

Energy Markets Under Stress: Some Reflections on Lessons From the 2021-2023 Energy Price Crisis in Europe

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1. Motivations underlying the research

There has been an unprecedented energy crisis in Europe affecting gas and electricity prices over the period since August 2021. Due to a combination of a faster than expected recovery from the COVID-19 pandemic, combined with an initially low level of gas stocks following the winter of 2020-2021, prices began to rise. This rise was then exacerbated by the build-up to the full scale Russian Invasion of Ukraine on 24th February 2022 and the subsequent disruption of Russian gas exports to Europe.

This article discusses the lessons of the crisis with a focus on its implications for electricity markets. The crisis gives rise to two sets of reflections based on the nature of energy policy in wartime and on the actual policies discussed and implemented during the crisis. The experience is rich because many European countries have faced the same shock and there has been a degree of experimentation, co-ordination and learning.

2. A short account of the research performed

We begin by discussing the historical scale of the price shock. The statistics show that the shock to both gas and electricity prices has been historically unprecedented. Next, we discuss how energy policy is different in wartime. This is important because Europe has been in an energy war with Russia, where Europe has attempted to rapidly reduce both its gas consumption and Russian energy dependency, while Russia has strategically restricted gas exports in an attempt to raise gas prices thereby exercising geopolitical leverage. We go on to examine the European Union's (EU) energy policy responses. The EU is responsible for the European single market in electricity and gas (which also formally includes Norway and effectively includes the UK). We then discuss four good and three bad policy responses observed across Europe during the crisis.

3. Main conclusions and policy implications of the work

We conclude that wholesale electricity and gas markets work in delivering energy security! Europe's efforts to create genuine single markets in electricity, gas and carbon have proved their worth in the crisis.

The distributional impact of high prices on European households and industry and the short-run impact on the competitiveness of national industries remains a major concern. Given the prolonged very high prices, intervention of some kind became inevitable.

Moving on to climate policy, we suggest that the crisis is a wake-up call to pay attention to the price impact of net zero policies, where tight linkages between power, heat and transport prices are the consequence of sector coupling *and* high unit prices of energy are also to be expected.

The undermining of world order at the heart of the crisis reduces the prospects for market based decarbonization based on clear definitions of internationally tradeable property rights and reliable international monitoring of the quality of environmental goods (such as carbon, renewables, green and blue hydrogen).

Finally, we argue that what any energy crisis tends to reveal is the need for more, not less, orthodox economic theory to inform energy policy. Wider, deeper, more global markets are the best way to mitigate country specific supply risks *ex ante*. Actually, responding to price spikes by reducing demand and increasing supply are the sensible responses *ex post*. The sad thing is the world often insists on testing the

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opposite on the real world economy, e.g. by taking actions which increase demand and reduce supply in the face of price spikes. Economists should stand against such theoretically groundless actions.