs to be strengthened in the coming years.¹²¹ Although self-consumption has risen steadily in recent years, further support is needed to encourage consumers to actively participate in the electricity market in its many

¹²⁰ Merodio. 2017. "Active Consumers: the new frontier of the electric market." Barcelona: Magnus Commodities. <https://magnuscmd.com/active-consumers-the-new-frontier-of-the-electric-market/>.

¹²¹ Ministry for Ecological Transition and Demographic Challenges. 2021. "Hoja de Ruta del Autoconsumo, Marco estratégico de energía y clima." Madrid: Gobierno de España. <https://www.miteco.gob.es/es/ministerio/planes-estrategias/hoja-ruta-autoconsumo.html>.

dimensions. Therefore, the Ministry has put in place measures to strengthen self-consumption in Spain as part of its roadmap to self-consumption (also see below under Art. 21 RED). These measures include, among other things:

- a support programme for self-consumption (Measure 1),
- raising awareness and disseminating information about self-consumption (Measure 6),
- ensuring transparency of access and connection costs for electricity (Measure 23) and
- providing impulses for self-consumption using storage facilities (Measure 29).

This illustrates that Spain's legislation on active customers is already on the right track, but that further adjustments are needed to address specific challenges. The measures indicate that a number of remaining challenges might be addressed as part of upcoming updates.

3.6.2.3 Article 17 DIR (demand response through aggregation)

Implementation status

Article 17 of the DIR has been **partially transposed** into Spanish law. An article dealing exclusively with demand response through aggregation does not exist. Instead, this provision has been incorporated in a fragmented manner across different parts of the *Ley del sector eléctrico*. The components that were transposed were implemented **within the timeline** specified by the DIR.

Article 49, 1.2, which regulates demand-side management, grants consumers the right to act directly and indirectly as aggregators on the Spanish electricity market. In addition, no discrimination against these consumers is to be expected, since Article 46 (3) *Ley del sector eléctrico* grants them the same rights and obligations as commercial suppliers. This right is further supported by the fact that the transmission and distribution operator must ensure that there is no discrimination between users and categories of users on its electricity network (Art. 30 (2s) *Ley del sector eléctrico*).

Of the minimum regulatory framework of the DIR set out in Article 17, the following elements have been implemented:

- a) Renewable energy communities (Art. 12 bis (3c) *Ley del sector eléctrico*) and citizen energy communities (Art. 12 ter (1d) *Ley del sector eléctrico*) have the right to receive non-discriminatory access to all markets as aggregators. However, the **law does not specify whether they must seek consent to enter the market or not**. Furthermore, **access to individual active customers is not specified at all**.
- b) The rights and obligations of consumers and electricity companies are comprehensively regulated in Articles 44 and 46 respectively.
- c) Consumers have the right to dispose of their metering data and to grant relevant parties access to their metering data, without being charged (Art. 44 (1m) *Ley del sector eléctrico*). Again, it is **unclear whether aggregators are implied**, as they are not explicitly mentioned.
- d) A **financial obligation to pay for electricity imbalances** caused by market participants involved in aggregation **has not been implemented**.
- e) It is **unclear whether end customers who have a contract with independent aggregators are subject to inappropriate payments, contractual penalties, or other**

unreasonable contractual restrictions by their suppliers. The law does not specify details on these issues.

- f) Suppliers are obliged to inform their customers about their rights to the dispute resolution options available to them. Additionally, they shall offer consumers the possibility of resolving their disputes through an alternative dispute resolution body, which meets EU requirements. Such bodies shall be accredited as such by the competent authority (Art. 46 (1n) *Ley del sector eléctrico*).

Electricity companies, consumers and the system operator, in coordination with other agents, may carry out demand response activities that contribute to the optimisation of the load curve and/or energy efficiency and savings in accordance with the provisions of the *Ley del sector eléctrico* (Art. 49 (1)). The Spanish administration holds the right to impose costs incurred by these market participants for the electricity system, which are authorised by the *Ministerio de Industria, Energía y Turismo* (Art. 49 (2) and (3) *Ley del sector eléctrico*). **Fixed shares of aggregated electricity loads are, however, not defined** within the Spanish law.

Quality of the implementation

Article 17 DIR is insufficiently implemented in Spanish law, because several rights and obligations concerning market access, financial obligations and the use and management of personal data of aggregators are not clarified. The uncertain legal status of aggregators is an obstacle, preventing interested consumers from entering the market.

The incomplete and insufficient transposition of Article 17 DIR into Spanish law has led to a considerable amount of criticism. Vitale stresses Spain's inability to fully clarify the roles and responsibilities of actors involved in aggregation.¹²² She criticises that Spanish legislation is not sufficiently developed to fulfil the European provisions on aggregation services for active consumers. Also an association of energy producers and service providers has complained about the lack of implementation in the context of aggregation and electricity load control. Together they formed the EnergyPool alliance, which calls on Spanish legislators to include more demand-side flexibility in their legislation, including aggregation for consumers.¹²³ To this end, they request that the legislator develops a demand-side flexibility strategy, favouring the participation of all consumers and new actors in the energy transition like Independent Aggregators and Energy Communities. These criticisms show that Spain needs to improve its regulatory framework and introduce further measures to promote aggregation and load management. Despite ongoing criticism and a formal letter¹²⁴ of the European Commission for late implementation of Directive (EU) 2019/944, the Spanish legislator is lagging behind with its transposition.

3.6.2.4 Article 19 DIR (smart metering systems)

Implementation status

Article 19 of the DIR was **largely transposed** into Spanish law. This was mainly done through Royal Decree 1634/2006 and Royal Decree 1110/2007 **within the timeframe** set out in the DIR. The deployment of a smart grid was also mentioned as a priority under the National Climate and Energy Plan as well as the Law 7/2021 on Climate Change and Energy Transition.

¹²² Vitale, Christina. 2017. "Spain towards the famous demand aggregator." Magnus Commodities. Accessed January 29, 2024. <https://magnuscmd.com/spain-towards-the-famous-demand-aggregator/>.

