

Summer Outlook

2019

The *Summer Outlook Report* is an annual publication delivered by National Grid each spring. It presents our view of the gas and electricity systems for the summer ahead (April to September).

The report is designed to inform the energy industry and support their preparations for this summer and beyond.



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Summer
Outlook
2019

> 1
Executive
summary

> 2
Electricity

> 3
Gas

> 4
Operational
outlook



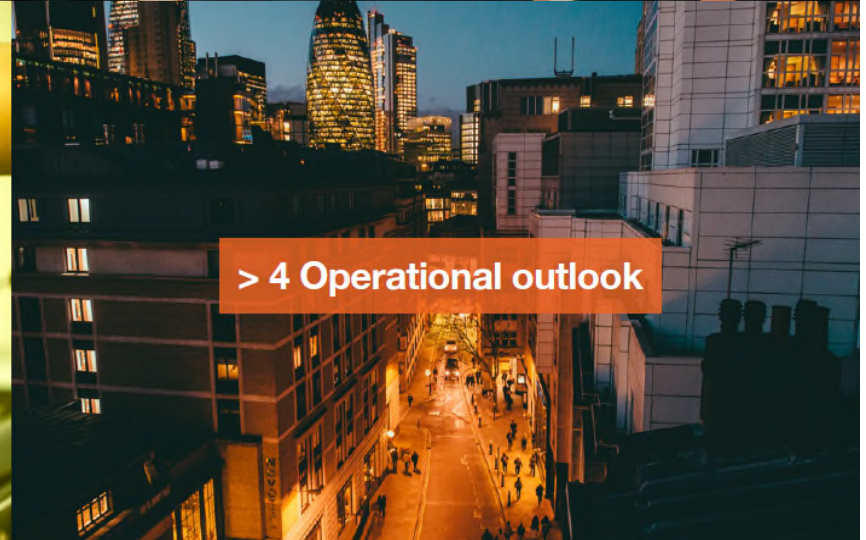
> 1 Executive
summary



> 2 Electricity



> 3 Gas



> 4 Operational outlook



- > 1 Executive summary
- > 2 Electricity
- > 3 Gas
- > 4 Operational outlook

Overview

Executive summary

- 1** We are confident that there will be sufficient supply available to meet energy demands for the coming summer. We anticipate similar gas and electricity demands to summer 2018.
- 2** We have the right tools and services available to manage operability for the coming summer, particularly during periods of low demand, or when access requirements increase for delivery of key maintenance work.
- 3** Whole system thinking is becoming increasingly important as long term trends of decarbonisation and decentralisation drive increased interaction between the gas and electricity transmission systems. In the short term this is primarily due to gas fired electricity generators balancing the intermittent output of renewable electricity generators.
- 4** We anticipate no additional operability challenges for this coming summer as a result of the UK's planned exit from the EU. We have tested our planning assumptions in a broad range of scenarios and via engagement with industry. These scenarios fall within our normal contingency planning.



Supply and demand

Executive summary

We are confident that there will be sufficient supply available to meet energy demands for the coming summer. We anticipate similar gas and electricity demands to summer 2018.

Electricity Demand – weather corrected demand seen on the transmission system at both a peak and minimum level will be similar to last summer, as the recent trend of increasing solar generation has slowed. Generation that is not connected to the transmission network (such as the majority of solar generation) reduces transmission demand as more demand is met locally.

Electricity Supply – we will be able to meet demand and our reserve requirement at all times throughout summer 2019 under all interconnector scenarios.

We do not think it is likely that we will need to instruct inflexible generation to reduce output in weeks when demand is low. However should this be necessary we have the tools to do so.

Gas Demand – during the summer gas fired electricity generation becomes a more significant component of GB demand, unlike winter when domestic heating dominates. This drives profiles to become more variable in line with renewable generation. We also anticipate greater levels of transit gas than last summer in response to market conditions.

Gas Supply – we anticipate increased liquefied natural gas (LNG) deliveries compared to last summer. Whilst this could provide competition for other supply sources, it is likely to result in greater transit flows to the continent.

