



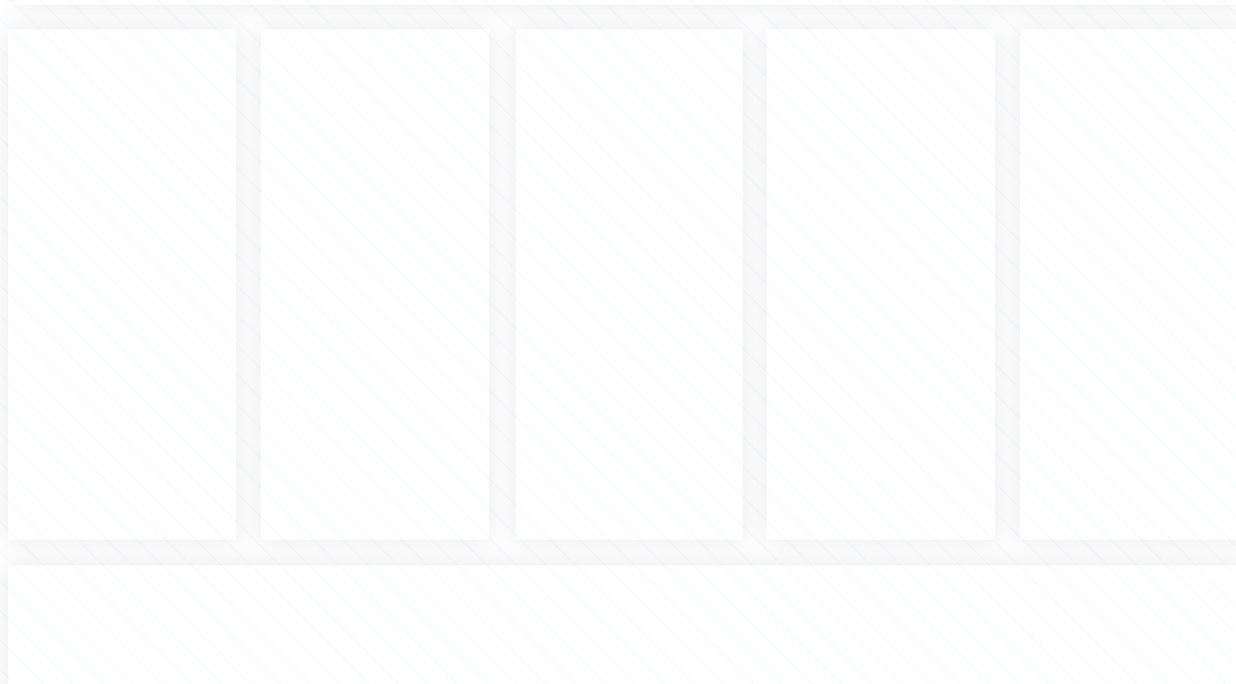
Demand Estimation Sub Committee

Review of Ad-hoc Work Plan:

22nd July 2020

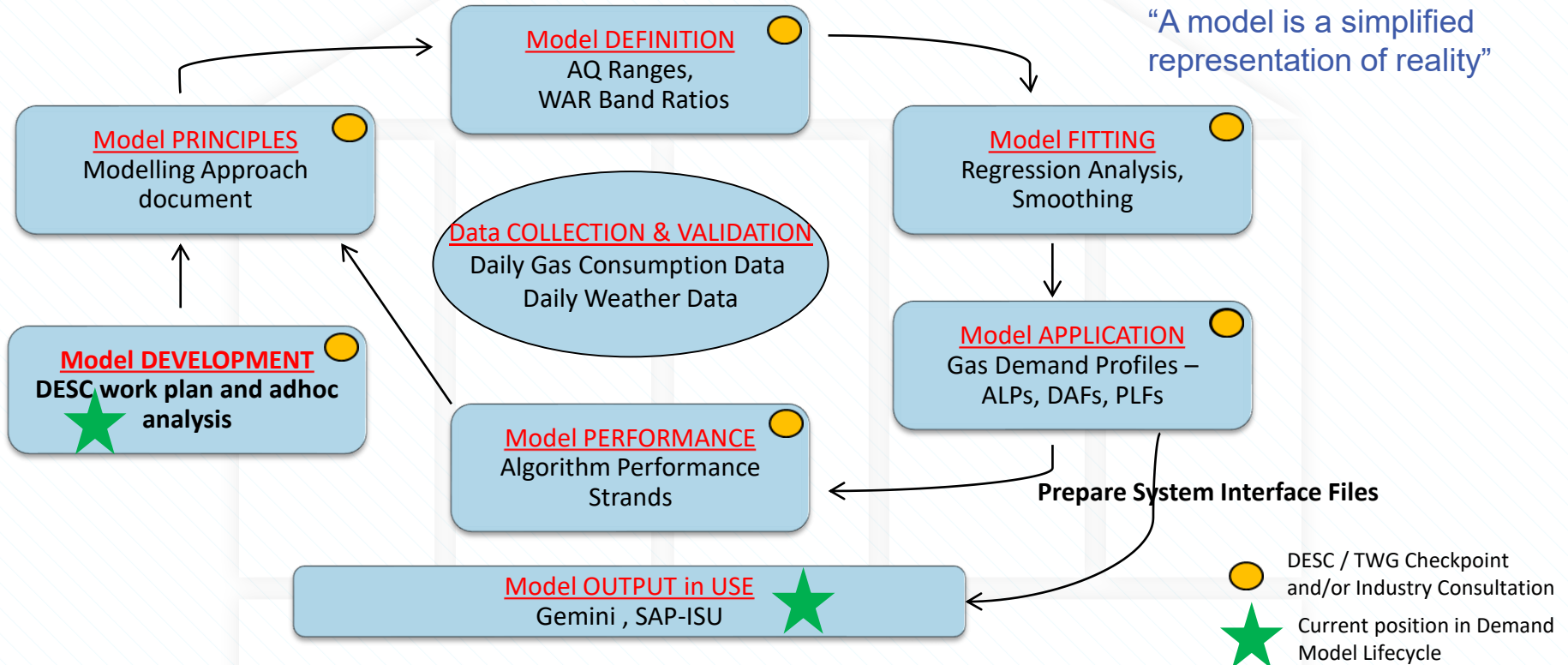
Objective:

- Objective for today's meeting is:
 - To agree DESC's work plan for Autumn 2020 / Winter 2021



1: Background - EUCs and Demand Model Lifecycle

The purpose of the **EUC Demand Model** is to represent the behaviour and reactions of the **EUC Population**



Background

- The areas to discuss for the upcoming Autumn / Winter period consists of:
 - Standard regular work items performed year on year
 - Adhoc work areas which naturally get raised through discussions at DESC or TWG and captured by Xoserve on an adhoc work plan log
- DESC have the responsibility of reviewing the list and prioritising those it wishes CDSP / TWG to focus on during the next Autumn and Winter period in addition to the standard work plan items
- Slides 5 and 6 look back on the progress made on the priorities identified **last year**
- Slides 7 and 8 summarise the standard work plan items and additional work identified by Xoserve for the **upcoming** Autumn / Winter period

Look back on Work Plan – Autumn/Winter ‘19/20

- Algorithm Performance for Gas Year 2018/19
 - Produce reviews of all 3 strands of analysis, as agreed by DESC ✓
- Modelling Approach 2020 preparations (for Gas Year 2020/21)
 - Approach document approved, model re-runs and updates to modelling systems ✓
- Seasonal Normal Review 2020
 - Complete CWV optimisation for new formula ✓
 - Support system changes to incorporate new features of CWV formula ✓
 - Procure weather contract for new weather variables ✓
 - Produce SNCWV methodology and calculate new values ✓
 - Re-state historic models on new seasonal normal basis in readiness for Spring 2020 modelling ✓

Look back on Additional Work – Autumn/Winter ‘19/20

- Replace all existing EUC modelling systems in order to be able to provide a more flexible service to DESC during next years process. This is a significant piece of work, likely to be take up all available resource until end of the year ✓
- The introduction of MOD654 has seen a large increase in the volumes of sample data and the number of parties submitting it for modelling purposes. The Demand Estimation team needs to design a better process for handling and validating all of the various data streams going forward **C/F**
- Introduction of new weather variables / contract will also require the team to design/build a process for handling in the new solution **C/F**
- Although not all of the work items were achieved, the key priority items were i.e. **Seasonal Normal Review deliverables** and the **new EUC Demand Modelling system**

Standard Work Plan – Autumn/Winter ‘20/21

- Algorithm Performance for Gas Year 2019/20
 - Produce reviews of all 3 strands of analysis, as agreed by DESC (will need some discussion given impacts of COVID-19 on second half of gas year)
- Modelling Approach 2021 preparations (for Gas Year 2021/22)
 - Approach document approved, model re-runs and updates to modelling systems
 - Possible changes to improve validation of sample composition (Action 0203)
- Seasonal Normal Review 2020
 - Support remaining implementation activities ahead of 1st October 2020 effective date i.e. calculation of historical WAALPs and overseeing CWV calculations in UK Link
- Model Smoothing Methodology Review
 - Assess whether continued use of model smoothing is appropriate (last reviewed 2018)
- Review of NDM Algorithm (UNC H Ref 2.2.2)
 - Every 3 years, DESC are required to review the current NDM Algorithm

Additional Work – Autumn/Winter ‘20/21

- The introduction of MOD654 has seen a large increase in the volumes of sample data and the number of parties submitting it for modelling purposes. The Demand Estimation team needs to design a better process for handling and validating all of the various data streams
- Introduction of new weather variables / contract requires the team to design/build a process for handling the weather data which can work alongside the new EUC demand modelling system and support better weather reporting and analysis
- Although the new EUC demand modelling system is in now in place, following its first use to produce this year’s Gas Demand Profiles, there have been some improvements identified which need to be addressed ahead of its use again next year
- All of the above supports making the operation of Demand Estimation activities more accurate and efficient which helps free up time for the team to work on improvements to the approach to demand modelling