¹²³ EnergyPool Alliance. 2022. "Manifest for the development of demand side flexibility in Spain". Accessed January 29, 2024. <https://www.energy-pool.eu/en/spain-manifesto-demand-side-flexibility/>.

¹²⁴ See letter of formal notice article 258 TFEU (INFR(2022)2034), available under: https://ec.europa.eu/commission/presscorner/detail/EN/inf_22_2548.

The topic of smart grids and corresponding metering systems has therefore received a great deal of attention in Spain.

The introduction of smart metering systems was significantly advanced as part of Royal Decree 1634/2006. The 22nd additional provision specifies that the *Comisión Nacional de Energía* should establish a plan by 1 July 2007 to promote the replacement of old meters with smart meters. These should include hourly billing and remote management of electricity demand up to a contractual power of 15 kW. This was confirmed in December 2007 by order ITC/3860/2007, which stipulated that the old metering devices must be replaced by smart meters no later than 31 December 2018, opening opportunities for consumers to actively participate in the electricity market. The technical and data protection requirements for smart meters are comprehensively regulated in Article 9 and Article 26 of Royal Decree 1110/2007 respectively. In addition, the functional and technical minimum requirements for smart metering systems mentioned in Art. 19 (3) DIR were largely met. Furthermore, the aspect of interoperability is covered by Art. 30 (2r) of the Ley del sector eléctrico. According to this article, the network operator is expected to provide sufficient information for the safe and efficient usage of the grid, its further development and interoperability.

The costs associated with smart meters are comprehensively and transparently regulated in Royal Decree 1634/2006. On the one hand, Article 3 regulates the minimum percentage charges for the energy grid that consumers must pay. On the other hand, Article 8 regulates the maximum costs that the grid operator may charge for different user categories and specifies these in Annex 3.¹²⁵ Compliance with the prices is checked and confirmed annually by the *Comisión Nacional de Energía* and corrected in the event of incorrect pricing (Art. 7 (1) and (4)). **No information** could be found **whether the provision in Art. 19 (4)** on the regular monitoring of smart meter deployment to track the delivery of benefits to consumers **has been transposed** into Spanish law. Despite the clear price regulation, no cost-benefit analysis was presented to explain how the proposed price structure works under dynamic market developments. This is, however, only optional according to Article 19 (2) of the DIR.

Quality of the implementation

Article 19 DIR has been almost fully implemented, apart from provision (4), which mandates Member States or a designated national authority to conduct periodic monitoring of the smart meter deployment and assess the associated benefits for consumers. Without proper monitoring, consumers may not receive sufficient information about the advantages of smart meters, potentially impeding the pace of their deployment.

In reality, however, the opposite scenario is unfolding: the mandatory installation of smart meters for consumers with a contractual power of 15 kW has led to an incredibly high coverage of smart meters in Spain. In its electricity retail market monitoring report, The *Comisión Nacional de los Mercados y la Competencia* stated that:¹²⁶

- A 99% coverage of smart meters was achieved in Spanish households by 31 December 2019.
- As a result, an increasing number of consumers are entering into contracts with dynamic price tariffs, reaching almost 14 million consumers at the same time.

¹²⁵ The annexes to the country fiches of Bulgaria, Poland and Spain are contained in Sina, Stephan, Deyana Kocher, Maria Niewiata-Rej, Madeleine Pumberger, Ramiro de la Vega (2024): Analysis of the implementation of EU provisions for the clean energy transition in selected Member States. Annexes to the country fiches for Bulgaria, Poland and Spain. Ecologic Institute, Berlin.

¹²⁶ Comisión Nacional de los Mercados y la Competencia. 2022. "Electricity Retail Market Monitoring Report, Year 2019." Madrid.

These developments illustrate that the implementation of Article 19 DIR has been a widespread success thus far. Currently, Spain is one of the international frontrunners when it comes to the use of smart meters and the operation of a smart grid.

3.6.2.5 Article 32 (1) and (3) DIR (incentives for the use of flexibility in distribution networks)

Implementation status

Article 32 of the DIR was **not transposed**. Article 30 of the Ley del sector eléctrico regulates the rights and obligations of the distribution system operator (DSO). However, it **does not envisage incentives for flexibility services, congestion management, demand response or energy storage**.

Furthermore, **it does not foresee a grid development plan as mentioned in Art. 32 (3) DIR**. According to Art. 30 (2) a, b and c of the *Ley del sector eléctrico* the DSO shall forecast the supply and demand as well as the secure functioning of technical equipment on the electricity market. However, **no transparent grid development plan is included** that has to be published every 2 years.

Quality of the implementation

Article 32 DIR has not been implemented, which means that the development of a smart grid, including aspects such as demand response or the integration of storage facilities, is not being proactively pursued. In general, the DSO is legally required to make forecasts about the supply, demand and technical characteristics of the Spanish electricity market. However, there is no obligation for the DSO to present a concrete grid development plan. In addition, it remains unclear whether demand-side flexibility services are addressed by the DSO. As a result, there are no clear guidelines on who, when, where and how demand-side services should be provided or used. Therefore, it is essential to develop a regulation that determines the functionalities and roles of all market participants providing demand-side flexibility services in a clear and transparent manner.¹²⁷ Only by establishing clear rules will it be possible to create reliable conditions that encourage market participants to offer demand-side flexibility services in the future.

3.6.2.6 Article 22 (1) REG (design principles for capacity mechanisms)

Implementation status

Although capacity payments in Spain have been reduced or abolished since 2012, some of them remain effective due to former commitments. In 2021 a draft order on a Spanish capacity mechanism that is aligned with the principles set out in Art. 22 (1) REG was published, but it has not been adopted to date.

Spain introduced capacity payments to operators with the market liberalization in 1997¹²⁸ and in 2007 a new system of capacity payments was introduced by Annex III of the order ITC/2794/2007. The new system remunerated capacity through capacity payments particularly in two cases: The long-term capacity investment to help generators to recover their investment cost (new projects only) and the availability service to secure capacity in the medium term (up to one year).

¹²⁷ Entra. 2022. "Hoja de Ruta para la flexibilidad de la demanda en España." Málaga: Entra Agregación y Flexibilidad.

