

Summer Outlook 2019



Overview

The Summer Outlook 2019 sets out Gas Networks Ireland's analysis and views of the adequacy of the gas network for the summer ahead (April to October 2019). It is designed to inform the energy industry on the anticipated status of the gas system over the period, to help the industry in preparing for the summer months.

Key Messages

In the summer period 2018, indigenous gas supplies made up 63% of Republic of Ireland (ROI) gas demand over the summer period (Inch 5%, Corrib 58%) with the remaining 37% being met from Great Britain (GB) imports through the Moffat Entry Point. Natural gas was required to generate a record of 90% of the country's electricity supply in certain periods in June and July 2018 as the extremely warm weather and low winds prompted wind energy generation to plummet.

Based on the forecast indigenous supply scenario, daily summer demand is forecast to exceed the indigenous supply capacity, with the balance of gas demand to be met by imports from the Moffat Entry Point.

Upstream planned annual maintenance is scheduled to take place at the Corrib Entry point for three days in September 2019.

Corrib is anticipated to operate at its forecasted capacity during the summer period.

The Kinsale storage facility has commenced blowdown of Southwest Kinsale cushion gas. Production gas is currently being supplied from the Inch Entry Point and is expected to cease in 2020.

The Project of Common Interest (PCI 5.2) for the 50 km twinning of the South West Scotland On-Shore (SWSOS) pipeline is now complete and operational. This project has enabled the technical capacity of the Moffat Entry Point to be increased to 387 GWh/day (from previous capacity of 342 GWh/d).

Gas Networks Ireland monitors transmission system imbalances as a result of shipper behaviour on a daily basis. Gas Networks Ireland continues to observe a trend whereby a subset of shippers are not nominating entry gas flows until late in the day which is leading to a number of operational issues for the management of the transmission network.

In April 2019, Gas Networks Ireland achieved full compliance with the EU gas balancing regulation by removing imbalance tolerances (with minor exceptions) and by linking the cashout charges levied on Shippers for imbalances to the daily System Average Price on the Irish Balancing Point (IBP) trading platform. This compliance was achieved after extensive consultation with the Commission for Regulation of Utilities (CRU) and industry over a number of years.

Summer Period 2018 Supply

Figure 1 shows actual gas supply sources during the summer 2018 period. It can be seen that 63% of total ROI demand was met by indigenous supply sources during the 2018 summer period with the Moffat Entry Point supplying the remaining 37%.

Figure 1: Summer 2018 Actual Gas Supply

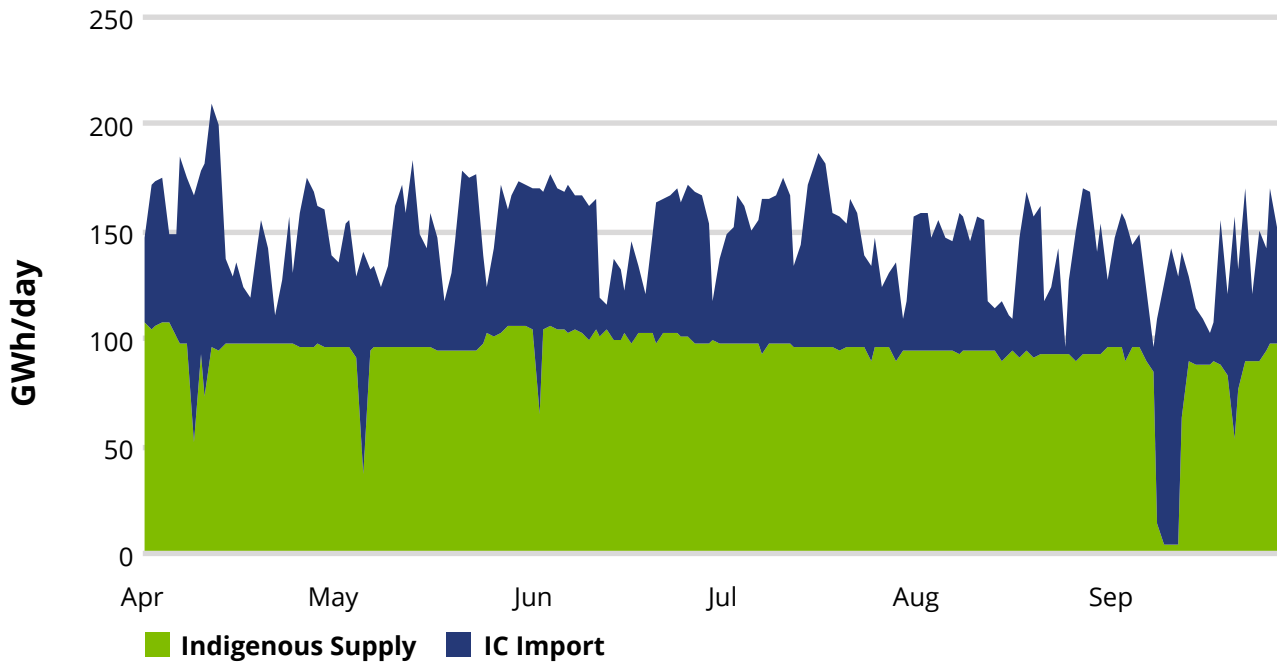


Table 1 shows the summer 2018 breakdown by entry point. It can be seen of the total ROI supply (including shrinkage) of 27,327 GWh, Corrib supplied the majority of gas with 15,731 GWh (58%), followed by Moffat imports of 10,158 GWh (37%) with Inch making up the remaining 1,438 GWh (5%).

