

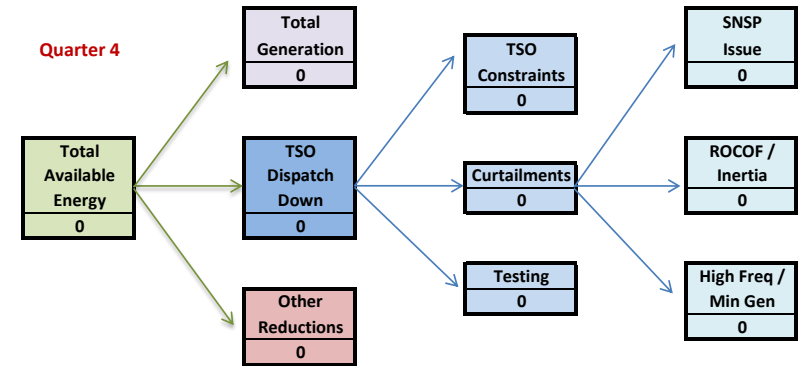
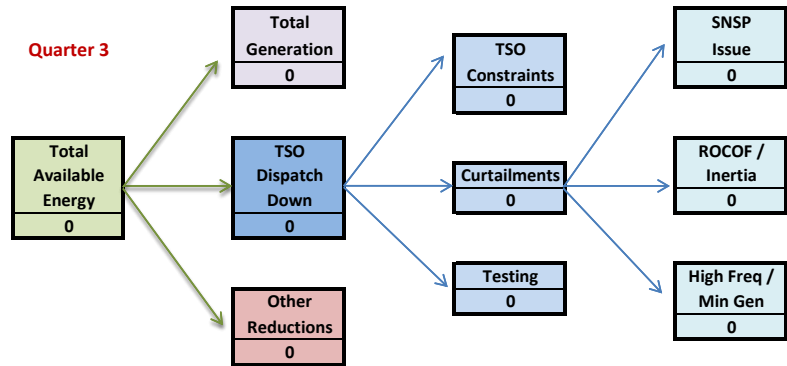
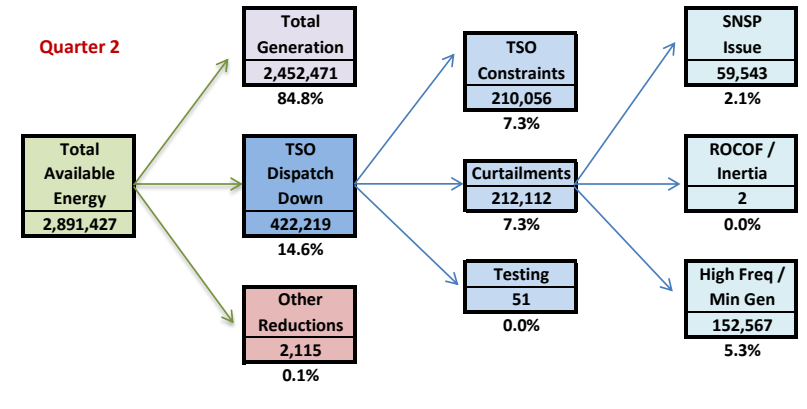
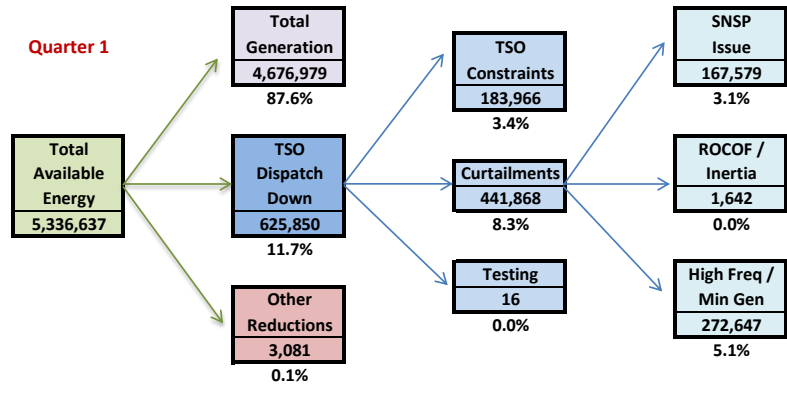
Volumes (MWh)	Jan	Feb	Mar	Qtr1	Apr	May	Jun	Qtr2	Jul	Aug	Sep	Qtr3	Oct	Nov	Dec	Qtr4	2020
Available Energy	1,625,993	2,127,568	1,583,075	5,336,637	794,835	1,047,492	1,049,100	2,891,427	-	-	-	-	-	-	-	-	8,228,064
Generation	1,456,934	1,827,400	1,392,644	4,676,979	696,394	896,829	859,248	2,452,471	-	-	-	-	-	-	-	-	7,129,450
TSO Dispatch Down	159,634	284,977	181,240	625,850	93,462	145,365	183,392	422,219	-	-	-	-	-	-	-	-	1,048,070
Other Reductions	1,058	903	1,120	3,081	1,769	68	278	2,115	-	-	-	-	-	-	-	-	5,196
TSO Dispatch Down:																	
TSO Constraints	36,549	68,740	78,677	183,966	29,213	83,960	96,883	210,056	-	-	-	-	-	-	-	-	394,023
Curtailments	123,084	216,232	102,551	441,868	64,249	61,379	86,484	212,112	-	-	-	-	-	-	-	-	653,980
TSO Testing	-	4	12	16	-	25	26	51	-	-	-	-	-	-	-	-	67
Curtailments:																	
SNSP Issue	54,500	84,436	28,643	167,579	27,909	15,330	16,304	59,543	-	-	-	-	-	-	-	-	227,122
ROCOF / Inertia	643	999	-	1,642	2	-	-	2	-	-	-	-	-	-	-	-	1,644
High Freq / Min Gen	67,941	130,798	73,908	272,647	36,339	46,049	70,179	152,567	-	-	-	-	-	-	-	-	425,214

