



**Demand Estimation Sub Committee
Technical Workgroup**

Seasonal Normal Review 2020:
SNCWV Review

10th June 2019

Overview - Milestones

- At the 10th December 2018 meeting DESC approved the following high level approach and work plan for performing this analysis - major milestones below:
- **MILESTONE:** DESC to decide whether to consider a revision to the existing **CWV** formula and confirm the template for its 'benchmark' results (1st April)
- **MILESTONE:** DESC define proposed **CWV** formula for next period i.e. GY 2020/21 onwards (8th July)
- **MILESTONE:** DESC confirm parameters for use in proposed **CWV** formula for Gas Year 2020/21 (7th October)
- **MILESTONE:** DESC decide whether to revise existing **SNCWV** (1st April)
- **MILESTONE:** DESC confirm revised **SNCWV** values (9th December)

Overview - DESC / TWG meeting Timetable 2019

High Level View of Seasonal Normal Review in 2019 - Key Checkpoints

PHASE	JAN'19	FEB'19	MAR'19	APR'19	MAY'19	JUN'19	JUL'19	AUG'19	SEP'19	OCT'19	NOV'19	DEC'19
TWG REVIEW CWV and SNCWV												
Update on Seasonal Normal Review (DESC)		11th Feb										
DESC MILESTONE												
DESC to confirm plan to Review CWV and SNCWV Review				1st Apr								
TWG REVIEW OPTIONS FOR CWV FORMULA												
Update on review of CWV formula (TWG)				24th Apr								
Update on review of CWV formula (TWG)					13th May							
Update on review of CWV formula (TWG)						10th Jun						
DESC MILESTONE												
DESC define proposed CWV Formula (DESC)							8th Jul					
TWG COMPLETE CWV OPTIMISATION												
Adhoc Meetings												
DESC MILESTONE												
DESC confirm parameters in CWV formula (DESC)										7th Oct		
TWG CALCULATE SNCWV												
Adhoc Meetings												
DESC MILESTONE												
DESC confirm SNCWV values (DESC)												9th Dec

Objectives for today

- British Gas to present latest results of their investigations into using additional weather variables in the calculation of CWV
- TWG to provide feedback in order to support the BG analysis and ensure DESC can conclude discussions on the CWV definition, reminder of agreed milestone and timing below:

MILESTONE: DESC define proposed **CWV** formula for next period i.e. GY 2020/21 onwards (8th July)

