Demand Estimation Sub Committee

2.0 Seasonal Normal Review 2025

31 January 2024

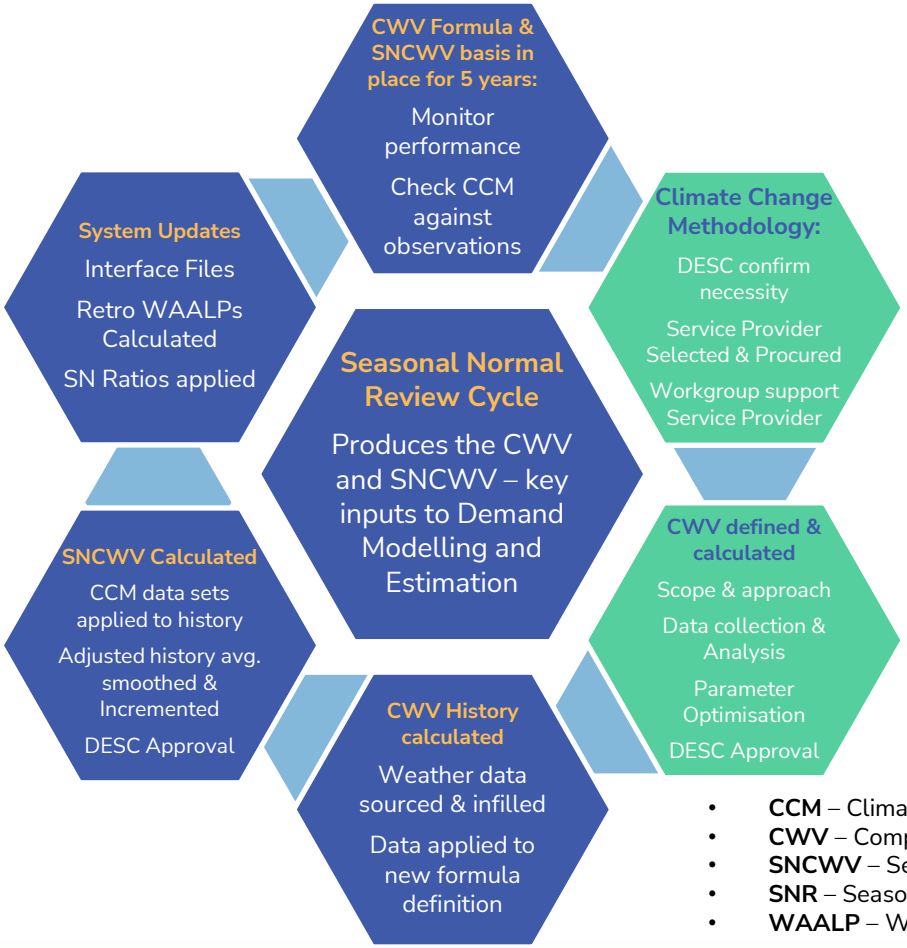
Contents

- Background, Overview, Timetable and Objectives
- CWV Formula Review
  - Approach to CWV Formula Optimisation
- SNCWV Review
  - Update on Climate Change Methodology