Percentages	Jan	Feb	Mar	Qtr1	Apr	May	Jun	Qtr2	Jul	Aug	Sep	Qtr3	Oct	Nov	Dec	Qtr4	2020
Generation	89.6%	85.9%	88.0%	87.6%	87.6%	85.6%	81.9%	84.8%									86.6%
TSO Dispatch Down	9.8%	13.4%	11.4%	11.7%	11.8%	13.9%	17.5%	14.6%									12.7%
Other Reductions	0.1%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.1%									0.1%
TSO Dispatch Down:																	
TSO Constraints	2.2%	3.2%	5.0%	3.4%	3.7%	8.0%	9.2%	7.3%									4.8%
Curtailments	7.6%	10.2%	6.5%	8.3%	8.1%	5.9%	8.2%	7.3%									7.9%
TSO Testing	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%									0.0%
Curtailments:																	
SNSP Issue	3.4%	4.0%	1.8%	3.1%	3.5%	1.5%	1.6%	2.1%									2.8%
ROCOF / Inertia	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%									0.0%
High Freq / Min Gen	4.2%	6.1%	4.7%	5.1%	4.6%	4.4%	6.7%	5.3%									5.2%

User Guide Available at: <http://www.eirgridgroup.com/how-the-grid-works/renewables/>

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Graphical Representation of the Breakdown of Wind Dispatch Down Energy Volumes (MWh) and Percentages (%)



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Regional Wind Dispatch Down Percentages

Region	Jan	Feb	Mar	Qtr1	Apr	May	Jun	Qtr2	Jul	Aug	Sep	Qtr3	Oct	Nov	Dec	Qtr4	2020
NI	12.3%	17.4%	14.5%	14.9%	21.8%	19.8%	26.2%	22.7%									17.4%
MID	12.0%	13.0%	11.8%	12.3%	11.0%	10.5%	14.8%	12.3%									12.3%
NE	6.7%	12.4%	7.5%	9.2%	6.3%	9.2%	13.7%	9.8%									9.4%
NW	7.1%	16.7%	18.9%	13.9%	9.7%	19.0%	24.3%	18.0%									15.3%
SE	9.6%	11.5%	8.1%	9.9%	9.0%	9.5%	25.1%	15.5%									11.8%
SW	11.1%	13.8%	11.2%	12.3%	11.3%	14.8%	13.7%	13.5%									12.7%
W	7.8%	12.7%	11.3%	10.7%	8.1%	14.7%	19.0%	14.4%									12.1%

