ACER

European Union Agency for the Cooperation of Energy Regulators

Electricity country sheets

Monitoring data 2024

18 July 2025

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Country sheet guidance

The ACER country sheets present key metrics on retail electricity markets across EU Member States and Norway for the year 2024. They offer insights into consumer engagement at the retail level and monitor progress towards decarbonisation objectives. As electricity generation becomes increasingly variable due to the growing share of renewables, system stability and responsiveness will depend on flexible demand, smart technologies, and adaptable contract models. The indicators covered provide an overview of how electricity markets are developing. They reflect the extent to which consumers are participating in the energy transition, adopting new technologies, and supporting more decentralised and responsive energy systems. Taken together, these metrics help to assess the flexibility of each market and its capacity to contribute to a resilient and sustainable energy future. This guidance outlines the definitions of each indicator featured in the country sheets, along with the sources and methodologies used.

Competition & market metrics

Static consumer demand can drive prices up, especially when they are paired with costly and inflexible generation. In contrast, flexible demand, supported by dynamic price contracts, if adjusting to a higher share of price-competitive renewables, can lower consumer prices. As EU final energy demand becomes more electrified, this flexibility and demand-responsive dynamics will be crucial for achieving more affordable pricing. In parallel, competition fosters fair pricing and innovation, with higher consumer choice and switching rates indicating healthier market dynamics. The values below the indicators show year-on-year changes in the key market fundamental facts (expressed as percentage changes or nominally).

- **Consumers (mln)** - Refers to the number of household and non-household consumers in each Member State in millions, as measured by the number of metering points in the sector.
- **Average demand (MWh)** - Refers to the average annual demand for electricity of household and non-household consumers in MWh.
- **Unit price (€c/kWh)** - Refers to the average final electricity prices[1] paid by household and non-household consumers in cents/kWh, for the average consumption band in the country.
- **Nationwide suppliers** - Refers to the number of nationwide suppliers operating in the household or non-household sectors in the Member State.
- **Switching** - Refers to the share of household consumers (measured by metering points) and non-household consumers (measured by consumption volume) which have switched electricity suppliers during the year.
- **Concentration (HHI)** - Refers to the market concentration for the household and non-household markets, measured by the market share. The Herfindahl-Hirschman Index (HHI) is commonly used to measure market concentration, ranging from 0 to 10,000. An HHI score below 2,000 indicates a competitive market (green), a score between 2,000 and 4,000 indicates a concentrated market (orange), and a score above 4,000 indicates a highly concentrated market (red).
- **Hours with prices <5€/MWh** - Refers to the number of hours in a year during which wholesale electricity market prices fell below 5€ per megawatt-hour and includes negative prices. A higher number of such hours typically suggests the existence of periods of high renewable generation and low consumer demand, highlighting the need for greater consumer flexibility and storage capacity.
- **Hours with prices >150€/MWh** - Refers to the number of hours in a year during which wholesale electricity market prices exceeded 150€ per megawatt-hour. These high-price

[1] Final electricity prices reflect not only the costs of energy consumption but also account for all subsidies received by consumers.

periods usually indicate limited supply, or reliance on expensive generation, and have a direct impact on consumer bills and market volatility.

- **Days with price swings >50€ -** Refers to the number of days in a year during which the difference between the highest and lowest hourly electricity prices exceeded 50€/MWh. This metric captures the extent of intra-day price volatility and can indicate challenges in balancing supply and demand, as well as the value of flexible assets like demand-side response.
- **Average daily spread (€/MWh) -** Refers to the average difference between the maximum and minimum hourly wholesale electricity prices over all days in the year. It provides an indication of daily price volatility and the potential economic value of shifting consumption or generation within the day.

Consumer metrics

Consumer landscape indicators evaluate retail consumers' contract choice and their expenditure on electricity, including its detailed breakdown. A higher uptake of dynamic pricing contracts reflects more consumer engagement and higher market flexibility. Consumers with higher levels of demand, and therefore higher electricity expenditure, stand to benefit more from being flexible with their consumption.

- **Contract uptake (%)** - Refers to the type of contracts that consumers in each Member State have signed up to, differentiating between dynamic[2], market-based monthly spot variable, regulated, market-based fixed price, time of use, hybrid, and other contracts.
- **Bill breakdown (%)** - Refers to the different components which make up the final electricity price for households and non-households. The bill breakdown illustrates how the components of energy, network costs, VAT, and other taxes influence consumers' final electricity price formation. Negative components, indicating subsidies which reduce the final price, are not shown in the figure as they do not account for consumer expenditure.
- **Annual expenditure** - Next to the bill breakdown, the annual expenditure of households and non-households is shown. This refers to the average amount of money consumers spend on electricity per year, after subsidies and grants, based on the annual average consumption and unit prices in each country.

Decarbonisation metrics

- **Heat pumps** - Refers to the share of households using heat pumps. Heat pumps are considered a key technology for decarbonising the heating sector and increasing the electrification of residential energy use. A higher share suggests a stronger shift away from fossil-fuel-based heating systems.
- **Electric vehicles** - Refers to the share of electric vehicles in relation to the number of household consumers. This indicator reflects the level of electrification in the transport sector and is a key demand driver for electricity in households. A higher share indicates progress towards decarbonising mobility and increasing electricity demand and in turn, the provision of flexibility from residential consumers.
- **Smart meter roll-out** - Refers to the share of consumers with smart meters among total households and non-households, as measured by metering points[3].

[2] Directive (EU) 2019/944 defines dynamic contracts as ones that reflect price variations in the wholesale market at an hourly frequency.

[3] Where no data was received by ACER separating the smart meter roll-out between households and non-households, the data provided has been inserted as a data point for households.

- **Prosumers** - Refers to the share of household and non-household consumers that produce their own electricity. Prosumers generate renewable energy, typically via rooftop solar panels or small wind turbines, possibly in combination with battery storage systems. This enables them to consume their own electricity or feed it back to the grid.
- **Renewable generation** - Refers to the share of electricity generated from renewable energy sources (RES) in the country's total electricity production.
- **RES curtailment cost mln €**- Refers to the volume of renewable energy production that is intentionally reduced due to grid constraints or insufficient demand in the market, and the costs associated with compensating producers for missed revenues. The curtailment of renewable energy production generally results in greater use of more polluting and expensive generation sources, such as coal- or gas-fired power plants, thereby increasing energy bills for end-consumers and undermining the progress towards the energy transition.
- **Energy communities** - Refers to the number of officially recognised energy communities connected to the electricity grid. These communities are typically composed of individuals, households, or local entities that jointly produce, consume, store, and share renewable energy. Grid connection allows them to interact with the wider electricity system and can enable participation in markets and the provision of local flexibility services. While they can play a role in enhancing system resilience and supporting citizen involvement in the energy transition, they are one of several elements contributing to a more decentralised and flexible energy system.

The complete list of sources and methodologies employed for each indicator can be found in the methodology of the country sheets below.

Electricity country sheets 2024

AUSTRIA

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Competition & market metrics

Consumers (mln)	4.35	0.56
Average demand (MWh)	3.31	73.27
Unit price (€c/kWh)	25.8 ↓ -4%	27.4 ↓ -13%
Nationwide suppliers	40 ↓ -6	47 ↓ -4
Switching	4.6% ↑ 21%	4.4% ↑ 10%
Concentration (HHI)	6,590	1,330

Hours with prices <5€/MWh	6.2%
Hours with prices >150€/MWh	4.2%
Days with price swings >50€	306
Average daily spread (€/MWh)	97.42

Consumer metrics

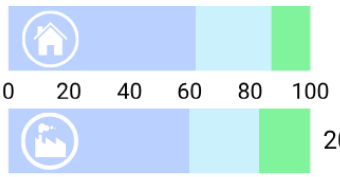
Contract uptake (%)

Not monitored

Not monitored

Dynamic
Monthly spot average
Time of use
Regulated
Market fixed
Hybrid
Other

Bill breakdown (%) and annual expenditure



Energy
Network costs
VAT
Other taxes

Decarbonisation & flexibility metrics

Heat pumps	11%
Electric vehicles	5%
Smart meter roll-out	97%
Smart meter roll-out	97%
Prosumers	N.A.
Prosumers	N.A.
Renewable generation	73%
RES curtailment cost mln €	N.A.
Energy communities	3,085

Strengths

- Large-scale smart meter roll-out enables information provision.
- High number of nationwide suppliers and energy communities offering choice to consumers.

Weaknesses

- Most incumbents only offer at local level, where they hold high market shares.
- Uncertainty for consumers regarding price changes to open ended supply contracts.
- Inactive consumers.

