EXPLAINER

Marginal Pricing and the “Merit Order“

Why the proposed state interventions in wholesale electricity prices are a bad idea

5 March 2026

Commissioned by Eurelectric

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Why the proposed state interventions in wholesale electricity prices are a bad idea

Ahead of the European Council meeting on 19 and 20 March, this memo, drafted by Neon and commissioned by Eurelectric, is designed to provide analytical background to feed into the discussions. The memo is split into three parts.

First, it addresses the question of whether energy prices are actually so high in Europe. It explains that the current situation is entirely different from the energy prices faced in 2022 — indeed, prices have largely returned to pre-crisis levels. Nonetheless, major price differentials remain within Europe, and in some parts of Europe electricity prices are extremely internationally competitive. Other parts of Europe continue to face higher prices than parts of the US. By comparing Texas with Germany, the memo shows that the key driver of this structural price differential is natural gas, where prices are three times lower in the US than in the EU. While this differential may be reduced, it cannot be entirely eliminated.

Second, it asks whether the current market design, based on marginal pricing, is the optimal system to deliver a functioning, clean electricity system. It shows that marginal pricing is commonly used across commodity markets and illustrates its functioning through a simple commodity analogy. It highlights that marginal pricing is a standard feature of electricity markets globally, including across North America. The analysis concludes that marginal pricing remains the most efficient mechanism for dispatch, as it ensures that the lowest-cost generation is prioritized, and it debunks some of the key “myths” about marginal pricing.

Third, it asks what effects proposed changes to the market design would have. It analyses in detail some of the alternatives proposed to the current scheme. Two proposals are considered: (i) the “Iberian/Italian mechanism” (gas subsidy) and (ii) the “Capros proposal” (market split). The analysis demonstrates that the existing design delivers the greatest benefit to consumers and that alternatives would either lead to the same outcomes with a more complex electricity system, or to more expensive electricity for consumers.

This memo has been commissioned by Eurelectric and independently drafted by Neon. None of the views expressed should be understood as the official Eurelectric position.

This memo is available at neon.energy/marginal-pricing-merit-order

Neon Neue Energieökonomik is an energy economics consultancy based in Berlin. Since 2014, we have specialised as a boutique firm in sophisticated quantitative and economic-theoretical analyses of the electricity market. Through consulting projects, studies and training, we support decision-makers in addressing current challenges and future issues of energy system transformation. Our clients include governments, regulatory authorities, grid operators, energy providers, and electricity traders from Germany and across Europe.

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Executive Summary

The electricity markets discussion. The policy debate about electricity market design, marginal pricing, and the "Merit Order" has resurfaced in Europe. Policymakers and stakeholders concerned about electricity prices have proposed state interventions into wholesale electricity markets. These interventions resemble the "Iberian Mechanism" and the "Market Split" that were suggested during the energy crisis. This memorandum presents data on electricity price levels, explains the mechanics and merits of marginal pricing, and evaluates the proposed interventions.

We are not in an energy crisis. The impression that electricity prices have returned to crisis levels is false. At the peak of the energy crisis in 2022, forward electricity prices reached 1,000 €/MWh. Today, they range between 50 €/MWh and 90 €/MWh in most Member States. However, prices are higher in some parts of Europe than in other regions, including the United States. For example, forward prices in Texas are around 50 €/MWh, which is below the level observed in some European markets. This gap is not due to differences in market design — Texas also applies marginal pricing. Rather, the price differential reflects higher natural gas prices in Europe and the fact that Europe prices CO_2 emissions, whereas Texas does not.

Marginal pricing works. Marginal pricing is the standard mechanism through which prices form in competitive markets — not only in electricity, but also in commodities such as oil, gas, and metals. The "Merit Order curve" is just another name for the "short-term supply curve." Prices in commodity markets reflect the marginal cost of the last unit needed to meet demand. Electricity markets function in the same way. Revenues earned by generators with lower variable costs are not windfall profits; they are necessary to recover investment costs and fixed costs. This revenue structure is essential to incentivize new capacity and maintain system adequacy. European wholesale electricity markets are functioning as designed, and there is no structural failure that would justify intervention.

Interventions will cause more harm than good. Current proposals include an "Iberian Mechanism 2.0" proposed by Italy and a "Market Split" idea that would separate the wholesale market into two segments, one for renewables and one for fossil plants. While it is not clear how the latter would work in practice (e.g., market coupling, intraday trading, balancing), it is clear that both would distort the electricity market and undermine investor confidence. The Iberian Mechanism penalizes consumers who have hedged their electricity purchases and will make consumers more vulnerable to future price volatility. Moreover, if an intervention successfully lowers wholesale prices, the overall cost burden does not disappear. First, the subsidy paid to gas plants is recovered through a new levy, increasing final electricity prices. What is more, support payments to renewable generators are often structured to adjust automatically when wholesale prices decline. As a result, lower market prices increase subsidy payments, which are ultimately financed by taxpayers or electricity consumers.

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1 Background

Following an informal European Council retreat in Alden Biesen, on Thursday 12 February 2026 European Commission President Ursula von der Leyen questioned whether the existing design of Europe's wholesale electricity markets remains fit for purpose. She announced that the next European Council meeting, scheduled for 19-20 March 2026, will include a discussion on "different options and findings on whether it is time to move forward on...market design".

Alongside this, in recent weeks, policymakers and stakeholders across Europe have discussed state interventions into wholesale electricity markets. Italy has proposed an intervention that resembles the "Iberian Mechanism" of 2022/23. Others have suggested splitting the markets into two, one for renewables and one for fossil power plants. Against the background of this discussion, this memorandum aims to answer two questions:

- Do we have the right wholesale electricity market design in place? That is, does marginal pricing work?
- Would the proposed state interventions help?

Before addressing these questions, we discuss the current level of European power prices in comparison to the energy crisis and in relation to other countries.

2 Are European Power Prices High?

Are European electricity prices, by comparison, high? The surprising answer is “yes and no”. Prices levels are *much* lower than during the energy crisis. However, relative to competing economies, European price levels are concerningly high.

