Demand Estimation Sub-Committee

3.0 Seasonal Normal Review 2025 Update

23 July 2025

Contents

01

Overview

Seasonal Normal Cycle

- An overview of the Demand Estimation process and output can be found here
- Composite Weather Variable (CWV) and Seasonal Normal CWV (SNCWV) are key inputs to the Demand Estimation process
- Seasonal Normal Review (SNR) cycles, undertaken at minimum once every 5 years, are represented in the diagram opposite
- This presentation relates broadly to the **System Updates** phase of the SNR cycle – DESC decisions are currently being communicated to the industry ahead of key systems being updated later this year

Background

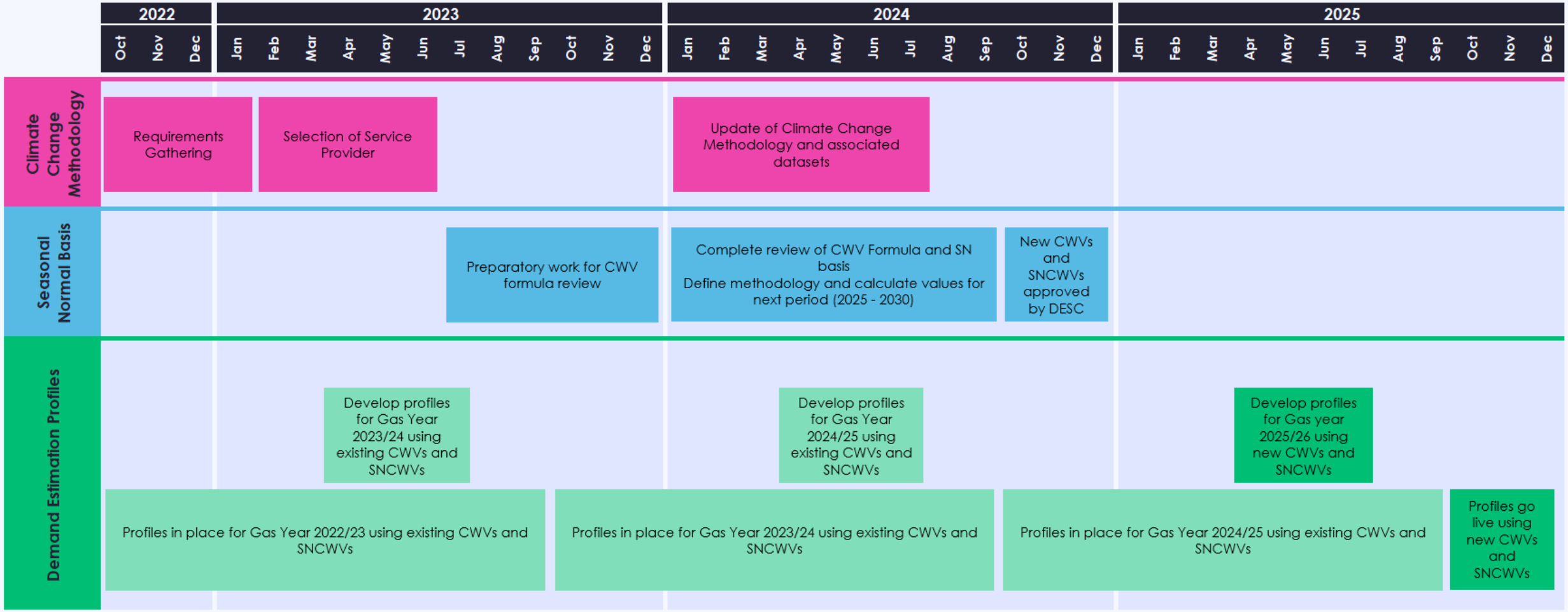
- DESC are responsible for a number of obligations in Section H of UNC, amongst them are the requirements to:
  - Review the Composite Weather Variable (CWV) (H 1.4.3) and
  - Review the Seasonal Normal equivalent referred to as the SNCWV (H 1.5.3)

