



# CRA Insights: Energy

CRA Charles River  
Associates

December 2018

## Capacity market suspension: Implications for the GB power market

On 15 November 2018, the General Court of the European Union annulled the European Commission's decision to not raise objections to state aid approval for the GB capacity market arrangements.<sup>1</sup> The Court made the decision primarily on the ground that the Commission had not properly assessed the impact of the market rules on demand-side response operators. The immediate effects of the ruling are:<sup>2</sup>

- Capacity payments will no longer be made to capacity holders from previous auctions; and
- The upcoming T-4 2022/23 auction and T-1 2019/20 auction are postponed indefinitely, although pre-qualification for 2019 will continue.

We highlight some immediate questions arising from the ruling.

### What will be the impact on the current capacity holders?

The ruling immediately prohibits capacity payments and this means about £1 billion of revenue has been eliminated from the UK power market for 2018/19.

Instead, capacity contract holders will have to rely on wholesale market revenues to cover their running costs, should they wish to keep their plant available while the Commission re-examines compatibility of the capacity market with the State aid rules. 47.5 GW of capacity were contracted in the first T-4 capacity auction in 2014 and another 5.8 GW in the T-1 auction for delivery between October 2018 and September 2019. Our preliminary analysis suggests that, based on the current

---

<sup>1</sup> The General Court of the European Union, Judgment of the General Court in Case T-793/14 Tempus Energy Ltd and Tempus Energy Technology Ltd v European Commission, 15 November 2018.

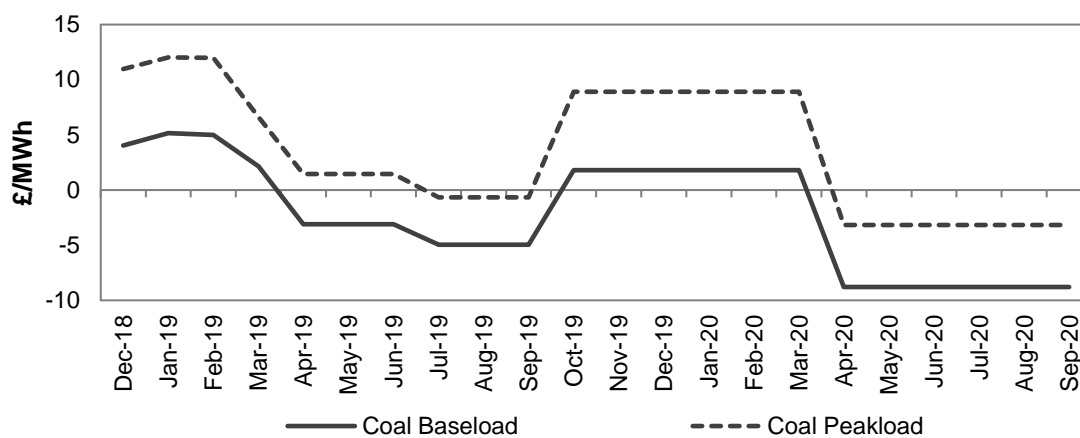
<sup>2</sup> National Grid ESO, Tempus State Aid Judgment – Advice for capacity agreement holders and capacity market applicants, 19 November 2018.

load factor conditions, average wholesale prices will have to increase by approximately £5/MWh to restore capacity holders to the same financial situation prior to the suspension.

### How will this impact the outlook for GB power prices?

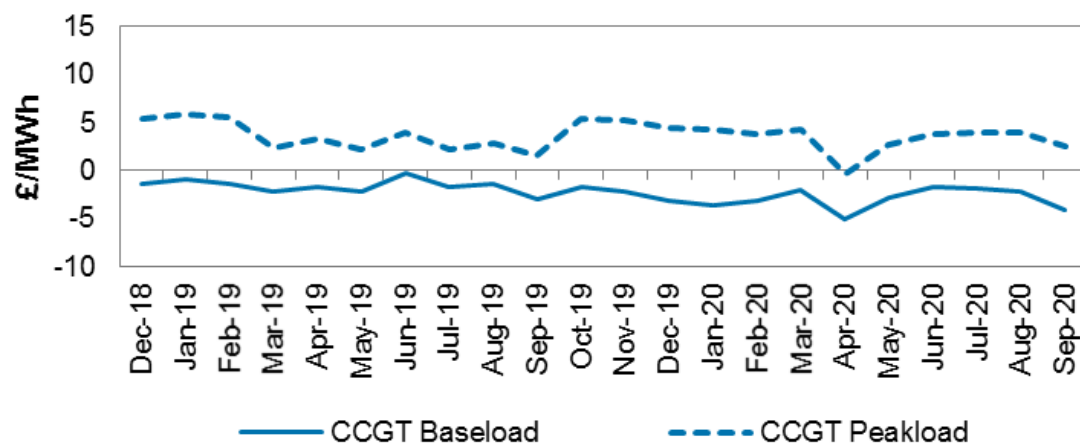
Amidst these regulatory uncertainties, the outlook for generation margins remains bearish for existing coal and gas generators (see Figures 1 and 2). The clean dark spreads for both baseload and peakload power are expected to be largely negative over the next two summers. A recent surge in GB natural gas prices has brought some reprieve to coal generators for this winter but has squeezed gas generation. Figure 2 shows that baseload generation margins for older CCGT fleets (i.e. ~45% HHV efficiency) are expected to be negative through to summer 2020.

**Figure 1: GB Coal generation margins (Clean dark spreads – baseload vs peakload)**



Note: The dark spreads are calculated using 35.0% HHV thermal efficiency, based on the average efficiency as reported in Digest of UK Energy Statistics 2018 and 0.95 t/MWh emission factor. The data are as of 20 November 2018.