- TWG to also consider the proposed analysis for reviewing the current SNCWV

CWV Formula Review

Update from British Gas

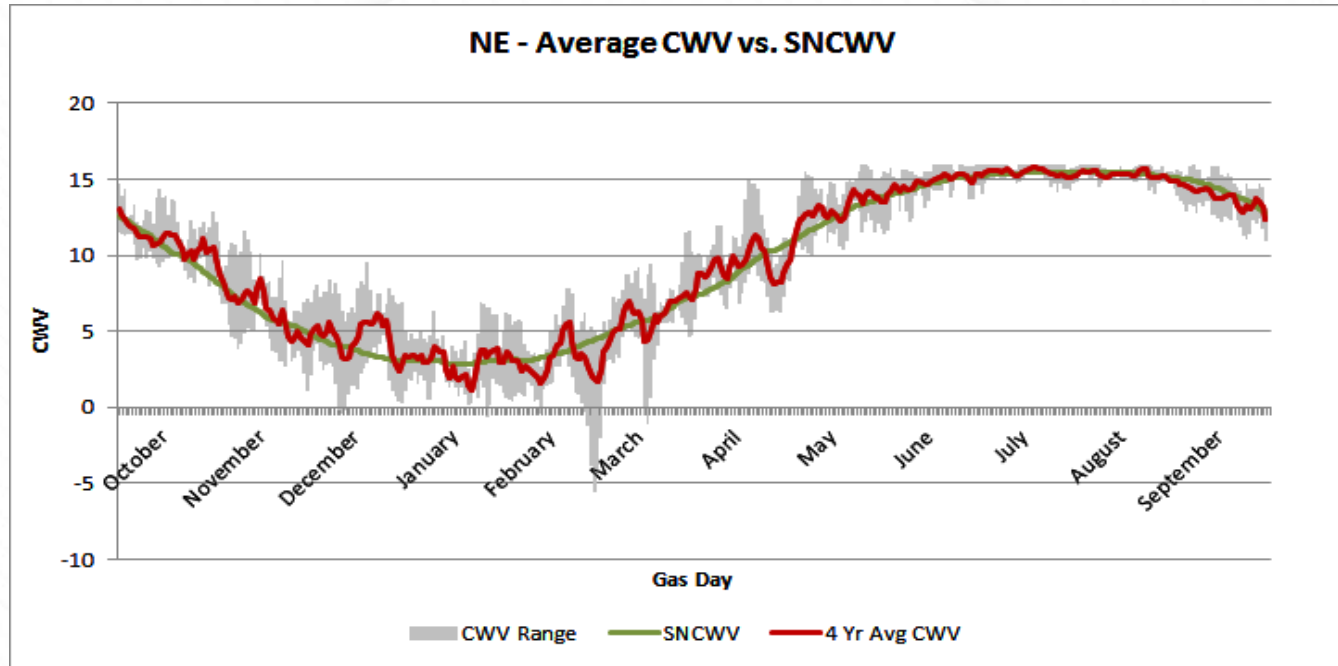
Seasonal Normal Basis

- So far this year the main focus has been on the review of the CWV formula. DESC also need to consider the Seasonal Normal Composite Weather Variable (SNCWV)
- The SNCWV is a parameter which represents a typical daily view of weather. Demand models use the SNCWV and are expressed on this basis. The SNCWV provides a benchmark to compare to actual weather experienced (CWV), also referred to as the Weather Correction Factor (WCF)
- UNC Section H 1.4.6 allows DESC the opportunity to utilise the output from the “Climate Change Methodology” (CCM)
- During 2013/2014 DESC engaged with the Met Office to deliver a CCM including a series of weather variable predictions (upto 2025) which were used in the derivation of the current SNCWV values

Review of SNCWV

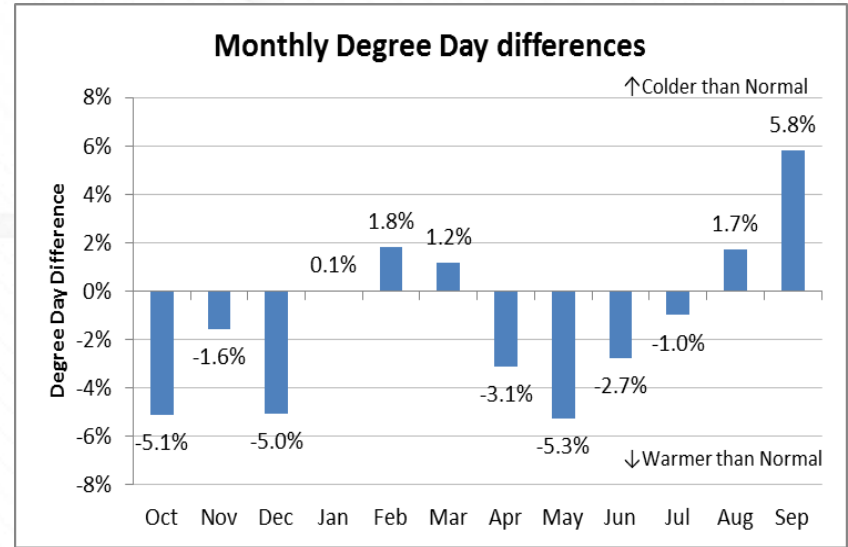
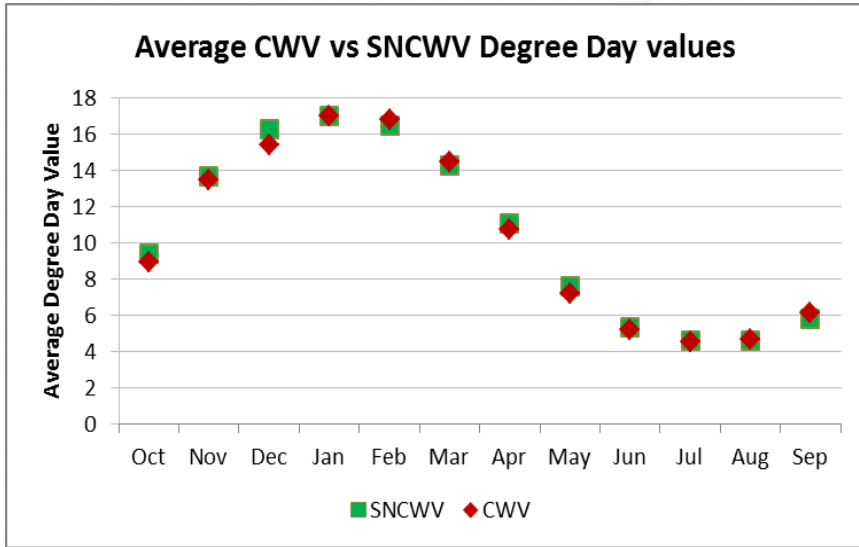
- The current SNCWV was calculated and approved in Q4 2014 and became effective on 1st October 2015
- Since the calculation we have 4 complete gas years to compare to, namely 2014/15 to 2017/18. Degree Day (DD) analysis has been used. Reminder the formula for DD is Threshold [20]– CWV (a larger DD value indicates colder weather)
- The proposed assessment investigates the ‘levels’ and ‘shape’ of the current SNCWV. LDZ ‘NE’ has been used as an example
- Xoserve welcome views ahead of a full set of results being produced for 8th July meeting