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

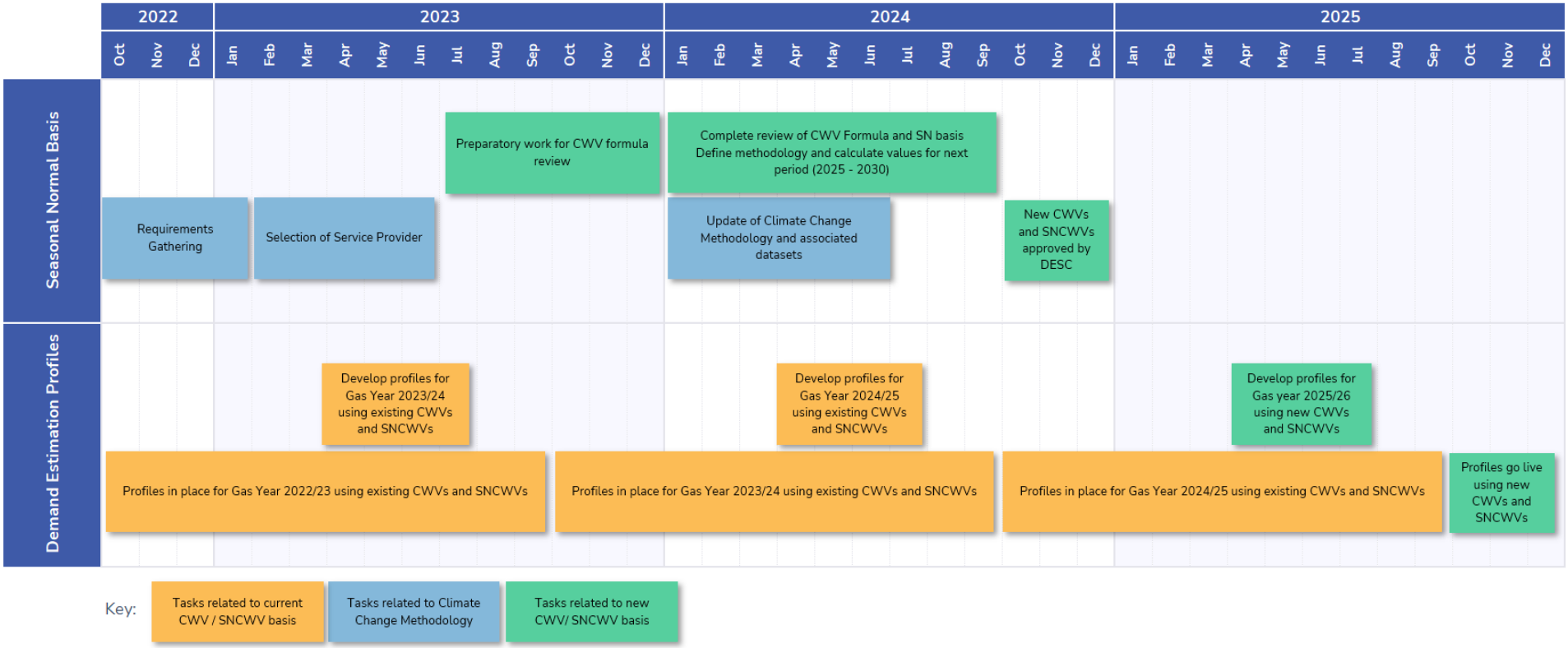
Seasonal Normal Review



- 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) cycle, undertaken at minimum once every 5 years, represented in diagram opposite
- This presentation relates to updates on the **Climate Change Methodology** and **CWV definition** phase of the SNR cycle

- **CCM** – Climate Change Methodology
- **CWV** – Composite Weather Variable
- **SNCWV** – Seasonal Normal **CWV**
- **SNR** – Seasonal Normal Review
- **WAALP** – Weather Adjusted Annual Load Profile

High level Timeline



Objectives

- Present and discuss ‘Approach to review of CWV formula’ document

  (See attachment ‘2.0 CWV Formula Review 2025_v0.1’)

- Provide an update on next steps of Seasonal Normal review including the refresh of the Climate Change Methodology (CCM)

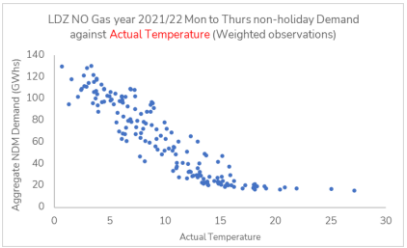
CWV Formula overview

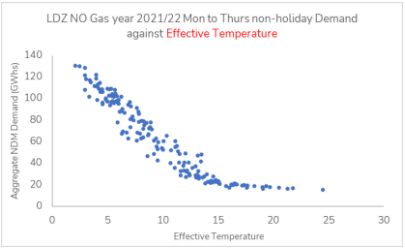
Reminder of the CWV formula (below) and parameters (bottom left) which are designed to provide a linear fit to gas demand (bottom right).