- Reviews of the CWV formula and Seasonal Normal basis are normally only carried out by DESC every 5 years due to the time taken to perform the review and the need for stability

- The latest DESC review in 2019 derived a new CWV formula and new basis for the Seasonal Normal, which both came into effect from the 01 October 2020

- This means the next Seasonal Normal basis is scheduled to take effect from 01 October 2025 with the detailed analysis performed during 2024

Seasonal Normal Review 2025 - Timeline



Seasonal Normal CWV Implementation: Key Milestones

Milestone	Lead	Status	When
Pre-Requisite: DESC Approval of Climate Change Methodology (CCM) Output	DESC	Complete	8 Oct '24
Pre-Requisite: DESC Approval of revised CWV Formula parameters	DESC	Complete	8 Oct '24
Pre-Requisite: DESC Approval of new SNCWV values for October 2025	CDSP	Complete	12 Dec '24
Publish CWV optimisation methodology and SNCWV calculation process documents	CDSP	Complete	28 Jan '25
Review indicative impacts to EUC Demand Modelling Profiles	DESC	Complete	28 Jan'25
Communication of DESC decisions, impacts to Industry processes and estimated timelines	CDSP	Complete	Jan-Mar '25
Perform EUC Demand Modelling for Gas Year 2025/26 using new CWV / SNCWV definitions	CDSP	Complete	Apr-Jun '25
DESC Consultation and Industry Approval of Gas Year 2025/26 Demand Profiles	DESC	Pending	Jun-Jul '25
Restate Historical Demand Profiles using latest Demand Models and calculate EUC Ratios	CDSP	Pending	Jul '25
Publication of Historical Demand Profiles and EUC Ratios	CDSP	Pending	Aug' 25
Gas Year 2025/26 Demand Profiles on new Seasonal Normal Basis Go-Live	CDSP	Pending	Sep-Oct '25

Objectives

- Present calculated Seasonal Normal End User Category (EUC) Ratios for Non-Daily Metered (NDM) EUCs

  Note: EUC Ratios are subject to change pending any decisions/ clarifications made on the NDM Demand Modelling (Agenda item 2.0)

- Provide an update on any actions taken since last DESC meeting in relation to Seasonal Normal Review 2025

- Confirm Next Steps in Seasonal Normal Review activities

02

SNR EUC Ratios

Reminder: Why do AQs and SOQs need to change?

- An AQ represents the 'normal' annual consumption for a Supply Meter Point which has been based on a pair of meter readings. There are 2 components to the AQ calculation:
  - Part 1 is to calculate the ACTUAL consumption between Read x and Read y
  - Part 2 is to 'weather correct' the ACTUAL consumption in order to represent an annual NORMAL consumption

- The 'weather correction' element is referred to as the Weather Adjusted Annual Load Profile (WAALP). This utilises the ALP, DAF, SNCWV and CWV, all of which will be impacted by the outcomes from the Seasonal Normal Review. Further info on Demand Estimation Modelling parameters can be found here

- Following the approval of the 2025 NDM Demand Modelling, the Demand Estimation team will calculate retrospective ALP, DAF, CWV, SNCWV, and WAALP values in readiness to be used in September's AQ calculation

- Where it has not been possible to calculate an AQ in time for 1st October a Seasonal Normal **EUC Ratio** is required to adjust the current AQ to ensure all Supply Meter Points are on the same basis

- SOQs, which represent the expected peak day consumption of a Supply Meter Point, are a function of the AQ and the Peak Load Factor (PLF) and so naturally will also change. The PLF can change every year depending on the Demand Model characteristics, but this year will also include changes as a result of the Seasonal Normal Review

EUC Ratios - Calculation Approach

Single Year Datasets		Smoothed Model
Year	All EUCs	
Year 1	2022/23	For Gas Year 2025/26
Year 2	2023/24	
Year 3	2024/25	
Weather Version: 2020 CWV		

