

Summary of talk by Paul Hallas “Why is the cost of electricity so high? And what can I do about it?”

It is true that UK domestic electricity prices are higher than the European average. Why is this?

The two main elements of the price are:

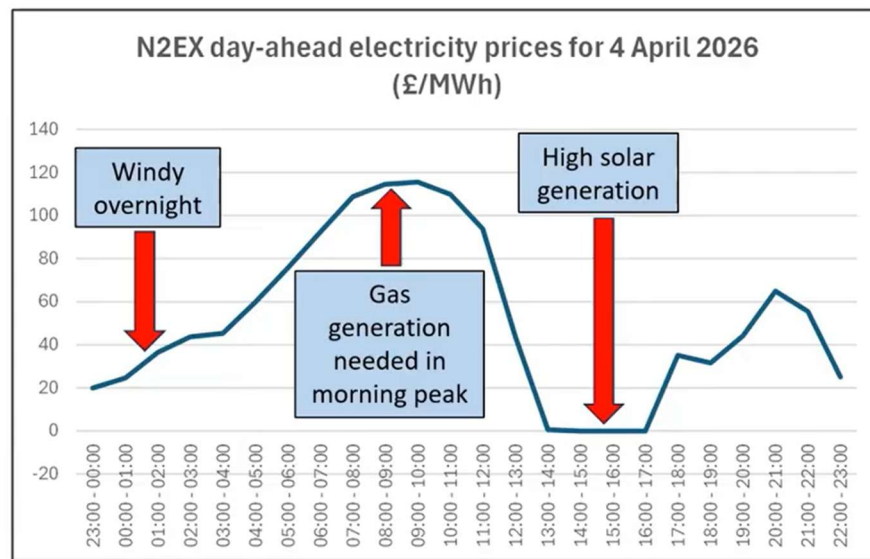
1. The electricity network (with local distribution accounting for a higher unit cost than national transmission). Historical underinvestment means we are playing catch-up. New investment is needed because of the move from fossil fuels towards electricity.
2. The wholesale price. The proportion of our electricity generated from gas is falling rapidly but still stands at 29%. We need some gas fired electricity for about 85% of the hours in the year, so the wholesale price is strongly affected by the price of gas. Alongside the UK emissions trading scheme, the cost of gas-fired generation is still affected by the carbon tax which is unique to the UK – gas generators have to pay it and of course pass that cost on to consumers. The Government has announced that this tax will be abolished in April 2028.

Fluctuating demand for electricity

Consumer demand fluctuates across the day – we use less at night, more in the morning and even more in the evening. The wholesale price varies across the day, but there can only be one price in any one half hour. The principle works in the same way across Europe.

Renewable sources of electricity are not flexible (we can't make the sun shine). When there is a peak in demand we therefore rely more on gas-fired electricity, which can be turned up and down, to make up the shortfall. It is at these times that the wholesale electricity price is driven by the cost of gas-fired electricity.

**GB wholesale electricity prices often vary considerably by time of day
(example for 4 April 2026 shown below)**



In order to reduce our use of gas, we need to reduce the height of the peaks and even out our demand (as well as continuing to develop more low-carbon generation). There are three main ways to achieve this:

1. Battery storage: this has grown exponentially over the past five years and growth will very likely continue
2. Cross border interconnection: eg exporting to Europe when high renewable generation drives down GB prices and importing when Continental electricity is cheaper than GB gas generation.
3. Consumer flexibility: this is where we come in. We can shift our peak demand by buying/using electricity in the night (and at other off-peak times) by charging a battery (eg electric vehicles or batteries installed with solar panels) or by running appliances such as washing machines overnight. The lower the peak demand, the less we rely on gas for flexibility.

Electricity suppliers continue to explore ways of enabling and encouraging us to shift demand.

What can we do?

- Choose a supplier with cheap overnight rates
- Install solar panels
- Buy and use a battery to store cheap electricity for use at peak times
- Recharge the electric car overnight
- Potentially, sell the flexibility from our EV battery at times when we don't need the car
- Run appliances overnight