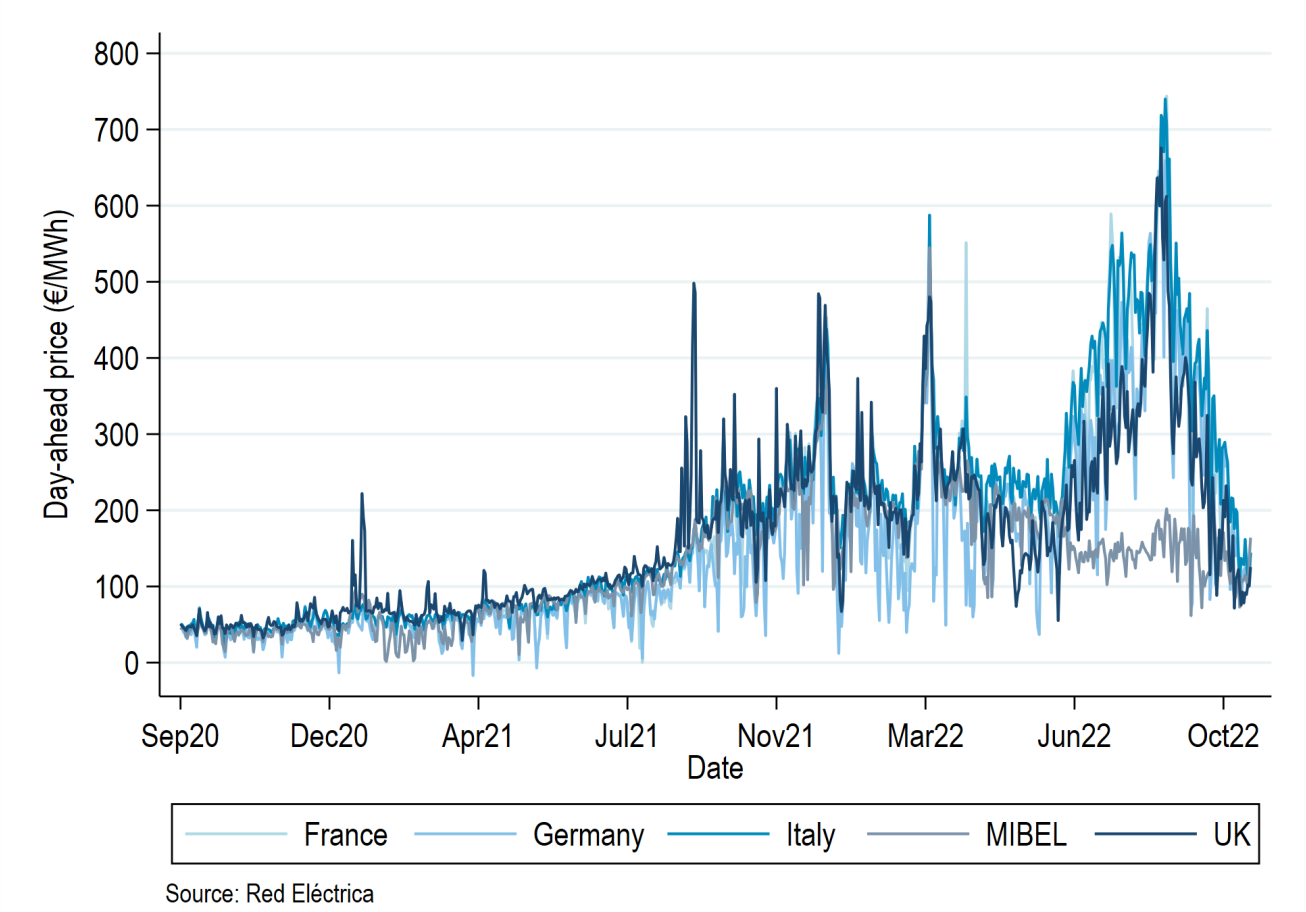
Electricity Markets in Transition

Natalia Fabra
Universidad Carlos III de Madrid

Meeting with the ECB Governing Council. November 9, 2022

The energy crisis in the euro area: determinants, prospects and implications for the energy transition