Opportunities

- Infrastructure in place to enable more active participation.
- Rising number of Renewable and Citizen Energy Communities to foster consumer awareness and active participation.

Threats

- Slow penetration of EVs slowing the progress regarding electrification of transportation.
- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

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BELGIUM

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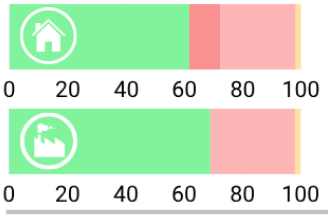
Competition & market metrics

Consumers (mln)	5.19	1.09
Average demand (MWh)	2.60	45.38
Unit price (€c/kWh)	33.3 ↓ -18%	25.3 ↓ -16%
Nationwide suppliers	7 ↕ 0	15 ↓ -1
Switching	18.2% ↑ 3%	N.A.
Concentration (HHI)	2,680	2,540

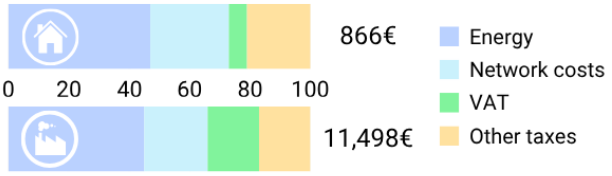
Hours with prices <5€/MWh	8.3%
Hours with prices >150€/MWh	2.0%
Days with price swings >50€	302
Average daily spread (€/MWh)	92.38

Consumer metrics

Contract uptake (%)



Bill breakdown (%) and annual expenditure



Decarbonisation & flexibility metrics

Heat pumps	N.A.
Electric vehicles	5%
Smart meter roll-out	46%
Smart meter roll-out	79 %
Prosumers	22%
Prosumers	N.A.
Renewable generation	34%
RES curtailment cost mln €	0.40
Energy communities	61

Strengths

- High switching rate among household consumers demonstrating engagement.
- Large smart meter roll-out for non-household consumers.

Weaknesses

- A more dynamic monitoring of the retail market enables faster awareness of and response to changing market dynamics.

Opportunities

- Flexibility initiatives could create potential for off-peak demand management.
- Smart meter roll-out is growing which will improve access to information.

Threats

- Limited consumer choice may inhibit options in certain regions.
- Limited flexibility may increase the need for network investment and in turn increase consumer costs.

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BULGARIA

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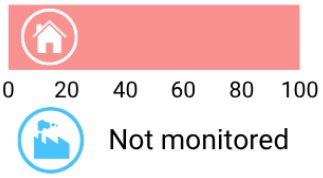
Competition & market metrics

Consumers (mln)	N.A.	N.A.
Average demand (MWh)	N.A.	N.A.
Unit price (€c/kWh)	11.8 ↑ 3%	14.75 ↓ -13%
Nationwide suppliers	4 ↕ 0	139 ↑ 11
Switching	0%	N.A.
Concentration (HHI)	3,500	N.A.

Hours with prices <5€/MWh	3.8%
Hours with prices >150€/MWh	12.5%
Days with price swings >50€	345
Average daily spread (€/MWh)	184.72

Consumer metrics

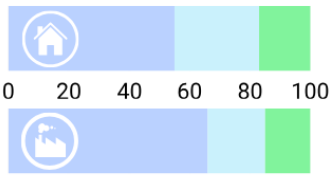
Contract uptake (%)



Not monitored

- Dynamic
- Monthly spot average
- Time of use
- Regulated
- Market fixed
- Hybrid
- Other

Bill breakdown (%) and annual expenditure



N.A.

N.A.

- Energy
- Network costs
- VAT
- Other taxes

Decarbonisation & flexibility metrics

Heat pumps	N.A.
Electric vehicles	N.A.
Smart meter roll-out	N.A.
Smart meter roll-out	N.A.
Prosumers	N.A.
Prosumers	N.A.
Renewable generation	31%
RES curtailment cost mln €	0
Energy communities	N.A.

Strengths

- Large number of nationwide suppliers in the non-household sector provides broad choice to consumers.
- Growing share of renewable generation in the energy mix.

Weaknesses

- 100% of consumers on regulated fixed price contracts.
- A more dynamic monitoring of the retail market enables faster awareness of and response to changing market dynamics.

Opportunities

- The delivery of market liberalisation will improve competition, innovation and consumer choice.

Threats

- Market regulation can prevent innovation and competition needed to deliver decarbonisation.
- Limited flexibility may require network investment and increase consumer costs.

Electricity country sheets 2024

CROATIA

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Competition & market metrics

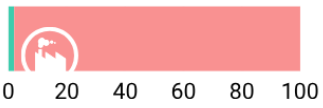
Consumers (mln)	2.35	0.23
Average demand (MWh)	2.85	45.75
Unit price (€c/kWh)	14.8 ↕ 0%	28.0 ↓ -16%
Nationwide suppliers	7 ↑ 1	7 ↕ 0
Switching	6.26%	N.A.
Concentration (HHI)	8,170	4,750

Hours with prices <5€/MWh	4.7%
Hours with prices >150€/MWh	10.2%
Days with price swings >50€	327
Average daily spread (€/MWh)	148.50

Consumer metrics

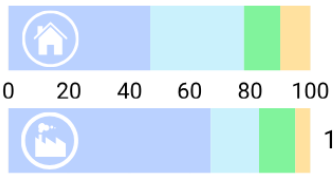
Contract uptake (%)

Not monitored



Dynamic
Monthly spot average
Time of use
Regulated
Market fixed
Hybrid
Other

Bill breakdown (%) and annual expenditure



Energy
Network costs
VAT
Other taxes

Decarbonisation & flexibility metrics

Heat pumps	N.A.
Electric vehicles	N.A.
Smart meter roll-out	34%
Smart meter roll-out	95%
Prosumers	1%
Prosumers	0%
Renewable generation	74%
RES curtailment cost mln €	0
Energy communities	0

Strengths

- Large-scale smart meter roll-out for non-household enables information provision.
- Aggregation services in place to aid participation and flexibility provision.

Weaknesses

- Predominantly fixed rate contract uptake limiting flexibility from consumers.
- A more dynamic monitoring of the retail market enables faster awareness of and response to changing market dynamics.

Opportunities

- Flexibility initiatives could create potential for off-peak demand management.
- Growing smart meter roll-out for household consumers which will enable data provision.

Threats

- Market regulation can prevent innovation and competition needed to deliver decarbonisation.
- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

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CYPRUS

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Competition & market metrics

Consumers (mln)	0.56	0.14
Average demand (MWh)	2.84	18.47
Unit price (€c/kWh)	32.5 ↓ -10%	33.4 ↓ -8%
Nationwide suppliers	1 ↕ 0	9 ↕ 0
Switching	0% ↕ 0%	0.1% ↓ -99%
Concentration (HHI)	10,000	8,210

Hours with prices <5€/MWh	N.A.
Hours with prices >150€/MWh	N.A.
Days with price swings >50€	N.A.
Average daily spread (€/MWh)	N.A.

Consumer metrics

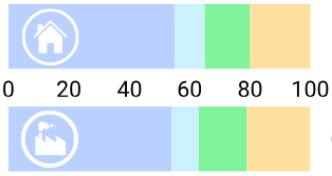
Contract uptake (%)

Not monitored

Not monitored

Dynamic
Monthly spot average
Time of use
Regulated
Market fixed
Hybrid
Other

Bill breakdown (%) and annual expenditure



Energy
Network costs
VAT
Other taxes

Decarbonisation & flexibility metrics

Heat pumps	N.A.
Electric vehicles	N.A.
Smart meter roll-out	0%
Smart meter roll-out	0%
Prosumers	14 %
Prosumers	0%
Renewable generation	24%
RES curtailment cost mln €	N.A.
Energy communities	0

Strengths

- Relatively high rate of consumer engagement via prosuming.

Weaknesses

- A more dynamic monitoring of the retail market enables faster awareness of and response to changing market dynamics.

Opportunities

- Small population provide the opportunity to roll-out smart meters.
- Flexibility initiative could create potential for off-peak demand management.