2.1 The Energy Crisis Has Not Returned

Not comparable to 2022. Policymakers across European capitals discuss state interventions into wholesale electricity markets that resemble those debated in 2022. However, the situation is absolutely not comparable to 2022. Electricity average electricity prices reached 270 €/MWh then (all numbers adjusted for inflation) and futures peaked at more than 1000 €/MWh during August 2022. Today, prices are below 90 €/MWh (Figure 1). In 2022, prices were ridiculous. Today they are not.

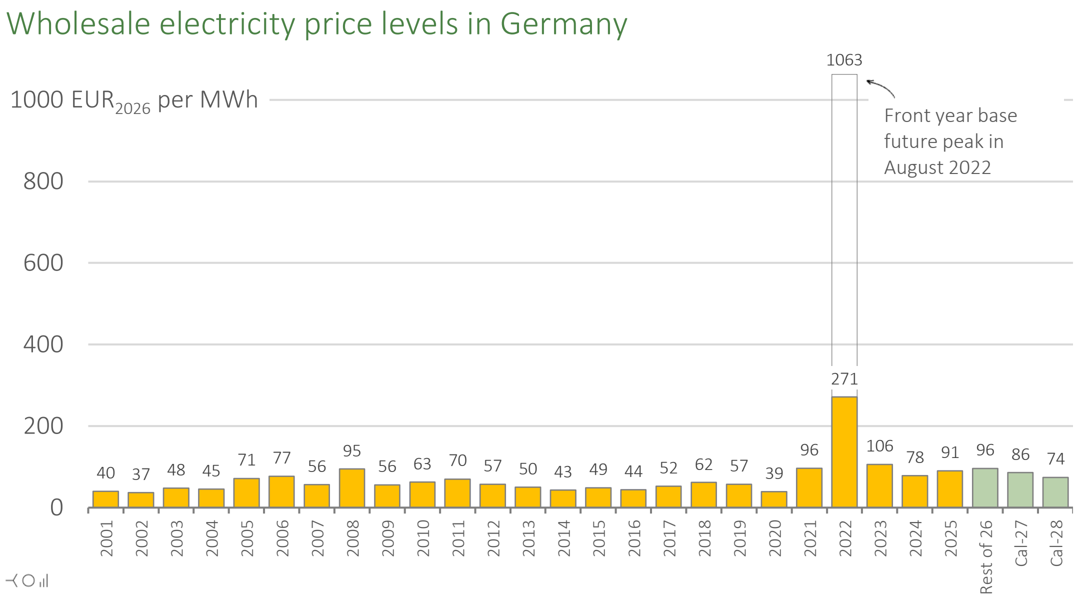

Figure 1. Annual average wholesale electricity prices in Germany (inflation-corrected using the Eurozone CPI). Yellow bars indicate average spot prices, green bars current (26 February 2026) baseload forward prices. Forward prices reached even higher levels in mid-2022, peaking above 1000 €/MWh. Even after the increase triggered by the war in Iran, power prices remain below 88 €/MWh (4 March 2026).

2.2 Power Prices Differ Significantly Within Europe

Regional diversity. Wholesale electricity prices are not uniform across Europe. Forward prices range from 30 €/MWh in the Nordics and 50 €/MWh in France to 80 €/MWh in Germany and close to 100 €/MWh in Eastern and Southeastern Europe. These prices reflect local supply conditions and recent investments. For example, Iberia draws on low-cost wind and solar generation, France leverages its large existing nuclear fleet, and the Nordics benefit from abundant hydro resources. But even in the highest-priced markets, wholesale prices are below 100 €/MWh, a far cry from the 1,000 €/MWh observed during the energy crisis.

Wholesale electricity prices across Europe

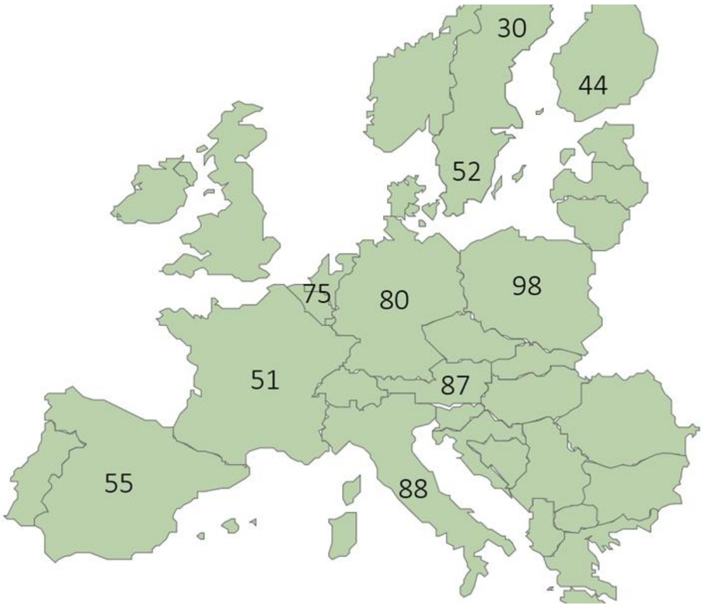

Figure 2. European wholesale power prices in selected EU member states. Prices range between 30 €/MWh and 100 €/MWh in all markets (including those not shown). Cal-27 base year forward prices as traded on 26 February 2026.

2.3 Power Prices Higher in Europe Than Elsewhere

Germany vs. Texas. While wholesale prices are much lower than during the energy crisis, in some parts of Europe they are higher than in other parts of the world, including the United States. Take the example of Germany vs. Texas. Forward prices currently stand around 80 €/MWh in Germany, compared with just 45 €/MWh in Texas (Figure 3). This is not a uniform pattern – in some parts of Europe, prices are much lower than in Germany, and in some parts of the world, they are much higher than in Texas. Moreover, what ultimately matters for consumers is not the wholesale price, but the final retail price, including grid tariffs, taxes, rebates, and subsidies. Nevertheless, the observed price gap warrants explanation.