¹²⁸ European Commission. 2023. "Spanish Electricity Market: Implementation Plan." https://energy.ec.europa.eu/document/download/d142bc8b-e7af-4e25-bbfe-371ce6fc3787_en?filename=02_PlandelImplementacion_EN.pdf.

These capacity payments have consequently been reduced or abolished by the *Ley del sector eléctrico* in 2013. However, some capacity payments remain effective due to former commitments.

The Royal Decree-Law 13/2012 reduced for 2012 the amount of capacity payments for long-term capacity investment to € 23.400 per MW per year. The Royal Decree-Law 9/2013 reduced it further to €10.000 per year for 2013 and abolished capacity payments for the promotion of long-term investments for new production facilities, unless they had all necessary administrative permits permitting them to start operation before 1 January 2016. Payments under the long-term capacity investment will end in 2035.

Regarding capacity payments for medium-term availability service, new values were fixed by respective orders from 2013 to 2018. The order TEC/1366/2018 abolished capacity payments for availability service described.

Under the *Ley del sector eléctrico* the ministry is not obliged to implement capacity payments, as it gives the government discretion to decide if and when to introduce a new capacity payment system. So far, it has **not exercised its right to introduce such mechanism**.

Quality of the implementation

No indication could be found that the **existing capacity payments have been adapted to comply with Art. 22 (1) REG** according to Art. 22 (5) REG. Aligned with the requirements of the REG, an order on a new capacity mechanism drafted by the Spanish government was published in 2021. The deadline for public consultation was 12 May 2021. However, the order has not yet been published. It particularly focuses on issues like technological neutrality to establish equivalence between the different forms of generation, taking into account their different relative capacity to be available at times of stress in the system. The proposed auction mechanism is competitive, in which consumers, generation or storage facilities may participate, provided that they meet the established requirements and ensure their availability at times of greater stress in the peninsular electricity system. The system operator REE will contract the required firm power (i.e. the power that can be offered at those moments of peak demand).¹²⁹

The design of the 2021 **draft order aims to comply with the requirements** laid out in Art. 22 (1) REG. The CNMC published a favourable report on the draft order, including suggestions for improvement, such as explicitly incorporating cross-border participation as a principle in the capacity mechanism and allowing not only participation of facility owners in generation demand and storage but also demand aggregators as service providers. Up until now, the order has not been published yet, it was anticipated that the government will amend the draft order to ensure full compliance with the REG.

3.6.2.7 Articles 16 RED (organisation and duration of the permit-granting process), Art. 4 (Accelerating the permit-granting process for the installation of solar energy equipment) and 5 ACC (repowering of renewable energy power plants)

Implementation status

Art. 16 (1-3) RED

According to the preamble of order TED/189/2023, the order aims to implement the one-stop-shop introduced by the RED in Art. 16 (1). However, order TED/189/2023 only **partially**

¹²⁹ Ministerio para la Transición Ecológica y el Reto Demográfico. 2021. "Proyecto de Orden Por La Que Se Establecen Los Precios de Los Cargos Del Sistema Eléctrico de Aplicación a Partir Del 1 de Enero de 2022 y Se Establecen Diversos Costes Regulados Del Sistema Eléctrico Para El Ejercicio 2022." <https://www.miteco.gob.es/es/energia/participacion/detalle-participacion-publica-k-473.html>.

transposes the one-stop-shop of **Art. 16 (1) RED (delay of 20 months)**. **Art. 16 (2) and Art (3) RED** have **not been transposed** into Spanish law.

Due to the requirement of a contact point/single stop-shop (*ventanilla única*) laid out in the RED, the order TED/189/2023 establishes a specific administrative unit under the Secretary of State for Energy (*Secretaría de Estado de Energía*) to accelerate the processing of renewable projects and contribute to a short-term mitigation of energy prices. Art. 1 of order TED/189/2023 creates the Electric Power Projects Division (*División de Proyectos de Energía Eléctrica*) as an administrative body below the sub-directorate general level, reporting directly to the head of the General Directorate of Energy Policy and Mines (*Dirección General de Política Energética y Minas*). Art. 2 explains the different functions of the division. That includes the processing of prior administrative authorizations, administrative authorization for construction, and the declaration of public utility (DPU) for electricity installations, as provided in Art. 3 (13) *Ley del sector eléctrico*. In addition, the division is in charge of preparing statements regarding the proper establishment of guarantees for the processing and request of access and connection to the grid for electricity production facilities within the scope of the General State Administration (*Administración General del Estado*). The coordination of the functional areas and dependencies of industry and energy of government delegations and sub-delegations in matters of infrastructure and electrical energy installations and the management of the Administrative Registry of Electricity Production Installations are also among its tasks. Art. 3 (13) *Ley del sector eléctrico* outlines the competences of the General State Administration. At national level, the General State Administration is competent to authorize electrical installations with an installed electrical capacity of above 50 MW, located in the territorial sea, or installations that exceed the territorial scope of an autonomous community government.

Therefore, the Electric Power Projects Division only processes administrative permits, not access and connection permits (only partially as it only prepares statements regarding necessary guarantees for processing of access and connection permits) and more importantly is **only competent for projects with an installed capacity of more than 50 MW**.

The objective of the one-stop-shop in Art. 16 (1-3) RED is to provide particularly guidance to applicants throughout the administrative permit application and granting processes (see RED recital 50). Accordingly, it aims to empower consumers and facilitate the entire administrative process. However, the “one-stop-shop” in order TED/189/2023 remains generic, does not explicitly address plants producing energy from renewable sources and only addresses the permitting procedures of big installations under the competence of the General State Administration (with an installed capacity of above 50 MW). With the **creation of the Electric Power Projects Division, Spain does not fully achieve the single contact point to which the directive refers to**.

Besides the contact points in order TED/189/2023, Spanish law introduced in 2020 that the processing of the application for access and connection will be carried out jointly through a single procedure introduced with Royal Decree 1183/2020. General rules for access and connection procedures are laid out in chapter II of Royal Decree 1955/2000.