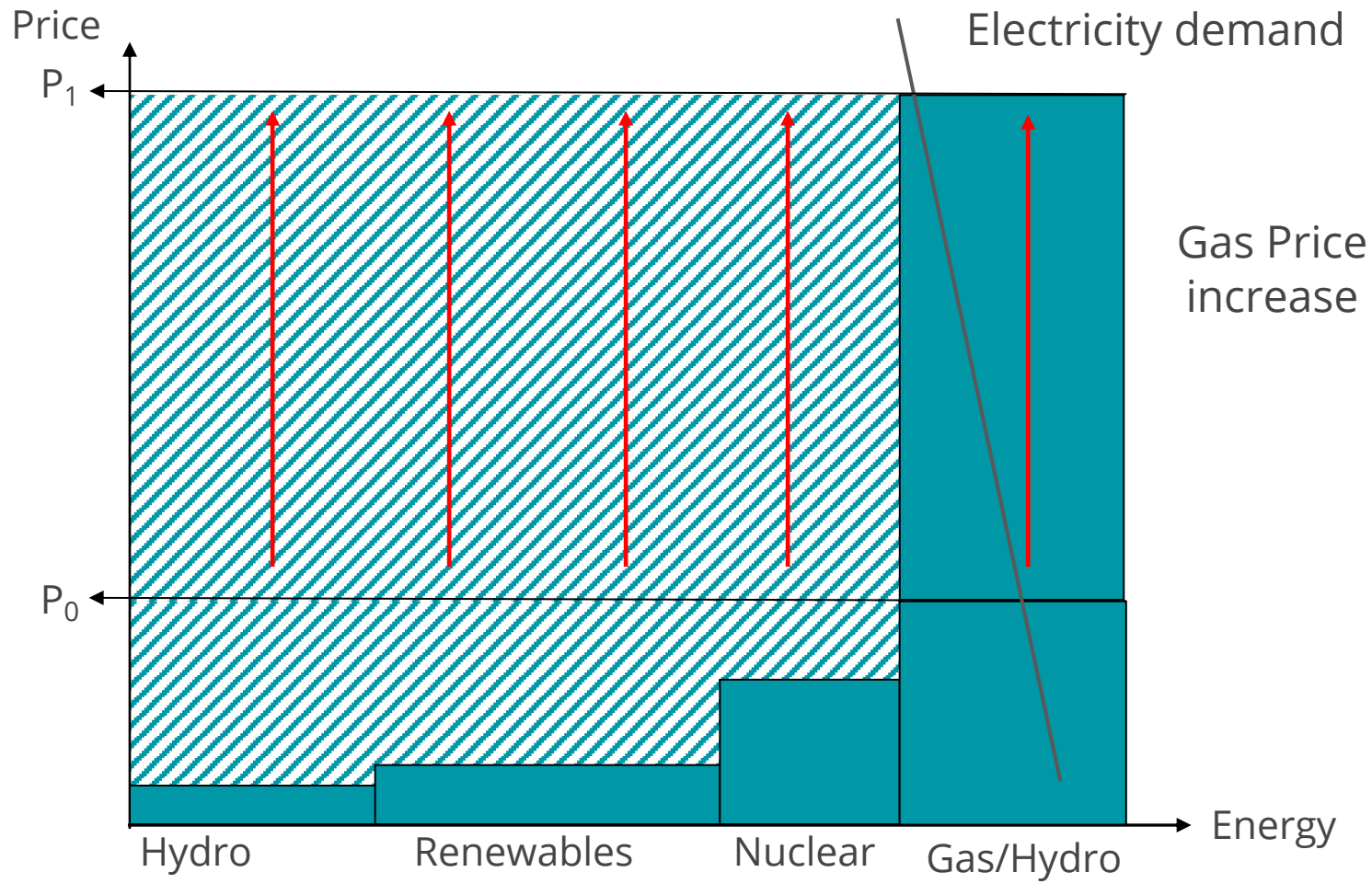
Record-High Electricity Prices in Europe



Wholesale electricity prices across Europe (Sep 2020-Nov 2022)

Source: esios, REE

The current electricity market design has aggravated inflation



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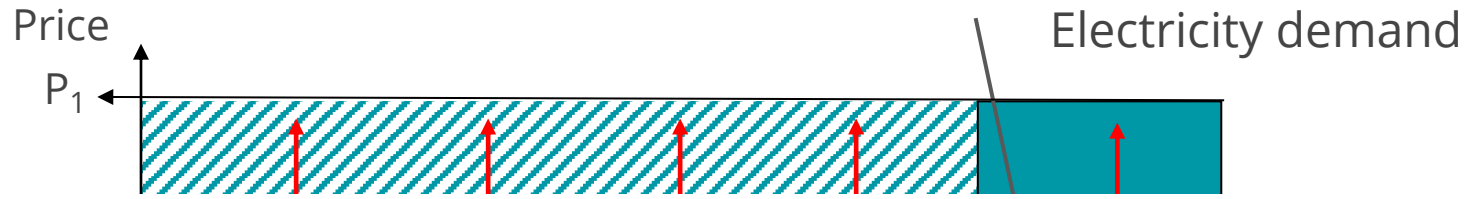
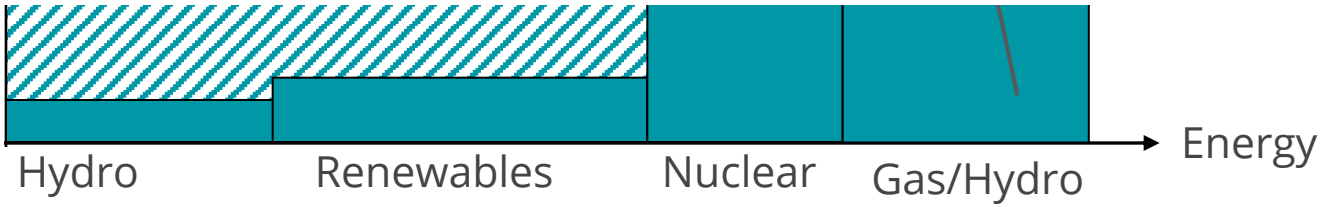


