Winter Outlook 2016/17

Gas Networks Ireland

Key Messages

- The Corrib gas field commenced production on the 31st of December 2015 and is expected to meet approx imately 55% of Gas Networks Ireland system in 2016/17.
- Gas supplies from Great Britain (GB) via the Moffat Entry Point are expect ed to account for circa 39% of the Gas Networks Ireland system demand in 2016/17 with 6% met from Inch pro duction and storage.
- The outlook for ROI indicates suf ficient gas supplies and network capacity to meet the anticipated de mands over the winter period.
- In the case of a 1-in-50 winter peak day Moffat would be expected to ac count for 71% of demand, with Corrib and Inch contributing 26% and 3% re spectively.
- The gas demand forecast for the forthcoming winter is as per the Gas Networks Ireland Network Develop ment Plan 2016.
- The South West Scotland Onshore System (SWSOS) is likely to be within 80% of its capacity limits in the event of 1-in-50 winter peak day occurring in 2016/17.
- Inch gas supplies are assumed to be fully available during the forthcoming winter.
- Gas shippers are advised to ensure that D-1 nominations are as accurate as possible and to provide re-nomina tions in a timely and accurate manner so that the gas network is operated in an effective and efficient manner.

Overview

This Winter Outlook report sets out Gas Networks Ireland's analysis and views of the adequacy of the gas network for the coming winter. The gas supply position is dependent on both the supply of gas and on the system's ability to transport the gas to the end user.

In 2015/16, GB imports through the Moffat Entry Point met 66% of annual Gas Networks Ireland system demand with the balance met by Corrib, accounting for 29 % and Inch at 5%. In terms of peak day supplies Moffat accounted for 71% of peak day gas demands, with Corrib and Inch contributing 22% and 7% respectively.

The Corrib gas field commenced production on the 31st of December 2015 and is expected to meet approximately 55% of Gas Networks Ireland system demands in 2016/17. Corrib will be flowing at its full capacity over the winter period and the Gross Calorific Value of Corrib Gas is consistently 37.7 MJ/scm.

Gas supplies from Great Britain (GB) via the Moffat Entry Point are expected to account for circa 39% of the Gas Networks Ireland system demand in 2016/17 with 6% met from Inch production and storage.

PSE Kinsale Energy Limited advised the CER in 2015 that it plans to cease full storage operations in 2016/17 and commence blowdown of Southwest Kinsale. There will be no further injections into Southwest Kinsale. Production and storage gas will be supplied from the Inch Entry Point for Winter 2016/17, with production gas only supplied from the Inch Entry Point from summer 2017 onwards.

In the case of a 1-in-50 winter peak day Moffat would be expected to account for 71% of demand, with Corrib and Inch contributing 26% and 3% respectively. Moffat flows would be within 80% of its capacity limit in the event of 1-in-50 winter peak day occurring in 2016/17.

Winter Period 2015/16

The 2015/16 winter period was particularly mild. As a result there was a decrease in residential gas demand compared to the 2014/15 winter which was more in line with long run average weather conditions. Gas demand in the residential sector may also have been affected by domestic energy efficiency measures.

In the Industrial & Commercial sector strong economic growth and growth in new connections as a consequence have driven up gas demand in this sector.

In the power generation sector despite further growth in renewables, in particular wind powered generation, there was a substantial increase in gas demand. The main reason for the marked upturn in gas demand is due the changing dynamic in the power generation sector. Due to the introduction of a carbon price floor in the UK the EWIC electricity interconnector between GB and Ireland has switched from primarily importing into Ireland to primarily exporting to GB.

The 2015/16 system peak day throughput of 25.1 mscmd occurred on the 25th of February 2016. This figure includes for flows to ROI, Northern Ireland (NI) and Isle of Man (IOM) of 18.8 mscmd, 5.9 mscmd and 0.5 mscmd respectively.

Based on a Degree Day (DD) comparison, the 2015/16 winter temperature was approximately 10% warmer than the previous year, 2014/15. The coldest day in winter 2015/16 occurred on the 25th of February with an average temperature of 0.3°C; the equivalent day in 2014/15 occurred on the 3rd of February with an average temperature of -2.0°C.

In 2015/16 compared to 2014/15, the average overall installed wind generation capacity increased by 14%. The total wind powered generation output increased by 22% compared to the previous year. Wind powered generation reached a maximum daily output of 2,676 MW, which occurred in late January, while wind powered generation during the 2015/16 peak gas demand day varied between a minimum of 20 MW and a maximum of 852 MW.

Great Britain National Grid Outlook

National Grid UK reports that there will be sufficient gas available from a range of sources to meet Winter 2016/17 demand. Gas demand for Winter 2016/17 is expected to be lower than the 2015/16 weather corrected demand.

