

Infographic: How does the Merit Order work?

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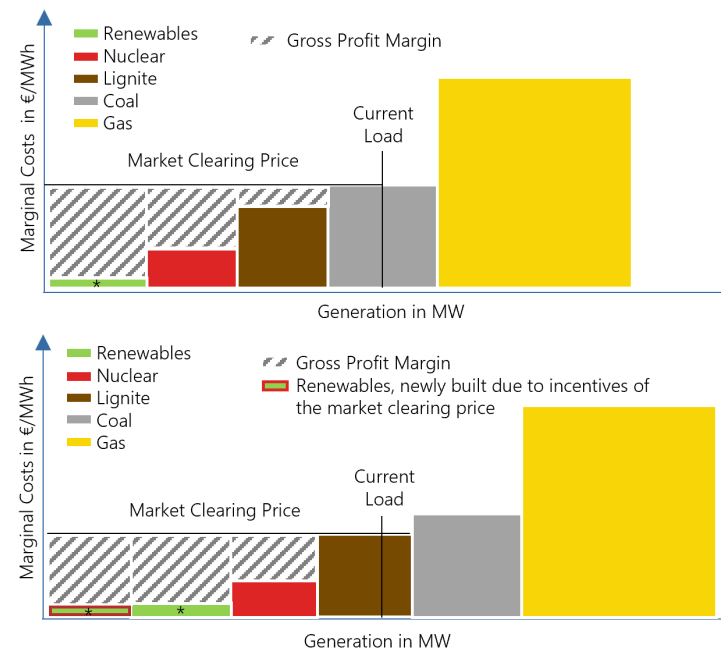
Overview of Market Mechanisms

Merit Order is the supply curve in the electricity market, with the marginal costs of all suppliers sorted ascending. The intersection of the aggregated demand and the supply curve determines the market clearing price (see the table below) which all suppliers able to make a sale receive at the end of the auction.



Mechanism	Description	Examples
Market Clearing	Each supplier offers electricity at the auction based on their marginal costs. The cheapest offers that together result in total demand being met will be accepted. Each of these offers receives the price of the last, and therefore most expensive, offer required to meet the total demand.	Day-Ahead Market, FCR, balancing energy market (aFRR, mFRR), Intraday Auction
Pay-As-Bid	Each supplier offers electricity at auction based on their expectation of the market price, instead of offers based on marginal costs. The matching process then couples these offers with bids willing to pay these prices chosen by the suppliers.	Intraday continuous trading, Over-the-counter (OTC) Trading, Futures, balancing capacity market (aFRR, mFRR)

Market Clearing and the Merit Order Effect



The market clearing price covers (a portion of) fixed costs, thereby incentivizing investment in technologies that feature profit margins at typical market prices

Investment incentives**



Effect: Market prices decrease

But: Construction of backup capacity, used for generation during periods of low generation from renewable sources, is not adequately incentivized.

*Renewables represents only current generation; generation is not constant
**Focus: Germany

Does the Merit Order work?



Incentivizes **medium-term investments in cheap generation**, including renewables, and in the process reduces electricity prices in the long-term



Incentives for an investment in new generation units have a time-lag. High prices (such as those that emerged during the energy crisis caused by Russia's invasion of Ukraine) cannot be lowered via such investments in the short-term. A merit order without further regulation can result in „excess profits“ for some technologies.



Price-setting via the merit order ensures a **cost-minimizing deployment of generation units** needed to satisfy demand.



Over a longer time period, the merit order – in an energy system with large amounts of renewable generation – often becomes very flat, to the extent that **margins may no longer cover fixed costs**. An adjustment to the market design is under discussion in hopes of preventing this.



Political measures can address this without changing the underlying market design.



Fixed costs could be covered via very high prices in a small number of hours. However, a capacity mechanism will likely also be necessary in order to incentivize construction of backup capacities. A complete overhaul of the market design will not necessarily be required.