Regarding Art. 16 (2) and Art. 16 (3) RED, Spanish law does **not address the submission of relevant documents in digital form** or considers the **availability of manual** procedures for developers of renewable energy production projects. Therefore, **Art. 16 (2) and Art. 16 (3) RED** have **not been transposed** into Spanish law.

Art. 16 (4) RED

There is no single provision on the maximum period for the entire permit-granting process in Spanish law. It is unclear and a **big calculation task to identify the maximum duration**

allowed for all these necessary approval steps. Therefore, it is **difficult to determine whether or not Spain has implemented Art. 16 (4) RED**, in any case **not in time (delay of 18 months)**.

In Spain the number of permits needed, and authorities involved in the permit-granting process are enormous.¹³⁰

The Royal Decree 1955/2000 regulates the procedure for obtaining authorization to construct, operate, modify, transmit or decommission any electricity generation when issued by the state. However, any autonomous community may establish its own procedures, otherwise the procedures set out in the Royal Decree 1955/2000 will apply. The deadlines for permit-granting in the Royal Decree 1955/2000 were modified by Royal Decree 6/2022 (March 2022) and Royal Decree 20/2022 (December 2022). Both decrees (Royal Decree 6/2022 and 20/2022) refer to the time periods set out in Royal Decree 1955/2000. They shorten the time periods of Royal Decree 1955/2000 and simplify procedures to accelerate permit-granting. The different provisions on necessary procedures in the permit-granting include various time periods of 10 days to 3 months for each procedure.

Royal Decree 6/2022 includes provisions to speed up the granting process for renewable energy projects, in particular by introducing an impact assessment report for wind power projects with a capacity equal or less than 75 MW and for photovoltaic energy projects with equal to or less than 150 MW (Art. 6 Royal Decree 6/2022). The environmental body (*órgano ambiental*) has to issue the environmental impact assessment report within two months. The report determines whether the project requires undergoing an environmental impact assessment as set out in Law 21/2013 or if the authorization process can proceed without an environmental impact assessment (EIA). The central government is competent to implement this procedure. However, it may also be implemented by the autonomous community governments within the scope of their authority.

Art. 7 sets out simplified approval procedures for renewable energy projects. Project developers can choose a simplified authorization procedure if they have obtained a favorable environmental impact assessment report (see above) and the approval procedures for renewable energy generation projects falls within central government powers. If necessary, a declaration of public utility may be awarded.

The simplified authorization procedure will benefit from shorter time periods procedures are carried out jointly and time periods for the relevant procedures are reduced by half. Once formalities have been completed, the complete file accompanied by its report, in accordance with the provisions of Art. 127 (5) and 131 (5) of Royal Decree 1955/2000, shall be sent to the General Directorate of Energy Policy within 15 days for its resolution. If a project needs a DPU, the Directorate General for Energy Policy and Mines shall decide on the DPU within six months, after request.

With the **Royal Decree 20/2022** any renewable energy project (regardless of capacity and location, except, e.g. areas of the Natura 2000 Network) is subject to the simplified environmental impact assessment report as described above.

An article published by Deloitte¹³¹ states that the maximum deadline for permit-granting process defined in regulations is 18 months (i.e. below 2 years). However, it does not specify which regulations were considered in the calculation of a maximum deadline of 18 months. It is also unclear if this maximum duration of the permit-granting process includes the relevant grid

¹³⁰ For further information about the general permit-granting process in Spain see Annex 1.

¹³¹ Deloitte. 2022. "La Planificación y La Tramitación de Las Infraestructuras Eléctricas Para La Transición Energética." <https://www2.deloitte.com/es/es/pages/energy-and-resources/articles/planificacion-y-tramitacion-infraestructuras-electricas.html>.

connection and access permits as well as all necessary administrative authorizations procedures. **If yes**, the maximum duration of the permit-granting process of power plants in **Art. 16 (4) RED, could be considered transposed, but not in time** (relevant Royal Decrees were adopted in December 2022, therefore **delay of 18 months**). According to Deloitte the actual processing takes on average about 2-3 years, and in extreme cases exceeds 10 years, however this might change with the relevant Royal Decrees from 2022 outlined above.

Art. 16 (5) RED

In Spanish law there are simplified procedures for power plants with a low capacity/ self-consumption regarding access and connection permits as well as administrative permits. However, there is no maximum time period fixed by relevant provisions and therefore Art. 16 (5) RED is **only implemented partially (in time)**.

According to art. 7 Royal Decree 244/2019 and art. 17 Royal Decree 1183/2020 self-consumption units with surplus (of any type) up to 15kW located on urban land are exempt from requiring access and connection permits. Self-consumption installations modality without surplus will also be exempt from obtaining access and connection permits. According to Art. 23 Royal Decree 1183/2020, applicants of electricity generation installations have to present a proof of having deposited an economic guarantee for an amount equivalent to 40 €/kW installed, before making the request for grid access and connection. Installations under the self-consumption modality with surplus of installed power not exceeding 100 kW, are exempt from this requirement, unless the installations are part of a group (definition in Art. 7 of Royal Decree 413/2014) whose power exceeds 1 MW.

Regarding the administrative process, rooftop PV units with an installed power up to 100 kW, benefit from shorter procedure to be installed, as they do not need a PAA or ACC¹³² (Royal Decree 15/2018 and 2019/244 or first additional disposition (*disposición adicional primera*) of Royal Decree 1699/2011. Each autonomous community may have specific restrictions or procedures regarding the EIA or DPU for rooftop PV units. Specific requirements may be regulated at local level.

Implicitly these simplified procedures shorten the permit-granting process of power plants with a low capacity. Therefore, **Art. 16 (5) RED may only partially be implemented** regarding a shortened permit-granting process for installations with an electrical capacity of less than 15 kW (**transposed in time**).

Art. 16 (6) RED

The transposition of Art. 16 (6) requires a simplified and swift permit-granting process and Spain only allows **repowering of renewable plants in a very limited scope**. Outside of this scope, a new permit-granting process has to be started. Therefore, Spanish law aligns with Art. 16 (6) RED is **only** in the case of **minor alterations of the power plants (within the timeframe)**.

“Simplified” means that the permit-granting procedure is simplified by e.g., introducing single procedures.