Lower gas exports to Ireland and Continental Europe represent the biggest differences to last year. National Grid expects exports through Moffat to be lower than last winter because the Corrib gas field is now capable of flowing at full capacity. Gas exports to Continental Europe, based on seasonal normal conditions for Winter 2016/17, are expected to be lower than winter 2015/16, when the mild weather meant that the price differential resulted in exports from GB.

Last winter in GB, additional gas was used for electricity generation compared to the previous year as falling gas prices caused it to be favoured over coal for fuel. This year, forward prices indicate that gas is again likely to be favoured.

Indigenous GB Supplies are expected to be broadly similar to Winter 2015/16. In terms of imports from Norway there is scope for these to increase in conditions of increased demand to compensate for restrictions in supplies from storage.

Technical problems at the Rough long-range storage facility mean that there will be less gas in stock at the beginning of the winter, and that the rate that this gas can be withdrawn is reduced.

Higher LNG flows are possible in Winter 2016/17 as more LNG liquefaction capacity has come on line around the world since last winter and there is an expectation that LNG availability in Northwest Europe will remain high.

Based on a 1-in-20 peak day demand, National Grid's analysis suggests that there would be a significant potential excess of supply of 130 mcm/d and that there is sufficient supply capability to cope with a significant supply loss during a severe winter.

Forecasted peak day demands for winter 2016/17

Table 1 presents the 1-in-50 peak year and average year peak day system demand forecasts for 2016/17 in line with the 2016 Network Development Plan. The forecast indicates even for a 1-in-50 peak year, peak day, Moffat flows would be within 80% of its technical capacity. An average year peak day would only require 56% of the available capacity at Moffat to meet system demand.

Table 1: 1 in 50 year peak day flows for winter 2016/17

	1-in-50 Peak day 2016/17 (mscm/d)	Avg Year Peak day 2016/17 (mscm/d)	Annual total 2016/18 (bcm)	Winter total 2016/17** (bcm)
ROI Demand	25.4	21.2	4.52	2.63
Total Demand*	35.1	27.6	5.85	3.40
Inch Supply	1.0	1.0	0.32	0.18
Corrib Supply	9.3	9.3	3.28	1.67
Moffat Supply	24.8	17.3	2.25	1.55
Total Supply	35.1	27.6	5.85	3.40

* Total demand includes for NI and IOM gas demand as per NDP 2016.
** Winter total refers to the forecast demand / supply from the 1st of October 2016 until the 31st of March 2017.

Gas Networks Ireland notes that the EWIC electricity interconnector between GB and Ireland is currently on a forced outage. Eirgrid estimates a return to service by the end of February 2017. Gas Networks Ireland carried out a sensitivity in the 2016 Network Development Plan which indicates that in the event of such an outage there will be sufficient capacity at Moffat and on the system as a whole to maintain gas supplies in the event of a 1-in-50 year peak day.

Operational challenges for Winter 2016/17

The latest gas demand forecast predicts Moffat flows will be within 80% of its capacity limits in the event of 1-in-50 winter peak conditions occurring.

The most efficient flow profiles at each of the Entry Point are those that are flat and predictable; therefore, shippers at each Entry Point are advised to;

- Ensure D-1 nominations/re-nominations are as accurate as possible;
- Avoid large within day imbalances where possible;
- Provide re-nominations in a timely and accurate manner in compliance with contractual arrangements; and
- Operate in accordance with the flow nomination information they have provided to the TSO.

In addition to the occurrence of 1-in-50 winter peak day demands, there are a number of other factors which need to be considered with regard to system flexibility.

- Within day pressure volatility at Moffat on the GB NTS also impacts on compressor station operations. The frequency and magnitude of such volatility has increased in recent years, as a result of a change in demand/supply patterns in the GB NTS.
- Gas with a lower Gross Calorific Value (GCV) at Moffat means higher volumes are required to meet downstream energy requirements.
  - *Current technical capacity (31 mscmd) is based on a GCV of 39.8 MJ/scm . Though the GCV at Moffat typically ranged between 39.0 MJ/scm and 40.0 MJ/scm during winter 2015/16, there were instances of the GCV approaching 38.0 MJ/scm.*

Commercial Arrangements

Since the implementation of the EU Network Codes in late 2015, shippers will be aware that re-nominations must now be submitted not later than 3 hours before the end of the gas day. (Previously, this had been 4 hours 15 mins). Given this change of re-nomination timelines, shippers are advised that late upward re-nominations may be difficult to accommodate. Gas Networks Ireland continues to reiterate the importance of accurate and timely re-nominations in order to operate the gas network in an effective and efficient manner.

Gas Networks Ireland continue to engage with industry on developing an appropriate solution(s) to this issue in the context of general discussions around balancing arrangements on the network.

2 Validated by actual GCV observations at the Moffat Entry Point