It's not marginal pricing. Before identifying the reasons for this spread, it is useful to clarify what does *not* explain it. The difference is not due to marginal pricing or the "Merit Order." Just like Europe, Texas also relies on marginal pricing, as do other wholesale power markets. All apply essentially the same price formation logic. If anything, the electricity market in Texas arguably goes a step further: it incorporates not only the marginal costs of generation, but also the marginal costs of transmission. This system is known as locational marginal pricing or "nodal pricing". In that sense, Texas uses more, not less, marginal pricing. What, then, explains the price gap? The answer is simple: natural gas and carbon.

Power prices in Texas vs. Germany

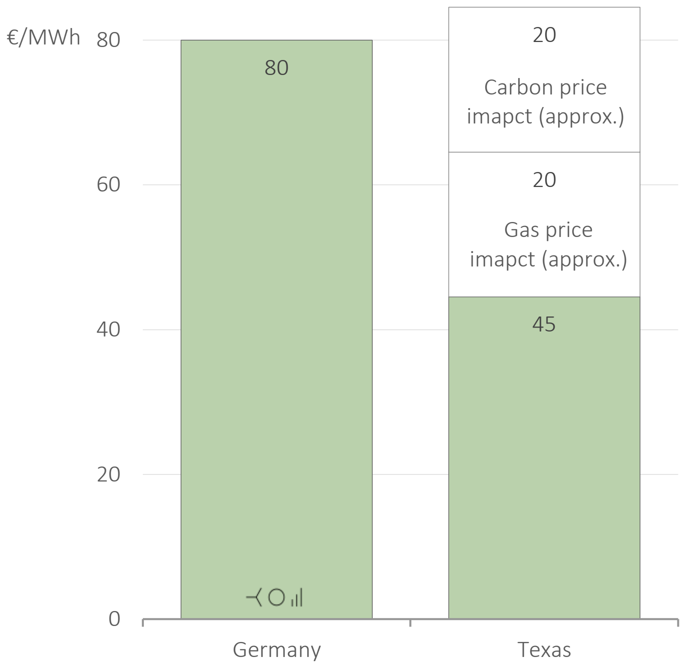

Figure 3. Baseload forward prices are about 30 €/MWh higher in Germany than in Texas (as of 26 February 2026). Prices have been substantially lower in Scandinavia, Frane, and the Iberian Peninsula but tend to be higher in Italy and Southeast Europe in recent years. Roughly, the differences in gas prices explain 20 €/MWh of the price difference and carbon pricing explains another 20 €/MWh. Note that some of the costs of the power system, including grid costs and renewables subsidies, are not part of the wholesale price.

Gas prices. Natural gas is three times more expensive in Europe than in Texas, about 30 €/MWh compared to 10 €/MWh. This is because we import expensive LNG where Texas relies on extensive domestic gas resources. The difference between makes electricity from gas-fired power plants approximately 40 €/MWh more expensive. If gas plants are setting the price half the time, this alone explains a 20 €/MWh gap in EU-Texas power prices. Being a consequence of Europe's geography and Russia's aggression, the high gas price is nothing European policy makers bear responsibility for. It is also nothing they can do much about and nothing that is likely to change any time soon.

Carbon pricing. The second factor explaining the power price cap is climate policy. Europe prices carbon emissions, where Texas does not. At the current carbon price, this makes electricity from fossil power plants more expensive, about 25 €/MWh for gas plants and about twice that for coal plants. If coal is setting the price in another 10% of all hours, this explains another 20 €/MWh gap in EU-Texas power prices. Taken together, the difference in these two commodity prices entirely explains the more expensive wholesale electricity price in Germany.

Energy policy choices. But it is not only commodity prices, energy policy has an impact on the wholesale prices and the other component of the electricity bill. Some policy choices have increased the costs of power systems in recent years, such as:

- Slow, insufficient and expensive grid expansion (e.g., underground cables)
- Barriers to smart electricity use (delayed and expensive smart meters, distortive subsidies, lack of dynamic retail pricing, etc.)
- Lack of locational signals (resulting in curtailment and grid congestion costs)
- Decommissioning existing assets before the end of their lifetime (coal, nuclear)

3 Marginal Pricing and the Merit Order

Do we have the right electricity market design in electricity wholesale markets? In short, does marginal pricing work? This section concludes yes. It does so by first describing how prices form on wholesale markets for electricity (and, in fact, any other commodity market). It then explains how power plants recover investment and fixed costs, and clears up a few common misconceptions.

3.1 Marginal Pricing is Perfectly Normal

All commodities price on the margin. In all competitive commodity markets where sellers and buyers interact freely, price formation follows the same economic logic. The equilibrium market price establishes itself where the willingness of buyers to pay for another unit equals the cost of producing another unit (Figure 4). The marginal production costs determine the price. This is as true for oil, gas, copper, wheat, bananas, coffee beans, solar PV modules, airline tickets, hotel rooms and cloud computing capacity as it is for electricity.

Where demand meets supply: the market equilibrium

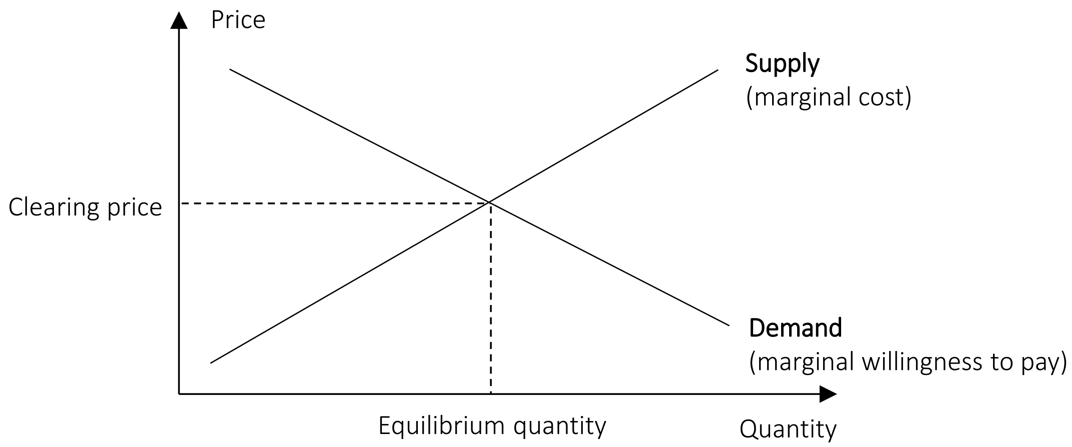

Figure 4. In all competitive commodity markets, the price is determined by the intersection of supply (marginal costs) and demand (marginal willingness to pay).