Review of SNCWV (NE)



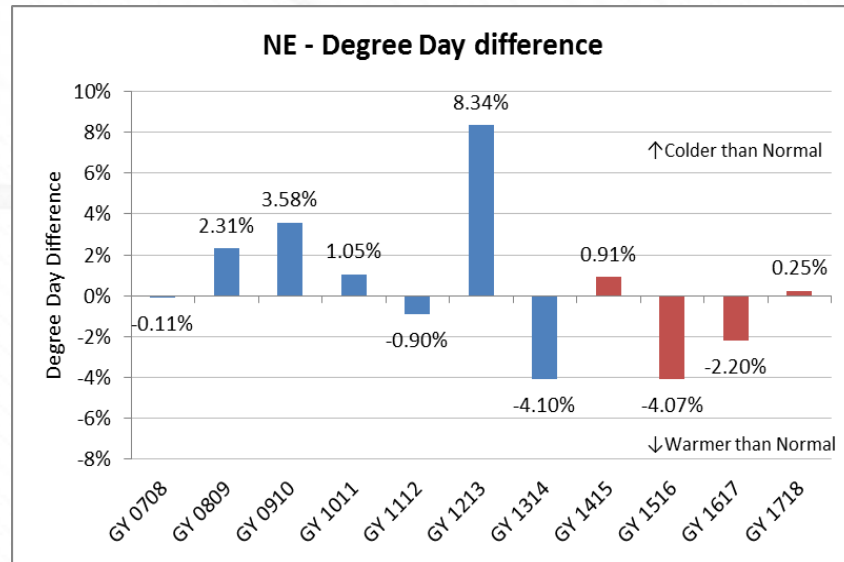
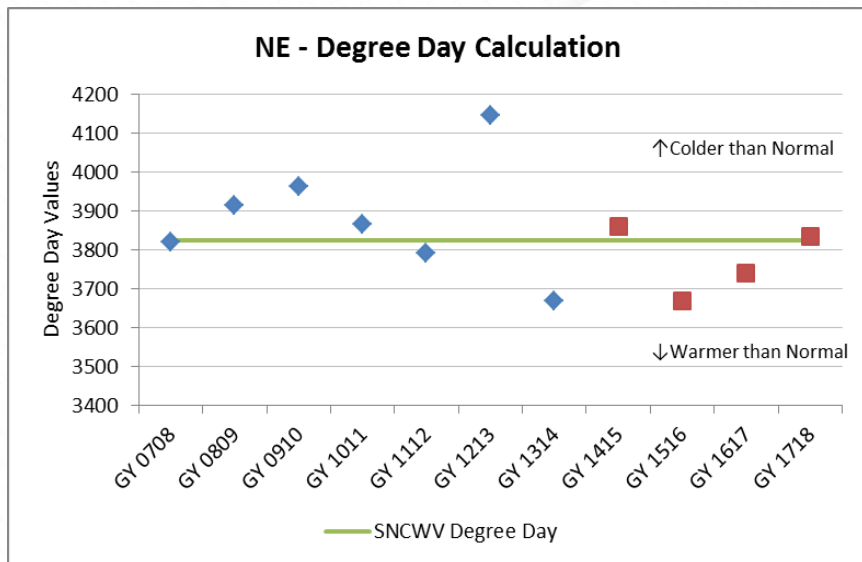
- Comparison of the range and average daily value of Composite Weather Variable (CWV) values for previous 4 complete gas years vs the Seasonal Normal Composite Weather Variable (SNCWV)

