

The Energy Market in Time of War

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As a well-educated economist, I believe the ‘the market’ is a wonderful thing in general, spectacular in some respects and deeply misunderstood in others.

One key misunderstanding is that there is no such thing as the ‘free’ market in the formal economy. Markets are highly regulated social institutions which are set up to deliver particular societal goals. So it is with the market for electricity and gas.

As such, in a modern democracy energy markets are our servants, not our masters. If the market is not delivering for society, we can change it. When it is as significant as the energy market, there is a moral imperative to act when a situation arises where market prices rise to unprecedented levels. The war in Ukraine and the consequent significant curtailment of European gas trade with Russia has sharply raised the price of gas and consequently the price of electricity, exacerbated by the post-Covid recovery in global gas demand.² Wholesale electricity prices in Europe are now around double (in real terms) the level they have been at any time since 1999.³ They have been around this level for an unprecedented 6 months. What is more, high prices are expected to continue for at least 2.5 years by forward markets. The forward price of electricity at the time of writing in 2025 is expected to be over twice its normal level⁴, while the forward price of gas (TTF) is expected to be over four times its normal level in March 2025⁵.

The circumstances are exceptional. We are at war - a war that we must win - with an enemy that is determined to inflict long-term economic and political damage on European democracies. The damage that is being inflicted is material. In Germany the estimated loss of GDP from sustained high energy prices is up to 12%⁶, while inflation is expected to peak at 13% in the UK following announced price rises in household electricity and gas on 1 October 2022, of which gas, electricity and fuel would be 6.5%⁷.

¹ With thanks to my colleagues at CERRE for their comments and encouragement. The author is writing in a personal capacity and the views in this paper should not be taken to necessarily represent any individual or organisation that he is associated with.

² For a review of current electricity prices and national measures in Europe, see:

https://cdn.eurelectric.org/media/6053/overview_national_situation_18082022-h-D24BA028.pdf

³ For recent and current prices see: <https://ember-climate.org/data/data-tools/europe-power-prices/>. The previous prices for GB are shown in Levi and Pollitt (2015) for the period 1990-2014, in real terms; and see Ofgem for more recent data (2011-: <https://www.ofgem.gov.uk/wholesale-market-indicators>)

⁴ 168 Euro / MWh in calendar 2025 (EEX Power Futures Dutch Base Power on 4 September 2022), against a maximum monthly price in 2019 in the EU of less than 70 Euros / MWh (see Ember: <https://ember-climate.org/data/data-tools/europe-power-prices/>)

⁵ 93.285 Euro / MWh in March 2025 (ICE TTF Futures Price on 4 September 2022), against prices hovering around 20 Euro / MWh for most of the decade from 2010 (see <https://www.spglobal.com/commodityinsights/en/market-insights/blogs/natural-gas/070521-ct-european-gas-Ing-ukraine-co2-emissions-us-henry-hub-aluminum-coal>)

⁶ See Bachmann et al. (2022)

⁷ ‘Electric Shock’, *The Economist*, August 13th 2022, p.19.

In war time, normal market arrangements for essential goods and services are suspended, in favour of administrative arrangements designed to balance the need to produce goods and services efficiently and the need to achieve equitable allocations of those goods and services. Private ownership of production can continue, but war profiteering must be limited, and profits strictly regulated. In war time, all are encouraged to economise on the use of limited resources (*especially* if they can afford not to), produce their own where this is possible ('dig for victory') and to accept inconvenient (and sometimes binding) restrictions on use ('rationing' and 'put that light out').

What we need in energy is to put the economy on such a 'war footing'.⁸ This immediately suggests five actions which European governments, supported by the European Commission, need to plan to implement this winter.

First, we need a significant programme of demand reduction with monitoring and financial incentives to comply. This should take the form of limiting the use of electricity and gas for non-essential services. Commercial buildings and government offices should have maximum winter temperatures and minimum air conditioning temperatures which are significantly lower than last year; there should be bans on open doors to commercial buildings in winter; buildings should be encouraged to go dark at night; we should implement day light saving this winter. The target should be to reduce weather corrected electricity and heating demand by at least 15%. This would materially reduce demand for gas and reduce wholesale prices for both gas and electricity. A small reduction in demand could significantly decrease the price of gas and electricity, given their small price elasticities of demand.

Second, we need to target the reduction of European gas demand specifically. We should import certain energy intensive products used by European industries and adapt production processes where such goods can be imported cheaply from friendly countries. This allows us to import embodied energy. Where possible, the life and availability of gas import substituting resources should be extended and increased, whether it be German nuclear power plants, coal fired power plants in the UK or local gas production in the Netherlands. We also need to encourage energy use when wind and sun are available and should move to a system where we discourage energy use specifically on low wind (and low sun) days. We should encourage use or charging of household devices and appliances during these times. Doing this will minimise aggregate imported gas use.

Third, we need a collective 'dig for victory' in energy. Home production is possible for those with roofs and governments must encourage the installation of PV on private homes and commercial buildings; the EU should reduce tariffs on necessary renewable energy equipment; we need an active programme of energy efficiency advice and interventions; we should be encouraged to switch off devices where possible at home and at work; turn down or off radiators in rooms we are not in; we should reward and encourage efficient use of public spaces to keep warm; local authorities should also be encouraged to unblock planning permissions for local energy schemes; and we should call out inefficient use of energy in workplaces and public buildings and bureaucratic objections to energy production, such as the installation of solar panels on historic buildings with no visual impact.