There is nothing special about electricity. There is nothing special about how electricity prices are formed. The "Merit Order Curve" (Figure 5) is just another name for the supply curve. More precisely, it is the "short-term" supply curve, depicting the variable costs of electricity production, i.e. the variable cost of generation (mostly fuel and carbon permits). It does not include investment costs and other fixed costs, hence it should not be confused with the full costs of electricity generation.

Market equilibrium in electricity: just another demand/supply intersection

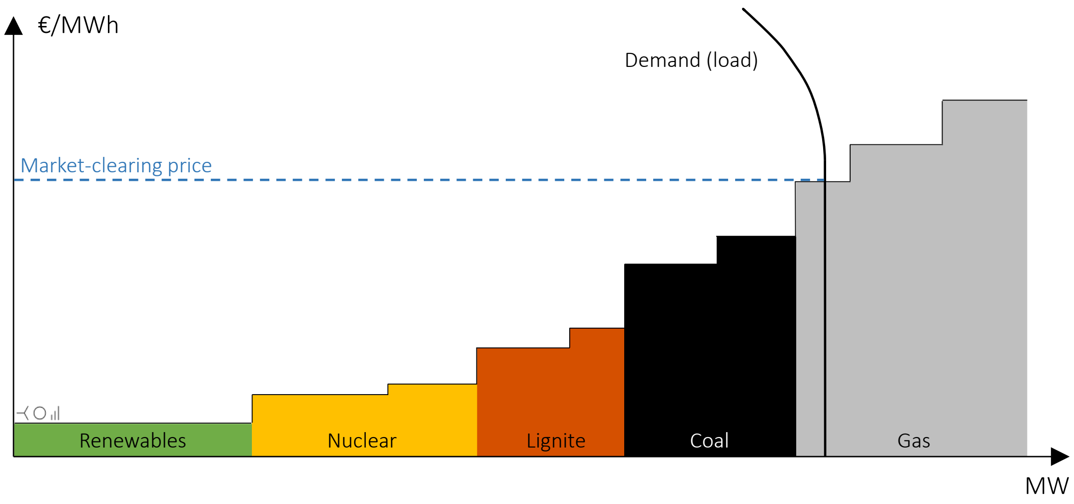

Figure 5. Like in other commodity markets, the electricity price is determined by supply and demand. The "Merit Order Curve" is just another name for the (short-term) supply curve. It depicts the variable costs of electricity generators. The main difference is that it is colored.

Every quarter-hour. The main difference between electricity and other commodities is that electricity cannot be stored. As a consequence, the market equilibrium is not determined once per year, but every quarter-hour. That does not, however, change the fundamental logic of price formation.

3.2 There is Only One Market-Clearing Price

Market clearing. The price that emerges from the free interaction of demand and supply is not an arbitrary one. It is the price that clears the market, i.e. the only price at which producers are willing to supply the same quantity that consumers demand. It is the only price at which the market clears. Consider the stylized example of the market for wheat (Figure 4). Imagine there are two types of farms, with production costs of $2 and $10 per bushel of wheat. What would happen if the low-cost farm sells at its production cost? Demand for cheap wheat would be higher than what the farm can produce. With demand exceeding supply, buyers would start bidding the price up. This would go on until the price reached $10, where buyers are indifferent from which farm to buy. The price of $10, the variable cost of the marginal producer, is the only price at which all buyers get the amount of wheat they want to buy. Forcing the low-cost farm to sell at any price below this necessarily requires installing a rationing regime, i.e. impose rules that decide which consumers get the cheap wheat, and which do not.

The clearing price in wheat markets

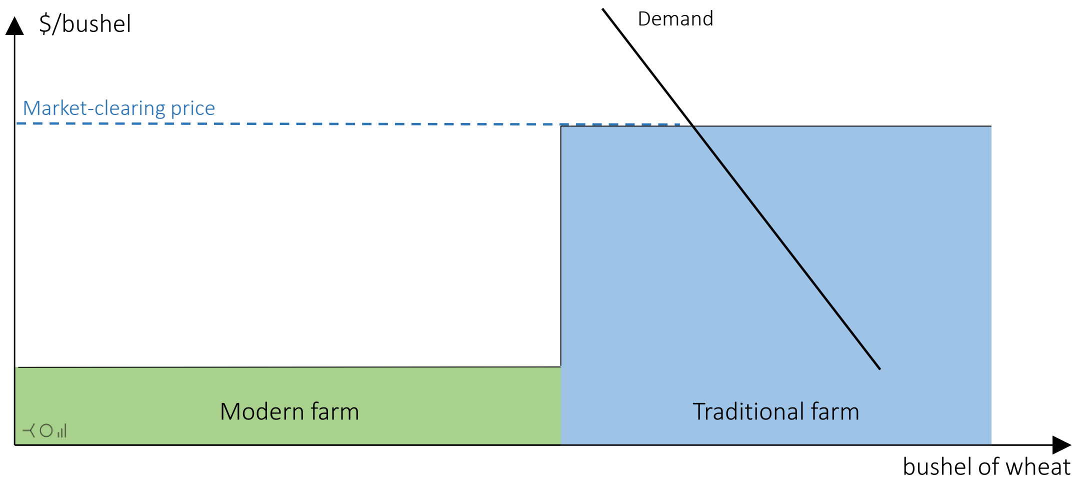

Figure 6. The market for wheat (illustrative). Even though the modern farm has lower production costs, the price settles at the cost of the traditional farm. For the modern farm to sell at its own production costs, two things would need to be enacted: the farm would need to be forced to sell at that price, and consumers would need to be selected that are eligible for the low-price wheat (rationing).

Selling at lower prices. It is sometimes suggested that nuclear power plants should sell their production at variable cost alone (Figure 7). The consequence would be the same as for the low-cost wheat farm. Demand for the cheap electricity would exceed the generation capacity of the nuclear plant, and a rationing regime would need to decide who gets the cheap power.

