FES 2019

					2050 compliant							Non-2050 compliant					
		5 Year Forecast			Community Renewables			Two Degrees			Net Zero	Steady Progression			Consumer Evolution		
	Units	2018	2020	2023	2018	2030	2050	2018	2030	2050	2050	2018	2030	2050	2018	2030	2050
Gas annual demand (excl. exports and shrinkage)	TWh	804	700	672	804	487	204	804	534	585	406	804	689	716	804	718	651
Gas 1 in 20 peak demand	GWh	5,191	5,486	5,345	5,191	3,873	2,068	5,191	4,394	3,301		5,191	5,594	5,615	5,191	5,697	5,077
Electricity (underlying) annual demand (excl. losses)	TWh	285	285	282	285	283	413	285	300	422	491	285	299	376	285	288	370
Electricity (underlying) peak demand (incl. losses)	GW	59.6	58.9	58.9	59.6	57.4	72.4	59.6	63.8	82.5	115	59.6	63	74.9	59.6	59.8	68.7
% split of annual elec demand supplied from Tx and Dx plant	%	20:80	26:74	29:71	20:80	37:63	39:61	20:80	30:70	23:77		20:80	24:76	23:77	20:80	33:67	39:61
Electricity TX annual demand (see notes)	TWh	255	242	235	255	193	211	255	240	299		255	255	322	255	226	273
Electricity TX restricted peak demand (see notes)	GW	47.6	44.1	43	47.6	25.3	8.4	47.6	42.7	40.9		47.6	47.2	45.7	47.6	37.2	23.1
Installed Nuclear Capacity	GW	9.2	9.2	7.1	9.2	4.6	7.9	9.2	4.6	16.6	19	9.2	7	9.6	9.2	2.9	4.6
Total Road Vehicles	Million	38.1	38.3	38.7	38.1	39.6	39	38.1	39.6	39.2	39.2	38.1	39.6	41	38.1 M	39.6 M	41 M
EVs numbers (Vehicles)	Million	142 K	362.7 K	1M	142 K	12 M	38.1 M	142 K	11.9 M	38 M	38 M	142 K	2.4 M	36.2 M	142 K	2.3 M	36 M
Natural Gas vehicles	Million	2 K	13 K	26 K	2 K	18 K	51 K	2K	3 K	29 K	0	2 K	111 K	386 K	2 K	111 K	381 K
Hydrogen Vehicles	Million	0.3 K	1.8 K	5.4 K	0.3 K	32 K	830 K	0.3 K	35 K	1.2 M	1.2 M	0.3 K	16 K	118 K	0.3 K	16 K	118 K
EV vehicle annual demand	TWh	0.4	0.9	2.4	0.4	23.9	95.8	0.4	22.6	89.5	89.5	0.4	5	68.1	0.4	4.7	67
EV peak demand (no V2G)	GW	0.1	0.2	0.5	0.1	3.2	12	0.1	4.7	15.1	15.2	0.1	1.1	11	0.1	0.9	8.1
EV peak demand (inc. V2G)	GW	0.1	0.2	0.5	0.1	2.6	1.8	0.1	4.2	6.9	6.9	0.1	1	3.4	0.1	0.8	-1.4
Natural Gas vehicle annual demand	TWh	0.1	0.9	1.8	0.1	1.3	3.8	0.1	0.3	2.3	0	0.1	7.6	29.9	0.1	7.6	29.3
Hydrogen Vehicle annual demand	TWh	0.01	0.03	0.08	0.01	0.7	31	0.01	1.1	48.7	51.6	0.01	0.1	1.6	0.01	0.1	1.6