TWG Adhoc work areas log

- The DESC 'Ad-hoc Work Plan' was established in 2012 to capture any issues and ideas which arise during the year that DESC decide they may like to review at a later stage. The list of items is maintained by the CDSP
- The last review session of the list of adhoc work areas was carried out at the DESC meeting on 22nd July 2019 which helped plan the Autumn/Winter '19/20 schedule of work
- The next few slides cover the work items that (i) have been raised as a potential area to investigate but as yet have not been identified as a priority and (ii) items carried forward from last year
- Are there any outstanding items which DESC feel should be looked at as a priority ?
- All "Completed" Ad-hoc Work Plan items since the TWG are available to view [here](#)

Adhoc Work Plan Items: OUTSTANDING

Source	Description of Work item	Estimated Effort *	Potential Approach	Next Steps	Ownership	Status
TWG 20/04/12	Consider the application of weather correction to WAR Bands	High	Analysis to assess impacts of switching approach, and system implications of making changes	To be considered at Adhoc Work Plan review meeting in July 2020	Xoserve	Awaiting Prioritisation
TWG 25/06/14	Review day of the week demand behaviours, particularly whether the modelling of Monday to Thursday demands together is still valid (Ref: E.Ons 14/15 rep – qry 1)	Medium	Statistical analysis using daily sample demands to establish if 'day of week' behaviours are consistent for Monday to Thursday	To be considered at Adhoc Work Plan review meeting in July 2020	Any TWG party	Awaiting Prioritisation
TWG 25/06/14	All parties to suggest different ways that the EUC banding might be split, based on consumption levels or customer attributes, this was a post UKL replacement consideration (DE0202)	Low	Partly being addressed by potential introduction of new EUCs in bands 1 and 2 using new attributes	To be considered at Adhoc Work Plan review meeting in July 2020	Any TWG party	Awaiting Prioritisation
DESC 13/02/18	Review appropriateness of current AQ boundaries for Large NDM EUCs (>2,196 MWh pa), currently requires 21 demand models for population of c.7,000 supply points	High	Detailed statistical analysis required, using daily sample data to try and identify unique end user categories i.e. consumers with specific consumption profiles and weather sensitivities	To be considered at Adhoc Work Plan review meeting in July 2020	Any TWG party	Awaiting Prioritisation

Key *

High: Detailed analysis / consultation required (>10 days effort)

Medium: Moderate amount of analysis required (2 to 10 days effort)

Low: 'Quick wins' e.g. request for data / minor analysis (<2 days effort)

Adhoc Work Plan Items: OUTSTANDING

Source	Description of Work item	Estimated Effort *	Potential Approach	Next Steps	Ownership	Status
Post DESC Feb' 18 meeting (MOD 0644)	Investigate if the weather sensitivities expressed by the DAF parameter for each EUC could be enhanced to improve the performance of the demand models when there are [X%] differences observed in the WCF i.e. CWV-SNCWV	High	Using daily sample gas demand review the performance of demand models and levels of daily UiG under certain WCF conditions - e.g. is it worse when WCF differences are larger ?	To be considered at Adhoc Work Plan review meeting in July 2020	Any TWG party	Awaiting Prioritisation
Post DESC Feb' 18 meeting	Review whether the treatment of EUC Cut-Offs in the approach to demand modelling is still applicable	High	Using daily sample gas demand investigate EUC models which have exhibited a CWV Cut-Off and review whether their application has improved the performance of the models.	To be considered at Adhoc Work Plan review meeting in July 2020	Any TWG party	Awaiting Prioritisation
TWG 15/05/18	Following review of outliers in single year modelling results it revealed that potentially a Christmas holiday effect may have started earlier than currently modelled. TWG suggested that existing holiday code rules are reviewed to assess if they are still appropriate	High	Use daily sample data from recent years as the base for analysis Assess whether current rules which define each holiday period are valid by reviewing residuals between fitted and actual Assess effectiveness of holiday code allocation within the various holiday period rules using analysis of variance	To be considered at Adhoc Work Plan review meeting in July 2020	Any TWG party	Awaiting Prioritisation

Key *

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Medium: Moderate amount of analysis required (2 to 10 days effort)

Low: 'Quick wins' e.g. request for data / minor analysis (<2 days effort)

CDSP Recommendations

- CDSP recommends the following work areas should be focused on over the Autumn '20 / Winter '21 period:
 - Algorithm Performance for Gas Year 2019/20
 - Modelling Approach 2021 preparations (for Gas Year 2021/22)
 - Seasonal Normal Review 2020 (completion of remaining activities)
 - Support NDM Algorithm Review
 - Upgrades to CDSP's systems for handling and validating sample data submissions and managing weather data
 - Model Smoothing Methodology Review
 - Review of current Holiday code rules (Adhoc Work plan item)
- DESC views welcome