“Swift” means that the permit-granting process does not take longer than a year, except for necessary safety reasons. In Spain the repowering of renewable energy plants is limited to installations that are considered “the same” and/or do not entail a “substantial change”. Annex II of Royal Decree 1955/2000 outlines under which circumstances a power plant is considered the same as another for which access and connection permits have already been applied/ rewarded. These include an increased capacity of maximum 5 %, that the geographical location does not alter by more than 10km and that the generation technology stays the same.

¹³² These authorization permits are explained in Annex 1 on the general permit-granting process.

Substantial changes are e.g., changes that fall within the scope of Law 21/2013 on environmental assessments or require a specific declaration of public utility. Only if these conditions are met and the installation can be considered “the same” with no “substantial change”, the repowering can be carried out “swiftly”. According to Art. 115 (3) Royal Decree 1955/2000 the access and connection permits will be updated and only a new operating authorization is needed (*autorización administrativa de explotación*, AAE). According to Art. 132 (2) Royal Decree 1955/2000 the AAE certificate will be issued within a period of one month, after the technical verifications were deemed appropriate.

Therefore, Spain only allows for a **repowering of renewable energy plants in a very limited scope**. In this limited scope, the “permit-granting” process does **not take longer than a year**. According to Art. 2 (10) RED renewing power plants includes the full or partial replacement of installations or operation systems and equipment for the purposes of replacing capacity or increasing the efficiency or capacity of the installation. The directive makes no distinction between repowering that results in increased capacity and repowering that does not. Therefore, it is difficult to determine whether this section has been transposed into Spanish law, in any case Art. 16 (6) RED has only been **partially transposed for installations with a small capacity increase of 5 %** as the power plant will **be considered the same**.

Art. 16 (7-8) RED

Art. 16 (7) is not specifically mentioned in Spanish law. Also, a transposition of Art. 16 (8) cannot be found in Spanish law, thus Spain may not have taken the opportunity to transpose this section.

Art. 4 and 5 ACC

Regulations are directly applicable and no implementation of the ACC at the national level is required. Current durations of permit-granting procedures in Spanish law **do not align** with the simplified procedures in Art. 4 and 5 ACC. Order TED/189/2023 outlines that Royal Decree 6/2022 and 20/2022 as well as the ACC together aim at accelerating the deployment of renewable energy in Spain.

Art. 4 ACC addresses the acceleration of the deployment of solar panels. As outlined above Spain already has in place simplified procedures for power plants with low capacity and self-consumption. For example, the abbreviated connection procedure for installations below 10 kW. As explained above, rooftop PV units with an installed power up to 100 kW, benefit from a shorter procedure to be installed, as they do not need a PAA or ACC (Royal Decree 15/2018 and 2019/244 or first additional disposition (*disposición adicional primera*) of Royal Decree 1699/2011). Furthermore, there may be specific procedures in each autonomous community (see Article 21 (6) RED below). Therefore, a shorter permit-process for installation has already been in place (but only for smaller projects). However, it is **unclear whether maximum time periods comply with art. 4 ACC**.

As outlined above, the current rules in Spain regarding repowering of renewable energy power plants are insufficient. Spanish law only complies with Art. 5 ACC in a very limited scope (see above under Art. 16 (6) RED), for in all the other cases “repowering” will be considered a new installation and the **general permitting procedure** applies, whose deadlines **do not align with Art. 5 ACC**.

Quality assessment

Art. 16 RED is insufficiently implemented into Spanish law, because the single contact points are only partially implemented (for power plants with a high capacity), legally binding maximum durations are unclear (variety of authorization procedures with different time periods) and

repowering is only addressed in a very limited scope. Furthermore, there are no legal consequences for exceeding maximum durations. Apart from these implementations deficits and regulatory unclarities, there are no significant concerns regarding the quality of implementation. However, regulatory unclarities and lack of enforcement may delay the deployment of renewables.

3.6.2.8 Article 17 RED (simple-notification procedure for grid connections)

Royal Decree 1699/2011 introduced a **“simple-notification procedure”** in 2011 which aligns with requirements set out in Art. 17 RED, even before the RED entered into force. It regulates the connection of small power production facilities. Furthermore, with the introduction of Royal Decree 1699/2011, facilities with power below 100 kW and directly connected to a low voltage distribution network (not exceeding 1kV) are no longer required to obtain a PAA.

Art. 17 (1) RED

The “abbreviated connection procedure” in Art. 9 Royal Decree 1699/2011 may be considered a “simple-notification procedure” as laid out in Art. 17 RED. Facilities with power below 10 kW may connect to the network using the abbreviated procedure provided in art. 9 Royal Decree 1699/2011. A simplified connection request (model provided in in Annex II¹³³) along with a technical design report will be sent to the distribution company. The distribution company has a period of 10 working days from the date of receipt to respond by confirming or, if applicable, reject the requested grid connection with a reasoned report and, where possible, sending an alternative proposal. The applicant has one month from the date of receipt of the proposal to file a complaint, if they do not agree with the proposal sent. In case of lack of response (of the distribution company) within the 10 working days mentioned above, the installation will be within a period of one month from the date the request entered in the register of the body competent.

Art. 17 RED does not include many details on the simple-notification procedure for grid connections and therefore **“implementation”** can be considered **(mostly) complete** due to the already earlier adopted “abbreviated connection procedure” in art. 9 Royal Decree 1699/2011. The electrical capacity is a bit lower in art. 9 Royal Decree 1699/2011 (only 10 kW instead of 10,8 kW) which can still be considered a measure to achieve the objective of the directive. The distribution system operator has the possibility to reject the requested grid connection. Also, the deadline of one month in the lack of a response is part of the abbreviated connection procedure in art. 9 Royal Decree 1699/2011.

Art 17 (2) RED

The “abbreviated connection procedure” in art. 9 Royal Decree 1699/2011 is only open to installations below 10 kW. Therefore, Spain has not made use of the option in Art. 17 (2) RED.

Quality assessment

The “abbreviated connection procedure” in art. 9 Royal Decree 1699/2011 aligns with the simple-notification procedure outlined in Art. 17 RED (only open to power plants with a capacity of 10 kW instead of 10,8 kW). There are no significant concerns regarding the quality of the implementation.

