

## Zooming in on...

### European electricity market reform

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#### Background

Households and companies all over Europe are suffering from **rising electricity prices**. The price increases can be partially attributed to the design of electricity markets in Europe. Therefore, the European Commission plans to reform European electricity markets, as temporary measures to counter the energy crisis will expire this year.

**The European electricity market** is a complex system which has been gradually harmonised among the Member States over the last decades. However, Member States are split on how to simultaneously lower electricity prices and expand renewables. Thus, it remains to be seen whether the proposal by the European Commission will bridge those divisions.

#### Distinguishing between electricity markets

The electricity market is generally divided into different sub-markets: first of all, the **retail market** for households and smaller commercial customers, and the **wholesale market** for large industrial consumers and electricity traders. On the wholesale market, a distinction is made between **over-the-counter** transactions, where long-term contracts are concluded directly between suppliers and customers, and **energy exchanges**. The latter involves trading electricity anonymously, either on the futures market, (electricity traded for the distant future) or the **spot market** (electricity for the next day or even the same day). **Short-term changes** in electricity prices can therefore be **attributed to price fluctuations on the spot market**.

Producers and costumers submit their bids in auctions. In doing so, **no differentiation is made between the different sources of electricity**. In offering electricity, producers base their bids on the **marginal costs** of their energy production. Those **costs indicate the amount of money necessary to generate another unit of electricity**. These marginal costs are low for renewable energies and nuclear power, as producers don't have to spend a lot on operating the plants; most of the costs are linked to the plant construction. In contrast, marginal costs of generating electricity from sources that burn fuels such as oil, gas or hydrogen are high.

Consequently, renewable energy suppliers can offer their electricity at the lowest price. Thus, their bids are first considered when meeting the electricity demand. Next, the bids of other power suppliers are considered according to their marginal costs. However, the **final electricity price is determined by the last supplier necessary to meet the total electricity demand**. The electricity price therefore reflects the marginal costs of sources that involve burning fuel, such as gas power plants. Suppliers of electricity from fossil-fuel sources can

make immense profits, as the price exceeds their marginal costs by far. This principle of determining price is called the merit-order principle.

Since the 1990s, a single energy market has been gradually created within the EU. Uniform rules for the electricity market have applied since 2019 within the framework of the **Energy Union**. This framework also includes provisions on the free formation of prices, which consolidates determining prices according to the merit-order system. In addition, rules were established on government subsidies for power plants that run as reserve capacities –i.e. ones subsidised to provide electricity regardless of whether they actually produce it, so as to balance the fluctuating energy provision from renewables. As rules for those subsidies are linked to the emissions of power plants, **subsidies for coal power plants will not be allowed after 2025.**

### **The merit-order system: from rising gas prices to rising electricity prices**

Last year, gas prices increased sharply in the wake of the war in Ukraine. This saw the costs of generating electricity from gas-fired power plants rise drastically as well. Though those increasing marginal costs mainly affected producers of electricity from gas-fired power plants, electricity prices have also risen considerably due to the merit-order system; electricity prices rose to levels consistently above 200 euros/MWh in Europe. In Germany, spot market prices even peaked around 600 euros/MWh.

Consequently, households with a small and medium income are especially affected by high electricity prices. Meanwhile, **producers of renewable energy are making huge profits.** For example, the total cost of producing onshore wind energy is between 40 and 80 euros/MWh which is considerably lower than the current electricity prices. However, only 40% of renewable-energy producers are able to make those profits, as the rest are covered by long-term supply contracts.

This led the EU to introduce a cap of 180 euros/MWh for revenues of all electricity not coming from gas-fired power plants. The cap expires in June 2023, and Member States are free to choose an even lower cap. However, some Member States have already announced that they are planning to extend the cap after June 2023.

### **A system that needs to be reformed**

As gas prices are expected to remain high in the next few years, the problem of high electricity prices will remain. Meanwhile, the costs of generating renewable energy will continue to fall thanks to technical improvements. As a result, the **financial burden imposed on households and companies by high electricity prices might remain** in the coming years. With the share of renewables expected to increase over that time, the **discrepancy between high prices for consumers and high profits for producers** might be further exacerbated. High electricity prices might also jeopardise the electrification of important economic sectors requiring affordable and stable electricity prices.

In the long term, however, the merit-order system could also **endanger the profitability of renewable energies.** Further expanding renewable energies might lead to days when electricity demand is completely covered by wind and solar energy. Due to the merit-order principle, this would result in a sharp drop in electricity prices. Consequently, fluctuating revenues might render investments in renewable energies uncertain and, in turn, more expensive.

To adapt the European electricity market design to current and future challenges, the European Commission has presented a [proposal](#) on 14<sup>th</sup> March. Next to this proposal member states' preferences about the reform are varying.

### **Greek government proposes splitting the market**

Among southern European Member States and some Eastern European Member states, governments tend to support far-reaching reform proposals linked to far-reaching state interventions in electricity markets. In July 2022, the **Greek government** presented [its proposal for the future design of the European electricity market](#). By **dividing the European electricity market according to the different energy sources**, the Greek government wants to split up the wholesale electricity market in Europe into two markets, reflecting different structures of cost. In a first market, electricity from renewables and nuclear power would be traded, as low marginal costs are linked to those energy sources. Another market would be created for all other energy sources, such as gas power plants, where marginal costs are higher.

Providers on the first market would be remunerated under **contracts for difference (CfDs)**. In this case, electricity is provided at a fixed price for a long term. If the market price deviates from the fixed price, producers or consumers must compensate for the loss incurred by the other contracting party by means of an offset payment. As a result, **producers are protected from low revenues caused by low prices, and consumers are protected from high energy bills**. Producers on the second market will still be remunerated under the merit-order principle. However, electricity from the first market needs to be fed into the grid on a mandatory basis. This would ensure that no electricity from fossil-energy sources is generated unnecessarily.