Threats

- Lack of smart meters impedes the provision of information while market remains concentrated.
- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

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CZECHIA

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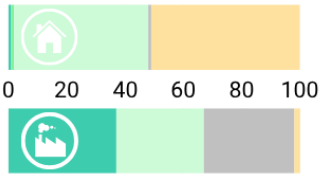
Competition & market metrics

Consumers (mln)	5.48	0.80
Average demand (MWh)	2.86	9.39
Unit price (€c/kWh)	33.4 ↑ 5%	36.8 ↓ -3%
Nationwide suppliers	81 ↑ 1	102 ↑ 6
Switching	6.8% ↑ 4.2%	19%
Concentration (HHI)	2,870	1,100

Hours with prices <5€/MWh	6.0%
Hours with prices >150€/MWh	6.1%
Days with price swings >50€	320
Average daily spread (€/MWh)	113.75

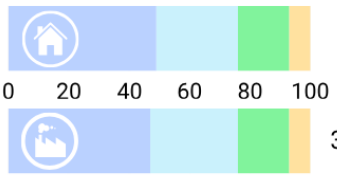
Consumer metrics

Contract uptake (%)



Dynamic
Monthly spot average
Time of use
Regulated
Market fixed
Hybrid
Other

Bill breakdown (%) and annual expenditure



Energy
Network costs
VAT
Other taxes

Decarbonisation & flexibility metrics

Heat pumps	6%
Electric vehicles	1%
Smart meter roll-out	N.A.
Smart meter roll-out	N.A.
Prosumers	4%
Prosumers	N.A.
Renewable generation	18%
RES curtailment cost mln €	0
Energy communities	6

Strengths

- Explicit DSR control provides variable network charges assisting in delivering efficient operation.

Weaknesses

- Low switching rate among consumers.
- A more dynamic monitoring of the retail market enables faster awareness of and response to changing market dynamics.

Opportunities

- Infrastructure in place to enable more active participation.
- Rising number of Renewable and Citizen Energy Communities to foster consumer awareness and active participation.

Threats

- Near zero smart meters impedes the provision of information to consumers.
- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

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DENMARK

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Competition & market metrics

Consumers (mln)	N.A.	N.A.
Average demand (MWh)	N.A.	N.A.
Unit price (€c/kWh)	36.7	N.A.
Nationwide suppliers	64 ↑ 24	43 ↑ 29
Switching	13.0% ↑ 44%	N.A.
Concentration (HHI)	1,140	1,250

Hours with prices <5€/MWh	8.5%
Hours with prices >150€/MWh	3.8%
Days with price swings >50€	303
Average daily spread (€/MWh)	103.03

Consumer metrics

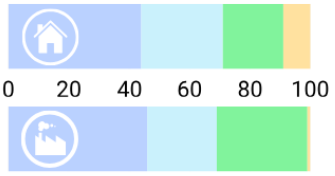
Contract uptake (%)

Not monitored

Not monitored

Dynamic
Monthly spot average
Time of use
Regulated
Market fixed
Hybrid
Other

Bill breakdown (%) and annual expenditure



N.A.

N.A.

Energy
Network costs
VAT
Other taxes

Decarbonisation & flexibility metrics

Heat pumps	7%
Electric vehicles	12%
Smart meter roll-out	100%
Smart meter roll-out	N.A.
Prosumers	N.A.
Prosumers	N.A.
Renewable generation	89 %
RES curtailment cost mln €	0
Energy communities	0

Strengths

- Highly competitive market delivery consumer choice.
- Full smart meter roll-out enables information provision to consumers.

Weaknesses

- A more dynamic monitoring of the retail market enables faster awareness of and response to changing market dynamics.

Opportunities

- Infrastructure in place to enable more active participation.
- Significant periods of time with low energy prices and daily price variation.

Threats

- Lack of data collection could impact policy decisions.
- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

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ESTONIA

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Competition & market metrics

Consumers (mln)	0.66	0.10
Average demand (MWh)	3.03	82.32
Unit price (€c/kWh)	22.6 ↕ 0%	19.2 ↓ -1%
Nationwide suppliers	25 ↕ 0	47 ↕ 0
Switching	8.0% ↑ 7%	N.A.
Concentration (HHI)	4,610	2,170

Hours with prices <5€/MWh	8.1%
Hours with prices >150€/MWh	11.2%
Days with price swings >50€	339
Average daily spread (€/MWh)	115.36

Consumer metrics

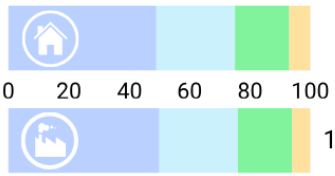
Contract uptake (%)

Not monitored

Not monitored

Dynamic
Monthly spot average
Time of use
Regulated
Market fixed
Hybrid
Other

Bill breakdown (%) and annual expenditure



Energy
Network costs
VAT
Other taxes

Decarbonisation & flexibility metrics

Heat pumps	N.A.
Electric vehicles	1%
Smart meter roll-out	99%
Smart meter roll-out	100%
Prosumers	4%
Prosumers	N.A.
Renewable generation	63%
RES curtailment cost mln €	0
Energy communities	N.A.

Strengths

- Large-scale smart meter roll-out enables information provision.
- Consumers engage in flexibility.

Weaknesses

- Contract data for 2024 not available.
- Low switching rate despite high consumer choice
- The majority of consumers are on fixed-price contracts.

Opportunities

- Significant percentage of low wholesale prices and daily price variations.
- Flexibility initiatives could create potential for off-peak demand management.

Threats

- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

Electricity country sheets 2024

FINLAND

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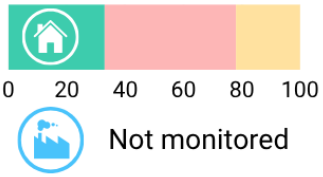
Competition & market metrics

Consumers (mln)	3.37	0.44
Average demand (MWh)	7.33	124.87
Unit price (€c/kWh)	21.5 ↑ 10%	13.8 ↓ -9%
Nationwide suppliers	49 ↓ -4	49 ↓ -4
Switching	15.1%	N.A.
Concentration (HHI)	1,010	940

Hours with prices <5€/MWh	24.8%
Hours with prices >150€/MWh	4.3%
Days with price swings >50€	185
Average daily spread (€/MWh)	81.91

Consumer metrics

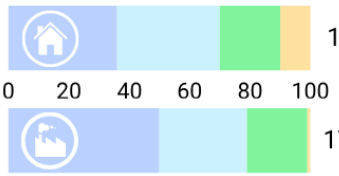
Contract uptake (%)



Not monitored

- Dynamic
- Monthly spot average
- Time of use
- Regulated
- Market fixed
- Hybrid
- Other

Bill breakdown (%) and annual expenditure



- Energy
- Network costs
- VAT
- Other taxes

Decarbonisation & flexibility metrics

Heat pumps	45%
Electric vehicles	4%
Smart meter roll-out	99%
Smart meter roll-out	100%
Prosumers	3 %
Prosumers	2%
Renewable generation	56%
RES curtailment cost mln €	0
Energy communities	400

Strengths

- Large-scale smart meter roll-out enables information provision.
- Strong supply competition delivering choice for consumers.

Weaknesses

- Limited flexibility on the generation side puts pressure on the demand side to provide the needed flexibility.
- A more dynamic monitoring of the retail market enables faster awareness of and response to changing market dynamics.

Opportunities

- Infrastructure enables active market participation throughout the supply chain.
- High volatility on wholesale market creates opportunities for flexibility providers and innovative supply contracts.

Threats

- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.
- Markets are unable to drive sufficient investments on flexibility both on the generation and demand side.

Electricity country sheets 2024

FRANCE

ACER
European Union Agency for the Cooperation of Energy Regulators

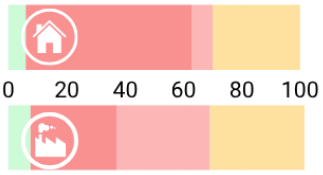
Competition & market metrics

Consumers (mln)	34.79	5.34
Average demand (MWh)	4.11	48.58
Unit price (€c/kWh)	28.9 ↑ 18%	26.7 ↓ -13%
Nationwide suppliers	30 ↓ -5	47 ↑ 1
Switching	6% ↑ 8%	10.4% N.A.
Concentration (HHI)	4,670	2,500

Hours with prices <5€/MWh	11.5%
Hours with prices >150€/MWh	1.1%
Days with price swings >50€	283
Average daily spread (€/MWh)	77.05

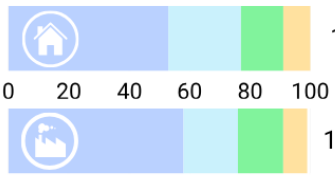
Consumer metrics

Contract uptake (%)



Dynamic
Monthly spot average
Time of use
Regulated
Market fixed
Hybrid
Other

Bill breakdown (%) and annual expenditure



Energy
Network costs
VAT
Other taxes

Decarbonisation & flexibility metrics

Heat pumps	8%
Electric vehicles	4%
Smart meter roll-out	94%
Smart meter roll-out	95%
Prosumers	2%
Prosumers	0%
Renewable generation	27%
RES curtailment cost mln €	8.20
Energy communities	N.A.