**Figure 2: GB CCGT generation margins (Clean spark spreads – baseload vs peakload)**



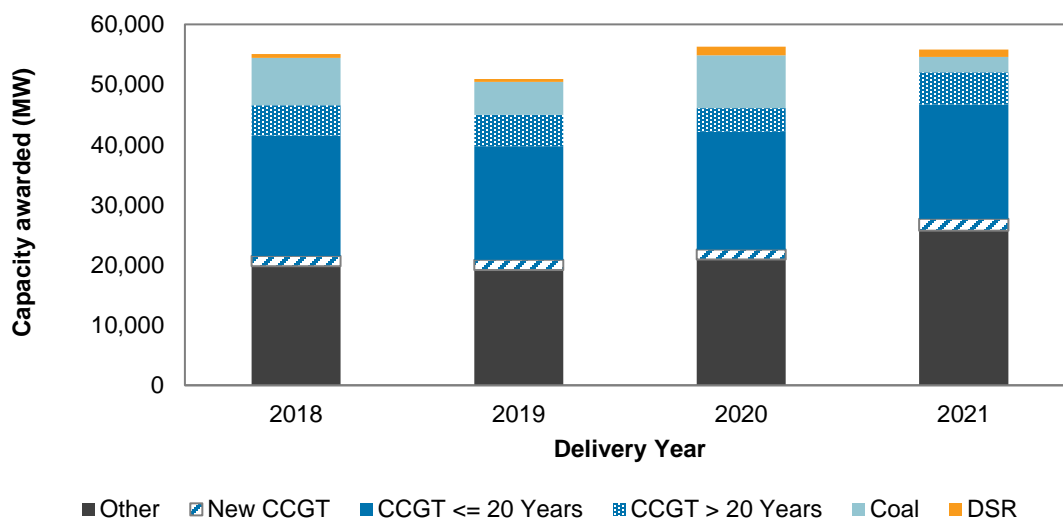
Note: The spark spreads are calculated using 45.0% HHV thermal efficiency, based on the average efficiency as reported in Digest of UK Energy Statistics 1998 and 0.42 t/MWh emission factor. The data are as of 20 November 2018.

Absent capacity market revenues, it is not clear that the current market will be sufficient to prevent coal generators from mothballing or shutting down to avoid incurring fixed costs if the capacity market suspension extends beyond this winter.

How energy prices react to a longer suspension of the capacity market will depend on two inter-relating factors:

- **Will capacity be mothballed or retired earlier than planned?** Existing coal generators have around 5 – 8 GW of capacity contracts. CCGTs older than 20 years have 4 – 5 GW of contracts (see Figure 3). Therefore, up to 13 GW of capacity could be at risk of mothballing or exiting, compared with the 7.1 GW of de-rated supply margin for this winter.<sup>3</sup> This risk grows with the duration of the absence of a capacity market. Whilst this year's fixed costs may have been already incurred, planning for next winter's operations is still largely open for adjustment.
- **Will bidding behaviour change to reflect any increase in scarcity of supply?** The remaining generators may try to bid up wholesale and balancing market prices to capture scarcity rents arising from lower reserve margins. In particular, capacity contract holders with a portfolio of generating assets may also have increased incentives to withhold some capacity to drive up market prices. The efficacy of these actions will depend on how much capacity absents itself from the market and the intensity of competition between remaining plants.

**Figure 3: Composition of capacity awarded by delivery year**



Source: CRA analysis of the capacity market registers as of 20 November 2018

<sup>3</sup> National Grid ESO, Winter Outlook Report 2018/19, November 2018.

## What's next?

Following a sector-wide inquiry into capacity markets, in February 2018, the European Commission approved six other capacity remuneration mechanisms across the EU on the basis that they met “strict” criteria under EU State aid rules. With some potential tweaks around contract length, performance requirements and the participation of renewables in the mechanism, the GB capacity mechanism is likely to be re-assessed in compliance with State aid rules.

However, it is possible that the Commission might require changes to the market design that would invalidate previous auctions and force new T-1 auctions. It is also possible that 15-year contracts could be abandoned as part of the revised design. These outcomes could shift investor perspectives on the UK power market.

Over the past few years, utilities have begun to unwind and sell off their thermal generation. Without the benefits of vertical integration, over half of the country's non-renewable and non-nuclear fleet is now largely fully exposed to wholesale market conditions and the outcomes of the capacity market. Whilst this enforced pause might be an opportunity to influence the improvement of the GB capacity market, it is also an opportunity to analyse how power generation industry business models can reduce exposure to regulatory uncertainty.

## Contacts

### Ana Barillas

Principal

London

+44-20-7959-1547

[abarillas@crai.com](mailto:abarillas@crai.com)

### Simon Ede

Vice President

London

+44-20-7959-1550

[sede@crai.com](mailto:sede@crai.com)

### Knight Sukthaworn

Senior Associate

London

+44-20-7959-1544

[ksukthaworn@crai.com](mailto:ksukthaworn@crai.com)



The conclusions set forth herein are based on independent research and publicly available material. The views expressed herein do not purport to reflect or represent the views of Charles River Associates or any of the organizations with which the author is affiliated. The author and Charles River Associates accept no duty of care or liability of any kind whatsoever to any party, and no responsibility for damages, if any, suffered by any party as a result of decisions made, or not made, or actions taken, or not taken, based on this paper. If you have questions or require further information regarding this issue of *CRA Insights: Energy*, please contact the contributor or editor at Charles River Associates. This material may be considered advertising. Detailed information about Charles River Associates, a registered trade name of CRA International, Inc., is available at [www.crai.com](http://www.crai.com).

Copyright 2018 Charles River Associates