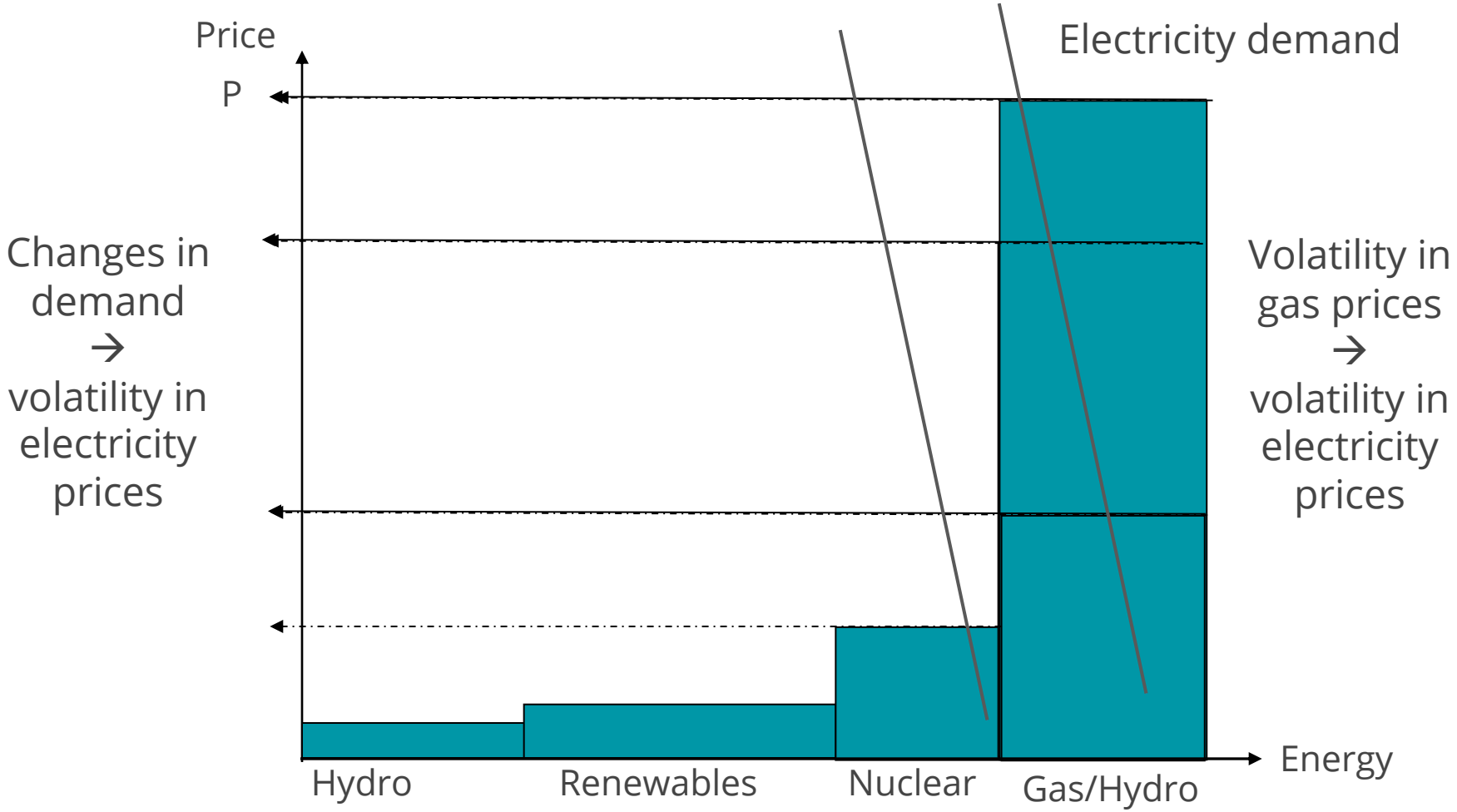
Electricity prices have increased more than costs

Profit margins have significantly gone up

Large wealth transfers from consumers to electricity firms



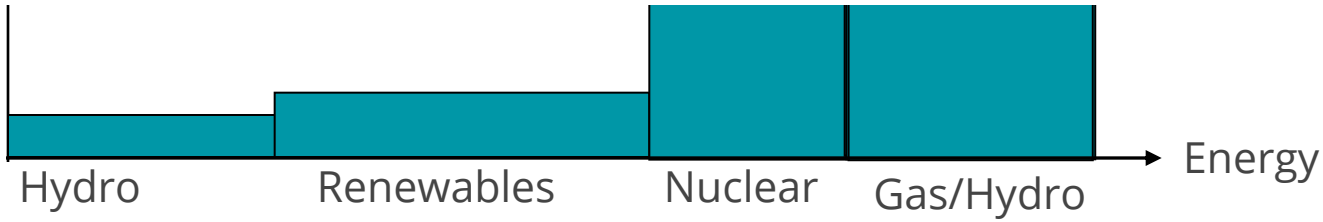
The current electricity market design has aggravated price volatility