Strengths

- Large-scale smart meter roll-out enables information provision.
- Stable and low carbon generation mix.

Weaknesses

- Dynamic contract not available to household consumers.
- Price regulation continues in both the consumer sectors which can act as a market barrier for new entrants.

Opportunities

- Infrastructure in place to enable active participation.
- 45% ToU contract share (regulated & market) demonstrating a willingness to engage in flexible consumption.

Threats

- Regulated retail prices are a potential barrier to innovative supplier practices.
- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

Electricity country sheets 2024

GERMANY

ACER
European Union Agency for the Cooperation of Energy Regulators

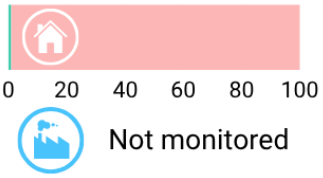
Competition & market metrics

Consumers (mln)	44.21	3.29
Average demand (MWh)	2.57	92.45
Unit price (€c/kWh)	39.5 ↓ -3%	32.4 ↑ 8%
Nationwide suppliers	212 ↑ 15	212 ↑ 194
Switching	14.0% ↑ 17%	14.0% ↑ 8%
Concentration (HHI)	N.A.	N.A.

Hours with prices <5€/MWh	8.5%
Hours with prices >150€/MWh	4.1%
Days with price swings >50€	318
Average daily spread (€/MWh)	112.08

Consumer metrics

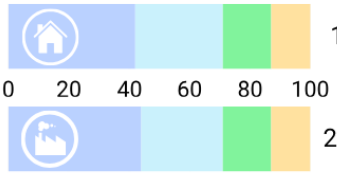
Contract uptake (%)



Not monitored

- Dynamic
- Monthly spot average
- Time of use
- Regulated
- Market fixed
- Hybrid
- Other

Bill breakdown (%) and annual expenditure



- Energy
- Network costs
- VAT
- Other taxes

Decarbonisation & flexibility metrics

Heat pumps	2%
Electric vehicles	4%
Smart meter roll-out	2%
Smart meter roll-out	2%
Prosumers	7%
Prosumers	6%
Renewable generation	57%
RES curtailment cost mln €	631.82
Energy communities	N.A.

Strengths

- High rates of consumers switching and generating their own electricity.
- Large number of nationwide suppliers.
- Renewable sources account for a major share of energy production.

Weaknesses

- Near zero smart meter provision.
- Grid expansion progressing slowly.
- Uptake of inflexible contracts limits flexibility, risking inefficient investments and higher consumer costs.

Opportunities

- Flexibility initiatives can create off peak management.
- Enhanced roll-out of smart meters will enable greater information provision.

Threats

- Grid congestion resulting in RES curtailment costs of €631.8m.
- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

Electricity country sheets 2024

GREECE

ACER
European Union Agency for the Cooperation of Energy Regulators

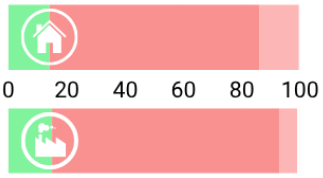
Competition & market metrics

Consumers (mln)	6.01	1.70
Average demand (MWh)	2.89	20.94
Unit price (€c/kWh)	22.6 ↓ -2%	23.1 ↓ -11%
Nationwide suppliers	13 ↓ -3	18 ↑ 2
Switching	6% ↓ -39%	13.3% ↑ 40%
Concentration (HHI)	5,160	2,870

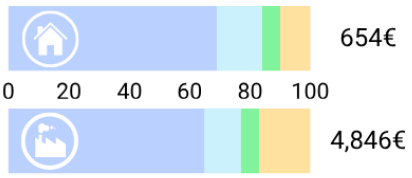
Hours with prices <5€/MWh	3.0%
Hours with prices >150€/MWh	10.7%
Days with price swings >50€	341
Average daily spread (€/MWh)	162.86

Consumer metrics

Contract uptake (%)



Bill breakdown (%) and annual expenditure



Decarbonisation & flexibility metrics

Heat pumps	N.A.
Electric vehicles	1 %
Smart meter roll-out	12%
Smart meter roll-out	N.A.
Prosumers	1 %
Prosumers	N.A.
Renewable generation	51%
RES curtailment cost mln €	N.A.
Energy communities	N.A.

Strengths

- High level of renewable generation.

Weaknesses

- Limited smart meter roll-out is limiting the provision of information to consumers.
- A more dynamic monitoring of the retail market enables faster awareness of and response to changing market dynamics.

Opportunities

- Flexibility initiatives can create off peak management.
- Enhanced roll-out of smart meters.

Threats

- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.
- The electricity market is highly concentrated.

Electricity country sheets 2024

HUNGARY

ACER
European Union Agency for the Cooperation of Energy Regulators

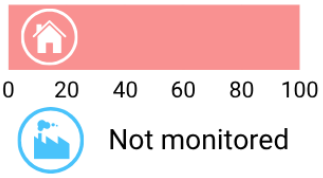
Competition & market metrics

Consumers (mln)	5.26	0.45
Average demand (MWh)	2.36	59.50
Unit price (€c/kWh)	9.0 ↓ -7%	32.0 ↓ -18%
Nationwide suppliers	1 ↕ 0	39 ↑ 2
Switching	N.A.	N.A.
Concentration (HHI)	10,000	1,740

Hours with prices <5€/MWh	5.4%
Hours with prices >150€/MWh	12.3%
Days with price swings >50€	333
Average daily spread (€/MWh)	183.75

Consumer metrics

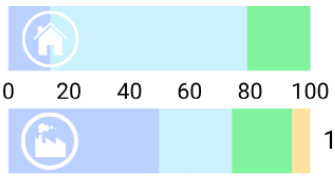
Contract uptake (%)



Not monitored

Dynamic
Monthly spot average
Time of use
Regulated
Market fixed
Hybrid
Other

Bill breakdown (%) and annual expenditure



Energy
Network costs
VAT
Other taxes

Decarbonisation & flexibility metrics

Heat pumps	N.A.
Electric vehicles	2%
Smart meter roll-out	N.A.
Smart meter roll-out	N.A.
Prosumers	6.4%
Prosumers	N.A.
Renewable generation	31%
RES curtailment cost mln €	0
Energy communities	9

Strengths

- High number of nationwide suppliers for the non-household consumer.
- Wholesale market supports retail market integration and fosters the competitive part of the retail market.

Weaknesses

- Highly concentrated, uncompetitive retail household market.
- Level of regulation impeding the arrival of new and innovative suppliers.

Opportunities

- While limited, smart meter roll-out will enhance flexibility provision while participation from energy communities increasing.

Threats

- Limited smart meter availability to consumers.
- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

Electricity country sheets 2024

IRELAND

ACER
European Union Agency for the Cooperation of Energy Regulators

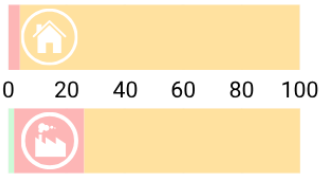
Competition & market metrics

Consumers (mln)	2.25	0.30
Average demand (MWh)	4.01	75.70
Unit price (€c/kWh)	35.9 ↑ 10%	33.5 ↓ -6%
Nationwide suppliers	9 ↓ -2	9 ↓ -1
Switching	16% ↑ 44%	8.0% ↓ -100%
Concentration (HHI)	2,790	2,390

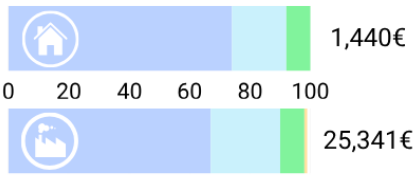
Hours with prices <5€/MWh	1.5%
Hours with prices >150€/MWh	12.4%
Days with price swings >50€	323
Average daily spread (€/MWh)	99.78

Consumer metrics

Contract uptake (%)



Bill breakdown (%) and annual expenditure



Decarbonisation & flexibility metrics

Heat pumps	7%
Electric vehicles	7%
Smart meter roll-out	84%
Smart meter roll-out	78%
Prosumers	5%
Prosumers	3%
Renewable generation	46%
RES curtailment cost mln €	0
Energy communities	0

Strengths

- Rapid smart meter roll-out is enabling information provision.
- High RES generation combined with high level of customer engagement via switching supplier or contract renegotiating.

Weaknesses

- Dynamic contracts remain unavailable to household consumers.
- Full access to smart meters still not available.

Opportunities

- Infrastructure in place to enable more active participation.
- Flexibility initiatives could create off-peak demand management.

Threats

- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.
- Dependency on gas generation reducing potential for longer time with low prices.