Compared to produce results

Single Year Datasets		Smoothed Model
Year	All EUCs	
Year 1	2022/23	For Gas Year 2025/26
Year 2	2023/24	
Year 3	2024/25	
Weather Version: 2025 CWV		

- The NDM Demand Modelling process completed in June 2025 has been re-run with the same sample year inputs (2022/23, 2023/24, and 2024/25) with both versions of the CWV and SNCWV profiles i.e. the current CWV labelled '2020' and the newly approved CWV labelled '2025'. The output of these modelling runs have been compared to produce the EUC AQ ratios in this presentation.

- These EUC AQ ratios will be the final values pending approval of the 2025 NDM Demand models.

EUC Ratio – Calculation Approach

- The Seasonal Normal Demand, (SND) represents estimated demand on day '$_t$' at the Seasonal Normal value of the Composite weather Variable (SNCWV).
- SND is calculated as:

$$\mathrm{SND_t} = \mathrm{P_t} * (\mathrm{C_1} + \mathrm{C_2} * \mathrm{SNCWV_t})$$

- Where:
  - $\mathrm{P_t}$ is a multiplicative factor which is set equal to 1 for a non-holiday Monday to Thursday and potentially a different value on a weekend (Friday, Saturday, and Sunday) or holiday day.
  - $\mathrm{C_1}$ is the constant from the (non-holiday) Monday to Thursday regression of daily demand against daily CWV.
  - $\mathrm{C_2}$ is the slope of this regression line, which represents the weather sensitivity of demand for (non-holiday) Mondays to Thursdays.
- EUC Ratios are defined as the ratio of the sum of SNDs between weather version across the entire Gas Year, i.e.

$$\text{EUC Ratio} = \frac{\sum_{t=1}^{365} 2025\ \mathrm{SND_t}}{\sum_{t=1}^{365} 2020\ \mathrm{SND_t}}$$

- An overall reduction in SND from the 2020 to the 2025 definition, caused by a warmer SNCWV, would result in a ratio of less than 1 and a subsequent reduction in AQ, and vice versa.

EUC Ratios: EUC Bands 1 and 2

EUC	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW
01BND	0.983	0.929	0.957	0.951	0.947	0.944	0.961	0.943	0.950	0.948	0.946	0.949	0.970
01BNI	0.985	0.931	0.960	0.956	0.954	0.947	0.971	0.952	0.952	0.951	0.949	0.953	0.975
01BPD	0.983	0.931	0.961	0.954	0.951	0.947	0.964	0.950	0.950	0.950	0.948	0.949	0.970
01BPI	0.985	0.931	0.960	0.956	0.954	0.947	0.971	0.952	0.952	0.951	0.949	0.953	0.975
02BND	0.983	0.929	0.957	0.951	0.947	0.944	0.961	0.943	0.950	0.948	0.946	0.949	0.970
02BNI	0.986	0.944	0.967	0.962	0.959	0.957	0.972	0.959	0.956	0.960	0.958	0.959	0.977
02BPD	0.983	0.931	0.961	0.954	0.951	0.947	0.964	0.950	0.950	0.950	0.948	0.949	0.970
02BPI	0.986	0.944	0.967	0.962	0.959	0.957	0.972	0.959	0.956	0.960	0.958	0.959	0.977

- Values across Bands 1 and 2 range from a minimum of 0.929 (NO 01BND and 02BND) to 0.986 (SC 02BNI and 02BPI)
- The average Ratio for EUC 01BND is 0.952 – i.e. c.4.8% reduction in AQs
- As the new Seasonal Normal basis reflects additional warming compared to current basis we should expect the ratios for weather sensitive EUCs to result in lower AQs.