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Historical Wind Dispatch Down (Constraint and Curtailment) Percentages for Ireland (IE), Northern Ireland (NI) and All Island (AI)

Month	2011			2012			2013			2014			2015			2016			2017			2018			2019			2020		
	NI	IE	AI	NI	IE	AI	NI	IE	AI	NI	IE	AI	NI	IE	AI	NI	IE	AI	NI	IE	AI	NI	IE	AI	NI	IE	AI	NI	IE	AI
Jan	0.0%	0.8%	0.6%	0.5%	2.2%	1.9%	0.7%	0.4%	0.5%	2.9%	4.9%	4.5%	4.3%	4.3%	3.4%	3.5%	3.5%	2.4%	1.9%	2.0%	5.7%	3.5%	3.9%	9.7%	3.8%	5.1%	12.3%	9.0%	9.8%	
Feb	0.0%	0.6%	0.5%	0.2%	2.8%	2.2%	0.3%	0.7%	0.6%	3.2%	3.7%	3.6%	4.6%	4.1%	4.2%	2.3%	3.3%	3.1%	2.0%	1.7%	1.7%	2.9%	2.0%	2.2%	10.7%	6.8%	7.7%	17.4%	12.3%	13.4%
Mar	2.7%	1.8%	2.0%	0.8%	2.4%	2.0%	0.6%	0.3%	0.3%	1.8%	4.0%	3.5%	11.4%	8.0%	8.8%	0.9%	2.4%	2.1%	3.0%	3.4%	3.3%	5.9%	4.4%	4.7%	11.8%	9.2%	9.8%	14.5%	10.7%	11.4%
Qtr1	0.7%	1.0%	0.9%	0.5%	2.4%	2.0%	0.6%	0.4%	0.5%	2.7%	4.2%	3.9%	6.9%	5.4%	5.8%	2.4%	3.2%	3.0%	2.4%	2.3%	2.4%	4.9%	3.3%	3.6%	10.8%	6.8%	7.7%	14.9%	10.9%	11.7%
Apr	1.3%	1.2%	1.3%	0.2%	1.4%	1.2%	2.6%	4.7%	4.3%	1.8%	4.2%	3.7%	2.8%	1.8%	2.0%	0.8%	1.4%	1.3%	4.2%	3.5%	3.6%	19.2%	7.4%	9.8%	11.4%	9.0%	9.6%	21.8%	9.0%	11.8%
May	2.2%	3.5%	3.2%	0.6%	1.6%	1.4%	3.7%	6.1%	5.6%	1.5%	2.8%	2.5%	3.8%	4.5%	4.3%	1.1%	1.2%	1.2%	3.6%	3.5%	3.5%	6.1%	4.7%	5.0%	3.8%	4.1%	4.0%	19.8%	12.6%	13.9%
Jun	0.4%	0.8%	0.7%	0.4%	4.0%	3.3%	1.9%	3.7%	3.4%	0.6%	3.3%	2.7%	4.2%	5.0%	4.8%	0.3%	0.7%	0.7%	4.7%	3.9%	4.1%	11.0%	8.0%	8.6%	11.2%	5.6%	6.7%	26.2%	15.4%	17.5%
Qtr2	1.6%	2.3%	2.2%	0.4%	2.2%	1.9%	2.9%	5.0%	4.6%	1.5%	3.4%	3.0%	3.7%	3.9%	3.8%	0.8%	1.2%	1.1%	4.2%	3.7%	3.8%	13.0%	6.6%	8.0%	9.4%	6.6%	7.2%	22.7%	12.7%	14.6%
Jul	0.2%	3.3%	2.8%	0.5%	1.9%	1.6%	0.8%	4.2%	3.4%	1.6%	3.9%	3.4%	2.8%	3.8%	3.7%	6.2%	2.3%	3.1%	4.4%	2.8%	3.2%	2.1%	1.9%	2.0%	8.2%	3.8%	4.8%			
Aug	0.0%	0.7%	0.5%	4.0%	4.2%	4.1%	2.4%	5.4%	4.7%	3.8%	3.5%	3.6%	5.0%	5.8%	5.6%	7.0%	4.6%	5.0%	3.1%	2.8%	2.9%	5.8%	2.2%	3.0%	15.2%	8.4%	9.8%			
Sep	2.4%	3.9%	3.7%	0.4%	4.8%	3.7%	0.5%	4.2%	3.3%	0.1%	2.2%	1.8%	1.5%	2.7%	2.5%	5.8%	5.6%	5.6%	4.2%	5.4%	5.1%	13.1%	5.5%	7.4%	8.4%	8.2%	8.2%			
