



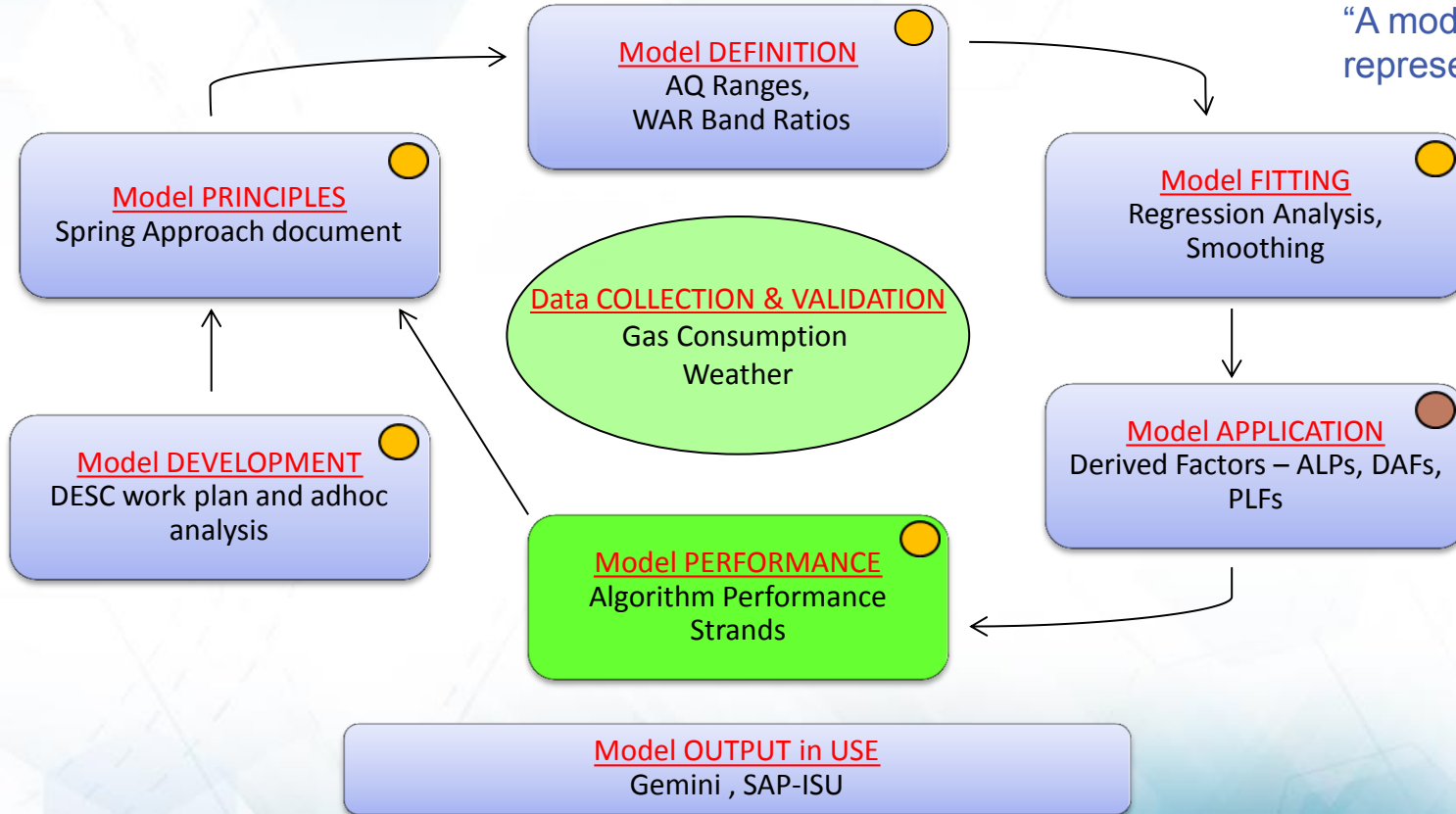
NDM Sample Update

DESC: 8th October 2018

Overview: EUC & Demand Model Lifecycle

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

“A model is a simplified representation of reality”



- DESC / TWG Checkpoint
- Industry Consultation

Objective

- Review the current NDM Sample numbers against the ideal target number for each EUC and LDZ combination
- Identify what actions (if any) are required to boost the NDM Sample in readiness for the Autumn'18 Algorithm Performance analysis, due to be presented at the December'18 DESC meeting

