

Sent by email to future_price_protection@ofgem.gov.uk

2 May 2024

Dear Ofgem

Future of domestic price protection - Thermal Storage UK input

We welcome Ofgem looking at how the growth in flexible low carbon technologies will change the regulation of electricity pricing. Low carbon technologies will include electric vehicles, highly efficient heat pumps and highly flexible heat batteries. As people adopt these technologies, electricity pricing will evolve as people look to consume and store energy when renewables are plentiful and prices are low and avoid high-price peak times when fossil fuel generation is on the system and demand is high. There are strong commercial reasons for suppliers to offer time-of-use tariffs to these customers, especially once market-wide half-hourly settlement is introduced, and so default tariffs and price regulation will need to keep pace.

We agree with Ofgem that “reform is needed” of the price cap. Despite the complexities in the price cap methodology, the current Ofgem price cap is very simplistic in its approach. Ofgem tries to work out a wide range of costs faced by energy suppliers for purchasing energy for their customers and then works backwards to apply a maximum annual cost per meter point per region per payment method. The daily standing charge is calculated by applying a nil rate of consumption and the unit rate is calculated based on an estimate of average annual consumption. For tariffs such as Economy 7, a higher annual consumption is estimated and the % split between day and night rates is estimated. We have previously highlighted to Ofgem the lack of oversight and rigour around the application of the price cap to Economy 7 and other default time-of-use tariffs.

The energy price cap was a temporary solution introduced by legislation (we note that Ofgem supported a more targeted price cap, the “safeguard tariff”) to address customer detriment identified by the CMA. The cap was expected to have been removed by 2024. As Ofgem identifies, the energy market, both within and beyond the energy retail, has changed significantly. The cap was designed by Ofgem in 2018 when:

- There were far fewer renewables in the wholesale market
- There were far fewer smart meter installations
- Electric vehicles uptake was low
- Heat pump and heat battery uptake was even lower
- The ROI on solar panels was much lower
- Suppliers used daily profiles rather than half-hourly settlement
- Ofgem had limited rules in place for financial stability and resilience

The energy market looks very different now. Without reform, we agree with Ofgem that there is a risk that the cap holds back innovation. It is striking looking back today that the Domestic Electricity and Gas (Tariff Cap) Act 2018 includes no requirement on energy suppliers to help customers to decarbonise their heating or transport and use electricity more flexibly.

If market-wide price protection remains in place, we recommend that initially the price cap for homes becomes a static time-of-use tariff. This might involve a tariff structure with lower electricity rates overnight and during the day, with slightly higher rates during the peaks in the morning and/or early evening. This is the lowest cost approach for all consumers if electric vehicles are charged at domestic premises at off-peak times such as overnight. Introducing a static time-of-use price cap will help to reduce peak demand, lowering the amount of distribution network investment required and the need to use back-up power generation such as fossil gas. These static time-of-use tariffs will strike the right balance between reducing carbon emissions by making the best use of low carbon renewables and introducing additional complexity for people.

In adopting a static time-of-use price cap, we encourage DESNZ and Ofgem to learn the lessons from the regulation of E7 and E10. People on these tariffs, typically using old-style storage heaters, incur widely different day and night costs depending on their energy supplier and the region in which they live¹.

Over time, we recommend that any price cap evolves from a static time-of-use tariff into a more dynamic time-of-use tariff. This would reflect the roll-out of market-wide half-hourly settlement and the greater penetration of renewables. Once an asset register for low-carbon technologies is in place, the price cap could vary more frequently for homes with low carbon technologies.

We note that Ofgem lacks oversight of the key areas where time-of-use tariffs are most useful. This lack of regulatory scrutiny is an increasing problem as people adopt low carbon technologies that benefit from flexibility. For instance, Ofgem has little oversight or understanding of home heating options so will struggle to understand the choices available, as well as the benefits and the potential detriment of those choices. The UK should want to avoid a repeat of the lack of oversight from regulators in relation to the gas heating sector. We recommend that Ofgem increases oversight in this area, particularly ahead of taking on responsibility for licensing heat networks and load controllers.

We would welcome working with Ofgem and other stakeholders on the future of domestic price protection.