Qtr3	1.5%	3.1%	2.8%	1.5%	3.8%	3.3%	1.3%	4.6%	3.9%	2.4%	3.3%	3.1%	3.1%	4.1%	3.9%	6.3%	4.4%	4.8%	3.9%	3.9%	3.9%	8.7%	3.6%	4.8%	11.0%	7.3%	8.0%			
Oct	2.4%	4.7%	4.3%	0.0%	0.3%	0.2%	1.6%	5.9%	5.0%	4.5%	8.2%	7.4%	4.2%	3.8%	3.9%	1.9%	1.8%	1.8%	14.6%	9.2%	10.6%	10.2%	6.9%	7.7%	7.4%	6.4%	6.6%	10.6%		
Nov	1.2%	2.3%	2.1%	0.1%	1.0%	0.8%	4.0%	3.0%	3.2%	2.0%	3.2%	3.0%	6.9%	6.8%	6.9%	2.7%	1.0%	1.3%	3.2%	2.5%	2.6%	10.2%	5.2%	6.4%	7.4%	3.9%	4.5%			
Dec	0.7%	2.2%	1.9%	0.8%	2.8%	2.5%	2.0%	4.4%	3.8%	4.5%	5.0%	4.9%	6.2%	6.3%	6.3%	3.8%	3.1%	3.3%	5.3%	2.5%	3.1%	14.9%	7.2%	8.9%	16.2%	9.6%	11.0%			
Qtr4	1.4%	2.9%	2.6%	0.4%	1.6%	1.4%	2.4%	4.5%	4.0%	3.9%	5.7%	5.3%	6.1%	6.0%	6.0%	3.0%	2.1%	2.3%	8.5%	4.9%	5.7%	11.7%	6.4%	7.7%	11.1%	6.9%	7.8%			
Year Total DD	1.3%	2.4%	2.2%	0.7%	2.5%	2.1%	1.9%	3.5%	3.2%	2.8%	4.4%	4.1%	5.3%	5.1%	5.1%	3.2%	2.8%	2.9%	5.0%	3.7%	4.0%	9.4%	5.0%	6.0%	10.7%	6.9%	7.7%	17.4%	11.5%	12.7%
Constraints	0.3%	0.5%	0.4%	0.3%	0.9%	0.8%	0.5%	1.0%	0.9%	1.0%	1.5%	1.4%	1.9%	1.8%	1.8%	1.3%	1.4%	1.4%	1.9%	1.0%	1.2%	4.0%	1.7%	2.2%	4.7%	3.8%	4.0%	6.9%	4.2%	4.8%
Curtailments	1.1%	2.0%	1.8%	0.4%	1.5%	1.3%	1.3%	2.5%	2.3%	1.8%	2.9%	2.6%	3.4%	3.3%	3.3%	1.9%	1.4%	1.5%	3.1%	2.6%	2.7%	5.4%	3.3%	3.8%	6.0%	3.1%	3.7%	10.5%	7.3%	7.9%
Wind Installed Capacity (MW)	512	1,578	2,090	600	1,697	2,296	640	1,917	2,556	729	2,260	2,989	751	2,441	3,192	943	2,788	3,731	1,154	3,306	4,459	1,276	3,660	4,937	1,276	4,113	5,389			
Wind Generation (GWh)	943	4,256	5,198	1,020	4,102	5,122	1,259	4,642	5,901	1,453	5,116	6,568	1,803	6,537	8,339	1,725	6,115	7,840	2,051	7,229	9,280	2,391	8,685	11,076	2,462	9,532	11,994			
Wind Capacity Factors	21%	31%	28%	21%	29%	27%	23%	29%	28%	24%	28%	27%	28%	32%	31%	23%	27%	26%	22%	27%	26%	22%	28%	27%	22%	28%	27%			
SNSP Limit	50%			50%			50%			50%			55% Trial from Oct			55% Perm from Mar 60% Trial from Nov			60% Perm from Mar 65% Trial from Nov			65% Perm from Apr			65%					

Notes:

"Dispatch Down" consists of constraints + curtailments. All wind figures included (controllable + non-controllable).