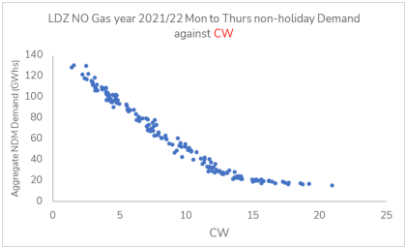
$$\mathbf{CW_t = I_1 * E_t + (1.0 - I_1) * S_t - I_2 * Max(0, W_t - W_0) * Max(0, T_0 - AT_t) + S_0 * SR_t + P_0 * P_t}$$

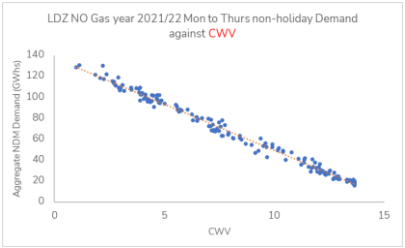
$\mathbf{CWV_t = V1 + q * (V2 - V1)}$	if $\mathbf{V_2 \leq CW_t}$	(summer cut-off)
$\mathbf{CWV_t = V1 + q * (CWt - V1)}$	if $\mathbf{V_1 < CWt < V2}$	(transition)
$\mathbf{CWV_t = CWt}$	if $\mathbf{V_0 \leq CWt \leq V1}$	(normal)
$\mathbf{CWV_t = CWt + l3 * (CWt - V0)}$	if $\mathbf{V_0 > CWt}$	(cold weather upturn)

LDZ	y	I_1	I_2	I_3	V_0	V_1	V_2	q	W_0	T_0	S_0
SC	0.505	0.680	0.011	0.000	1.053	12.590	16.402	0.509	-2.992	15.476	0.507
NO	0.492	0.646	0.008	0.126	5.000	12.005	15.779	0.438	-0.894	16.657	0.950
NW	0.498	0.646	0.009	0.315	2.694	12.775	16.466	0.513	-5.000	21.312	0.802
NE	0.459	0.672	0.009	0.083	-1.261	12.924	16.679	0.446	-1.652	21.596	0.568
EM	0.480	0.689	0.010	0.138	-1.344	13.008	16.897	0.424	-2.417	17.377	0.698
WM	0.471	0.692	0.010	0.163	4.385	13.392	17.480	0.368	-3.619	17.569	0.678
WN	0.482	0.618	0.009	0.324	3.773	13.477	16.987	0.445	-3.926	18.249	0.679
WS	0.543	0.657	0.008	0.079	1.797	13.826	17.186	0.384	-1.910	17.068	0.776
EA	0.460	0.723	0.015	0.109	-0.235	15.131	18.885	0.368	-0.477	12.650	0.635
NT	0.473	0.715	0.015	0.066	4.898	15.029	19.184	0.429	-3.811	12.833	0.695
SE	0.484	0.772	0.006	0.266	1.335	13.996	18.523	0.375	-0.721	21.613	0.566
SO	0.438	0.692	0.015	0.405	0.141	14.745	18.715	0.345	-2.076	11.978	0.559
SW	0.448	0.623	0.008	0.258	3.476	13.254	17.898	0.337	0.705	21.707	0.801





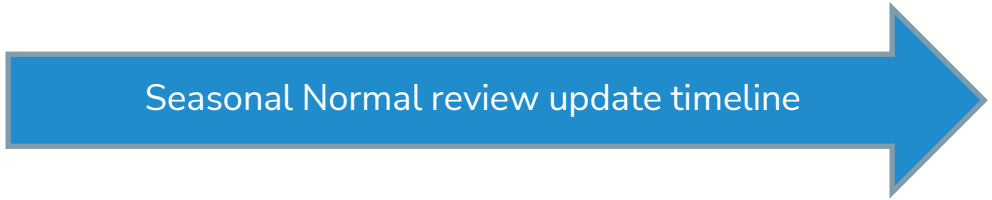




Seasonal Normal Review – CCM update

- The CDSP contracted with the Met Office in 2023 to deliver DESC's approved Climate Change Methodology (CCM) Technical Requirements
- The Met Office are currently on track to deliver a refreshed CCM by end of Q2 2024, which will be used as one of the key inputs to the SNCWV calculations
- DESC's Technical Work Group (TWG) volunteers for the CCM will join an update meeting with the Met Office in early Feb. This session will include a high-level overview and approach along with a progress update
- As this is a refresh of the CCM we don't anticipate there to be a significant time commitment for the DESC TWG but does provide an opportunity for insight outside of the scheduled DESC meetings at certain key checkpoints
- Regular progress updates will be provided to DESC during 2024

Next Steps



DESC TWG to meet with Met Office to discuss next steps on CCM production

Feb 2024

Begin trial optimisation period and report findings to DESC

Q1 – Q2 2024

DESC TWG to work with Met Office to produce refreshed CCM

Q1 – Q2 2024