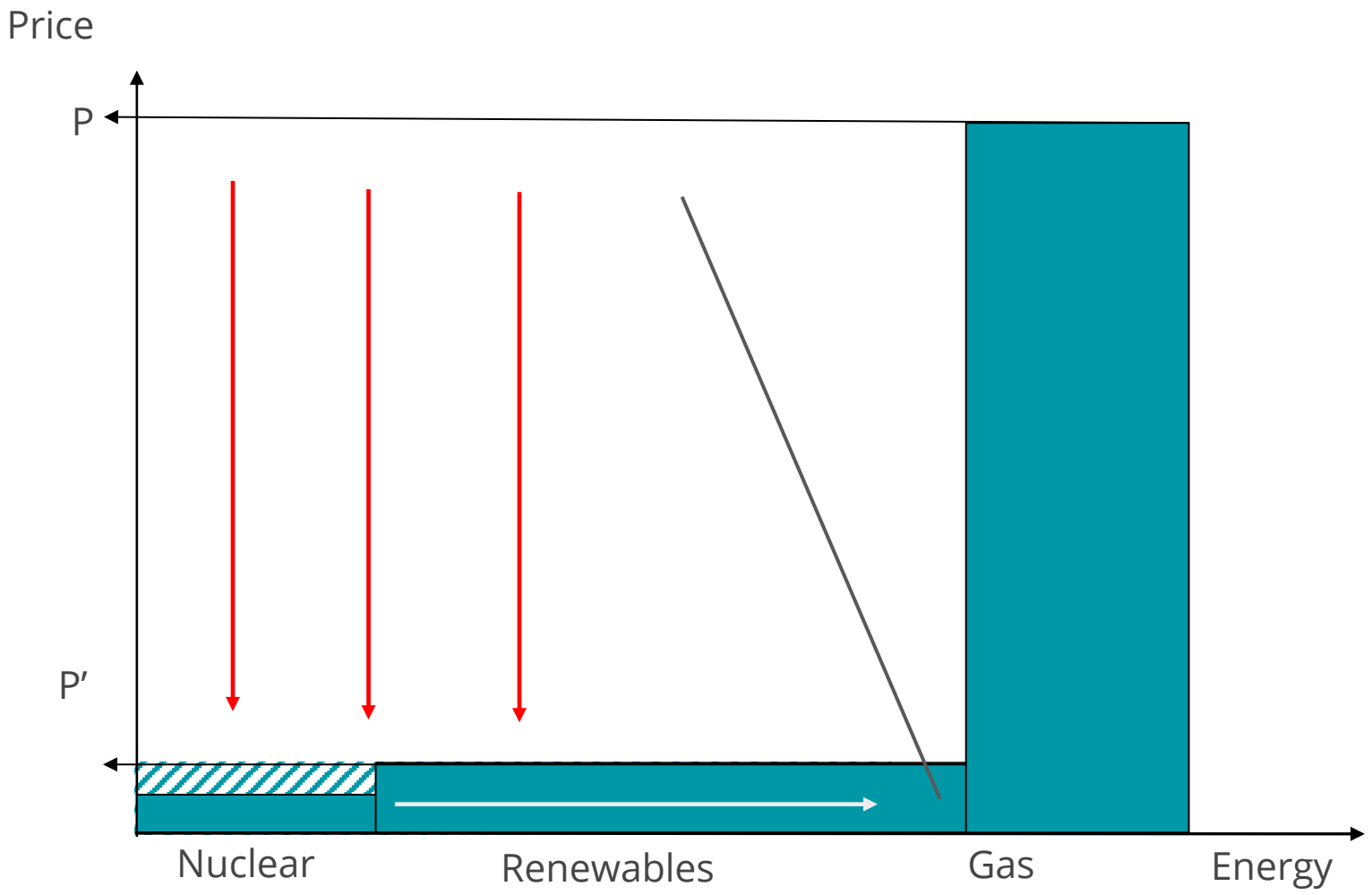
The current electricity market design has aggravated price volatility

Price volatility is larger than cost volatility

Price volatility enlarges risk premia for investors and it is costly for consumers



The current electricity market design discourages future investments in renewables