The darker shaded cells indicate higher dispatch-down percentages in order to produce a graphical representation similar to a heat map.

A more accurate methodology for calculating wind dispatch down was implemented from 2016. Figures from previous years are best estimates.

Wind installed capacities, generation and capacity factors are indicative and based on the latest available information.

SNSP (System Non-Synchronous Penetration) is the sum of non-synchronous generation (such as wind, solar and HVDC imports) as a percentage of total demand and exports.

When the SNSP limit is raised, a trial period takes place before it becomes permanent. During the trial period, the system is operated at this increased SNSP limit except in times of extreme system events or during system testing.

For more information see annual and quarterly dispatch down reports on : <http://www.eirgridgroup.com/how-the-grid-works/renewables/>

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Wind Dispatch Down Percentages and Breakdown per Region (Controllable Windfarms only)
Curtailments + Constraints + Testing = 100% of Dispatch Down (Testing very small % - not shown in table)

Controllable Wind By Region		2016					2017					2018					2019					2020				
	Cap (MW)	Qtr1	Qtr2	Qtr3	Qtr4	2016	Qtr1	Qtr2	Qtr3	Qtr4	2017	Qtr1	Qtr2	Qtr3	Qtr4	2018	Qtr1	Qtr2	Qtr3	Qtr4	2019	Qtr1	Qtr2	Qtr3	Qtr4	2020
MID	514	1.3%	0.4%	2.6%	1.8%	1.5%	2.7%	4.0%	4.2%	5.4%	4.1%	4.9%	5.4%	2.7%	5.6%	4.8%	5.2%	4.6%	4.9%	6.8%	5.5%	12.3%	12.3%			12.3%
Constraints		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	1.0%	1.7%	0.8%	1.3%	0.1%	0.2%	0.6%	0.2%	0.9%	2.4%	3.5%	1.8%	2.9%	2.6%				2.8%
Curtailments		1.3%	0.4%	2.5%	1.7%	1.5%	2.7%	3.7%	3.1%	3.7%	3.3%	3.6%	5.3%	1.9%	5.4%	4.2%	5.1%	3.7%	2.4%	3.3%	3.7%	9.5%	9.7%			9.6%
NE	143	0.9%	0.5%	1.9%	2.1%	1.4%	2.7%	2.6%	2.7%	4.7%	3.3%	3.2%	5.3%	2.7%	5.0%	4.1%	5.0%	4.1%	2.6%	4.8%	4.3%	9.2%	9.8%			9.4%
Constraints		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.2%	0.2%	0.2%	0.1%	0.0%	0.0%			0.0%