Electricity country sheets 2024

ITALY

ACER
European Union Agency for the Cooperation of Energy Regulators

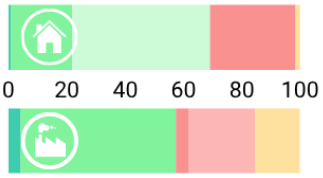
Competition & market metrics

Consumers (mln)	30.45	7.16
Average demand (MWh)	1.87	27.13
Unit price (€c/kWh)	35.9 ↓ -7%	30.4 ↓ -8%
Nationwide suppliers	141 ↑ 10	86 ↑ 3
Switching	23.8% ↑ 26%	23.4% ↓ -17%
Concentration (HHI)	2,460	770

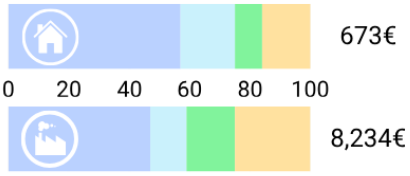
Hours with prices <5€/MWh	0.8%
Hours with prices >150€/MWh	9.1%
Days with price swings >50€	312
Average daily spread (€/MWh)	80.41

Consumer metrics

Contract uptake (%)



Bill breakdown (%) and annual expenditure



Decarbonisation & flexibility metrics

Heat pumps	N.A.
Electric vehicles	1.3%
Smart meter roll-out	100%
Smart meter roll-out	100%
Prosumers	3 %
Prosumers	2 %
Renewable generation	49%
RES curtailment cost mln €	21.00
Energy communities	212

Strengths

- Large-scale smart meter roll-out enables information provision.
- High number of nationwide suppliers.

Weaknesses

- High uptake of consumers on inflexible contracts.

Opportunities

- Infrastructure in place to enable more active participation.
- Progressive phase-out of regulated prices for all households creating opportunities for innovation.

Threats

- Potential temporal misalignment between deployment of flexibility tools and renewable penetration.
- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

Electricity country sheets 2024

LATVIA

ACER
European Union Agency for the Cooperation of Energy Regulators

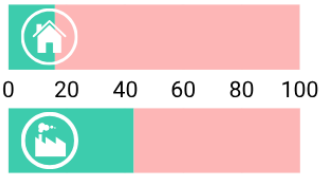
Competition & market metrics

Consumers (mln)	N.A.	N.A.
Average demand (MWh)	N.A.	N.A.
Unit price (€c/kWh)	21.7 ↓ -32%	30.1 ↑ 15%
Nationwide suppliers	18 ↑ 3	24 ↑ 2
Switching	5.0% ↑ 25%	N.A.
Concentration (HHI)	N.A.	2,420

Hours with prices <5€/MWh	7.7%
Hours with prices >150€/MWh	11.3%
Days with price swings >50€	338
Average daily spread (€/MWh)	151.60

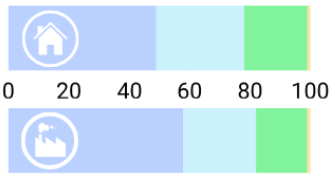
Consumer metrics

Contract uptake (%)



Dynamic
Monthly spot average
Time of use
Regulated
Market fixed
Hybrid
Other

Bill breakdown (%) and annual expenditure



N.A.
N.A.

Energy
Network costs
VAT
Other taxes

Decarbonisation & flexibility metrics

Heat pumps	N.A.
Electric vehicles	N.A.
Smart meter roll-out	99%
Smart meter roll-out	99%
Prosumers	N.A.
Prosumers	N.A.
Renewable generation	72%
RES curtailment cost mln €	0
Energy communities	N.A.

Strengths

- Large-scale smart meter roll-out enables information provision.
- High renewable penetration.

Weaknesses

- Low switching rate with consumers mostly on fixed-price contracts.
- A more dynamic monitoring of the retail market enables faster awareness of and response to changing market dynamics.

Opportunities

- Infrastructure in place to enable more active participation.
- Flexibility initiatives could create potential for off-peak demand management.

Threats

- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

Electricity country sheets 2024

LITHUANIA

ACER
European Union Agency for the Cooperation of Energy Regulators

Competition & market metrics

Consumers (mln)	1.64	0.18
Average demand (MWh)	1.89	45.88
Unit price (€c/kWh)	24.6 ↓ -7%	24.0 ↑ 1%
Nationwide suppliers	4 ↓ -2	26 ↑ 1
Switching	18.75% ↑ 126%	75.11% ↑ 126%
Concentration (HHI)	3,630	2,590

Hours with prices <5€/MWh	7.8%
Hours with prices >150€/MWh	11.2%
Days with price swings >50€	338
Average daily spread (€/MWh)	151.38

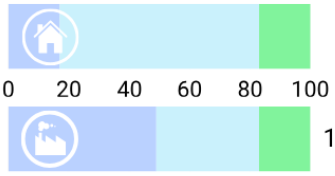
Consumer metrics

Contract uptake (%)

Not monitored

- Dynamic
- Monthly spot average
- Time of use
- Regulated
- Market fixed
- Hybrid
- Other

Bill breakdown (%) and annual expenditure



- Energy
- Network costs
- VAT
- Other taxes

Decarbonisation & flexibility metrics

Heat pumps	N.A.
Electric vehicles	1%
Smart meter roll-out	51%
Smart meter roll-out	95%
Prosumers	5%
Prosumers	3%
Renewable generation	72%
RES curtailment cost mln €	0
Energy communities	1

Strengths

- Large-scale smart meter roll-out for non-household enables information provision.
- High level of renewable generation.

Weaknesses

- Moderately concentrated retail market.
- A more dynamic monitoring of the retail market enables faster awareness of and response to changing market dynamics.

Opportunities

- Growing rate of smart meter roll-out among household consumers.
- Flexibility initiatives could create potential for off-peak demand management.

Threats

- Lack of data collection could impact policy decisions.
- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

Electricity country sheets 2024

LUXEMBOURG

ACER
European Union Agency for the Cooperation of Energy Regulators

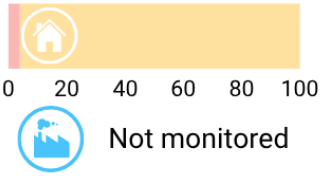
Competition & market metrics

Consumers (mln)	0.29	0.07
Average demand (MWh)	3.62	75.81
Unit price (€c/kWh)	20.3 ↑ 1%	23.3 ↓ -13%
Nationwide suppliers	8 ↕ 0	10 ↕ 0
Switching	0.5% ↑ 23%	2.8% ↑ 4%
Concentration (HHI)	8,440	5,790

Hours with prices <5€/MWh	8.5%
Hours with prices >150€/MWh	4.1%
Days with price swings >50€	318
Average daily spread (€/MWh)	112.08

Consumer metrics

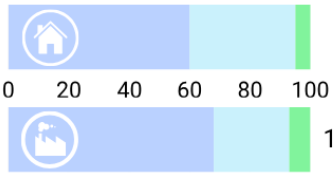
Contract uptake (%)



Not monitored

- Dynamic
- Monthly spot average
- Time of use
- Regulated
- Market fixed
- Hybrid
- Other

Bill breakdown (%) and annual expenditure



- Energy
- Network costs
- VAT
- Other taxes

Decarbonisation & flexibility metrics

Heat pumps	N.A.
Electric vehicles	12%
Smart meter roll-out	99%
Smart meter roll-out	99%
Prosumers	7%
Prosumers	1%
Renewable generation	50%
RES curtailment cost mln €	0
Energy communities	312

Strengths

- Large-scale smart meter roll-out enables information provision.
- High number of nationwide suppliers.

Weaknesses

- Low switching rate from consumers but increasing.
- A more dynamic monitoring of the retail market enables faster awareness of and response to changing market dynamics.

Opportunities

- Flexibility initiatives could create off-peak demand management.
- Infrastructure in place to enable more active participation.

Threats

- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

Electricity country sheets 2024

MALTA

ACER
European Union Agency for the Cooperation of Energy Regulators

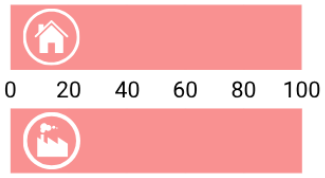
Competition & market metrics

Consumers (mln)	0.33	0.06
Average demand (MWh)	N.A.	N.A.
Unit price (€c/kWh)	14.6 ↕ 0%	19.7 ↓ -2%
Nationwide suppliers	1 ↕ 0	1 ↕ 0
Switching	N.A.	N.A.
Concentration (HHI)	10,000	10,000

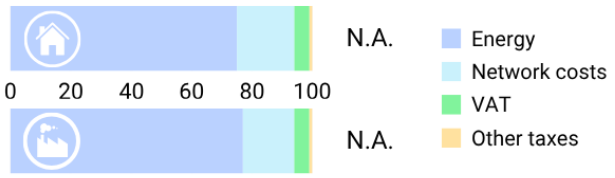
Hours with prices <5€/MWh	N.A.
Hours with prices >150€/MWh	N.A.
Days with price swings >50€	N.A.
Average daily spread (€/MWh)	N.A.