Forcing generators to sell cheaper

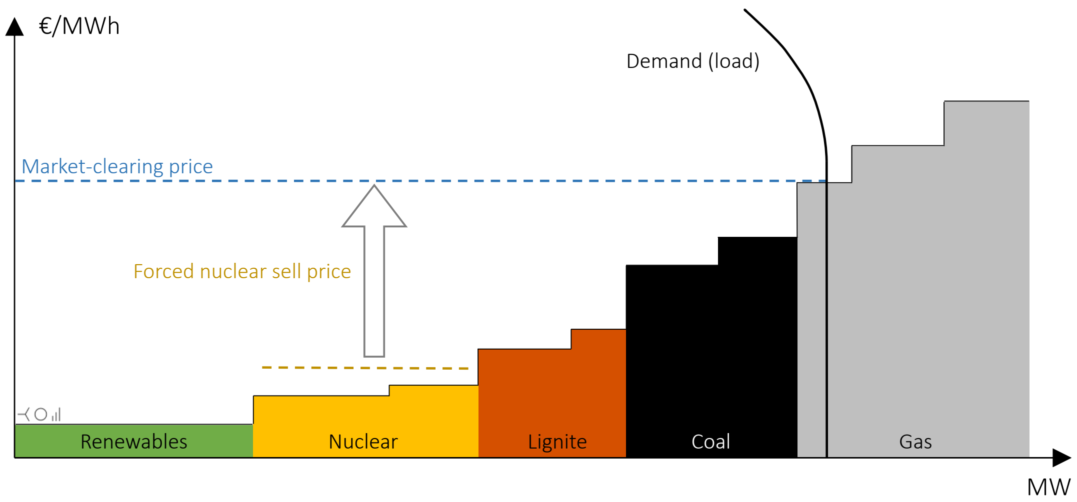

Figure 7. Imposing any price other than the market-clearing price requires rationing. If the price is depressed, demand exceeds supply and a rationing regime needs to decide which consumers are allowed to get electricity, and which do not.

Market clearing in electricity. Imposing any price other than the market-clearing price would lead to oversupply or undersupply (Figure 8). If governments imposed a price floor that sets the price above the clearing price, there would be excess supply, and governments would need to decide which generators are allowed to produce. If a price cap is imposed, it would need to decide which consumers get the cheap electricity, and which are left in the rain. Imposing a price cap necessarily requires a rationing regime. This implies that it is no longer producers and consumers who decide, but the state.

Price caps will result in undersupply

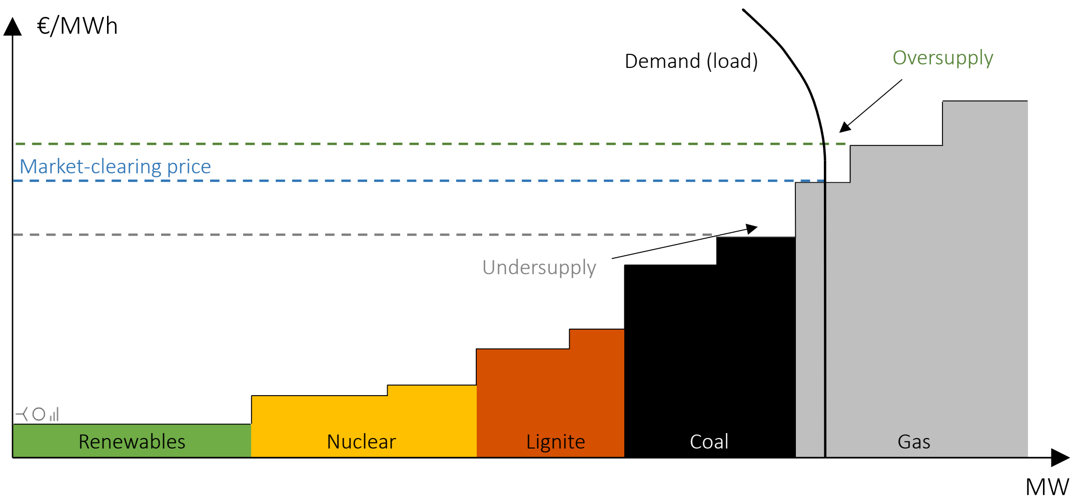

Figure 8. Imposing a price other than the market-clearing price leads to oversupply or undersupply and hence requires a rationing regime.

3.3 The Margin Pays for Investments

Contribution margin. The difference between the price of electricity and the variable cost of production is the "contribution margin" of generators (Figure 9). This is sometimes confused with profits or windfall. Contribution margins are not profits, because the costs depicted in the Merit Order are only variable costs (fuel, carbon permits). They do not include investment costs (capital expenditure) and other fixed costs such as maintenance. The contribution margin pays for these costs. These costs are high, because power plants are expensive to build. For example, a new nuclear power plant may require earning as much as €4mn every day for 60 years to recover the €20bn or so investment costs.

The margin pays for investment

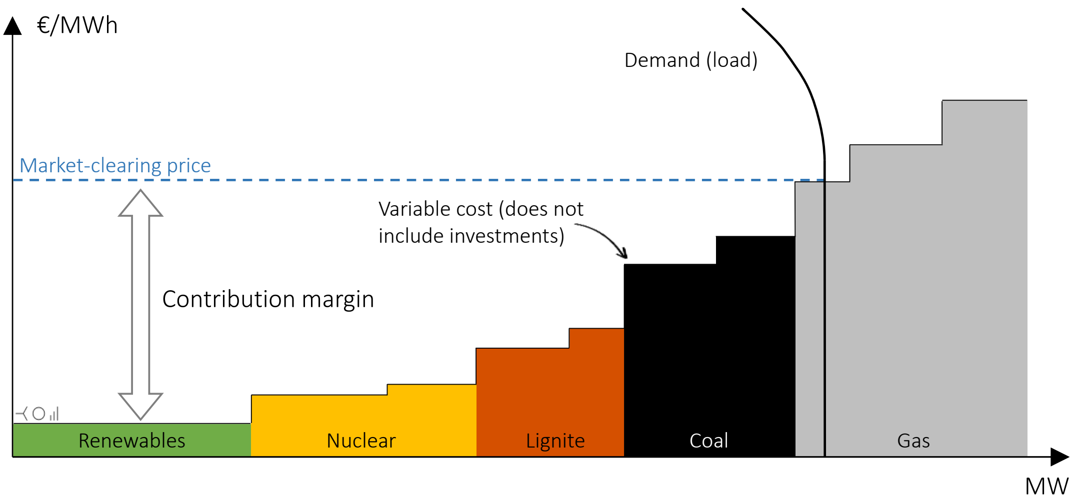

Figure 9. The difference between revenues (power price) and variable costs (fuel + carbon permits) are *not* profits, but the contribution margin. Generators must earn a margin to pay for investments.