Fourth, we need fair pricing schemes for energy, which also encourage energy saving. One obvious way to do this at the national level is via the implementation of a rising block tariff, with a rebate, for all household energy consumers. This is a way of effectively rationing energy while maintaining affordability. Under the rising block, each household could be given a lower price energy allocation, which could be determined by the measurable household characteristics at a low price and then face

⁸ For an excellent discussion of attempts to control energy demand in World War Two in the UK, see: Shin, H. and Trentmann, F. (2019), 'The Material Politics of Energy Disruption: Managing Shortages Amidst Rising Expectations, Britain 1930s-60s', in D. C. Needham (ed.), *Money and Markets: Essays in Honour of Martin Daunton*, Boydell and Brewer.

sharply rising prices for using more than their allocation. This could be combined with a reward for reducing energy consumption relative to last year's measured consumption. The low-price allocation would incorporate a significant assumed reduction, except for certain protected vulnerable customers, in demand relative to last year.

Finally, we need a temporary system to deal with profiteering in the energy sector in these exceptional times. National regulators and finance ministries need to assess how much money is going into the electricity and gas sectors and whether there are excessive untaxed returns (which is not necessarily obvious in some countries). We need to know how much these are and which asset owners are receiving them. We then need a fair ex post assessment and taxation of these. Profiteering in war time undermines morale and must be properly policed. Some returns to speculative investments may be fair and not material to the overall bill, other returns are large, completely unforeseen by their asset owners and should therefore be taxed and redistributed.

Something must be done about energy, and we need to put in place a scheme to deal with it now. We all hope the Russia-Ukraine war will end and that we can remove war time restrictions. However, we must prepare for the worst: that this energy situation will continue for an indefinite period. We need an intervention which is efficient and fair.

Can something significant be done, quickly? The answer is yes.

In 1939, the UK began rationing household coal (the primary source of heating fuel) within days of its entry into World War Two.⁹ This successfully reduced household consumption of coal.

In 2003, New Zealand ran a 'Target 10' public advertising campaign to reduce electricity use by 10% in weeks due to the need to meet a shortage of water in its hydro dams (the target was achieved in 6 weeks).¹⁰

In summer 2011, Tokyo reduced electricity demand by 18%, following the Fukushima Crisis in March 2011.¹¹

From April 2011 to March 2012, the UK installed 270,000 PV systems on roof tops (1% of all households), following the implementation of a generous Feed-in-Tariff, less generous than the announced price of electricity from 1 October 2022¹².

Who should do what?

We have four major actors in the energy sector; the government: in the form of national Energy and Finance ministries and the EU; independent energy regulators; the system operators of the electricity and gas system; and the rest of the industry as owners of the generation and production assets, networks, and retail businesses. All have their parts to play in the wartime energy economy.

⁹ See Shin, H. and Trentmann, F. (2019, p.267ff).

¹⁰ See IEA (2005), *Saving Electricity in a Hurry: Dealing with Temporary Falls in Electricity Supplies*, Paris: OECD, p.97.

¹¹ See Kimura, O. and Nishio, K-I. (2016), 'Responding to electricity shortfalls: Electricity-saving activities of households and firms in Japan after Fukushima', *Economics of Energy and Environmental Policy*, Vol.5 (1): 51-72.

¹² The 2011 feed-in-tariff was 43.3 pence / kWh or 56.1 pence / kWh (July 2022 prices, inflated with CPIH). The average price of electricity in October 2022 will be 57.8 pence / kWh (including Standing Charge of 46 pence per day and standard consumption of 2900 kWh per year. Solar installation statistics: <https://www.gov.uk/government/statistics/solar-photovoltaics-deployment>

National governments need to oversee a comprehensive plan for the implementation of emergency measures, including passing the necessary special legislation. The Finance ministry needs to be involved to underwrite any funding deficit. The EU should spread good practice and ensure that national schemes do not undermine the integrity of the single markets in electricity and gas.

National regulators need to undertake the detailed calculations on what it will take to fund the private industry in wartime. It also needs to work out and approve exact pricing plans for regulated customers and how to maintain the efficient operation of wholesale electricity and gas markets while regulating the overall payments received by the industry.

Electricity and gas system operators need to keep the lights on and the gas flowing. They also need to come up with comprehensive advice on how gas use can effectively be minimised during the supply crunch this winter. Good analysis of what it will take to make the best use of gas will depend on detailed analysis of gas use.

The rest of the energy industry needs to get behind the government's efforts to deal with crisis. It is the industry's corporate social responsibility to cooperate with the government at this time and not seek to resist a temporary suspension of existing long-term contracts. A lazy myth in our society is that well-run private companies don't generally act in the interests of society. The energy industry has the opportunity to step up and prove that this myth is wrong in its response to this crisis. The longer-term advantage to the sector in terms of societal goodwill is obvious.

The economic response to the COVID-19 pandemic reminded everyone of the power of pragmatic economics which focuses on outcomes that are good for society, not on rarefied economic models or, worse, economic ideology that insists on purist market approaches for their own sake. It also reminded us of the necessity and power of democratic government in market economies faced with an existential crisis. The wartime economists¹³ who worked tirelessly to set wartime prices and rations in Allied Countries in World War Two helped produce and allocate scarce resources, maintained the morale of their populations and, in turn, helped win the war. The same can and should be true in this current crisis.

¹³ See, for example: Cairncross, A. (1995), 'Economists in Wartime', *Contemporary European History*, 4(1): 19-36.