Key statistics, electricity	
Electricity transmission peak demand	33.7 GW
Electricity transmission minimum demand	17.9 GW
Minimum available generation	39.8 GW

Key statistics, gas	
GB gas demand	25.2 bcm
Total gas demand	36.1 bcm

Above demand forecasts are weather corrected.

Operational outlook

Executive summary

We have the right tools and services available to manage operability for the coming summer, particularly during periods of low demand or when access requirements increase for delivery of key maintenance work.



Key messages – electricity

- Low transmission demand and high volumes of low inertia generation can cause operational issues over the summer.
- We will need to take day-to-day actions to manage system frequency in times of low demand. Usually this will involve working with flexible generation to reduce supply.
- Managing reactive power and voltage levels will continue to be challenging. We have tendered for the provision of (Enhanced) Reactive Power services for summer 2019 and 2019/20.
- Work continues to move smaller generation to new protection settings, which will reduce the need to manage system stability using operational tools.



Key messages – gas

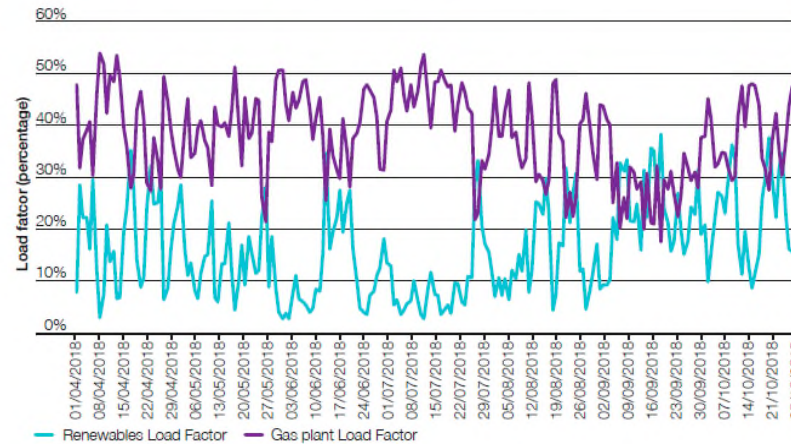
- Although the need for maintenance remains high, we anticipate no major risks to National Transmission System (NTS) access for the planned summer schedule.
- During summer months, gas fired electricity generation becomes a dominant component of gas demand. Its variability results in a need for close management of system pressures. We are reliant on timely and accurate physical notifications to minimise operability risks.
- We are expecting increased volumes of LNG supply, which affects flows of gas across GB. As LNG supply is less predictable than UK Continental Shelf supply, we must be prepared to operate the network in increasingly complex or new configurations at relatively short notice.

Whole energy system Executive summary

Whole system thinking is becoming increasingly important as long-term trends of decarbonisation and decentralisation drive increased interaction between the gas and electricity transmission systems.

An example of this is how increased renewable generation on the electricity system, coupled with a gradual move away from coal, has a direct impact on the operation of the gas system.