Like in wheat markets. Coming back to our example of the two wheat farms (Figure 4), it could be that the margin the modern farm earns is used to pay for the expensive machinery that the farm employs.

Investment schemes. In fact, the contribution margins that can be earned at current electricity wholesale prices are often not even enough to pay for investments. Most investment in new power generators has taken place either under renewable support schemes or under capacity mechanisms. These two type of investment schemes provide additional income streams for electricity generators.

Hedging. In addition, generators sell the bulk of their output on forward markets, so the contribution margin calculated from spot prices has only an indirect link to actual balance sheet numbers. The same is true for industrial consumers and retailers: a significant portion of consumption is procured in advance of actual delivery on forward markets or power purchasing agreements. Forward prices determine electricity bills much more than spot prices. Also, two-way CfDs act as way of hedging societies against electricity price spikes: when electricity prices go up, subsidies are reduced automatically (or turn into payments). If these subsidies are financed through a levy on electricity consumption, final power prices are reduced.

3.4 The Impact of Gas Prices and Flexibility

Structural changes. Gas prices have an impact on power prices if and only if gas-fired power stations are needed to service demand. With increased renewables, demand-side flexibility and storage this will be less and less the case.

Box 1. Eight Misconceptions Around the "Merit Order"

Misconception 1: Marginal pricing is unique to electricity markets. It's not. All commodities price on the margin. The "Merit Order" is what is conventionally called a short-term supply curve. Marginal costs determine prices of crude oil, natural gas, bananas, coffee beans, solar cells, cloud computing, etc.

Misconception 2: The Merit Order Model is mandatory or prescriptive. It's not. It describes how independent, profit-maximizing firms behave in free, competitive markets. Marginal pricing is not a rule or law – firms can bid any price they want. The Merit Order is not a policy; it is a description of how a free market works. The Merit Order Model is descriptive, not prescriptive.

Misconception 3: Marginal pricing is an artificial and arbitrary rule. It's not. Marginal pricing is not one among many sensible alternatives that we can pick and choose from. In fact, it is the only price that underpins a market equilibrium. Setting any other price requires rationing, i.e. excluding consumers from the market or forcing generators to produce.

Misconception 4: Contribution margins are windfall profits. They are not. The difference between the electricity price and variable costs pays for investment.

Misconception 5: Pay-as-bid would lead to different prices. It would not. If the pricing rule in an auction were changed – say, the EPEX SPOT day-ahead auction – market parties would adjust their bidding strategy immediately. Instead of bidding their own variable cost, they would estimate the variable cost of the marginal plant and bid just below. The resulting price would hardly change.

Misconception 6: The Merit Order is a model of the day-ahead auction. It is not. It's an equilibrium model of the entire short-term electricity market, not just one segment. Even if the pricing rule in a particular day-ahead auction (say, Nordpool Spot) were changed, the merit order would remain a valid model for predicting equilibrium power prices. Generators would simply adjust their bids or use different market platforms for trading.

Misconception 7: The power price is coupled to the gas price by law. It's not. It is economic mechanisms, not regulation, that make these prices move hand-in-hand. They do not always move in parallel — when gas plants are not needed to serve demand, gas prices have no impact on power prices.

Misconception 8: It's only about spot prices. It is not. Most consumers and producers hedge, i.e. they lock in prices months or years in advance of delivery by trading on forward markets. Hence spot price fluctuations do not immediately spill over to retail prices levels.

4 The Proposed Interventions Will Do More Harm Than Good

Recently, different proposals have been made for state interventions in wholesale electricity markets with the objective of depressing the price to reduce the energy bill consumers face. This section discusses the proposed interventions and the consequences they would have.

4.1 The Proposed Interventions

Proposed interventions. Two different state interventions are currently discussed in European capitals. The first is a subsidy-cum-tax that resembles the Iberian mechanism of 2022/23. The second idea is to separate the wholesale markets in two segments, similar to an idea floated as "market split" in 2022. Those will be discussed in turn.

"Market split". Initially proposed by Prof. Pantelis Capros, the proposal of a "market split" has been recently suggested by the Austrian government. The idea is to split the wholesale market into two segments, one for fossil plants and one for renewable. It is suggested that this would lead to lower prices, because renewables would receive a price lower than today. However, it is unclear how this system is supposed to work. Fundamental questions remain open, e.g., which demand would be eligible for the low-price electricity (i.e., how would the rationing regime work), how would cross-border market coupling be organized, and what about intraday and balancing markets? In addition, because the bulk of renewables is under support mechanisms, subsidy payments for renewables would immediately increase (see section 4.3).