- In order to develop accurate allocation profiles for NDM supply meter points (Class 3 and 4), daily gas consumption data is required from a variety of different NDM gas consumers
- We refer to this data as the '*NDM Sample*'
- Insufficient numbers or inaccurate data will result in the creation of less-reflective NDM allocation profiles
- NDM Sample data should ideally be representative of the population breakdown
- This data also provides us with the ability to perform analysis of the demand models (i.e. Algorithm Performance)

- NDM Sample data has traditionally been sourced by Xoserve (Bands 01 & 02) and Transporters (Bands 02 to 08)
- Due to the sample numbers showing a declining trend over recent years, DESC explored the use of third party provided data in Demand Modelling
- Following approval by DESC, third party provided data was first utilised during the Spring 2016 modelling
- In 2018, MOD0654 was raised to mandate the provision of regular NDM Sample Data from shippers to the CDSP
- MOD0654 was approved by UNC Panel on 20th September 2018 and is due to be implemented on a date to be determined (subject to no Appeal being raised before 12th October 2018)

- At the Feb'18 DESC meeting (action DESC1201) Xoserve presented analysis to determine statistically what the optimum sample size should be by EUC and LDZ
- DESC members approved the revised approach, agreeing that target sample numbers should be set at a level which provides a 95% confidence level
- The approach included individual targets to support the proposed introduction of new EUC definitions for Band 01 I&C, Band 02 Domestic and Band 01 & 02 Pre Payment consumers, bought about by MOD0644
- As a result, the overall target numbers for NDM sample sites has increased quite substantially (i.e. c16k to c36k sites)
- A comparison of current 'Active' sites (i.e. where daily consumption data is being received) against ideal 'Target' numbers is then performed

Population Size (at September 2018)

EUC Band	AQ Range (mWh)	Customer Type	LDZ													Total
			SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW	
01	up to 73.2	Domestic	1,763,682	1,121,910	2,464,815	1,286,770	2,188,836	1,857,116	223,144	762,585	1,796,339	2,027,429	2,321,339	1,624,647	1,464,859	20,903,471
		I&C	39,932	26,658	66,134	37,447	54,644	46,866	7,043	19,731	42,288	62,660	57,727	39,790	38,725	539,645
		PrePayment	263,227	132,884	343,024	136,927	228,423	227,925	36,302	113,218	166,982	282,410	272,948	114,515	130,434	2,449,219
02	73.2 to 293	Domestic	2,842	1,200	3,329	2,270	2,552	2,241	174	580	2,938	6,461	5,206	2,352	1,668	33,813
		I&C	13,799	8,127	19,231	10,836	15,996	14,914	1,982	5,211	13,044	20,335	17,761	13,034	10,891	165,161
		PrePayment	53	28	65	46	44	61	3	28	34	84	45	13	18	522
03	293 to 732	All	4,657	2,393	5,118	2,734	4,222	4,019	471	1,237	3,542	6,091	4,417	3,422	2,719	45,042
04	732 to 2,196	All	2,143	939	2,106	1,119	1,729	1,828	245	578	1,532	2,974	1,741	1,468	1,142	19,544
05	2,196 to 5,860	All	534	256	573	302	454	495	62	151	357	801	385	292	225	4,887
06	5,860 to 14,650	All	160	91	159	109	187	156	25	45	105	214	93	100	102	1,546
07	14,650 to 29,300	All	63	27	73	38	83	48	14	22	35	44	31	34	43	555
08	29,300 to 58,600	All	17	15	28	15	39	29	1	14	17	13	14	13	9	224
		Total	2,091,109	1,294,528	2,904,655	1,478,613	2,497,209	2,155,698	269,466	903,400	2,027,213	2,409,516	2,681,707	1,799,680	1,650,835	24,163,629

PrePayment classification based on the following SAP-ISU 'Meter Mechanism Codes':

- **CM** (Coin Meter); **ET** (Electronic Token); **MT** (Mechanical Token); **PP** (PrePayment); **TH** (Thrift)

Target Sample Size (95% confidence level)