EUC Ratios: EUC Bands 3 and 4

EUC	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW
03B	0.988	0.953	0.972	0.965	0.964	0.960	0.977	0.965	0.963	0.964	0.964	0.965	0.982
03W01	0.994	0.985	0.993	0.990	0.990	0.988	0.995	0.989	0.991	0.991	0.991	0.993	0.995
03W02	0.990	0.961	0.981	0.975	0.977	0.973	0.985	0.974	0.976	0.976	0.977	0.979	0.987
03W03	0.985	0.941	0.968	0.962	0.965	0.957	0.975	0.965	0.962	0.961	0.960	0.964	0.981
03W04	0.979	0.911	0.958	0.946	0.948	0.937	0.964	0.944	0.939	0.940	0.943	0.941	0.968
04B	0.989	0.952	0.975	0.967	0.969	0.966	0.976	0.966	0.968	0.968	0.967	0.970	0.984
04W01	0.994	0.982	0.991	0.988	0.988	0.988	0.992	0.987	0.992	0.988	0.990	0.995	0.993
04W02	0.990	0.962	0.981	0.977	0.977	0.974	0.984	0.976	0.977	0.977	0.978	0.980	0.988
04W03	0.986	0.942	0.968	0.964	0.964	0.961	0.976	0.961	0.965	0.965	0.965	0.969	0.981
04W04	0.978	0.912	0.955	0.948	0.949	0.939	0.965	0.942	0.939	0.943	0.946	0.946	0.973

- Values across Bands 3 and 4 range from a minimum of 0.911 (NO 03W04) to 0.995 (SO 04W01, SW 03W01, and WN 03W01)
- As expected, WAR Band EUCs which are less weather sensitive i.e. W01, generally show smaller movements in their EUC Ratios than those which are more weather sensitive i.e. W04

EUC Ratios: EUC Bands 5 and 6

EUC	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW
05B	0.990	0.963	0.979	0.977	0.975	0.974	0.982	0.974	0.972	0.973	0.978	0.972	0.985
05W01	0.997	0.995	0.997	0.996	0.995	0.994	0.997	0.994	0.996	0.996	0.995	0.997	0.996
05W02	0.993	0.974	0.985	0.983	0.981	0.975	0.987	0.970	0.985	0.985	0.960	0.989	0.990
05W03	0.989	0.955	0.977	0.972	0.972	0.970	0.982	0.970	0.973	0.971	0.972	0.975	0.985
05W04	0.981	0.923	0.958	0.943	0.952	0.940	0.956	0.945	0.953	0.952	0.953	0.954	0.971
06B	0.994	0.978	0.988	0.988	0.986	0.980	0.989	0.979	0.983	0.975	0.980	0.978	0.990
06W01	0.998	0.999	1.000	0.999	1.000	0.998	1.000	0.999	1.000	0.999	1.000	0.996	0.999
06W02	0.995	0.983	0.991	0.989	0.990	0.989	0.992	0.989	0.990	0.989	0.988	0.990	0.993
06W03	0.989	0.958	0.979	0.972	0.975	0.971	0.980	0.974	0.977	0.976	0.977	0.978	0.986
06W04	0.981	0.929	0.963	0.955	0.960	0.951	0.970	0.957	0.954	0.956	0.956	0.958	0.981

- Values across Bands 5 and 6 range from a minimum of 0.923 (NO 05W04) to 1.000 (06W01 for LDZs EA, EM, NW, SE, and WN)