Table 1: Summer 2018 Actual Gas Supply by Entry Point

Corrib	Moffat	Inch	Total ROI Supply
15,731 GWh	10,158 GWh	1,438 GWh	27,327 GWh

Kinsale Storage Facility

PSE Kinsale Energy Limited (KEL) advised the CRU (formerly CER) in 2015 that it planned to cease full storage operations in 2016/17 and commence blowdown of Southwest Kinsale cushion gas. Production gas is currently being supplied from the Inch Entry Point and is expected to cease during 2020.

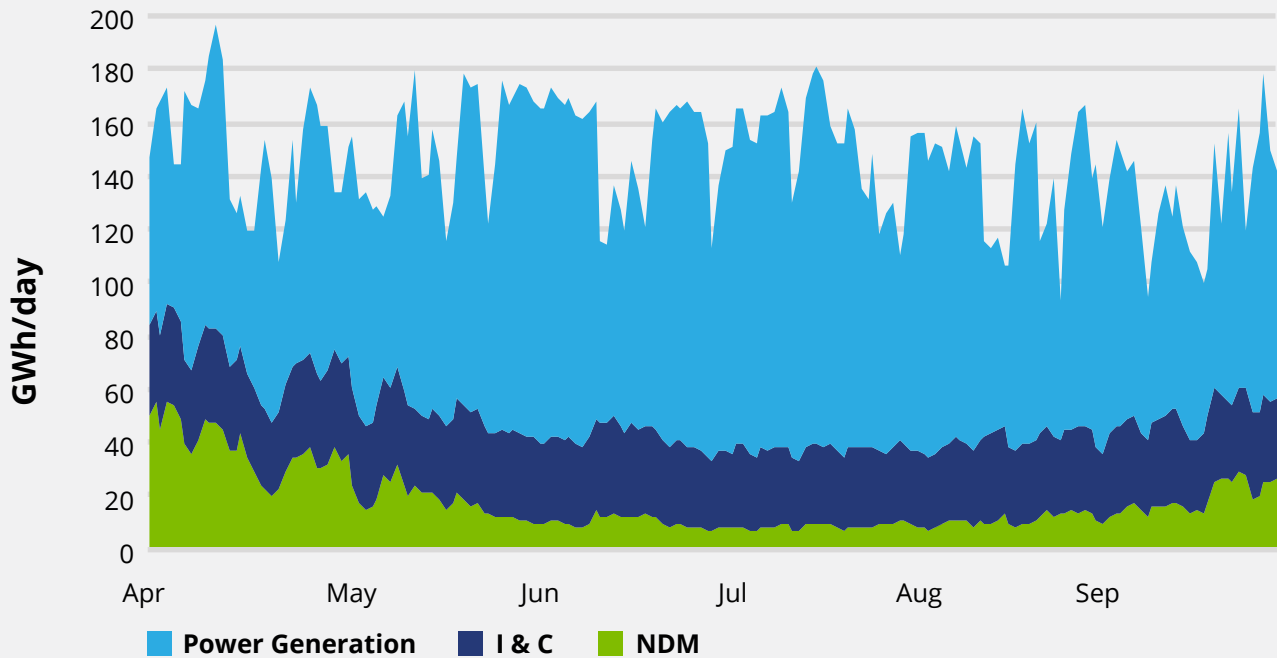
Table 2: Inch Forecast Maximum Daily Supply

Inch Entry Point	18/19	19/20	20/21
Daily Supply (GWh/d)	7.3	5.5	0

Summer Period 2018 Demand

Figure 2 shows actual gas demand for the 2018 summer period. Total gas demands over the period were 4% above demands from the 2017 summer period.

Figure 2: Summer 2018 Actual Gas Demand



In the power generation sector, gas demand was up 4.8% from the 2017 summer period. Natural gas was required to generate a record of 90% of the country's electricity supply in certain periods in June and July 2018 as the extremely warm weather and low winds prompted wind energy generation to plummet. Throughout June and July 2018, on average, wind generation supplied 15% of electricity demand versus 37% in June and July 2017, with as little as 0.3% (11 MW) of electricity demand in July 2018 supplied by wind generation. This gap was filled by flexible natural gas fired power plants. Industrial & Commercial (I&C) sector gas demand for the period increased by 2.1% on the 2017 period. Non-daily metered (NDM) demand increased by 3% on the 2017 period; the weather corrected NDM sector demand was up by 1.4%. Table 3 shows the summer 2018 gas demand by sector.