Consumer metrics

Contract uptake (%)



Bill breakdown (%) and annual expenditure



Decarbonisation & flexibility metrics

Heat pumps	N.A.
Electric vehicles	4%
Smart meter roll-out	93%
Smart meter roll-out	87%
Prosumers	10%
Prosumers	4%
Renewable generation	15%
RES curtailment cost mln €	0
Energy communities	0

Strengths

- Large-scale smart meter roll-out enables information provision.

Weaknesses

- 100% of consumers on regulated fixed price contracts.
- A more dynamic monitoring of the retail market enables faster awareness of and response to changing market dynamics.

Opportunities

- Infrastructure in place to enable more active participation.
- Flexibility initiatives could create off-peak demand management.

Threats

- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

Electricity country sheets 2024

NETHERLANDS

ACER
European Union Agency for the Cooperation of Energy Regulators

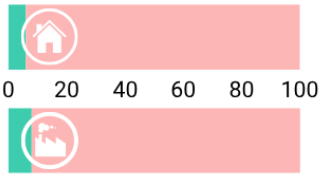
Competition & market metrics

Consumers (mln)	8.70	N.A
Average demand (MWh)	2.24	N.A.
Unit price (€c/kWh)	15.8 ↑ 2%	22.6 ↓ -21%
Nationwide suppliers	52 ↓ -6	52 ↓ -6
Switching	13.0% ↑ 8%	13.0% ↑ 8%
Concentration (HHI)	1,750	1,500

Hours with prices <5€/MWh	8.8%
Hours with prices >150€/MWh	3.3%
Days with price swings >50€	316
Average daily spread (€/MWh)	113.74

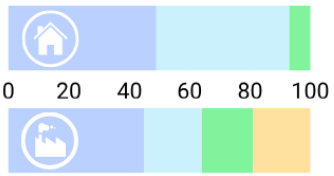
Consumer metrics

Contract uptake (%)



Dynamic
Monthly spot average
Time of use
Regulated
Market fixed
Hybrid
Other

Bill breakdown (%) and annual expenditure



354€

N.A.

Energy
Network costs
VAT
Other taxes

Decarbonisation & flexibility metrics

Heat pumps	7%
Electric vehicles	7%
Smart meter roll-out	90%
Smart meter roll-out	90%
Prosumers	30%
Prosumers	N.A.
Renewable generation	51%
RES curtailment cost mln €	0.54
Energy communities	N.A.

Strengths

- High percentage of prosumers demonstrating active participation.
- Large scale smart meter roll-out enables information provision.

Weaknesses

- High percentage of consumers on fixed price contracts.
- Net metering for prosumers may impede behavioural changes.

Opportunities

- Infrastructure in place to enable more active participation.
- Flexibility initiatives could create potential for off-peak demand management.

Threats

- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

Electricity country sheets 2024

NORWAY

ACER
European Union Agency for the Cooperation of Energy Regulators

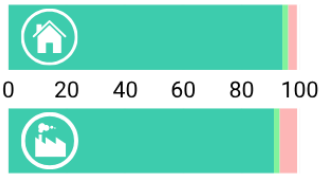
Competition & market metrics

Consumers (mln)	3.01	0.39
Average demand (MWh)	13.58	225.72
Unit price (€c/kWh)	13.0 ↓ -4%	10.3 ↓ -16%
Nationwide suppliers	168 ↑ 85	204 ↑ 76
Switching	8.8% ↓ -12%	8.5%
Concentration (HHI)	850	910

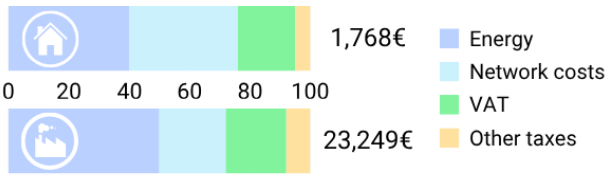
Hours with prices <5€/MWh	10.3%
Hours with prices >150€/MWh	0.5%
Days with price swings >50€	57
Average daily spread (€/MWh)	31.12

Consumer metrics

Contract uptake (%)



Bill breakdown (%) and annual expenditure



Decarbonisation & flexibility metrics

Heat pumps	42%
Electric vehicles	26%
Smart meter roll-out	99%
Smart meter roll-out	99%
Prosumers	1%
Prosumers	2%
Renewable generation	99%
RES curtailment cost mln €	0.79
Energy communities	N.A.

Strengths

- High level of consumers on dynamic contracts and smart meter roll-out of 99%.
- Strong competition providing consumer choice.

Weaknesses

- While consumer choice is strong, consumers may not fully understand the offers being provided to them.

Opportunities

- High level of EVs and consumers on dynamic spot prices enables flexibility though smart-changing.
- High level of electrification in heating can provide opportunities for flexibility.

Threats

- Fixed-price contracts may reduce liquidity on organised market and reduce transparency and demand response.

Electricity country sheets 2024

POLAND

ACER
European Union Agency for the Cooperation of Energy Regulators

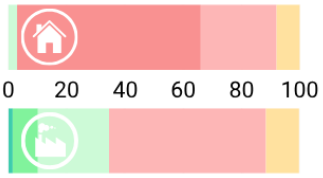
Competition & market metrics

Consumers (mln)	17.62	1.68
Average demand (MWh)	2.05	67.53
Unit price (€c/kWh)	22.9 ↑ 12%	31.7 ↑ 5%
Nationwide suppliers	95 ↑ 16	247 ↑ 93
Switching	0.4% ↑ 21%	24.3% ↑ 23%
Concentration (HHI)	2,410	1,350

Hours with prices <5€/MWh	4.0%
Hours with prices >150€/MWh	8.1%
Days with price swings >50€	297
Average daily spread (€/MWh)	121.25

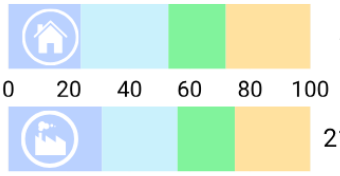
Consumer metrics

Contract uptake (%)



Dynamic
Monthly spot average
Time of use
Regulated
Market fixed
Hybrid
Other

Bill breakdown (%) and annual expenditure



Energy
Network costs
VAT
Other taxes

Decarbonisation & flexibility metrics

Heat pumps	2 %
Electric vehicles	1%
Smart meter roll-out	36%
Smart meter roll-out	65%
Prosumers	9%
Prosumers	1%
Renewable generation	31%
RES curtailment cost mln €	0
Energy communities	54

Strengths

- Relatively high number of consumers engaging via prosuming.
- High switching rates among non-household consumers.

Weaknesses

- Price regulation inhibiting retail innovation, consumer engagement and the provision of flexibility.

Opportunities

- Smart meter roll-out growing.
- Flexibility initiatives could create off-peak demand management.

Threats

- Low transparency of RES curtailment may hamper investment signals.
- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

Electricity country sheets 2024

PORTUGAL

ACER
European Union Agency for the Cooperation of Energy Regulators

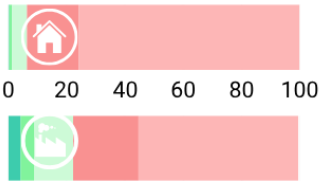
Competition & market metrics

Consumers (mln)	5.54	0.97
Average demand (MWh)	2.40	32.65
Unit price (€c/kWh)	27.5 ↑ 17%	19.7 ↑ 10%
Nationwide suppliers	36 ↑ 4	35 ↑ 1
Switching	25.0% ↑ 79%	21.0% ↓ -22%
Concentration (HHI)	4,090	1,650

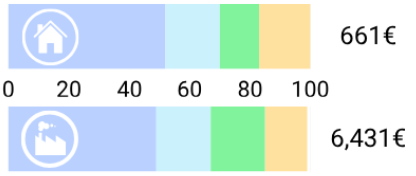
Hours with prices <5€/MWh	17.9%
Hours with prices >150€/MWh	2.0%
Days with price swings >50€	268
Average daily spread (€/MWh)	69.76

Consumer metrics

Contract uptake (%)



Bill breakdown (%) and annual expenditure



Decarbonisation & flexibility metrics

Heat pumps	N.A.
Electric vehicles	4%
Smart meter roll-out	99%
Smart meter roll-out	0%
Prosumers	4%
Prosumers	1%
Renewable generation	87%
RES curtailment cost mln €	0
Energy communities	331

Strengths

- Large-scale smart meter roll-out enables information provision combined with high levels of consumer switching.
- High level of renewable generation resulting in periods of low energy prices.