Review of SNCWV 'Shape' (NE)



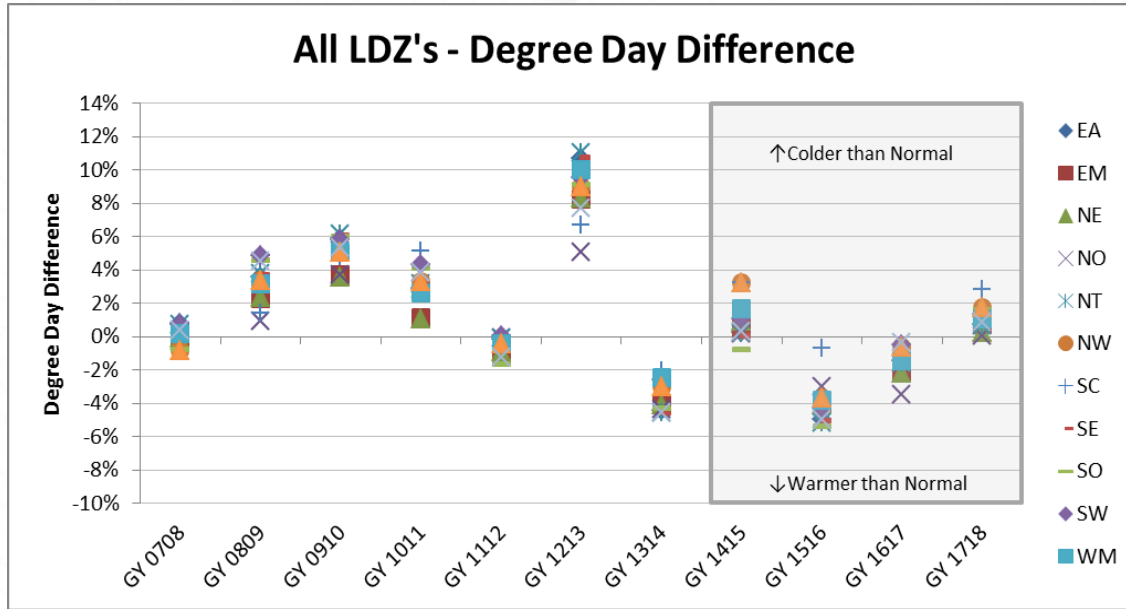
- Comparison of average CWV Degree Day values by month for past 4 complete gas years compared to SNCWV equivalent
- Monthly Degree Day % difference by month (+ values indicate where CWV was Colder than SNCWV)
- SNCWV shape for NE looks to match average CWV shape pretty well

Review of SNCWV 'Levels' (NE)



- Charts show a degree day calculation for each of the previous 10 gas years
- The degree day calculation for the recent 4 complete gas year's daily average values indicates that NE was approximately 1.28% warmer than Seasonal Normal

Seasonal Normal Review - All LDZ's



LDZ	Degree Day difference
EA	1.38% Warmer
EM	1.27% Warmer
NE	1.28% Warmer
NO	1.57% Warmer
NT	1.45% Warmer
NW	0.17% Cooler
SC	1.02% Cooler
SE	1.45% Warmer
SO	1.59% Warmer
SW	0.17% Cooler
WS	1.05% Warmer
All LDZ's	0.81% Warmer

- Chart shows the Degree Day difference for all LDZ's for previous 10 complete gas years
- All LDZ's can be seen to follow a similar trend to NE. Degree day difference is based on previous 4 gas years and indicates the observed CWV was approximately 0.81% warmer than SNCWV

Seasonal Normal Basis – Additional Data/Analysis ?

- Clearly, the results of the CWV formula review will be a major input into the data required for the derivation of the SNCWV
- If as expected DESC conclude the CWV formula requires additional weather variables, consideration will need to be given to how a seasonal normal view is established
- As mentioned, the current CCM output includes temperature projections upto 2025 and as a minimum it may be advisable to seek re-assurance that these values are still 'valid' in light of more recent climate studies e.g. UKCP18
- Any thoughts ?

Next Steps

- British Gas to continue with analysis of existing CWV formula, alongside support and feedback from TWG
- At the meeting on 8th July 2019 DESC will be asked to confirm the new CWV formula for the next period
- Xoserve to review output from CCM to start preparing for impacts of CWV formula conclusions and to complete the review of existing SNCWV based on example results shown today