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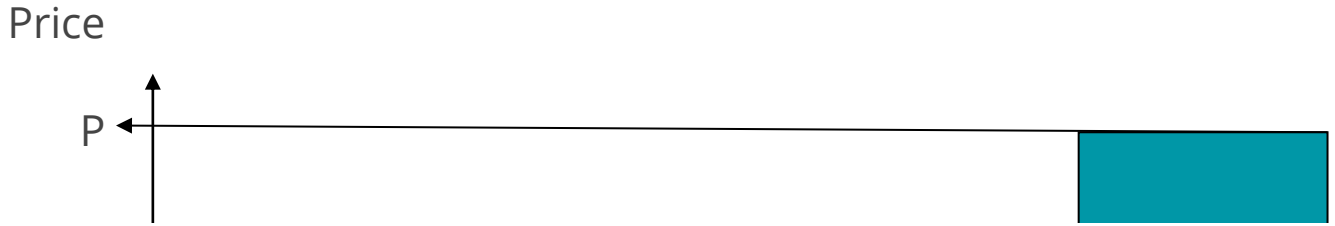
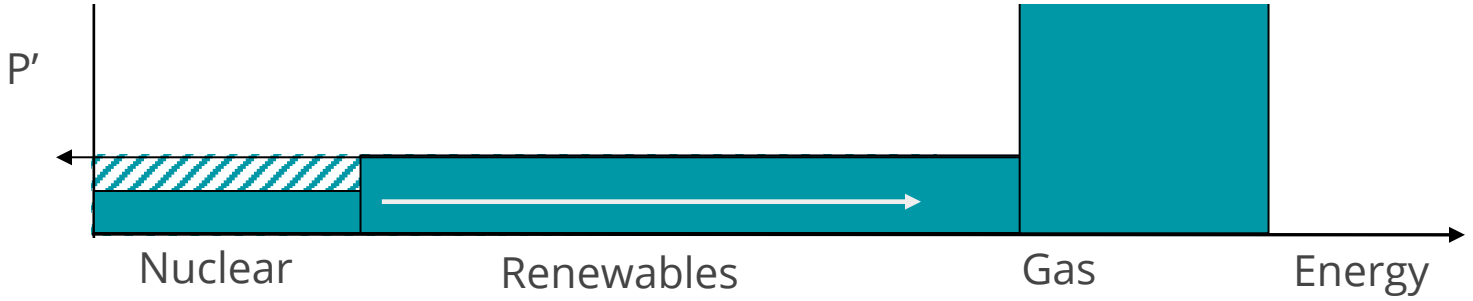
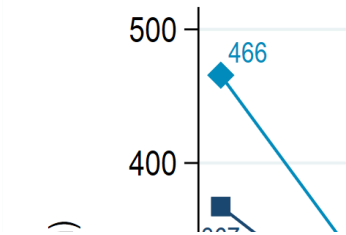


Renewables will reduce electricity prices

The cannibalisation effect + price volatility will discourage investments in renewables



The current electricity market design enlarges price differences across countries

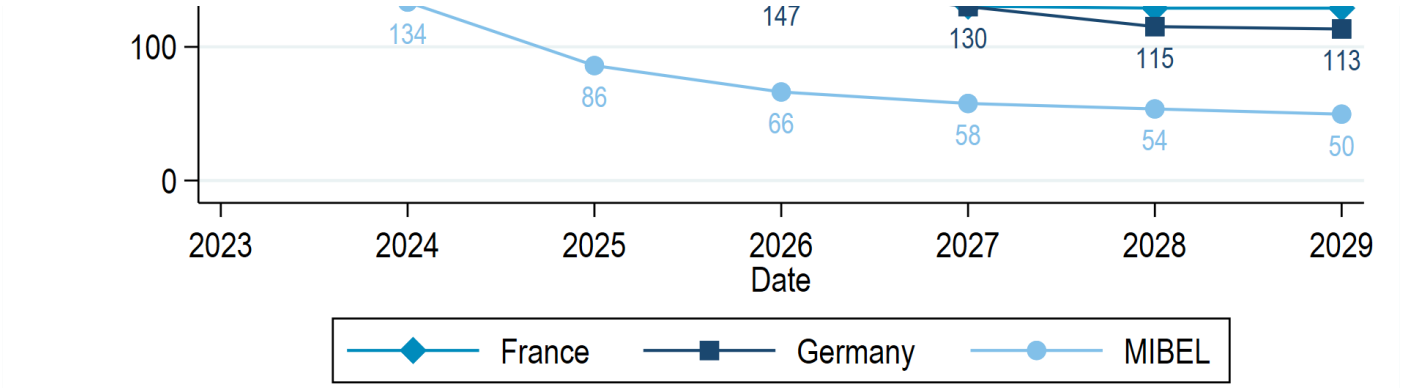


Important implications for:

- Industry location
- Inflation differences across countries

How can we bring future prices forward in time?