EUC Ratios: EUC Bands 7 to 9

EUC	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW
07B	0.994	0.983	0.992	0.989	0.991	0.989	0.993	0.986	0.987	0.986	0.985	0.984	0.992
07W01	0.998	0.999	1.000	0.999	1.000	0.998	1.000	0.999	1.000	0.999	1.000	0.996	0.999
07W02	0.995	0.983	0.991	0.989	0.990	0.989	0.992	0.989	0.990	0.989	0.988	0.990	0.993
07W03	0.989	0.958	0.979	0.972	0.975	0.971	0.980	0.974	0.977	0.976	0.977	0.978	0.986
07W04	0.981	0.929	0.963	0.955	0.960	0.951	0.970	0.957	0.954	0.956	0.956	0.958	0.981
08B	0.994	0.983	0.992	0.989	0.991	0.989	0.993	0.986	0.987	0.986	0.985	0.984	0.992
08W01	0.998	0.999	1.000	0.999	1.000	0.998	1.000	0.999	1.000	0.999	1.000	0.996	0.999
08W02	0.995	0.983	0.991	0.989	0.990	0.989	0.992	0.989	0.990	0.989	0.988	0.990	0.993
08W03	0.989	0.958	0.979	0.972	0.975	0.971	0.980	0.974	0.977	0.976	0.977	0.978	0.986
08W04	0.981	0.929	0.963	0.955	0.960	0.951	0.970	0.957	0.954	0.956	0.956	0.958	0.981
09B	0.994	0.983	0.992	0.989	0.991	0.989	0.993	0.986	0.987	0.986	0.985	0.984	0.992

- Values across Bands 7 to 9 range from a minimum of 0.929 (NO 07W04 and 08W04) to 1.000 (10 EUCs in bands 07W01 and 08W01)

NO 01BND – EUC Ratio = 0.929

Fig.1

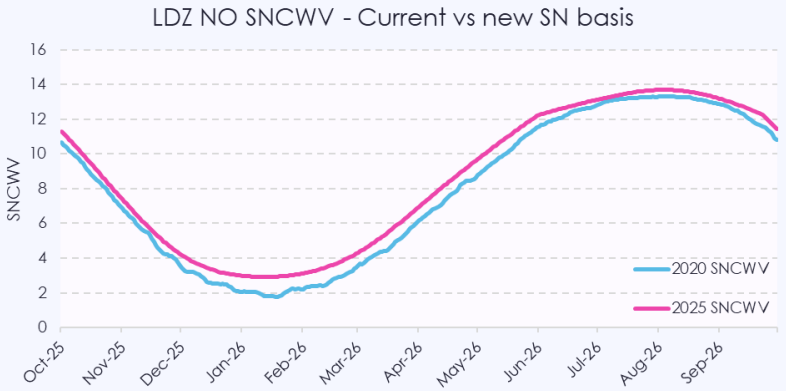


Fig.2

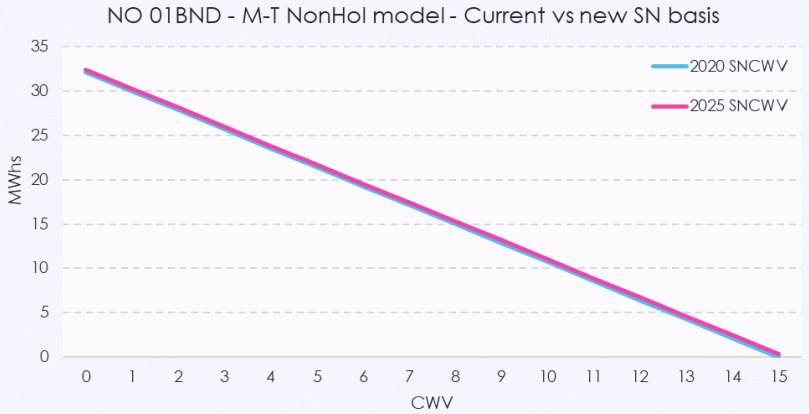
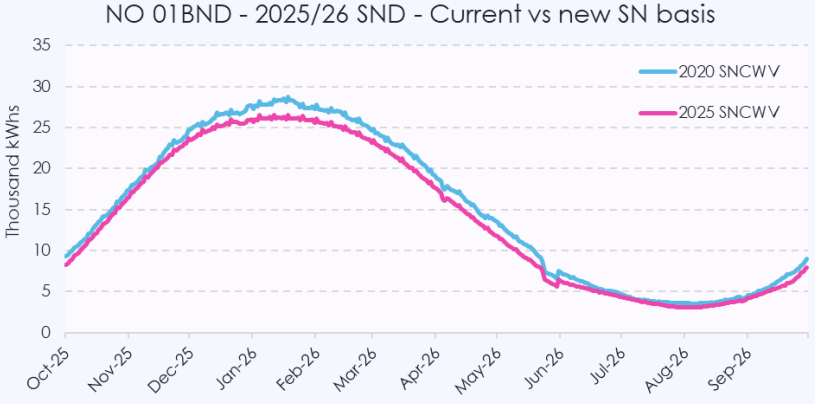