Yours sincerely

Tom Lowe

Founding Director
Thermal Storage UK

¹ <https://www.sustainabilityfirst.org.uk/blog/443-economy-7-blog-frerk>

Questions

1. Do you have any reflections on our list of the cap's successes and challenges?

While we do not have detailed comments on the price cap's successes and challenges, we note a potential inconsistency in Ofgem's rationale about the impact of the price cap. Ofgem sets out that the level of differential between inactive and switching tariffs did not narrow when the cap was introduced and suggests this was caused by "suppliers pursuing unsustainable business models". Ofgem then notes that the price cap did not stifle competition for engaged customers and consumer engagement - based on switching - reached record levels. For consistency, it would seem that the record levels of switching were at least in part driven by some energy suppliers pursuing unsustainable business models, such as offering poorly hedged, very cheap fixed price deals.

We also recommend that, in future work on this topic, Ofgem sets out what they mean by "legacy" supplier and "incumbent" supplier. This would help stakeholders to interpret changes occurring over time, for instance in relation to Figure 5. For instance, we expect that Figure 5 shows that, by 2023, incumbents' market share for electricity was 59%, while Octopus Energy had grown through acquisition to cover much of the remaining 41% market share.

Finally, we note that it is difficult to disentangle the impact, positive and negative, of the price cap over the last 3 years given:

- the external price shock of the gas crisis
- market consolidation as smaller energy suppliers left the market
- the impact of government support schemes such as the Energy Price Guarantee
- more stringent Ofgem requirements on energy supplier financial and operational resilience

- interventions such as the Market Stabilisation Charge and the Ban on Acquisition Tariffs
- the shift to quarterly price cap updates

We recognise that the interactions between these developments are complex.

2. Do you believe that the growing diversity of electricity consumption patterns will make it challenging to retain a flat, universal and stringent price cap? How quickly do you think this will materialise and with what impacts? What evidence can you provide to support your view?

Yes, we agree that the shift to low carbon technologies, the introduction of market-wide half-hourly settlement and an increase in renewable generation will make the current cap design obsolete.

The government's recent consultation on the Review of Electricity Market Arrangements shows that the percentage of electricity pricing determined by renewables or interconnectors will increase significantly. By 2030, DESNZ expects more than 90% of electricity wholesale pricing periods to be determined by renewables or interconnectors.

In relation to low carbon technologies, we expect a faster uptake of electric vehicles than low carbon heating. This reflects the higher level of maturity of electric vehicles, the falling costs per kWh of electric batteries (mainly produced in China) and the greater complexity involved in decarbonising home heating.

In recent years, we have seen an increased commercial, academic and policy focus on heat electrification, primarily through technologies such as heat pumps and heat batteries. Companies offering these technologies are growing and innovating, which we expect to increase the scale of manufacturing and reduce the cost of each product. Heat pumps require thermal storage such as heat batteries for hot water or hot water tanks. To

increase uptake of heat pumps, innovative solutions are required to accommodate thermal storage in existing homes. Companies such as Sunamp offer a compact phase change material heat battery for hot water that works with heat pumps and is three times smaller than the comparable hot water tank. Companies such as tepeo offer highly flexible heat batteries for space heating for homes where the level of disruption and cost means that heat pumps are not the optimal solution.

We expect to see a further acceleration of electric heating once key policy decisions are made, including:

- relaxing out-of-date and unnecessary planning restrictions in 2024
- the Clean Heat Market Mechanism is fully implemented in 2025
- a government decision is made on the role of hydrogen by 2026 and
- the Future Homes Standard is implemented during 2026 - 2027

We also expect home heating decarbonisation to involve local authorities and area planning in much the same way as the gas network was rolled out regionally during the 1960s and 1970s.

We would expect energy suppliers to offer time-of-use and type-of-use tariffs as market-wide half-hourly settlement is introduced during 2025.

3. What plans do suppliers have to launch ToU tariffs and to incentivise customers to shift their electricity consumption once MHHS is implemented?

Once market-wide half-hourly settlement is introduced during 2025, we strongly recommend that energy suppliers offer time-of-use tariffs that consider electrification of heat and transport. This will include considering and encouraging flexibility for heat pumps and heat batteries.

If more energy suppliers do not offer a wider range of time-of-use tariffs during 2025, we would expect Ofgem to investigate why and to explore mandating suppliers to offer these tariffs.

4. How quickly and at what scale do you expect customers, especially those with large flexible loads such as EV and solar / battery users, to take up ToU tariffs once MHHS is implemented?

We note that people with flexible loads such as EVs, batteries, heat pumps and heat batteries are already taking up time-of-use tariffs based on elective half-hourly settlement. These tariffs are a mix of static and dynamic tariffs and are offered by energy suppliers such as British Gas, Octopus and EON Next. EDF launched a heat pump tariff in April 2024. The cost savings available from time-of-use tariffs are significant, with night-time charging of EVs or heat batteries 3x or 4x cheaper than day-time rates.