Curtailments		0.9%	0.5%	1.9%	2.1%	1.4%	2.7%	2.6%	2.7%	4.7%	3.3%	3.2%	5.3%	2.6%	4.9%	4.1%	4.9%	4.1%	2.4%	4.6%	4.2%	9.2%	9.8%			9.4%
NW	343	2.8%	1.8%	8.2%	2.9%	3.8%	2.9%	5.0%	5.1%	6.9%	4.9%	4.9%	9.4%	11.1%	12.9%	9.4%	9.9%	8.9%	13.7%	7.5%	9.8%	13.9%	18.0%			15.3%
Constraints		1.3%	1.5%	5.9%	1.2%	2.3%	1.1%	1.5%	2.2%	2.2%	1.7%	3.3%	9.4%	8.3%	5.2%	4.8%	4.7%	11.7%	2.9%	5.6%	4.8%	9.6%				6.4%
Curtailments		1.5%	0.3%	2.3%	1.6%	1.5%	1.8%	3.4%	2.9%	4.8%	3.2%	4.2%	6.0%	1.7%	4.6%	4.2%	5.2%	4.1%	2.0%	4.6%	4.2%	9.1%	8.4%			8.9%
SE	320	2.4%	0.6%	2.6%	1.8%	1.9%	2.5%	3.2%	3.1%	4.7%	3.4%	4.0%	5.9%	2.6%	5.1%	4.4%	4.6%	3.5%	2.9%	4.0%	3.9%	9.9%	15.5%			11.8%
Constraints		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.4%	0.0%	0.1%	0.1%	0.2%	0.2%	0.6%	0.2%	0.9%	5.0%			2.3%
Curtailments		2.4%	0.6%	2.5%	1.8%	1.9%	2.5%	3.2%	3.0%	4.6%	3.4%	4.0%	5.9%	2.2%	5.1%	4.4%	4.5%	3.5%	2.7%	3.4%	3.6%	9.0%	10.4%			9.5%
SW	1,505	6.2%	2.1%	6.8%	2.9%	4.8%	3.0%	5.3%	3.8%	5.1%	4.2%	3.1%	8.7%	3.1%	7.3%	5.6%	9.4%	8.6%	8.2%	8.5%	8.7%	12.3%	13.5%			12.7%
Constraints		4.7%	1.7%	4.6%	1.3%	3.3%	4.7%	2.6%	1.2%	1.3%	1.3%	0.3%	5.3%	1.8%	2.8%	2.3%	5.6%	6.1%	5.6%	5.7%	5.6%	7.2%				5.0%
Curtailments		1.5%	0.4%	2.2%	1.6%	1.5%	2.3%	2.6%	2.6%	3.8%	2.8%	2.8%	3.4%	1.2%	4.5%	3.2%	3.8%	3.0%	2.1%	2.9%	3.0%	8.5%	6.3%			7.7%
W	855	2.0%	1.4%	4.0%	2.5%	2.5%	2.1%	3.1%	6.7%	6.4%	4.8%	3.3%	7.2%	4.0%	6.6%	5.3%	6.3%	7.6%	10.9%	7.4%	7.8%	10.7%	14.4%			12.1%
Constraints		0.2%	0.5%	0.0%	0.5%	0.3%	0.2%	0.3%	4.4%	2.5%	2.0%	0.2%	2.4%	2.1%	2.0%	1.6%	2.2%	3.7%	9.3%	4.3%	4.6%	4.5%	8.5%			6.0%
Curtailments		1.8%	0.9%	4.0%	2.1%	2.2%	1.9%	2.8%	2.3%	3.9%	2.8%	3.2%	4.7%	1.9%	4.6%	3.7%	4.1%	3.8%	1.7%	3.0%	3.2%	6.2%	5.9%			6.1%
Controllable Wind Totals:																										
IE	3,680	3.7%	1.4%	5.2%	2.5%	3.3%	2.7%	4.3%	4.5%	5.6%	4.2%	3.7%	7.5%	4.0%	7.2%	5.6%	7.5%	7.2%	8.0%	7.3%	7.5%	11.7%	14.0%			12.5%
Constraints		2.2%	0.9%	2.6%	0.7%	1.7%	0.4%	1.2%	1.8%	1.5%	1.2%	0.4%	2.9%	2.4%	2.4%	1.9%	3.2%	3.7%	5.8%	4.1%	4.1%	3.5%	6.6%			4.6%
Curtailments		1.6%	0.5%	2.5%	1.7%	1.6%	2.3%	3.0%	2.7%	4.0%	3.0%	3.3%	4.6%	1.7%	4.7%	3.7%	4.3%	3.5%	2.1%	3.3%	3.4%	8.2%	7.4%			7.9%