Fig.3



- Fig.1 shows a comparison between NO's current and new SNCWV, due to larger changes in underlying weather inputs, NO's SNCWV has increased more than any other LDZ during this Seasonal Normal Review, further info can be found here.
- The weather sensitivity of the Monday to Thursday non-holiday model for EUC NO 01BND is very similar across both definitions of CWV, as seen in Fig.2
- Fig.3 shows the annual profile of SND once the SNCWV and multiplicative factor P_t have been applied to the Mon – Thus model. Despite having a similar weather sensitivity, higher SNCWV values result in a reduction in SND across the Gas Year, particularly at times where the new SNCWV has shown a larger increase.
- This increase in SNCWV is the main driver behind NO 01BND's EUC ratio of **0.929**, i.e. a 7.1% reduction in AQ.

SC 01BND – EUC Ratio = 0.983

Fig.1

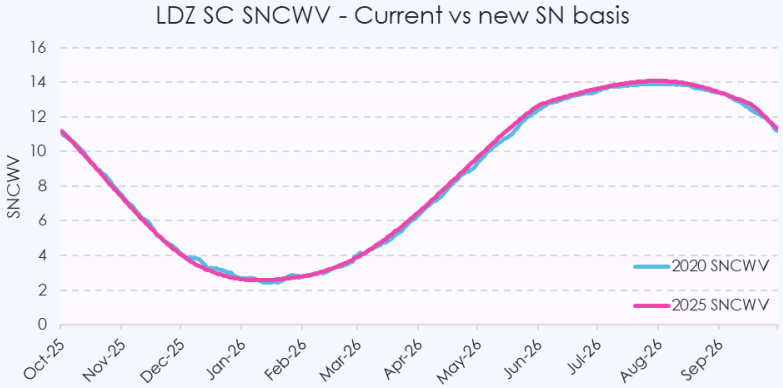


Fig.2

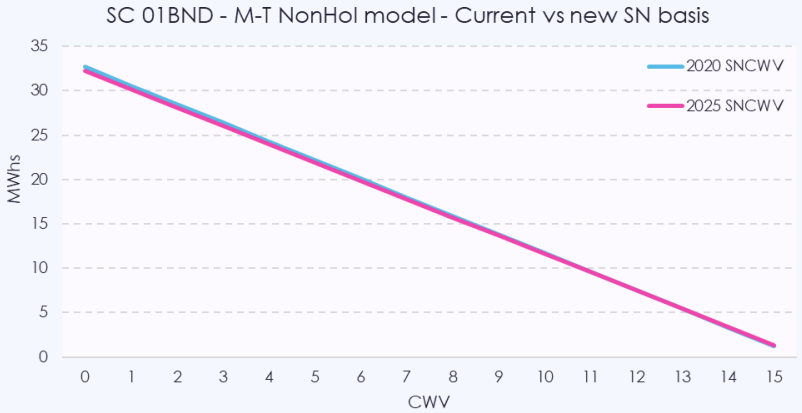
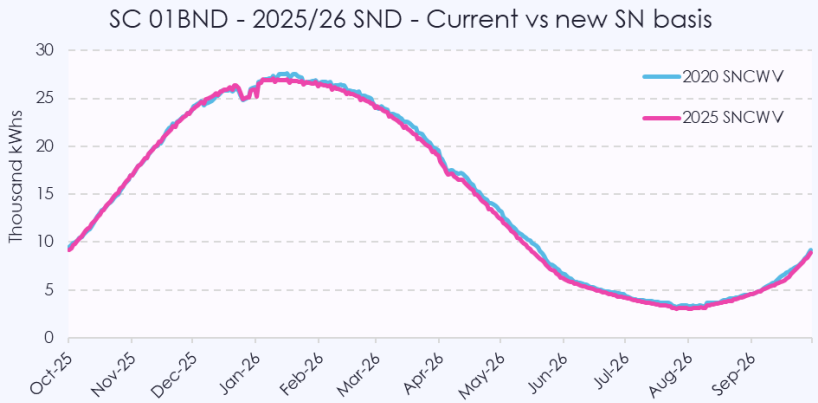


