Seasonal Normal Composite Weather Variable

Demand Estimation – July 2025

Glossary of Terms

- **Composite Weather Variable (CWV)** – a single measure of daily weather within each LDZ
- **Demand Estimation Sub-Committee (DESC)** – an industry Sub-Committee comprised of CDSP, Shipper, and Transporter User members responsible for Demand Estimation processes
- **Climate Change Methodology (CCM)** – a project undertaken between CDSP, DESC, and the Met Office to define the effects of long-term weather patterns which affect Demand Estimation variables such as SNCWV
- **Annual Load Profile (ALP)** – a daily value which represents typically how each LDZ/EUC combination is likely to consume gas, assuming average weather, for the Gas Year
- **Daily Adjustment Factor (DAF)** – a daily value which represents typically how an EUC's gas demand reacts to changes in the weather – i.e. weather sensitivity
- **Annual Quantity (AQ)** - An estimate of the amount of gas (in kWh) that a Supply Meter Point will use in the coming year under seasonal normal weather conditions
- **Local Distribution Zone (LDZ)** - Each LDZ represents a geographical area of the country. Each LDZ is 'owned' by a specific gas transporter and determine the area for which they distribute gas. Here is a helpful LDZ Map

SNCWV – What is it ?

- The Seasonal Normal Composite Weather Variable (SNCWV) is one of the key outputs from the Demand Estimation process.
- The SNCWV represents a benchmark of climatological 'normal' weather conditions (in the form of CWV) for each Gas Day within a Gas Year for each LDZ. The SNCWV is not designed to serve as a prediction for daily CWV due to the inherent variability of day-to-day weather.
- SNCWV bases are set at a minimum once every 5 years to ensure they both provide stability to the industry and are reflective of the latest view of longer-term climate change phenomenon such as global warming.
- The Demand Estimation Sub-Committee (DESC) is responsible for maintaining and updating the SNCWV basis. DESC have the option to derive each SN basis using a combination of future weather projections, and previously observed weather with the effects of long-term climate change removed.
- The CDSP and DESC work in collaboration with a reputable meteorological services provider to produce a Climate Change Methodology (CCM) which sets the basis for any Projections or Historically adjusted data.

SNCWV – Why is it needed? (1 of 2)

- The SNCWV is a key input to the NDM Supply Meter Demand formula i.e.

NDM Supply Meter Point Demand$t$ = (AQ / 365) * ALPt * (1 + [DAFt * WCFt])

Note: A minimum constraint of 0.01 applies to the '(1 + [DAFt * WCFt])' part of the formula (to prevent negative demand)

The WCF is defined as WCFt = CWVt - **SNCWVt**

Where:

CWVt is the Actual or Forecast Composite Weather Variable for the LDZ for day '*t*' further information on the CWV can be found under the CWV section here.

SNCWVt is the Seasonal Normal value of the Composite Weather Variable for the LDZ for day '*t*'.

SNCWV – Why is it needed? (2 of 2)

- The WCF, defined as CWV-SNCWV is also a key input to the AQ calculation for Class 3 and 4 Supply Meter Points.
- The full AQ formula for Class 3 and 4 Supply Meter Points:

$$AQ = AQMQ * 365 / (\Sigma (ALP * (1 + (DAF \times \mathbf{WCF}))))$$

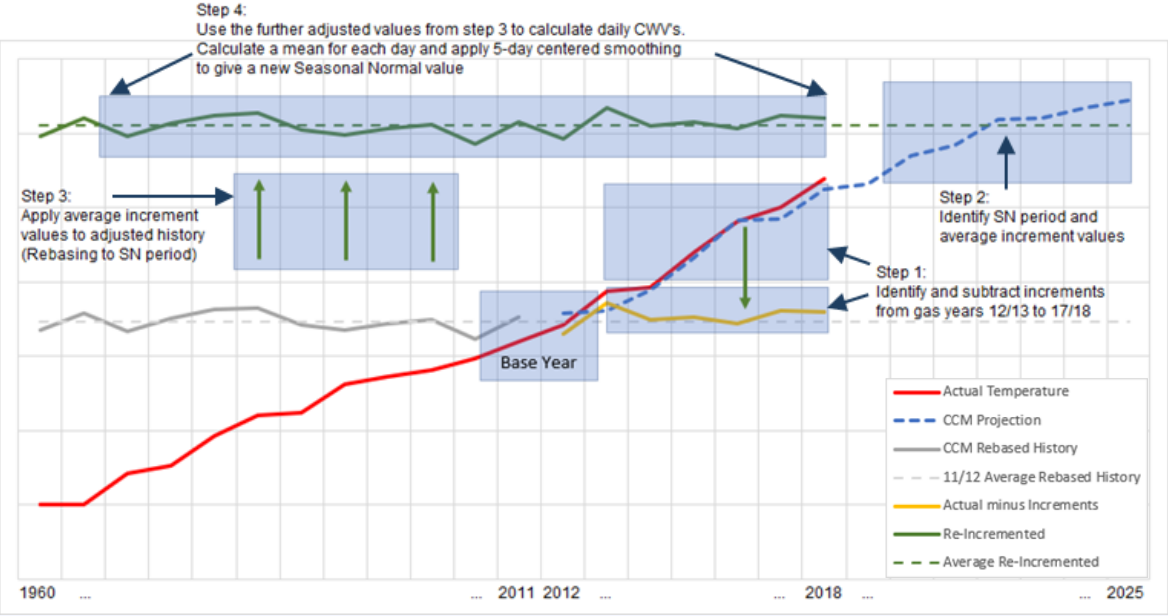
Where AQMQ represents AQ Metered Quantity, i.e. the actual consumption between two meter reads

Note: The same minimum constraint of 0.01 applies to the '(1 + [DAF * **WCF**])' part of the AQ formula to avoid negative demand

- For further information relating to the AQ calculation, e-learning courses can be found on www.Xoserve.com linked here.