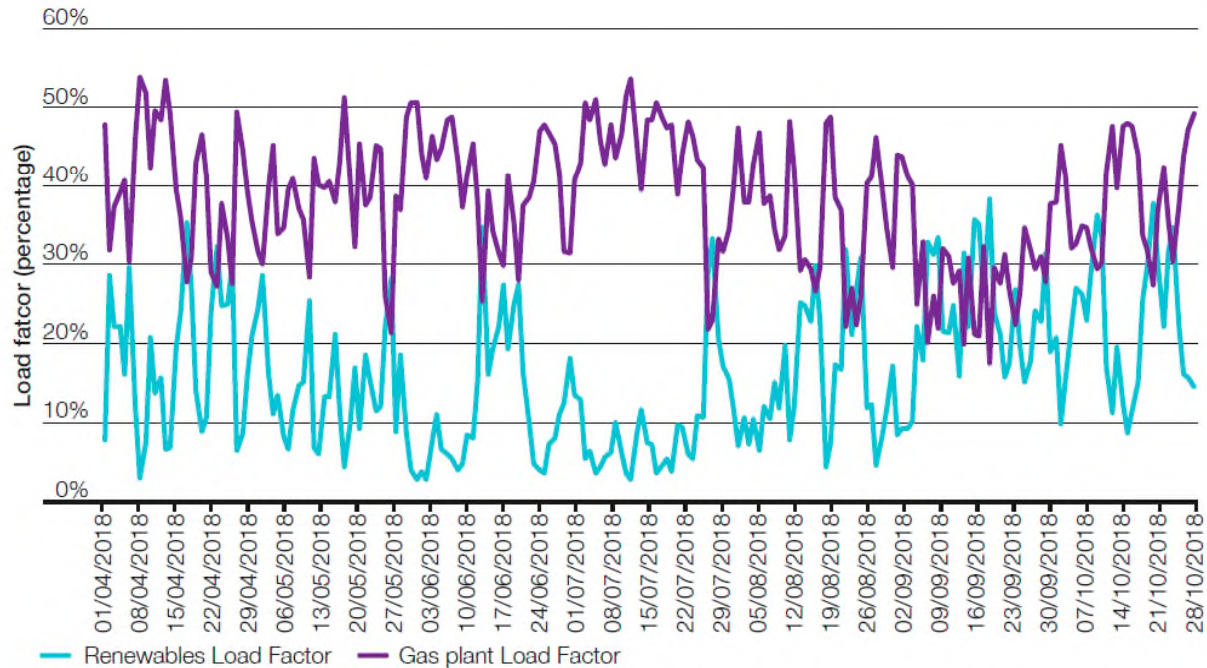
Figure 1 Load factor of renewable and gas fired electricity generation summer 2018



- Output from gas fired generation mirrors the output from renewable generation, increasing when renewable output decreases and vice versa.
- The resulting volatility in output required from gas fired generation also means the gas demand to these sites is more variable.
- In turn this variability has an impact on how we configure and operate the NTS, increasing flexibility requirements within and across days.
- The NTS compressor portfolio is increasingly relied upon to manage this variability in operational pressures.

Whole energy system Executive summary

Figure 1
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EU Exit impact

Executive summary

We anticipate no additional operability challenges for this summer as a result of the UK's planned exit from the EU. We have tested our planning assumptions in a broad range of scenarios and via engagement with industry. These scenarios fall within our normal contingency planning.

Potential impacts concerning interconnector trading are discussed below:

- Currently when electricity is traded over interconnectors with connected markets in the EU a day ahead of real time, this is done using **implicit arrangements**. This makes trading faster and more efficient. In the case of a no deal exit from the European Union, these arrangements would no longer apply and interconnectors would have to move to fallback arrangements.
- In all scenarios trading will continue, and electricity will flow. It is expected to flow from lower to higher priced markets as is the case at the moment.
- In a no deal scenario, the mechanisms of cross-border gas trade are not expected to fundamentally change. Gas shippers mostly purchase energy and capacity separately, and there would be no change from this in the event of a no deal exit from the EU. The UK's Transmission System Operators (TSO's) expect to have continued access to the **Prisma gas capacity trading platform** to allocate capacity at interconnection points.
- Should the UK leave the EU with no deal, cross border trading of energy would take place outside of the single market framework, i.e. under World Trade Organisation rules for the majority of countries, where no free trade agreement has been negotiated. Furthermore, as is the case now, flows on both gas and electricity interconnectors may also be impacted by fluctuations in currency exchange rates.



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Implicit arrangements mean that the transmission capacity on an interconnector is traded at the same time as the electrical energy purchased through it. Both capacity and energy are reflected in the price of electricity purchased or sold to/from another market. This makes trading more efficient and also means it can take place more quickly.

In contrast, **explicit arrangements** mean that the transmission capacity on an interconnector is auctioned separately to the auction for electrical energy. This is how most capacity was allocated over interconnectors before implicit trading was introduced.

Continuing the conversation

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Email us with your views on the *Summer Outlook Report* at: marketoutlook@nationalgrid.com and we will get in touch.

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