¹³³ Includes a form template and requests general information on project details, details on approved installer, details on the production plant and proposed connection point.

3.6.2.9 Article 21 RED (renewable self-consumers)

Renewables self-consumers are defined and regulated in *Ley del sector eléctrico*, Royal Decree 15/2018 and in particular in Royal Decree 244/2019. These provisions **(almost) fully implement Art. 21 RED** into Spanish law **(within the timeframe)**.

Royal Decree 244/2019 regulates the administrative, technical and economic conditions for self-consumption of electricity and establishes a new regulatory framework for self-consumption (particularly for photovoltaic self-consumption in Spain).

Art. 21 (1-3) RED was **(mostly) transposed** into Spanish law **in time**.

Art. 21 (1) RED

Royal Decree 15/2018 introduces three fundamental principles that govern self-consumption in Spain and ensure that consumers are entitled to become renewables self-consumers: (1) the right to self-consume electrical energy without charges, (2) the right to shared self-consumption and (3) the principle of administrative and technical simplification, particularly for small power installations.

Art. 21 (2a) RED

Art. 9 (5) *Ley del sector eléctrico* clarifies that any surpluses of the self-consumption installations will be treated the same as energy produced by the rest of the power production installations. Similarly, if self-consuming individuals or entities need to draw additional energy from the grid, due to a shortfall in their own generation, this additional energy is treated and priced in the same manner as it is for regular consumers who fully rely on the grid for their electricity supply. This highlights a non-discriminatory approach. Self-consumed energy from renewable sources, cogeneration or waste is exempted from all types of charges and tolls. Therefore, self-consumers are not subject to any charges or fees.

Art. 21 (2b) RED

Art. 5 (7) Royal Decree 244/2019 addresses the possibility to install storage elements in self-consumption installations if they meet the necessary and required safety and quality regulations. The storage elements will be installed in a way that they share a measuring device that records net generation.

Spanish law sets out rules for generating and storing renewable energy of renewables self-consumers. There is **no specific provision in Spanish law that storage facilities of renewable self-consumers should not be liable for any double charge**, including network charges, for stored electricity remaining within their premises. This may however be covered in an indirect manner.

Art. 21 (2c) RED

Art. 12 bis and ter *Ley del sector eléctrico* related to energy communities and citizens clarifies that they maintain their rights and obligations as final consumers. Energy communities and citizens are (potential) addressees for self-consumption.

The general section on self-consumption in Spanish law does not include that renewables self-consumers maintain their rights and obligations as final consumers. However, both sections on energy communities and citizens do so. Therefore, it can be considered transposed.

Art. 21 (2d) RED

According to Art. 4 and 13 Royal Decree 244/2019 there are three types of self-consumption: (1) self-consumption without surpluses (2) self-consumption with surpluses and (3) self-consumption with surpluses subject to compensation (a form of remuneration for the energy fed

into the grid). To be eligible for a simplified compensation mechanism (regarding self-consumption with surpluses) the following requirements must be met (see Art. 4 of Royal Decree 244/2019):

- The primary energy source is renewable.
- The power of the installation (or associated installations) does not exceed 100 kW.
- The consumer must adhere to a single supply contract for consumption with a marketer/ commercial company.
- The consumer and producer have signed a surplus compensation contract (see Art. 14 of Royal Decree 244/2019).
- The installation does not have an additional or specific remuneration regime.

Provided these requirements are met, consumers can be compensated through a simplified mechanism (net billing) according to Art. 14 Royal Decree 244/2019. Every billing cycle (one month), the value of the energy taken from the grid is offset by the value of the surplus energy generated and fed back into the grid. However, the compensation is capped at the value of the energy taken from the grid (i.e. energy bought by the consumer due to consumption deficit), as the result of this compensation cannot be negative. Dependent on the type of retailer of the consumer, the value of the surplus is either defined by law in case of a reference retailer (*comercializadora de referencia*) or the value of the surplus is agreed between the parties in case of a free market retailer (*comercializadora libre*).

Regarding self-consumption with surplus which is not eligible to benefit from the simplified compensation mechanism, the renewables self-consumer shall register as an energy producer (higher administrative burden). The surpluses are sold to the electricity market according to current regulations (Art. 13 (2) Royal Decree 244/2019).

A proper remuneration mechanisms for the self-generated renewable electricity fed into the grid is transposed into Spanish law. Spanish law provides a simplified compensation mechanism with a cap at the value of the energy taken from the grid but does not specifically introduce a remuneration in a traditional sense. Due to the cap, the **compensation is also only limited and only available for installations that meet the requirements outlined** above. For other self-consumption with surpluses that are not eligible, they have to register as an electricity producer.

Art. 21 (3) RED

Ley del sector eléctrico clarifies that renewables self-consumers are exempted from all types of charges and tolls. Prior to the adoption of Royal Decree 15/2018, Spain had a so-called “Sun Tax” (*Impuesto al Sol*), a controversial toll applied to renewables self-consumers, enshrined in Royal Decree 900/2015. The aim of this tax was to consider the flow of internally generated solar energy into the grid and its potential effects on the conventional energy infrastructure. With Royal Decree 15/2018 the tax is no longer in force.

Art. 21 (4) RED

Art. 21 (4) RED is **(mostly) transposed** into Spanish law **in time**.

Collective self-consumption was first introduced by Royal Decree 900/2018. Royal Decree 244/2019 establishes the conditions of sharing energy with other consumers. Art. 4 (3) Royal Decree 244/2019 explains that self-consumption can be individual or collective, depending on whether it involves one or several consumers associated with the power installations. All participants in a collective-self-consumption associated with the same power installation must belong to the same form of self-consumption (with or without surplus) and have the same

agreement signed by participants outlining the distribution criteria. Shared self-consumption power installations can be connected in two ways according to Art. 3 (g) Royal Decree 244/2019:

- Nearby installations in the internal network: generation units can be interconnected through the internal network of consumers, allowing for example the sharing within one building.
- Nearby installations through the network: for example, possible for two nearby companies in different buildings.