Fig.3



- Fig.1 shows a comparison between SC's current and new SNCWV, in contrast to LDZ NO, SC's SNCWV has only shown a small increase on average across the Gas Year, with some warming noted across Spring
- The weather sensitivity of the Monday to Thursday non-holiday model for EUC SC 01BND is very similar across both definitions of CWV, particularly during periods of mild to warm weather, as seen in Fig.2
- Fig.3 shows the annual profile of SND once the SNCWV and multiplicative factor P_t have been applied to the Mon – Thus model. Some reduction in SND can be noted across Winter, where a larger difference is noted in the model's weather sensitivity, and Spring where the SNCWV has increased slightly.
- The small changes to weather sensitivity and SNCWV have resulted in an EUC ratio of **0.983**, i.e. a 1.7% reduction in AQ

WN Band 05 WAR Bands

Fig.1

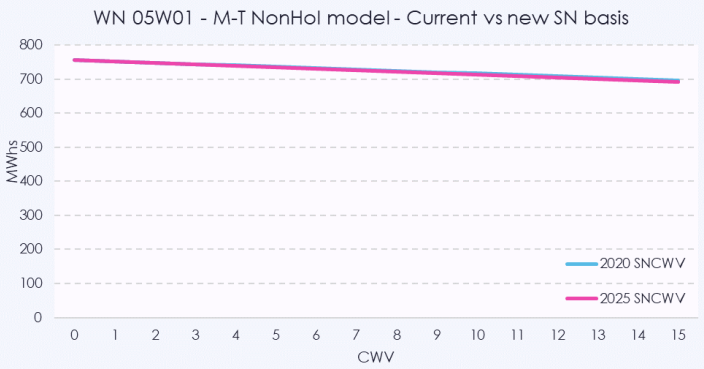
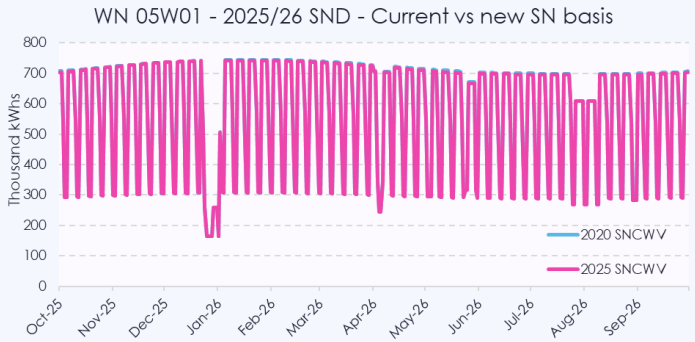


Fig.2



- Figs 1 and 2 show the Weather Sensitivity and SND of EUC WN 05W01 i.e. the least weather sensitive WAR Band.
- Despite an increase in WN's SNCWV, the weather sensitivity of the M-T non-hol model has changed very little between CWV versions, and the SND levels are comparable across the Gas Year
- The lack of weather sensitivity has resulted in an EUC ratio of **0.997** for EUC WN 05W01