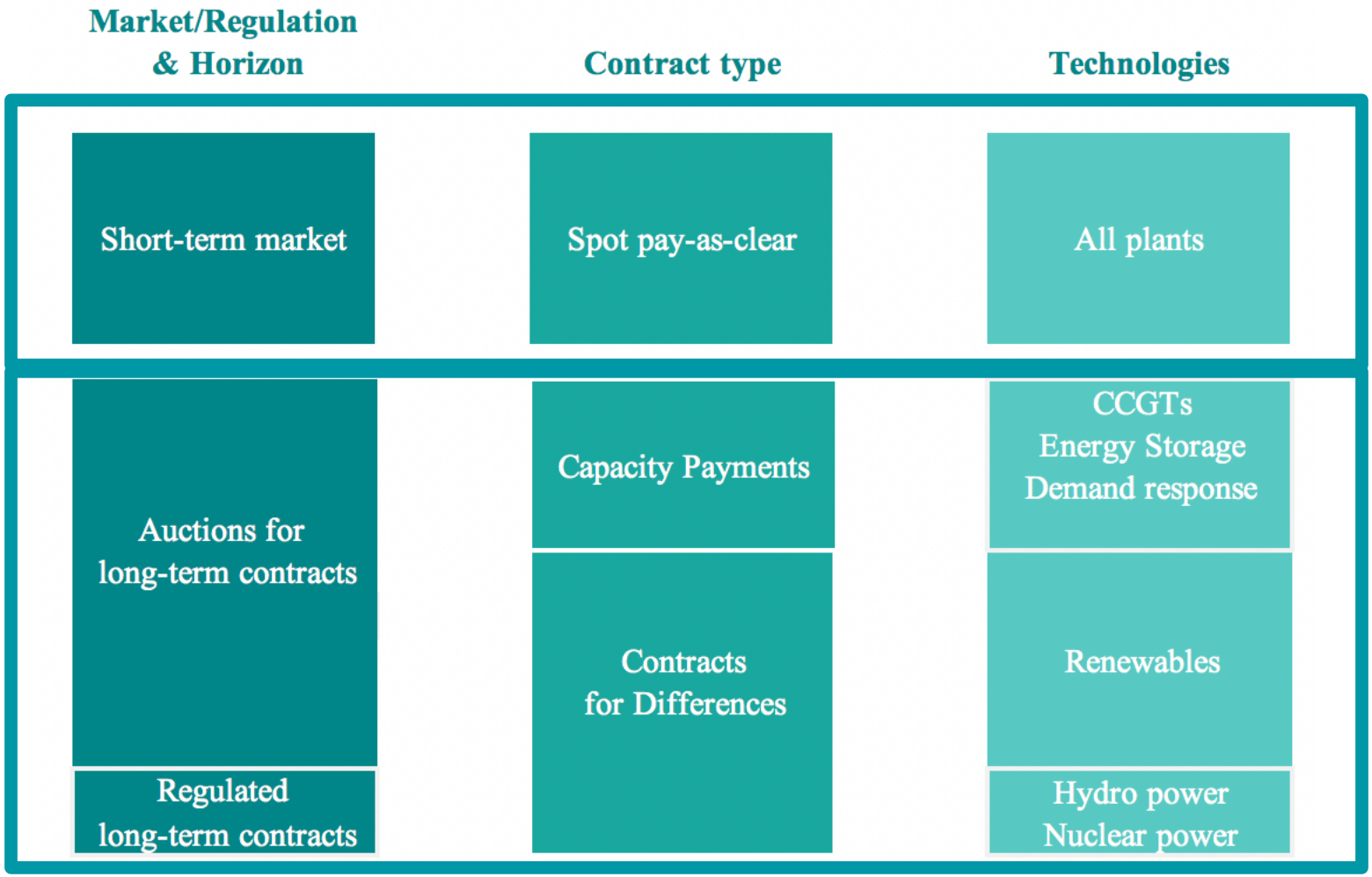
Can we smooth inflation across time?



Prices of electricity futures (2023-2029)

Source: OMIP

A new electricity market design is needed



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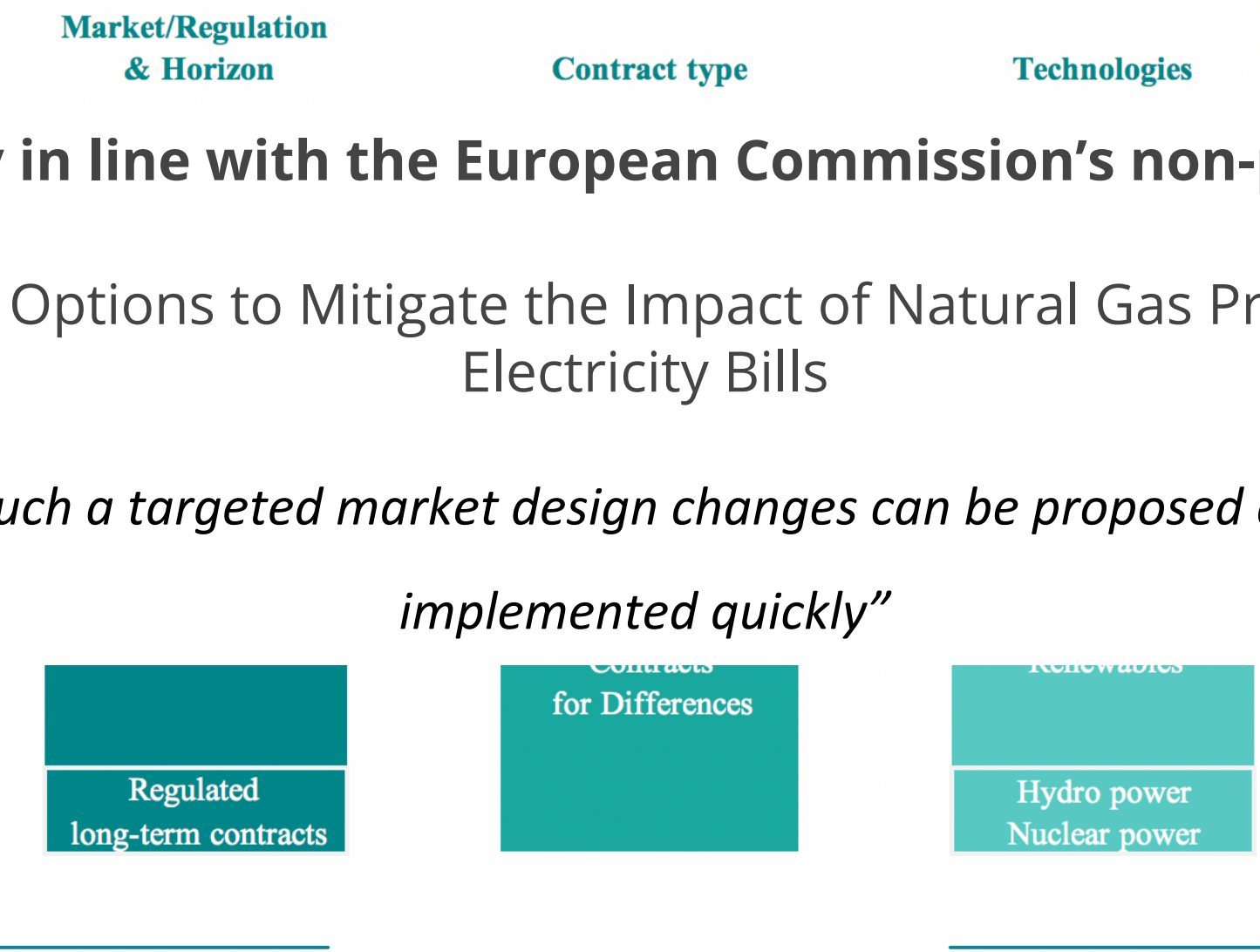