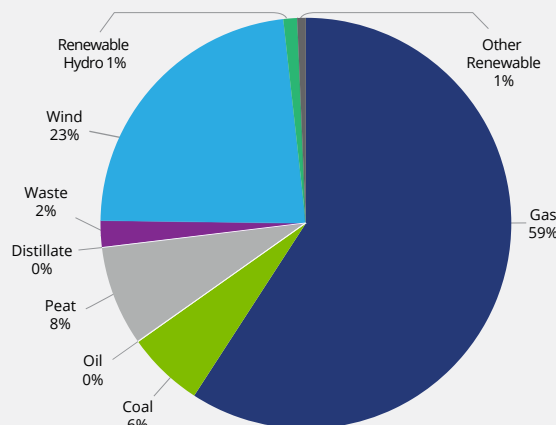
Table 3: Summer 2018 Actual Gas Demand By Sector

Power Generation	Total I&C	NDM	Total ROI Demand
17,896 GWh	5,775 GWh	3,225 GWh	26,896 GWh

Power generation demand was the most variable of the demand sectors, continuing on historical trends. The volatility of power generation demand is due to the dependency of electricity generation on intermittent renewable energy sources such as wind powered generation (and general demand conditions) on the Single Electricity Market (SEM).

Figure 3 shows the power generation Fuel Mix for ROI for summer 2018. Gas contributed to approximately 59% of ROI's power generation fuel requirement, reflecting its important role in electricity generation.

Figure 3: Summer 2018 Power Generation Fuel Mix



Summer Period 2019 Forecast Supply Position

Table 4 shows the forecast maximum indigenous supply scenario¹ for the summer period 2019. It is based on the outcome of consultation between Gas Networks Ireland, gas producers and suppliers, as part of the preparation for the 2019 Network Development Plan.

Table 4: Summer Period 2019 Forecast Indigenous Supply Scenario

Corrib	KEL
76.5 GWh/d	7.3 GWh/d

During the summer period, Corrib gas supplies are anticipated to decline to less than 74% of initial peak production levels. Based on the supply scenario presented in Table 4, daily summer demand is forecast to exceed the indigenous supply capacity, with the balance of gas demand to be met by imports from the Moffat Entry Point².

Completion of the twinning of South West Scotland Onshore system (PCI 5.2) has enabled the technical capacity of the Moffat Entry Point to be increased to 387 GWh/day (from previous capacity of 342 GWh/d).

Gas System Operability

Gas Networks Ireland monitors transmission system imbalances as a result of shipper behaviour on a daily basis. System imbalance relates to the balance of incoming entry flow to the network and exit flow leaving the network throughout the gas day. Gas Networks Ireland continues to observe a trend, whereby a subset of shippers are not nominating entry gas flows until late in the day which is leading to a number of operational challenges including:

- Increased stress on the Gas Networks Ireland compressor fleet due to significant ramping up of the gas flow in the last few hours of the gas day;

- Depleting system line pack and network pressures within day; and
- Potential need to buy balancing gas earlier in the day and sell it again later in the day to minimise undesired system pressure swings.

Whilst Gas Networks Ireland recognises the operational challenges faced by shippers in accurately forecasting their system entries and exits, there needs to be recognition that gas already consumed at system exit points should be nominated for entry at an earlier stage within the gas day.

Gas Networks Ireland has been actively participating on the Energy Broking Ireland (EBI) trading platform since June 2018 and seeks to procure its balancing gas requirements on the IBP market. Gas Networks Ireland recognises the benefit of the trading platform, with the ability to promptly trade out balancing gas and deliver better balancing transaction costs for the shippers. In April 2019, Gas Networks Ireland achieved full compliance with the EU gas balancing regulation by removing imbalance tolerances (with minor exceptions) and by linking cash out charges levied on shippers for imbalances to the daily System Average Price on the IBP trading platform. This compliance was achieved after extensive consultation with the CRU and industry over a number of years.

Planned Summer Maintenance Activities

Standard scheduled maintenance works continually take place on the Gas Networks Ireland transmission system. The scheduled Gas Networks Ireland maintenance works for the summer 2019 period are not anticipated to impact on gas shippers or suppliers. Upstream of the Gas Networks Ireland transmission system, the following scheduled maintenance works are currently anticipated, as advised by gas producers/connected system operators:

Table 5: Scheduled Summer Maintenance Upstream of Entry Points

Entry Point	Scheduled Upstream Maintenance	Period	Duration (Days)
Corrib	Planned Maintenance	9th – 12th Sept 2019	3

Data Freeze

In order to complete the detailed analysis required to produce this document, the input data was defined in May 2019, based on the most up to date information available at the time.

Disclaimer

Gas Networks Ireland has followed accepted industry practice in the collection and analysis of data available. However, prior to taking business decisions, interested parties are advised to seek separate and independent opinion in relation to the matters covered by this Summer

Outlook and should not rely solely upon data and information contained therein. Information in this document does not purport to contain all the information that a perspective investor or participant in the Republic of Ireland's gas market may need.

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¹ The supply scenario represents maximum daily supply capacities at indigenous sources. Actual supply profiles on a given day may differ from the maximum daily scenario assumed in Table 4.

² The Moffat Entry Point has a current technical capacity of 387GWh/d and supplies gas to ROI, Northern Ireland and Isle of Man.