- Conversely, EUC WN 05W04 is a more weather sensitive EUC and increases to WN's SNCWV, again particularly across spring, have resulted in a decrease to the SND profile. See Figs 3 & 4
- The weather sensitivity of EUC WN 05W04 has resulted in an EUC ratio of **0.956** i.e. a 4.4% reduction in AQ

Fig.3

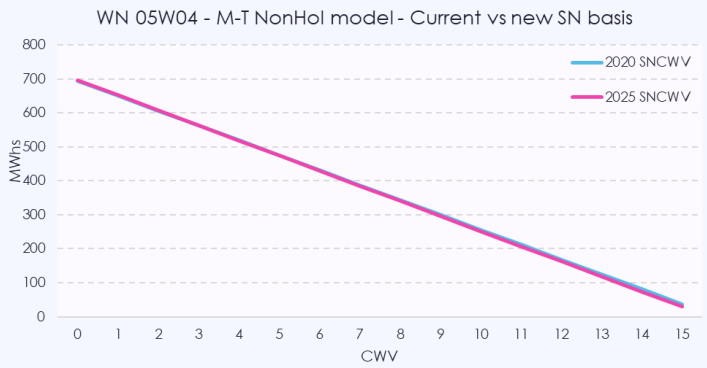
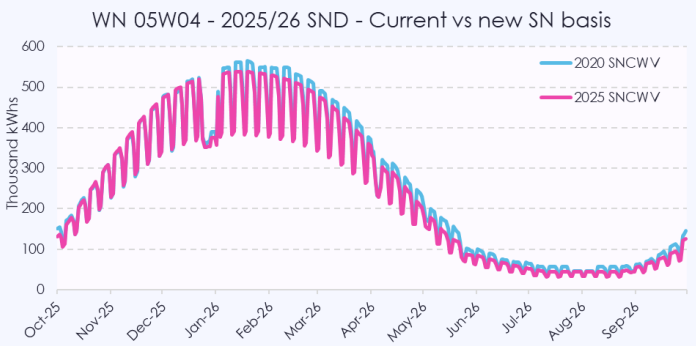


Fig.4



03

Next Steps

Seasonal Normal Review Updates and Supporting Information

New Information Published

- SN25_CWV2425.txt – recalculated CWVs for Gas Year 2024/25 on the new Seasonal Normal basis up to and including 30 June 2025. This file will continue to be updated monthly until October 2025.

Upcoming Information – August 2025

Pending DESC and Industry approval of Gas Year 2025/26 NDM EUC Profiles (expected 23 July 2025), the following information can be created and will be shared via UKLinkDocs

- EUC Ratios – Final EUC Ratios applicable to any Meter point which fails to calculate an AQ in September 2025
- SNCWV profiles for Gas Years 2018/19 to 2024/25
- Retrospective ALP and DAF profiles for Gas Years 2018/19 to 2024/25 (used in WAALPs for AQ calculations)

Forums Attended

Updates on SNR activities to be provided at:

- Shipper Constituency meeting – 23 July 2025
- Distribution Network Constituency meeting – 7 August 2025
- Distribution Charging Managers meeting – 12 August 2025

Documentation

- Reminder of where to find documents relating to the Seasonal Normal Review 2025 on the secured area of www.Xoserve.com (UKLinkDocs)
- Links to secured area and access request form can be found by following this link

18. NDM Profiling and Capacity Algorithms

2025-26 Gas Year

5 Seasonal Normal 2025

Next Steps

Seasonal Normal Review Timeline

August 2025

Publish Final Seasonal Normal EUC Ratios for all EUCs

August 2025

Restate WAALPs in Core Systems and publish Historical Demand Profiles for all LDZs and EUCs i.e. CWVs, SNCWVs, ALPs and DAFs

August 2025

Load Demand Profiles for Gas Year 2025/26 into key CDSP systems (UKLink/ Gemini)