Art. 3 (g) Royal Decree 244/2019 further defines a production installation close to consumption sites and associated with them. A production facility intended to generate electricity to one or more consumers under any form of self-consumption needs to meet the following conditions:

- Connected to the internal network of associated consumers or linked to them via direct lines (i.e. the same network).
- The associated consumers must be connected to the same transformation center (*centro de transformación*) and the energy distribution must be in low-voltage.
- The maximum distance between the power installation (e.g. photovoltaic plant) and each of the associated consumers must be no more than 500 meters.
- The production of the solar panel project and the self-consumers must be registered at the same cadastral reference (*referencia catastral*, taking into account its first fourteen digits, see 20th additional provisions Royal Decree 413/2014).

Renewables self-consumers located in the same building can jointly engage in generating renewable energy. The law clearly outlines reasonable conditions which have to be met to be able to share energy. All consumers associated have to belong to the same form of self-consumption, hence they are not only limited one form (e.g. without surplus) and can therefore also benefit from the simplified compensation mechanism. The law does **not include a provision ensuring that collective self-consumption does not face additional network charges** and other relevant charges, fees, levies and taxes. However, the provisions on collective-self consumption provide them with rights and only imposes limited conditions. Therefore, it may be implicitly understood that collective self-consumption does not face additional charges or fees.

Art. 21 (5) RED

In Spain, the consumer and the owner of the generation installation can be different individuals or legal entities for every form of self-consumption (Art. 5 (2) Royal Decree 244/2019). The regulation does **not address specifically the management of the installation** or that the third party shall not be considered a renewables self-consumer. Therefore, Art. 21 (5) RED is **(partially) implemented**.

Art. 21 (6) RED

With Royal Decree 244/2019, Spain puts **in place an enabling framework** to promote and facilitate **the development of renewables self-consumption in time**. Self-consumption is one of the main pillars to achieve the renewable installed power targets set within Measure 1.4 of the National Climate and Energy Plan. In December 2021, the Self-consumption Roadmap¹³⁴

¹³⁴ Ministry for Ecological Transition and Demographic Challenges. 2021. "Hoja de Ruta del Autoconsumo, Marco estratégico de energía y clima." Madrid: Gobierno de España. <https://www.miteco.gob.es/es/ministerio/planes-estrategias/hoja-ruta-autoconsumo.html>.

was published by the Spanish Ministry for Ecological Transition and Demographic Challenges (MITECO). It sets out the self-consumption targets for the period 2021-2030¹³⁵.

Regarding financing there are different initiatives and regulatory frameworks in place. In this regard, it is important to highlight Royal Decree 477/2021 which authorizes the direct granting to autonomous communities and the cities of Ceuta and Melilla of aid to implement various incentive programmes linked to self-consumption and storage from renewable sources, within the framework of the Recovery, Transformation and Resilience Plan. Royal Decree 377/2022 expands the types of beneficiaries laid out in Royal Decree 477/2021. For example, companies performing installations for individuals or other companies in any location under incentive programmes 1, 2, and 3 or the inclusion of firewood as an eligible fuel in biomass installations (previously only limited to pellets), thereby integrating a significant part of rural Spain. There are requirements regarding Do No Significant Harm (DNSH) and Eco-design.¹³⁶

Art. 17 of Law 49/1960 on Horizontal Property was modified by Royal Decree 19/2021 on urgent measures to promote building rehabilitation activities in the context of the Recovery, Transformation, and Resilience Plan. This amendment introduced a simple majority voting system for approving rehabilitation works aimed at enhancing the energy efficiency of buildings or implementing common-use renewable energy sources. This approach also applies to the application for grants and financing for such rehabilitation activities. Additionally, the costs incurred for these works or the necessary payments to cover related loans or financing will be treated as general expenses and follow preference rules specified in Art. 9 (1) Law 49/1960.¹³⁷

Autonomous communities in Spain can legislate beyond what is stipulated in national regulations within their competences. Regarding authorizations and constructions for self-consumption, autonomous communities can ease their land management and urban planning regulations to enable municipalities to adopt simplified procedures or ensure prior communication. A Professional Guide for Self-consumption Processing (*Guía Profesional de Tramitación del Autoconsumo*)¹³⁸ was created by the Institute for the Diversification and Saving of Energy (IDEA) and the Association of Spanish Agencies for Energy Management (EnerAgen) and summarizes the administrative procedures applicable in each autonomous community.

Overall, Spain has a solid framework in place to promote and facilitate the development of renewables self-consumption. It includes laws that aim at enhancing the energy efficiency of buildings or implementing common-use renewable energy sources or granting aid to implement various incentive programmes linked to self-consumption and storage from renewable sources. On municipal level there are special regulations in place to accelerate and promote self-consumption. Therefore, there might be a mechanism in place to grant access to support schemes and incentives for building owners. The details regarding accessibility for low-income or vulnerable households as well as incentives for tenants could be part of the Self-consumption Roadmap or other relevant laws on municipal level. Laws on municipal level cannot be assessed within the scope of this report.

¹³⁵ European Commission. 2023. "Spanish Electricity Market: Implementation Plan." https://energy.ec.europa.eu/document/download/d142bc8b-e7af-4e25-bbfe-371ce6fc3787_en?filename=02_PlandelImplementacion_EN.pdf.

¹³⁶ Instituto para la Diversificación y el Ahorro de la Energía n.d. "Para Energías Renovables En Autoconsumo, Almacenamiento, y Térmicas Sector Residencial (RD 477/2021)." <https://www.idae.es/ayudas-y-financiacion/para-energias-renovables-en-autoconsumo-almacenamiento-y-termicas-sector>.

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¹³⁸ Instituto para la Diversificación y Ahorro de la Energía (IDAE). 2023. "Guía Profesional de Tramitación Del Autoconsumo." https://www.idae.es/sites/default/files/documentos/publicaciones_idae/2023-01-10_Guia_Profesional_Tramitacion_autoconsumo_v.5.1_NIPO-2023.pdf.

Art. 21 (6) RED has (**mostly**, considering potential, relevant laws on municipal level) **been transposed** into Spanish law **in time** (Royal Decree 477/2021) and Spain aims to further push the deployment of self-consumption (see Self-Consumption Roadmap above).