Fully in line with the European Commission's non-paper

Policy Options to Mitigate the Impact of Natural Gas Prices on Electricity Bills

"such a targeted market design changes can be proposed and implemented quickly"

Benefits of the proposed market architecture

Electricity markets will become more resilient

- Electricity prices will reflect the actual costs of electricity generation.
- Gas prices will not propagate through the entire electricity market.
- Windfall profits and losses will be avoided.
- No need to intervene in prices if there are future energy crises.

The Energy Transition will be strengthened

- Investments in low-carbon assets will be promoted.
- Capital costs of low-carbon assets will go down.
- Consumers will benefit from the lower costs of renewables.
- Electricity prices will be more stable and predictable.
- Security of supply will be ensured, with fewer fossil fuels.

Key messages

Electricity prices have been a **major driver of inflation.**

The electricity market design has aggravated the problem: **electricity prices have gone up beyond the cost increase.**

An electricity market reform in the proposed direction would be a **powerful tool to tame inflation,**

and it would help **push the Energy Transition** at least cost for society.

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Thank You!

natalia.fabra@uc3m.es

http://nfabra.uc3m.es/

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Contracts for Differences

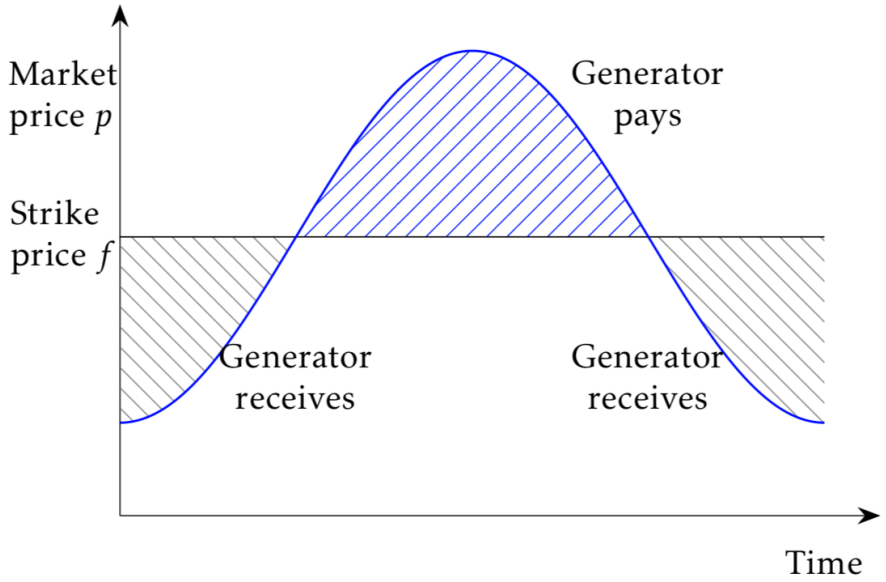


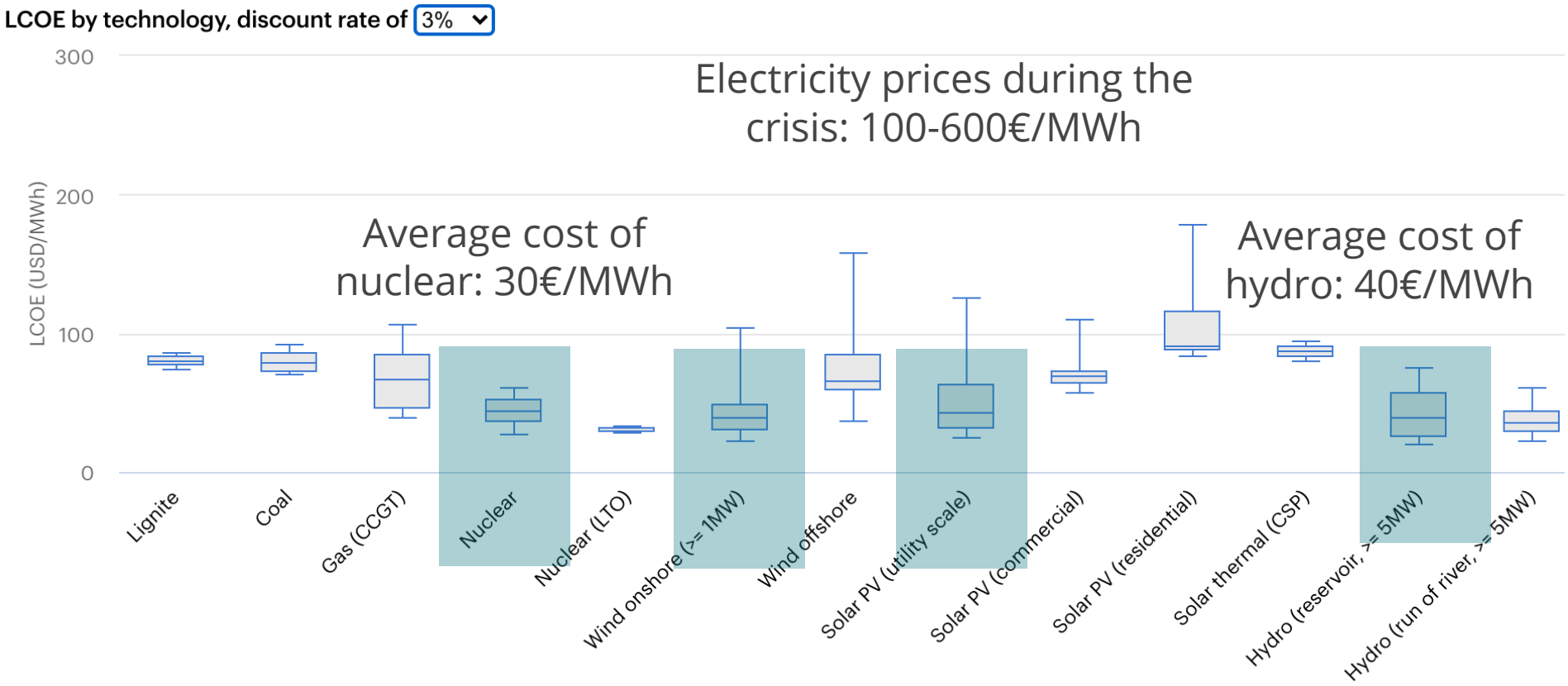
Figure 6: Contract for Differences

Notes: Under a two-way Contract for Differences (CfD), generators sell their electricity in the market and then pay/receive the difference between a 'strike price' (f) and the 'reference price' (p). The shaded area represents total payments from the generator to the regulator or vice-versa. These contracts can be designed to allow for some price exposure.

Contracts for Differences can be designed so as to expose producers (fully or partly) to short-run prices while derisking the investments

Different technologies might require a different degree of price exposure

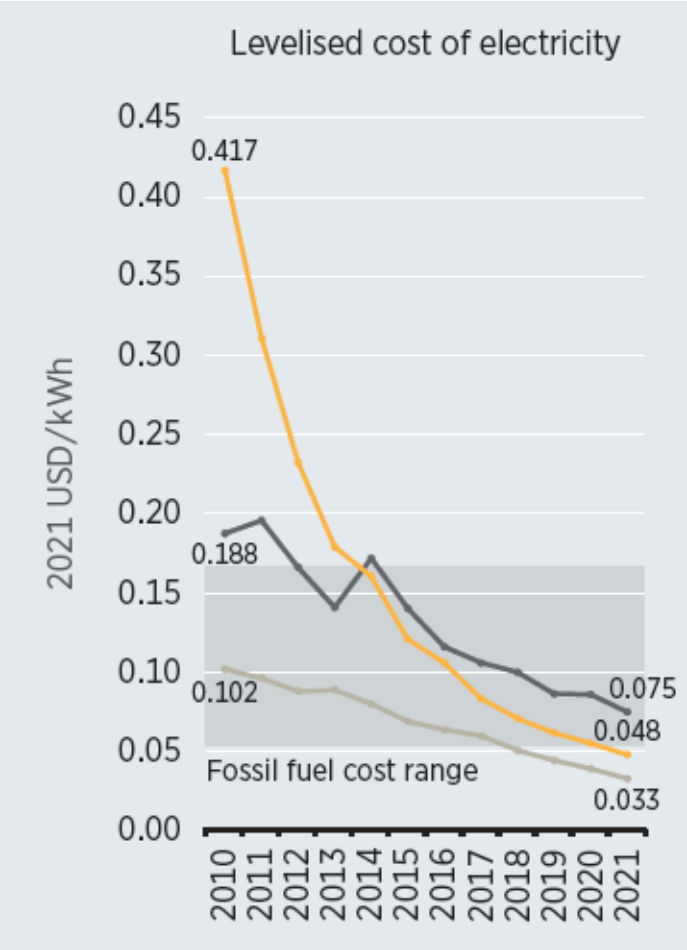
How do current prices compare with the costs of electricity generation?



Projected Costs of Generating Electricity 2020 (IEA)

Source: International Energy Agency

Falling costs of renewable energies



LCOE for solar (yellow), onshore wind (grey) and offshore wind (black)

Source: IRENA