Weaknesses

- Limited consumer education may result in a reliance on regulated tariffs, often above market rates, increasing consumer costs.
- Uptake of inflexible contracts limits flexibility, risking inefficient investments and higher consumer costs.

Opportunities

- Infrastructure in place to enable more active participation.
- High percentage of time with low electricity price availability.

Threats

- High concentration and regulated prices may stifle innovation from new suppliers.
- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

Electricity country sheets 2024

ROMANIA

ACER
European Union Agency for the Cooperation of Energy Regulators

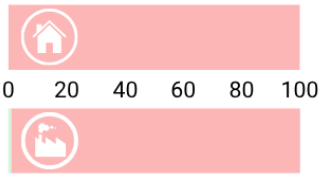
Competition & market metrics

Consumers (mln)	8.72	0.30
Average demand (MWh)	1.59	113.26
Unit price (€c/kWh)	16.7 ↑ 1%	20.6 ↓ -7%
Nationwide suppliers	30 ↕ 0	64 ↑ 2
Switching	2.82% ↑ 26%	17.9% ↓ -41%
Concentration (HHI)	2,430	633

Hours with prices <5€/MWh	4.0%
Hours with prices >150€/MWh	12.9%
Days with price swings >50€	344
Average daily spread (€/MWh)	188.81

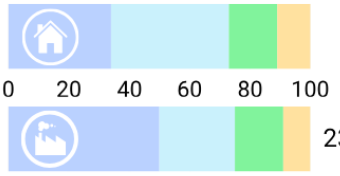
Consumer metrics

Contract uptake (%)



Dynamic
Monthly spot average
Time of use
Regulated
Market fixed
Hybrid
Other

Bill breakdown (%) and annual expenditure



Energy
Network costs
VAT
Other taxes

Decarbonisation & flexibility metrics

Heat pumps	N.A.
Electric vehicles	1%
Smart meter roll-out	27%
Smart meter roll-out	45 %
Prosumers	2%
Prosumers	8%
Renewable generation	50%
RES curtailment cost mln €	0.02
Energy communities	N.A.

Strengths

- High and growing percentage of renewable electricity generation.
- Growing number of prosumers.

Weaknesses

- Predominantly fixed price contracts being utilised by consumers impeding the provision of flexibility.
- Limited benefits of switching supplier among consumers.

Opportunities

- Growing rate of smart meter roll-out will enable more flexibility.
- Flexibility initiatives could create off-peak demand management.

Threats

- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.
- Existing technology not sufficient to achieve EMD goals.

Electricity country sheets 2024

SLOVAKIA

ACER
European Union Agency for the Cooperation of Energy Regulators

Competition & market metrics

Consumers (mln)	N.A.	N.A.
Average demand (MWh)	N.A.	N.A.
Unit price (€c/kWh)	14.9 ↓ -6%	N.A.
Nationwide suppliers	14 ↕ 0	14 ↕ 0
Switching	0.38% ↓ -14%	21.2%
Concentration (HHI)	N.A.	N.A.

Hours with prices <5€/MWh	5.9%
Hours with prices >150€/MWh	10.5%
Days with price swings >50€	323
Average daily spread (€/MWh)	140.86

Consumer metrics

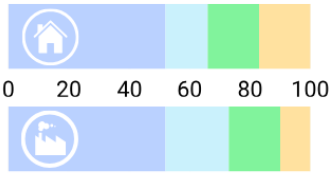
Contract uptake (%)

Not monitored

Not monitored

Dynamic
Monthly spot average
Time of use
Regulated
Market fixed
Hybrid
Other

Bill breakdown (%) and annual expenditure



Energy
Network costs
VAT
Other taxes

Decarbonisation & flexibility metrics

Heat pumps	N.A.
Electric vehicles	N.A.
Smart meter roll-out	N.A.
Smart meter roll-out	N.A.
Prosumers	N.A.
Prosumers	N.A.
Renewable generation	25%
RES curtailment cost mln €	0
Energy communities	6

Strengths

Weaknesses

- Limited smart meter roll-out impedes information provision.
- A more dynamic monitoring of the retail market enables faster awareness of and response to changing market dynamics.

Opportunities

- Infrastructure in place to enable more active participation.
- Flexibility initiatives could create off-peak demand management.

Threats

- 100% of consumers on untargeted regulated price contracts.
- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

Electricity country sheets 2024

SLOVENIA

ACER
European Union Agency for the Cooperation of Energy Regulators

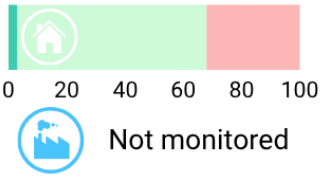
Competition & market metrics

Consumers (mln)	0.88	0.11
Average demand (MWh)	3.76	72.20
Unit price (€c/kWh)	20.5 ↑ 1%	23.6 ↓ -9%
Nationwide suppliers	12 ↑ 1	20 ↑ 3
Switching	0.5% ↕ 0%	5.7% ↓ -65%
Concentration (HHI)	1,920	1,290

Hours with prices <5€/MWh	4.9%
Hours with prices >150€/MWh	8.4%
Days with price swings >50€	323
Average daily spread (€/MWh)	138.34

Consumer metrics

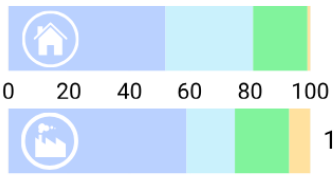
Contract uptake (%)



Not monitored

- Dynamic
- Monthly spot average
- Time of use
- Regulated
- Market fixed
- Hybrid
- Other

Bill breakdown (%) and annual expenditure



- Energy
- Network costs
- VAT
- Other taxes

Decarbonisation & flexibility metrics

Heat pumps	N.A.
Electric vehicles	2%
Smart meter roll-out	97%
Smart meter roll-out	N.A.
Prosumers	6%
Prosumers	4%
Renewable generation	42%
RES curtailment cost mln €	0
Energy communities	259

Strengths

- Large-scale smart meter roll-out enables information provision.
- High number of prosumers engaging in the market.

Weaknesses

- Non-household contracts not monitored.
- Low switching despite high consumer choice.
- Net metering impedes a behavioural shift on the part of the prosumer.

Opportunities

- Infrastructure in place to enable more active participation.
- Flexibility initiatives could create off-peak demand management.

Threats

- Limited flexibility from consumer contracts.
- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

Electricity country sheets 2024

SPAIN

ACER
European Union Agency for the Cooperation of Energy Regulators

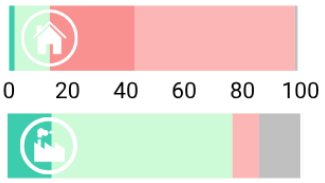
Competition & market metrics

Consumers (mln)	29.55	0.94
Average demand (MWh)	2.53	160.44
Unit price (€c/kWh)	24.2 ↑ 1%	20.9 ↓ -13%
Nationwide suppliers	306 ↑ 12	285 ↑ 15
Switching	23.7%	N.A.
Concentration (HHI)	2,360	1,230

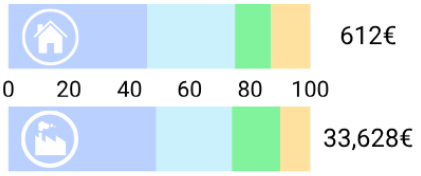
Hours with prices <5€/MWh	18.7%
Hours with prices >150€/MWh	2.0%
Days with price swings >50€	270
Average daily spread (€/MWh)	71.42

Consumer metrics

Contract uptake (%)



Bill breakdown (%) and annual expenditure



Decarbonisation & flexibility metrics

Heat pumps	19%
Electric vehicles	2%
Smart meter roll-out	99%
Smart meter roll-out	99%
Prosumers	2%
Prosumers	6 %
Renewable generation	56%
RES curtailment cost mln €	0
Energy communities	N.A.

Strengths

- Large-scale smart meter roll-out enables information provision.
- High number of nationwide suppliers combined with high switching rates.

Weaknesses

- Consumer engagement could be improved to identify most appropriate offer.
- Monitoring of decarbonisation metrics not yet in place.

Opportunities

- Flexibility initiatives could create off-peak demand management.
- Infrastructure in place to enable more active participation.