SNCWV – How is it calculated? (Current SNCWV)

- The current definition of the SNCWV was implemented on Gas Day 01 October 2020, and is effective until Gas Day 30 September 2025.



- The SNCWV is derived from a combination of the historic series of CWV and a Climate Change Methodology (CCM), provided in 2013 by the Met Office.

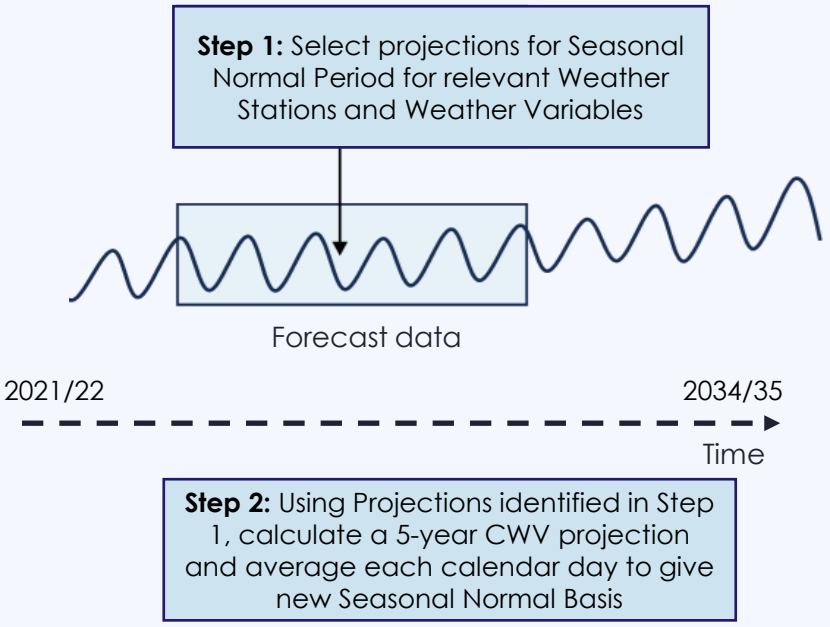
- The effects of long term climate change are removed, and historic data is 'uplifted' to a common base level. Increments are then added to lift the data to the target period the SNCWV is applicable for

- A detailed document describing the calculation of the current SNCWV, and how it can be replicated can be found on the secure area of www.xoserve.com (also known as UKLinkDocs) under the following folder:

18. NDM Profiling and Capacity Estimation Algorithms > 2020-21 Gas Year > 5 Seasonal Normal 2020 > *'Approach to Seasonal Normal Basis 2020'.pdf*

SNCWV – How is it calculated? (New SNCWV)

- The SNCWV definition is reviewed and, if applicable, redefined every 5 years at a minimum. The latest review took place in 2024 and the final values were approved by DESC at its meeting on 19 December 2024 to be effective from Gas Day 01 October 2025



- The new Seasonal Normal basis is derived purely from a set of projections provided by the Met Office for each of the weather stations used in the CWV calculation
- Projections for the 5 year target period are substituted into the CWV calculation and an average series is derived from the 5 calculated years for each LDZ.
- The projections are derived from the UKCP18 data set (further info can be found in 'Update on Seasonal Normal Review 2025' on DESC homepage here.)

- A detailed document describing the calculation of the new SNCWV basis, and how it can be replicated can be found on the secure area of www.xoserve.com (also known as UKLinkDocs) under the following folder:

18. NDM Profiling and Capacity Estimation Algorithms > 2025-26 Gas Year > 5 Seasonal Normal 2025 > *'Approach to Seasonal Normal Basis 2025'.pdf*

SNCWV – Where to find more information

- Uniform Network Code (UNC): Section H (Paragraphs 1.4: Composite Weather Variable and 1.5 Seasonal Normal Demand)

- SNCWV Profiles are published to UK Link Docs in the following folders:

  Folder 18. NDM Profiling and Capacity Estimation Algorithms / Gas Year / 3 Demand Estimation Parameters > b Demand Model Supporting Files / **SNCWVYY.txt**

  Each Gas Year's file contains a 'Read Me' file in the same folder, titled: **README_DF_Suppfiles_YY.pdf**

- Files relating to the New Seasonal Normal basis can be found on UKLinkDocs in the following folder:

  Folder 18. NDM Profiling and Capacity Estimation Algorithms / 2025-26 Gas Year / 5. Seasonal Normal 2025

- Demand Estimation Sub Committee (DESC): Terms of Reference

- Please raise any questions on Seasonal Normal Composite Weather Variable via the Help Centre on Xoserve.com here by selecting "Other" and your query will be directed to the CDSP's Demand Estimation Team