EUC Band	AQ Range (mWh)	Customer Type	LDZ													Total
			SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW	
01	up to 73.2	Domestic	384	384	384	384	384	384	383	384	384	384	384	384	384	4,991
		I&C	380	379	382	380	381	381	364	377	381	382	382	380	380	4,929
		PrePayment	384	383	384	383	384	384	380	383	383	384	384	384	383	383
02	73.2 to 293	Domestic	338	291	344	329	334	328	120	231	340	363	358	330	312	4,018
		I&C	374	367	377	371	375	375	322	358	373	377	376	373	371	4,789
		PrePayment	47	26	56	41	39	53	3	26	31	69	40	13	17	461
03	293 to 732	All	355	331	357	337	352	351	212	293	347	361	353	345	337	4,331
04	732 to 2,196	All	326	273	325	286	314	317	150	231	307	340	315	304	287	3,775
05	2,196 to 5,860	All	223	154	230	169	208	216	53	108	185	260	192	166	142	2,306
06	5,860 to 14,650	All	113	74	112	85	126	111	23	40	82	137	75	79	81	1,138
07	14,650 to 29,300	All	54	25	61	35	68	43	14	21	32	39	29	31	39	491
08	29,300 to 58,600	All	16	14	26	14	35	27	1	14	16	13	14	13	9	212
		Total	2,994	2,701	3,038	2,814	3,000	2,970	2,025	2,466	2,861	3,109	2,902	2,801	2,742	36,423

Active – Target (at September 2018)

EUC Band	AQ Range (mWh)	Customer Type	LDZ													Total
			SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW	
01	up to 73.2	Domestic	-219	-230	-193	-198	-200	-204	-383	-212	-181	-192	-195	-195	-195	-2,797
		I&C	-328	-318	-317	-326	-301	-318	-363	-322	-299	-242	-270	-295	-331	-4,030
		PrePayment	-384	-383	-384	-383	-384	-384	-380	-383	-383	-384	-384	-384	-383	-383
02	73.2 to 293	Domestic	-321	-285	-330	-315	-320	-318	-120	-226	-325	-350	-351	-319	-300	-3,880
		I&C	-245	-256	-241	-264	-198	-243	-314	-276	-181	-201	-173	-194	-233	-3,019
		PrePayment	-47	-26	-56	-41	-39	-53	-3	-26	-31	-69	-40	-13	-17	-461
03	293 to 732	All	-135	-225	-214	-215	-189	-238	-192	-251	-173	-193	-91	-167	-221	-2,504
04	732 to 2,196	All	87	-34	-85	52	-93	-92	-116	-142	-91	-73	110	13	-157	-883
05	2,196 to 5,860	All	42	-29	-82	-15	-76	-64	-32	-67	-87	-107	-17	-31	-73	-680
06	5,860 to 14,650	All	-18	-24	-60	-21	-65	-48	-14	-18	-47	-82	-18	-28	-40	-483
07	14,650 to 29,300	All	-16	-11	-42	-7	-32	-23	-12	-14	-24	-32	-10	-15	-20	-258
08	29,300 to 58,600	All	-4	-6	-19	-3	-16	-10	-1	-10	-12	-9	-7	-6	-3	-106
		Total	-1,717	-1,827	-2,023	-1,788	-1,913	-1,995	-1,930	-1,947	-1,834	-1,934	-1,556	-1,646	-1,973	-24,083

Table compares 'Active' sites from Xoserve and Transporter Samples only

- Current sample numbers are below the revised targets in most EUC & LDZ combinations
- Additional sample data will be required to improve the analysis of the demand model's performance during Gas Year 2017/18
- Third Party data boosted the sample by approximately 11,000 sites in Spring'18
 - c2,000 PrePayment Customers; c9,000 I&C Customers
- Shippers who provided data in Spring'18 have been contacted to request either a 'top-up' to the data already provided or additional data
- If implemented, MOD0654 will require shippers with a portfolio greater than 25,000 to actively provide some NDM sample data on an ongoing basis

- Third Party Data
 - **We need your data!**
 - Full requirements document available on Joint Office website (www.gasgovernance.co.uk/desc)
 - Feel free to contact xoserve.demand.estimate@xoserve.com if you require support in preparing for implementation of MOD0654

- NDM Sample Data
 - Collating and validating sample data covering gas year 2017/18
- Algorithm Performance
 - Strand 1 – Weather Analysis
 - Strand 2 – Unidentified Gas Analysis
 - Strand 3 – NDM Daily Demand Analysis (using validated sample data collected for gas year 2017/18)