

The Iberian Exception: what was the cost of distorting electricity markets during the 2021-23 European energy crisis?

EPRG Working Paper EPRG 2513

Cambridge Working Paper in Economics CWPE 2535

Hei Kan Lou, Michael G. Pollitt, David Robinson and Angel Vargas Arcos

Europe was facing a severe energy crisis from 2021-23. A rapid recovery from the COVID-19 pandemic, the Invasion of Ukraine, outages of the French nuclear plants, and the worst drought in Europe for the past 500 years caused significant shortages in natural gas and electricity while generation fell below sessional averages.

In response to the spike in energy prices causing adverse consequences to Iberian households and businesses, the Spanish government proposed the Iberian Exception (IE) to the European Commission in March 2022 to curb inflation. The proposal was granted by the European Commission in May 2022 and is called an exception as it only applied to the Iberian Peninsula but not to the rest of the European Union (EU). The IE was implemented on 15 June 2022 for one year and extended to the end of 2023.

The IE, also known as the adjustment mechanism or “gas cap”, worked by lowering the input cost of fossil-fired power plants in Iberia, ultimately lowering the wholesale electricity price. These power plants received a subsidy, mainly financed by Iberian consumers and partially by the congestion income between Spain and France. This adjustment mechanism applied only to fossil fuel generation but not direct gas consumption.

Given that this was a policy implemented in the middle of a continental gas supply crisis, we focus on the direct impact of the policy on gas demand in Spain and in Europe. This is interesting because other aspects of the IE – such as reducing consumer bills - could have been, and in other countries were, addressed by other policies. The ‘exception’ was allowed because it was deemed to be likely to have limited pan-European impact on electricity prices. By contrast, Spain competes directly with other European countries for LNG supplies on the global gas market and hence large effects in Spain do necessarily spillover to gas prices in the rest of Europe.

Our results suggest that IE successfully lowered the gas bids with a secondary effect of decoupling the Spanish markets from France during the period that the IE was binding. The distortions were large. The power flows to Morocco and Andorra increased massively, and Iberia subsidised the power price of bordering countries. The IE further produced a partially uneconomic scenario for Iberian consumers as they could have purchased their electricity from France while saving some of the subsidy levied on the consumers. Portugal also applies the exact adjustment mechanism to its generators and does not merely buy subsidised power from Spain.

We further quantify the size of the extra purchases of gas. By modelling the counterfactual scenario, a simulation was run to remove the subsidy on gas plants. We worked out some adverse impacts, including extra gas being burnt to supply electricity to foreign countries, including France and Morocco, and how much extra gas was burnt to supply domestic electricity.

The Spanish government did not emphasise the cost of the IE and the EU did not consider the adverse impact of IE on European gas demand and prices. While the IE has successfully reduced the day-ahead spot price in Iberia, consumers must finance most of the producer adjustment. The effectiveness of IE was further reduced by the outflow to surrounding countries when the flows increased domestic power prices and European gas burnt. A better policy of subsidising infra-marginal electricity consumption could have had the same effect on average bills at much lower societal cost.