Consequently, the wholesale electricity price would be the **weighted average of the electricity prices on both markets**. [A simulation shows that adopting the proposal would have reduced electricity prices in the EU by 45%](#). This is in line with a study by the German Institute for Economic Research (DIW) [showing that electricity bills in Germany would have been reduced by 15 billion euros between August and December 2022](#) if CfDs had been used for remunerating producers of renewable energy.

### **Far-reaching reforms supported by other Member States**

[The Spanish government](#) published its proposals in January 2023, reflecting many of the policy recommendations in the Greek proposal. Like the Greek government, the Spanish government proposes to create a **separate market for electricity from renewable-energy sources**, where producers should be remunerated under CfDs. The auctions should be in line with the national targets for expanding renewable energy. Energy providers should be encouraged to participate in the auctions, and auctions covering already existing plants would be permitted under the proposal. Moreover, the Spanish government wants to relax the rules on government subsidies for reserve capacities.

The issue of **reserve capacity** is also addressed by the [Polish government's proposal](#), advocating a far-reaching relaxation of the rules on state subsidies. For example, the Polish government proposes to reduce the emissions target for reserve capacities, which would allow government subsidies for coal plants beyond 2025. This proposal aims to support coal and nuclear power plants in Poland. Furthermore, the Polish government supports splitting up the electricity market and remunerating producers of renewable energies under CfDs as well.

[This idea is also supported by the French government.](#) Relaxing rules on government subsidies for reserve capacities should also be in the interest of the French government, as it is advocating nuclear power to reduce emissions in the energy sector. The governments of Italy, Cyprus and Romania have already signalled their agreement to splitting up the electricity market as well. The Portuguese government, normally closely aligned with the Spanish government on matters of energy policies, also is also expected to agree with this idea. Thus, at least eight out of 27 Member States would be in favour of a far-reaching reform. However, **those eight states represent more than half of the EU population.**

### **Northern Member States hesitant**

[On the contrary, a group of seven Member States comprising Germany, Denmark, the Netherlands, Finland, Luxembourg, Estonia and Latvia clearly opposes far-reaching reforms of the electricity market.](#) The governments of those countries are in favour of a market-based reform. They argue that interventions in the electricity market could diminish incentives to invest into renewable energies. Moreover, they fear that the stability of the electricity grid could be threatened by CfDs. They allude to critics claiming that CfDs minimise the incentives for energy producers and energy consumers to adapt to a fluctuating electricity supply.

For the governments of those member states, current spikes in electricity prices are the result of extraordinary circumstances, but not of the electricity market design in general. They do not oppose using CfDs to remunerate the production of renewable energy in principle. However, according to the seven governments, CfDs should be voluntary and should only apply for new power plants. Therefore, the group generally opposes splitting the market. The hesitant view on CfDs **reflects divisions within the German government** on this issue. While the Social Democrats and the Green Party do support using CfDs, [the Liberals principally oppose remunerating electricity providers through CfDs.](#) The seven national governments also reject extending the revenue cap beyond June 2023. To solve the current and future challenges of the electricity market, they focus on **Power Purchase Agreements (PPAs)**. These are long-term contracts that producers and large-scale consumers directly conclude on the provision with electricity.

### **Different positions to consider in the reform proposal**

Consequently, **conflicts between the Member States** concerning their positions on the electricity market reform can be expected. On the one hand, southern and eastern member states, led by Spain, France and Poland, are pushing for a **far-reaching reform and far-reaching state intervention** in the electricity market. They want to split up the electricity market and remunerate producers of renewable energies through CfDs. In addition, they want to facilitate subsidies for reserve capacities. On the other hand, a group of northern Member States, led by Germany, tend to reject all of this, **proposing only minor corrections** to the existing system.

With its proposal, the European Commission tries to bridge those divisions. A far-reaching reform is rejected. Instead, the European Commission is relying primarily on PPAs as a market-based instrument in trying to facilitate access to them. At the same time, **subsidizing the expansion of low-emission energy sources should only be possible via CfDs.** The European Commission includes nuclear power into its definition of low-emission energy sources. Concerning capacity reserves, the Commission proposes adapting them more to fluctuating electricity demand and energy storage. However, the European Commission **rejects relaxing the CO2 standards.**

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It remains open whether this proposal will meet the approval of the Member States. A majority of the member states might even push for a more far-reaching reform. Thus, some northern Member states are [already afraid of being outvoted](#). Moreover, the positions of the different groups in the European Parliament, which has to approve the reform, are still unclear.

From a progressive perspective, supporting a far-reaching reform might make sense, as it seems to be the only way to **ensure an expansion of renewables at a low price for consumers**. Supporting CfDs could be a suitable measure to achieve this target, as they preserve incentives to invest in renewables, as can be seen in the UK. Despite surging energy prices, CfDs were still popular among suppliers last year. As a result, at CfD auctions prices of around 45 euros/MWh were achieved in the UK, being significantly below current market prices.

However, the role of fossil fuels and nuclear energy in the reform should be viewed cautiously. Subsidizing power generation from fossil fuel plants or mixing up nuclear power with renewable energy **could slow down the energy transition**. Moreover, the debate on nuclear energy could also widen the divisions among Member States as their positions on nuclear energy clearly differ.

Steffen Verheyen

Competence Centre for Climate and Social Justice

[steffen.verheyen@fes.de](mailto:steffen.verheyen@fes.de)