Non-Hybrid Heat pumps	Million	141 K	155 K	190 K	141 K	3.2 M	10.7 M	141 K	2.6 M	5.9 M	8.6 M	141 K	248 K	900 K	141 K	328 K	2.0 M
Hybrid Heat pumps	Million	16 K	24 K	47 K	16 K	1.5 M	7.1 M	16 K	1.1 M	2.7 M	3.9 M	16 K	115 K	833 K	16 K	190 K	4.0 M
Total installed generation capacity	GW	108	114	116	108	154	233	108	158	227	271	108	140	175	108	131	176
% of overall generation capacity that is decentralised	%	29	30	32	29	45	58	29	31	38		29	27	35	29	39	55
Electricity interconnector import capacity	GW	4	7	8	4	17	17	4	20	20	20	4	15	15	4	12	12
Total electricity storage capacity	GW	4	5	6	4	13	38	4	12	31	31	4	8	21	4	7	27
Offshore wind (capacity)	GW	8.5	10.4	14	8.5	30	45.9	8.5	33.6	54.1	67	8.5	26.1	37.7	8.5	20.9	26.6
Onshore wind (capacity)	GW	12.4	12.9	13.5	12.4	23.3	41	12.4	20.4	24.6	24.5	12.4	17.1	18.2	12.4	17.1	26.1
Gas TX (CCGT +OCGT + CHPs)	GW	31.1	31.4	29.9	31.1	9.7	1.8	31.1	22.9	4.4		31.1	33.3	24.2	31.1	28.5	19.2
CCUS capacity	GW	0	0	0	0	0	0	0	0.9	12.1	49.9	0	0	6.7	0	0	0
Decentralised contribution at peak (difference between Total demand and Tx demand). Of which:	GW	9.4	12.3	13.2	9.4	26.2	55.9	9.4	15.6	33.5		9.4	12.9	25.7	9.4	19.9	41.2
• *Wind*		1.2	1.2	1.3	1.2	2.1	5.6	1.2	1.4	1.8		1.2	1.3	1.3	1.2	1.6	3.1
• *Thermal + hydro*		7.8	9.6	10.2	7.8	17	24.1	7.8	10.2	15.2		7.8	9.3	11.8	7.8	15.8	20.4
• *Storage*		0.4	1.5	1.8	0.4	6.5	16	0.4	3.5	8.2		0.4	2.3	4.9	0.4	2.4	8.3
• *Pure DSR*		1	1	1.1	1	4.5	6.7	1	3.5	6.7		1	1.4	2.1	1	1.9	2.9
• *V2G at peak*		0	0	0	0	0.6	10.2	0	0.5	8.3		0	0.1	7.6	0	0.1	9.5
Total installed decentralised capacity. Of which:	GW	30.9	34.7	37.2	30.9	70.3	146	30.9	48.8	95.1		30.9	38	68.5	30.9	51	106.2
• *Solar*		12.7	13.3	14.4	12.7	29.5	51.6	12.7	22.5	41.1		12.7	15.5	26.3	12.7	18.7	34.7
• *Wind*		6.3	6.5	6.8	6.3	11.2	28.8	6.3	7.8	10.6		6.3	6.8	7.7	6.3	9.3	17.8
• *Thermal*		6.4	7.8	8.2	6.4	12.6	14.2	6.4	7.3	8.4		6.4	7.4	8.1	6.4	13.2	15.9
• *Storage (no V2G)*		0.7	1.8	2.1	0.7	7.7	29.3	0.7	3.9	11.4		0.7	2.8	5.9	0.7	3.2	11.4
• *V2G Total*		0	0	0	0	1.3	20.4	0	1	16.6		0	0.2	15.2	0	0.2	19

*Carbon intensity of power generation, annual average (g of CO2 per KWh)**	gCO2/ KWh	248	102.9	88.7	248	24.9	17.1	248	27.5	13.9		248	74.3	47.1	248	112.7	95

(GB) Electricity Underlying demand – Residential, industrial and commercial demand. No interconnector, station or pumping demand.

(GB) Electricity Tx Annual Demand – Demand on the Tx system. No interconnector, station or pumping demand (National Demand). Note this is a "headline net" figure only and does not measure movement of electricity around the transmission system e.g. export of solar or wind.

(GB) Electricity Tx Restricted Peak Demand - Demand on the Tx system. No interconnector, station or pumping demand. Includes reduction by Triad avoidance (Restricted National Demand). Note this is a "headline net" figure only and does not measure movement of electricity around the transmission system e.g. export of solar or wind.

(GB) Total installed generation capacity includes storage, interconnection and V2G.

DSR – Pure demand side response (not including generation) currently around 1GW and expected to grow in the scenarios.

Annual Gas Demand for Net Zero does not include exports.

Data as per FES document and workbook 25.7.19