Quality assessment

Apart from the few implementation deficits (lack of provisions on storage systems, in particular, no liability for any double charges or provisions that ensure no additional network charges and other relevant charges, fees, levies and taxes) and uncertainty regarding laws on municipal level outlined above, there do not appear to be significant regulatory barriers to the deployment of renewables self-consumption in Spain. There are solid financing initiatives to accelerate the deployment of renewables self-consumption in place in Spain. Royal Decree 477/2021 outlines in Annex I and II eligible actions and the amount of aid available for direct granting aid to implement various incentive programmes linked to self-consumption and storage from renewable sources. Incentive programmes include inter alia the service sector, the residential sector or public administrations. For example, incentive programme 4, which targets the residential sector, public administrations, or the third sector, provides aid as fixed unit amounts or "modules" to partially cover the eligible actions: regarding the residential sector, a self-consumption photovoltaic Installation receives 300 - 600 €/kWp, a self-consumption wind installation 650 – 2 900 €/Kw and the incorporation of self-consumption storage 140 - 490 €/kWh. Concerning inquiries, citizens, public bodies or companies have the possibility to contact the Citizen Information Service in Energy Efficiency and Renewable Energies (*Servicio de Información a la Ciudadanía en Eficiencia Energética y Energías Renovables*).¹³⁹

3.6.3 Summary

Most of Art. 11 DIR has been transposed into Spanish law within the given timeframe of the DIR. But, for example, the provision on information about dynamic electricity tariffs for consumers does not specifically include any information about its risks, and no clear timeframe to monitor the development of dynamic electricity tariffs is stipulated in Spanish law. No significant quality deficits could be found. Art. 11 DIR was implemented early and the share of Spanish households with contracts for dynamic tariffs rose from 28% in 2015 to 42% in 2019.

Art. 15 DIR has been partially transposed into Spanish law within the given timeframe of the DIR. There is no article in the Ley del sector eléctrico that deals exclusively with active customers. For example, the right of active customers to participate in flexibility and efficiency programmes has not been implemented. The law does not stipulate that the electricity fed into the grid and the electricity purchased must be reported as separate items when calculating grid charges. Furthermore, there is a need for further transposition in the area of energy storage, where double charging is still possible. No other significant quality deficits could be found.

Art. 17 DIR has been partially transposed, but not completely into Spanish law within the timeline of the DIR. The regulatory framework does not contain all the elements required by Art. 17 (2) DIR, for example not a financial obligation to pay for electricity imbalances caused by market participants involved in aggregation. Also fixed shares of aggregated electricity loads are not defined within the Spanish law. No other significant quality deficits could be found.

Art. 19 DIR has been largely incorporated into Spanish law within the timeframe set out in the DIR. The functional and technical minimum requirements for smart metering systems mentioned in Art. 19 (3) DIR were largely met, interoperability is ensured by Art. 30 (2r) of the law 24/2013. No significant quality deficits of the regulatory framework could be found, and the

¹³⁹ Instituto para la Diversificación y el Ahorro de la Energía n.d. "Para Energías Renovables En Autoconsumo, Almacenamiento, y Térmicas Sector Residencial (RD 477/2021)." <https://www.idae.es/ayudas-y-financiacion/para-energias-renovables-en-autoconsumo-almacenamiento-y-termicas-sector>.

deployment of smart metering systems has been progressing with a 99% coverage of smart meters in Spanish households by 31 December 2019.

Art. 32 DIR was not transposed into Spanish law. Article 30 of the ley del sector eléctrico regulates the rights and obligations of the distribution system operator (DSO). However, it does not envisage incentives for flexibility services, congestion management, demand response or energy storage. It is crucial to develop a regulation in Spain that determines the functionalities and roles of all market participants providing demand-side flexibility services in a clear and transparent manner.

Art. 22 (1) REG does not require any transposition into Spanish law. Capacity payments in Spain have been reduced or abolished since 2012. However, some capacity payments remain effective due to former commitments. In 2021 a draft order on a Spanish capacity mechanism that is aligned with the principles set out in Art. 22 (1) REG was published. Up until now, the order has not yet been published. It was anticipated that the government will amend the draft order to ensure full compliance with the REG, including suggestions for improvement by the CNMC.

Art. 16 RED has been partially transposed into Spanish law. There are many different permit-granting processes depending on the type and size of the power plant (access and connection permits and numerous administrative authorizations). Transposition did partially not take place in time. Delays vary contingent on provisions, e.g. the relevant order for contact points was adopted in February 2023 (delay of 20 months) and deadlines for permit-granting aligned with Art. 16 (4) RED were adopted by December 2022 (delay of 18 months). There is a need for further transposition of the provisions on the contact points that are only in place for big power installations and on the repowering of power installations where simplified procedures are only available in a very limited scope. Furthermore, provisions regarding the permit-granting procedure lack clarity, and it is a huge calculation task to identify the maximum time period for the entire permit-granting process. Regarding the quality of the implementation, it should be noted that there are no legal consequences for exceeding the legally binding maximum duration for permit-granting processes.

Art. 4 and 5 ACC do not require any transposition into Spanish law. Current durations of permit-granting procedures in Spanish law do not align with the simplified procedures in Art. 4 and 5 ACC. However, there are simplified procedures for small installations in place, such as rooftop PV units with an installed power up to 100 kW that benefit from a shorter procedure to be installed, as they do not need a PAA or ACC. It is however unclear whether they comply with the maximum time periods in Article 4 and 5 ACC.

Art. 17 RED has been fully transposed into Spanish law within the timeframe of the RED. There are no significant concerns regarding the quality of the implementation.

Art. 21 RED has been incorporated largely, but not completely in Spanish law within the timeframe of the RED. There are provisions on storage systems missing in the Spanish law, especially one that storage facilities of renewable self-consumers should not be liable for any double charge. The law also does not include a provision ensuring that collective self-consumption does not face additional network charges and other relevant charges, fees, levies and taxes. Apart from the uncertainty regarding municipal laws that cannot be assessed within the scope of this report, no significant quality deficits could be found.

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