"Iberian mechanism". The Iberian Mechanism, also referred to as the "Iberian Exception," was implemented by Spain and Portugal in 2022–2023. Unlike the proposed market split, it is a clearly defined and operational policy instrument. Recently, the Italian government suggested introducing a similar mechanism. The instrument consists of two components. First, it provides a subsidy to gas-fired power plants to reduce their variable costs, incentivize lower bids in the wholesale market, and thereby depress the wholesale electricity price. Second, it recovers the cost of the subsidy through a levy on electricity consumption. While Spain and Portugal subsidized natural gas prices, Italy has proposed subsidizing the carbon price; however, this distinction does not materially change the economic functioning of the mechanism. For the instrument to reduce final electricity prices, several conditions must hold:

- Gas plants set the price most of the time (otherwise the instrument has little impact)
- Gas plants provide a small fraction of the electricity (otherwise wholesale price reduction is fully compensated by the electricity tax, leaving consumer prices unchanged)
- Most electricity is produced by inframarginal technologies with much lower variable costs (otherwise the wholesale price would not fall much)
- The inframarginal plants are privately owned (otherwise the money would be missing in public budgets)

- The inframarginal plants are merchant, i.e. they operate outside renewable support schemes or capacity mechanisms (otherwise the fall in wholesale price would trigger a corresponding increase in subsidies)
- The market has little interconnection to neighboring countries (otherwise much of the subsidies leaks to foreign consumers)
- Consumers are mostly unhedged (otherwise they would pay the new tax without benefiting from lower wholesale prices)

The problems of the Iberian mechanism. These conditions were broadly met in Spain and Portugal in 2022, when gas prices were exceptionally high. They are far less likely to be met under current market conditions. Extending such a scheme across Europe would therefore generate limited benefits while creating distortions. The expected price effect would be smaller, both because the gas price is lower than in 2022 and gas has a larger market share in many countries than in Iberia, and higher renewable subsidy payments would offset a significant portion of the (small) gains. Moreover, consumers who have hedged their electricity purchases on forward markets or through PPAs would bear the cost of the new levy without benefiting from lower wholesale prices. This would discourage hedging and increase exposure to future price volatility.

Assessing the consequences. Irrespective of the precise workings of the interventions, they have two important consequences. One is the impact on the market as a coordination machine that matches demand and supply. The other is the question, if consumers save money, where is it coming from? These two questions will be discussed in turn.

4.2 The Electricity Market – a Coordination Machine

This section explains the purpose of the short-term electricity market, which is the coordination of millions of actors to ensure power supply at every instant across all of Europe. Electricity prices are not for fun; they are a coordination signal.

System operations. The wholesale electricity price – the price emerging on day-ahead, intraday, and balancing markets – determines the dispatch of assets. It is these prices that make utilities turn on and off power stations, run or curtail wind farms and charge or discharge batteries. The same prices also determine the consumption patterns of flexible consumers, e.g. the charging of EVs. They also determine exports and imports of electricity across borders. The wholesale market coordinates millions of generators, consumers, storage assets, and imports/exports from Lisbon to Istanbul – in each of the 35,040 quarter-hours of the year. It is probably no overstatement to claim that the European power market is the largest and most complex machine on the planet. Any manipulation of wholesale prices will change the way these millions of assets are operated. At best, this will create inefficiency and drive up system costs. At worst, it will create chaos and jeopardize security of supply.

Investments. The wholesale price is not only a dispatch signal, it also provides investment incentives. The huge pipeline of utility-scale battery storage projects across many EU Member

States is a direct result of those incentives. Even in corners of the market, where state investment mechanisms dominate – e.g., renewables support schemes and capacity mechanisms – such schemes build on the wholesale price. For example, the wholesale price is usually higher in the morning and in the evening than at noon. This provides the incentive to build East/West-facing solar panels. If the price is capped, the incentive is depressed and project developers will fall back to South-facing panels that produce electricity mostly when it is already abundant.

4.3 Where Would the Money Come From?

Thought experiment. For the sake of the argument, let us consider the following thought experiment. Let us (heroically) assume we can invent a new pricing rule on wholesale power markets that does not wreak havoc with the power system but just lowers the wholesale price. What would be the purpose, what would be the consequences?

Redistribution. The system does not become cheaper or more efficient, so it cannot come from genuine cost savings. In other words, the ultimate goal of such a price intervention would be to transfer money from producers to consumers.

Expropriation. In economic terms (lawyers would disagree) it is hard to call this anything but expropriation. We are talking about a deliberate manipulation of commodity prices with the explicit objective of taking money from producers and transferring them to consumers. This will undermine investor confidence, increase risk premiums and will make future investments more expensive. But, in the first place, will it achieve its goal? Will money actually be redistributed? To see to what extent this would happen we need to go through different types of generators: renewables, fossil and nuclear/hydro.

Subsidized renewables. In many EU Member States, renewables under support schemes today provide a large fraction of electricity. For example, in Germany it is slightly more than 50%. These support schemes differ across Member States, but many adjust automatically for wholesale prices. This is true for feed-in-tariffs as well as one-sided and two-sided CfDs. In those schemes, a strike price is fixed, and the scheme serves as a gap filler between wholesale prices revenues and the strike price (Figure 10). What happens if an intervention depresses the wholesale price? The subsidy goes up automatically and instantly. Every euro that consumers save through lower power prices is paid back in the form of higher taxes. If the subsidy is financed through a levy on electricity, final power prices would not change at all. In this regard, the situation today is fundamentally different from the energy crisis of 2022/23, when the wholesale price level was so high that generators under CfDs paid large sums to governments – today price levels are well below strike prices across most of Europe.