We expect people with EVs, batteries and heat batteries to have the strongest uptake of time-of-use tariffs because these customers have the most flexibility to offer and therefore the most to benefit from these tariffs. For people with heat pumps, the uptake of time-of-use tariffs will depend on how their system has been configured, including the amount of thermal storage available, the heat loss of their property and their comfort preferences. We expect some people to prefer static time-of-use tariffs for price certainty, while others will be more willing to accept dynamic time-of-use tariffs.

We agree with Ofgem's proposal to immediately start to consider the technical impact of market-wide half-hourly settlement on the current price cap. In a similar vein, we encourage Ofgem to proactively consider how the decommissioning of at least parts of the gas grid in the coming years will impact wholesale gas prices and gas network costs and what this means for the design of the price cap.

5. In addition to the factors set out in this chapter, are there any other important changes that might affect the ability of the current default tariff cap to achieve its objectives?

No response.

6. Do you agree that we need to retain some form of price protection in the retail market?

We recommend that Ofgem provides more evidence to support their view that “if price protection was removed completely, we would likely see a return to price exploitation of inactive customers, as existed before the cap”. This does not mean that we support the removal of all price protection from the retail market. However, it is a big assertion that requires more evidence to support the statement. We recommend that Ofgem considers factors such as the concentration of energy suppliers in the current market and the liquidity of the wholesale market in a counterfactual where there is no price cap.

7. Do you have views on which of the three key parameters – the cap being flat, universal and stringent - should be relaxed when considering future price protection options?

We do not fully agree with how Ofgem has categorised the choices faced in designing a different version of the price cap. For instance, we do not see that there is a binary choice between a flat cap and a time-of-use cap. Ofgem’s discussion paper suggests that a flat cap will have adverse consequences for those with low carbon technologies, while a time-of-use cap is likely to be inappropriate for those without low carbon technologies. We note that a static time-of-use price cap, for instance one with lower off-peak rates, should reduce costs for all consumers by reducing peak demand, which in turn reduces the need for at least some investment in upgrading the distribution network and reducing the need to use expensive back-up gas generation.

We also note that an alternative option is to have different types of price cap for those with and without low carbon technologies. This could mean that a property with an active EV charger would fall into the time-of-use version of the price cap. Such a cap would require a comprehensive asset

register covering low carbon technologies that energy companies could access. Ofgem suggests such an approach in section 4 of the discussion paper. In the absence of an asset register, default tariffs could be regulated to match a similar structure to whatever fixed term tariff someone has rolled-off. For example, a fixed term two-rate electricity tariff could be followed by a default tariff with a similar two-rate structure.

We can see a rationale for moving away from a universal cap and a stringent cap. However, we note that a relative cap will be complex to calculate, particularly as time-of-use tariffs proliferate following the introduction of market-wide half-hourly settlement.

8. What are your views on options discussed? Do you have any preferred options or combination of options?

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Over time, we recommend that any price cap evolves from a static time-of-use tariff into a more dynamic time-of-use tariff. This would reflect the roll-out of market-wide half-hourly settlement and the greater penetration of renewables. Once an asset register for low-carbon technologies is in place, the price cap could vary more frequently for homes with low carbon technologies.

9. In particular, which options or combination of options do you think would best protect vulnerable customers?

No response.

10. How should consumers with large flexible loads, mainly EV and solar / battery users, be treated with regards to future price protection?

It is important that people purchasing products such as EVs, heat pumps or heat batteries are able to access time-of-use tariffs. While many people may opt for tariffs that fall outside of the price cap, such as fixed term time-of-use tariffs, people should have a fallback time-of-use tariff with their supplier. If more energy suppliers do not offer a wider range of time-of-use tariffs during 2025, we would expect Ofgem to investigate why and to explore mandating suppliers to offer these tariffs.

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Our response to the recent DESNZ consultation on default tariffs also proposed that suppliers could implement default tariffs that follow a similar structure to the previous fixed tariff for a customer. For instance, this would mean that, after the end of a fixed tariff with 5 hours off-peak, the customer would default onto a tariff with a similar off-peak period. This would mirror the existing arrangements for those on Economy 7 and Economy 10. Without this requirement, Economy 7 and Economy 10 customers (and those with other types of exotic meters) who install a smart meter could be put in a worse position than if they had kept a non-smart meter.

11. Are there any additional options that we haven't, but should be considering?

No response.