Threats

- Limited interconnection with member states driving internal dependency.
- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

Electricity country sheets 2024

SWEDEN

ACER
European Union Agency for the Cooperation of Energy Regulators

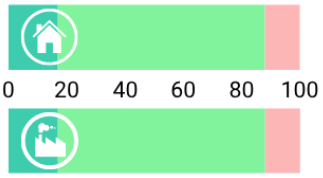
Competition & market metrics

Consumers (mln)	4.75	0.89
Average demand (MWh)	6.74	103.3
Unit price (€c/kWh)	19.8 ↓ -2%	13.2 ↓ -5%
Nationwide suppliers	63 ↕ 0	39 ↕ 0
Switching	9.5% ↓ -5%	8.3% ↓ -25%
Concentration (HHI)	870	870

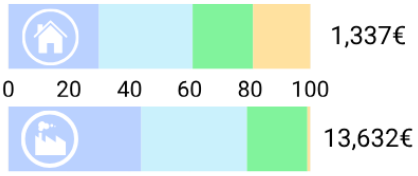
Hours with prices <5€/MWh	24.3%
Hours with prices >150€/MWh	1.2%
Days with price swings >50€	109
Average daily spread (€/MWh)	46.49

Consumer metrics

Contract uptake (%)



Bill breakdown (%) and annual expenditure



Decarbonisation & flexibility metrics

Heat pumps	36%
Electric vehicles	8%
Smart meter roll-out	100%
Smart meter roll-out	100%
Prosumers	6%
Prosumers	3%
Renewable generation	70%
RES curtailment cost mln €	0
Energy communities	N.A.

Strengths

- Large-scale smart meter roll-out enables information provision.
- Strong competition promoting consumer choice.

Weaknesses

- A more dynamic monitoring of the retail market enables faster awareness of and response to changing market dynamics.
- Consumers may not fully understand the offers being provided to them.

Opportunities

- Infrastructure in place to enable more active participation.
- Significant percentage of time with low energy prices creating opportunity for more flexible contracts.

Threats

- Majority of consumers on monthly spot average contracts impeding flexibility.
- Limited flexibility may drive a need for new network investment and in turn increase consumer costs.

Methodology

Competition & market metrics

- **Average demand** - Average demand is calculated by dividing total demand in the household/non-household sectors by the number of metering points in the given sector, as provided by the National Regulatory Authority.
- **Unit price (€c/kWh)** - The unit price is calculated as the average final price, across both semesters in the year, in the consumption band representative of the average demand of consumers in the Member State. The unit price accounts for all taxes, levies and subsidies paid by consumers.
- **Switching** - Switching rates for the household sector are calculated based on the number of metering points that have switched suppliers in the calendar year. Switching rates for non-household consumers are calculated based on the volume of demand that has switched suppliers in the calendar year.
- **Concentration (HHI)** - The Herfindahl-Hirschman Index (HHI) is a common measure of market concentration and is used to determine market competitiveness. The index measures the size of companies relative to the size of the industry they are in and the amount of competitiveness. The HHI is calculated by squaring the market share of each firm competing in a market and then summing the resulting numbers. The HHI for the household sector is calculated based on the number of metering points, while for the non-household sector based on volumes. The index can range from zero to 10,000. Values below 2,000 represent a competitive market, between 2,000 and 4,000 a concentrated market, and values above 4,000 a highly concentrated market.
- **Hours with prices <5€/MWh** - Refers to the number of hours in a year during which wholesale electricity market prices fell below 5€ per megawatt-hour (including negative prices). A higher number of such hours typically reflects periods of high renewable generation and low demand, highlighting the need for greater system flexibility and storage capacity.
- **Hours with prices >150€/MWh** - Refers to the number of hours in a year during which wholesale electricity market prices exceeded 150€ per megawatt-hour. These high-price periods usually indicate system stress, limited supply, or reliance on expensive generation, and have a direct impact on consumer bills and market volatility.
- **Days with price swings >50€** - Refers to the number of days in a year during which the difference between the highest and lowest hourly electricity prices exceeded 50€/MWh. This metric captures the extent of intra-day price volatility and can indicate challenges in balancing supply and demand, and highlights the value of flexible assets like demand-side response.
- **Average daily spread (€/MWh)** - Refers to the average difference between the maximum and minimum hourly wholesale electricity prices over all days in the year. It provides an indication of daily price volatility and the economic value of shifting consumption or generation within the day.

Contract uptake

- Dynamic contracts are defined as ones that reflect price variations in the wholesale market at an hourly frequency, in alignment with the Directive on common rules for the internal market for electricity[4].

[4] Directive (EU) 2019/944 on common rules for the internal market for electricity.

- Monthly spot-variable contracts are defined as ones whose monthly price changes are based on changes in the spot prices in the wholesale market.
- Regulated contracts are defined as contracts whose prices are determined by the NRA or another designated authority.
- Market fixed contracts are defined as fixed-price, fixed-term contracts whose prices are determined by competition.
- Hybrid contracts are defined as ones that include both fixed and variable components, with the latter typically indexed to wholesale market prices.

Decarbonisation metrics

- **Heat pumps** - Refers to the share of households using heat pumps. Heat pumps are considered a key technology for decarbonising the heating sector and increasing the electrification of residential energy use. A higher share suggests a stronger shift away from fossil-fuel-based heating systems.
- **Electric vehicles** - Refers to the share of electric vehicles in relation to the number of household consumers. This is calculated by dividing the number of electric vehicles by the total number of households consumers.
- **Smart meter roll-out** - Refers to the share of consumers with smart meters among household and non-household consumers, as measured by metering points.
- **Prosumers** - Refers to the share of household and non-household consumers that produce their own electricity[5]. Prosumers generate renewable energy, typically via rooftop solar panels or small wind turbines, possibly in combination with battery storage systems. This enables them to consume their own electricity or feed it back to the grid.
- **Renewable generation** - Refers to the share of electricity generated from renewable energy sources (RES) in the country's total electricity production.
- **RES curtailment cost mln €** - Refers to the costs associated with curtailing renewable electricity generation, typically due to grid constraints or insufficient market demand as well as the costs of compensating producers for lost revenues. The curtailment of renewable energy production generally results in greater use of more polluting and expensive generation sources, such as coal or gas-fired power plants, thereby increasing energy bills for end-consumers and undermining the progress towards the energy transition.
- **Energy communities** - Refers to the number of recognised energy communities that are actively connected to the electricity grid. These communities are typically composed of individuals, households, or local entities that jointly produce, consume, store, and share renewable energy. Grid connection can enable them to interact with the wider energy system, contribute to local flexibility, and participate in electricity markets, thereby contributing to system resilience and fostering citizen engagement in the energy transition.

[5] In the case of Belgium, both household and non-household prosumers are captured under the household consumer indicator, as the distinction between households and non-households is not available.

List of sources

Market & competition metrics	
Indicator	**Data source**
Consumers (mln)	National regulatory authorities
Demand (MWh)	National regulatory authorities
Unit Price (€c/kWh)	Eurostat (nrg_pc_204 & nrg_pc_205)
Concentration (HHI)	National regulatory authorities
Nationwide suppliers	National regulatory authorities
Switching	National regulatory authorities
Hours with prices <€5/MWh	ACER and ENTSO-E
Hours with prices >€150/MWh	ACER and ENTSO-E
Days with price swings >€50	ACER and ENTSO-E
Average daily spread (€/MWh)	ACER and ENTSO-E
Consumer metrics	
Indicator	**Data source**
Contract uptake (%)	National regulatory authorities
Bill breakdown (%)	Eurostat (nrg_pc_204_c & nrg_pc_205_c)
Annual expenditure	Eurostat (nrg_pc_204_c & nrg_pc_205_c) and national regulatory authorities
Consumption bands[6]	
Household consumers	**Non-household consumers**
Band DA: Less than 1,000 kWh	Band IA: Less than 20 MWh
Band DB: Between 1,000 and 2,499 kWh	Band IB: Between 20 and 499 MWh
Band DC: Between 2,500 and 4,999 kWh	Band IC: Between 500 and 1,999 MWh
Band DD: Between 5,000 and 14,999 kWh	Band ID: Between 2,000 and 19,999 MWh
Band DE: 15,000 kWh or over	Band IE: Between 20,000 and 69,999 MWh
	Band IF: Between 70,000 and 149,999 MWh
	Band IG: 150,000 MWh or over
Decarbonisation metrics	
Indicator	**Data source**
Electric vehicles	National regulatory authorities
Heat pumps	National regulatory authorities
Smart meter roll-out	National regulatory authorities
Prosumers	National regulatory authorities
Energy communities	National regulatory authorities
RES curtailment cost	National regulatory authorities
Share of renewable generation	Eurostat (nrg_cb_pem)

[6] Further information regarding the consumption bands is accessible on Eurostat, for household and non-household consumers.