Contract-for-differences top up market revenues

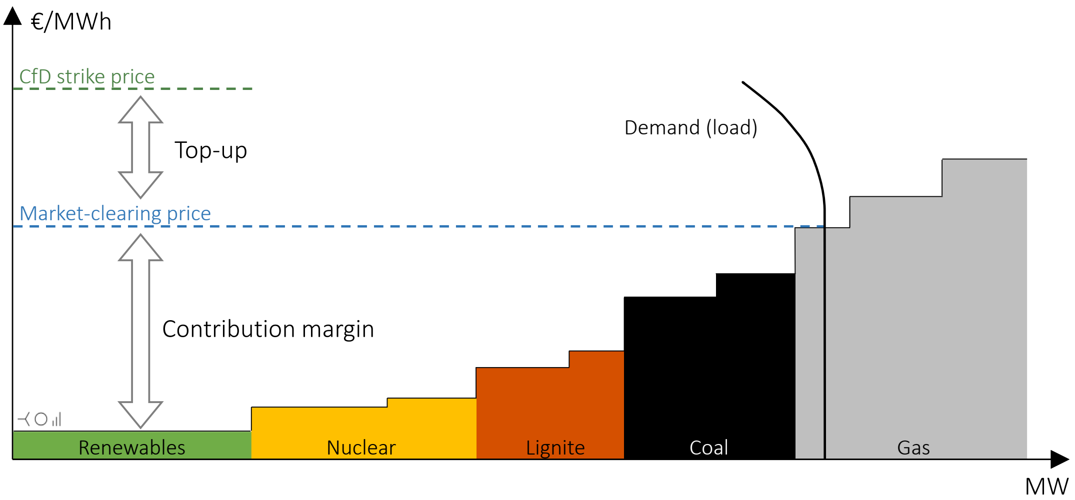

Figure 10. Under a contract-for-differences (CfD), subsidy payments top up market revenues to reach a pre-agreed strike price. When the wholesale price is lower, subsidy payments are accordingly higher. This would also happen if an intervention depressed the wholesale prices. Other support mechanisms like single-sided CfDs, CfDs with annual reference period, or feed-in-tariffs have a similar effect.

Fossil generators. Some fossil generators receive a similar top-up payment like under a CfD, e.g. if they are participating in a capacity mechanism based on a reliability option. But the majority of fossil-fired power plants operate on the market. Many of them, however, are not very deep in the money. Their variable costs – fuel and carbon permits – have increased substantially in recent years. For example, at current gas and carbon prices a gas-fired combined cycle plant has variable costs of 90-110 €/MWh. Similarly, coal-fired plants have variable costs of 80-90 €/MWh. If the wholesale electricity price is substantially depressed, these plants would close down, in particular when maintenance investments are coming up. But in many places, these plants are needed for security of supply. Take the example of Germany: plants that want to close down are regularly forced to remain operational under the "network reserves". For this, they receive financial compensation, which is recovered through grid tariffs. So electricity consumers would pay less for energy but more for grids.

Incumbent hydro and nuclear. About a third of European electricity comes from hydroelectricity and nuclear power. These plants have low variable costs, but the ongoing costs of maintenance and re-investments are substantial. For example, most estimates indicate full costs of existing nuclear power plants in the range of 50 to 70 €/MWh. In addition, in a number of Member States the state owns a substantial share of nuclear and hydro generators. In those cases, consumers may benefit from lower prices, but the lost revenues are ultimately recovered through taxes.

Summary. In markets where most electricity is produced by private firms that operate outside support schemes and capacity mechanism and where generation adequacy is of no concern, an intervention that depresses the wholesale price will increase consumer rents at the expense of producer profits. In markets with significant subsidized renewables, fossil generators that are required for security of supply, or state-owned utilities, depressing the wholesale price will benefit consumers much less than it appears – if at all (Figure 11). Most likely, it is a case of "giving with one hand and taking with the other."

Give with one hand and take with the other

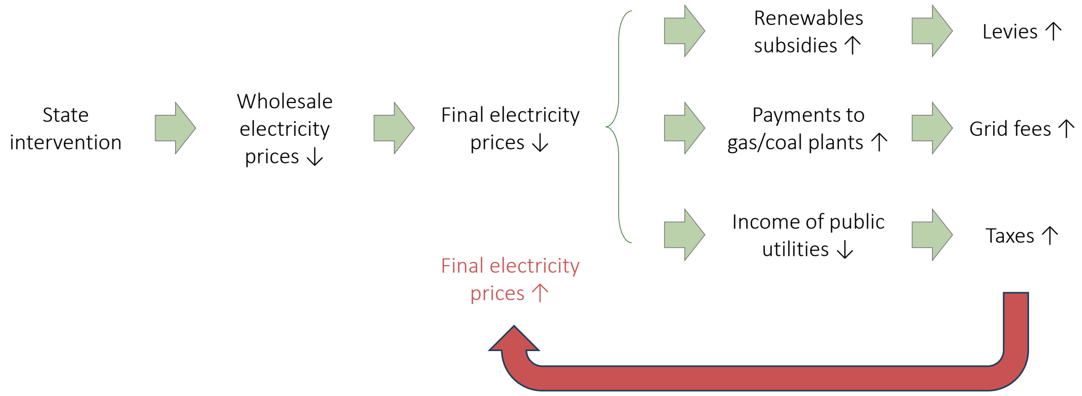

Figure 11. An intervention that lowers the wholesale electricity prices and hence relieves consumers will trigger an increase in subsidies. In the end, consumers (or taxpayers) pay the bill.

5 Conclusion

Interventions would cause much harm. The policy debate about electricity market design, marginal pricing, and the "Merit Order" has resurfaced in Europe. Current proposals include an "Iberian Mechanism 2.0" proposed by Italy and a "Market Split" idea that would separate the wholesale market into two segments, one for renewables and one for fossil plants. While it is not clear how the latter would work in practice (e.g., market coupling, intraday trading, balancing), it is clear that both would distort the electricity market and undermine investor confidence. The Iberian Mechanism penalizes consumers who have hedged their electricity purchases and will make consumers more vulnerable to future price volatility. Moreover, if an intervention successfully lowers wholesale prices, the overall cost burden does not disappear. Support payments to renewable generators are often structured to adjust automatically when wholesale prices decline. As a result, lower market prices increase subsidy payments, which are ultimately financed by taxpayers or electricity consumers. More fundamentally, the impression that electricity prices have returned to crisis levels is incorrect. Today, electricity prices are 90-95% lower than during the 2022 peak and well within the historical price range.

Marginal pricing works. Marginal pricing is the standard mechanism through which prices form in competitive markets — not only in electricity, but also in commodities such as oil, gas, and metals. Prices in commodity markets reflect the marginal cost of the last unit needed to meet demand. Electricity markets function in the same way. Revenues earned by generators with lower variable costs are not windfall profits; they are necessary to recover investment costs and pay for ongoing maintenance. This revenue structure is essential to incentivize new capacity and maintain system adequacy. European wholesale electricity markets are functioning as designed, and there is no structural failure that would make state interventions necessary.

Lowering power prices. There exists a range of sensible policy options to lower electricity prices for consumers, from targeted support for vulnerable consumers to structural reform that make the power system more efficient. Intervening in the price formation of wholesale markets is not among then.