NI	1,017	2.8%	0.9%	7.0%	3.3%	3.6%	2.6%	4.5%	4.3%	8.7%	5.3%	5.3%	13.8%	9.0%	12.6%	10.0%	11.6%	10.1%	11.6%	11.7%	11.3%	15.7%	23.9%			18.4%
Constraints		0.0%	0.3%	3.8%	1.6%	1.4%	0.2%	1.3%	2.0%	3.8%	2.0%	1.0%	2.5%	6.6%	6.5%	4.3%	3.9%	3.4%	6.4%	6.3%	5.0%	4.3%	13.3%			7.3%
Curtailments		2.7%	0.6%	3.2%	1.7%	2.2%	2.4%	3.2%	2.3%	4.8%	3.3%	4.3%	11.3%	2.4%	6.0%	5.7%	7.7%	6.7%	5.1%	5.4%	6.3%	11.3%	10.6%			11.1%
AI	4,697	3.5%	1.3%	5.6%	2.6%	3.4%	2.7%	4.3%	4.5%	6.3%	4.5%	4.1%	8.9%	5.3%	8.5%	6.7%	8.5%	7.8%	8.7%	8.2%	8.3%	12.6%	16.0%			13.8%
Constraints		1.7%	0.8%	2.9%	0.9%	1.6%	0.4%	1.3%	1.9%	2.1%	1.4%	0.6%	2.8%	3.4%	3.4%	2.5%	3.4%	3.6%	6.0%	4.5%	4.3%	3.7%	7.9%			5.2%
Curtailments		1.8%	0.5%	2.7%	1.7%	1.8%	2.3%	3.0%	2.6%	4.2%	3.1%	3.5%	6.1%	1.9%	5.1%	4.2%	5.1%	4.1%	2.8%	3.7%	4.0%	8.9%	8.0%			8.6%
All Wind (Controllable + Non-Controllable) Totals:																										
IE		3.3%	1.2%	4.4%	2.1%	2.9%	2.3%	3.7%	3.9%	4.9%	3.7%	3.3%	6.6%	3.6%	6.4%	5.0%	6.8%	6.6%	7.3%	6.9%	6.9%	10.9%	12.7%			11.5%
Constraints		1.9%	0.8%	2.2%	0.6%	1.4%	0.4%	1.1%	1.6%	1.3%	1.0%	0.4%	2.6%	2.1%	2.2%	1.7%	2.9%	3.4%	5.3%	3.8%	3.8%	3.3%	6.0%			4.2%
Curtailments		1.4%	0.4%	2.2%	1.5%	1.4%	2.0%	2.6%	2.3%	3.6%	2.6%	2.9%	4.1%	1.5%	4.2%	3.3%	3.9%	3.2%	1.9%	3.1%	3.1%	7.6%	6.7%			7.3%
NI		2.7%	0.9%	6.3%	3.0%	3.4%	2.4%	4.2%	3.9%	8.5%	5.0%	4.9%	13.0%	8.7%	11.7%	9.4%	10.8%	9.4%	11.0%	11.1%	10.7%	14.9%	22.7%			17.4%
Constraints		0.0%	0.3%	3.4%	1.5%	1.3%	0.2%	1.3%	1.8%	3.7%	1.9%	1.0%	2.3%	6.4%	6.1%	4.0%	3.6%	3.2%	6.1%	5.9%	4.7%	4.1%	12.6%			6.9%
Curtailments		2.7%	0.6%	2.9%	1.5%	2.0%	2.2%	3.0%	2.1%	4.8%	3.1%	4.0%	10.7%	2.3%	5.6%	5.4%	7.2%	6.2%	4.9%	5.2%	6.0%	10.8%	10.1%			10.5%
AI		3.2%	1.2%	4.8%	2.3%	3.0%	2.4%	3.8%	3.9%	5.7%	4.0%	3.6%	8.0%	4.8%	7.7%	6.0%	7.7%	7.2%	8.0%	7.8%	7.7%	11.7%	14.6%			12.7%
Constraints		1.6%	0.7%	2.5%	0.8%	1.4%	0.3%	1.1%	1.6%	1.9%	1.2%	0.5%	2.5%	3.1%	3.1%	2.2%	3.1%	3.4%	5.5%	4.3%	4.0%	3.4%	7.3%			4.8%
Curtailments		1.6%	0.5%	2.3%	1.5%	1.6%	2.0%	2.7%	2.3%	3.8%	2.7%	3.1%	5.5%	1.7%	4.6%	3.8%	4.6%	3.8%	2.6%	3.5%	3.7%	8.3%	7.3%			7.9%

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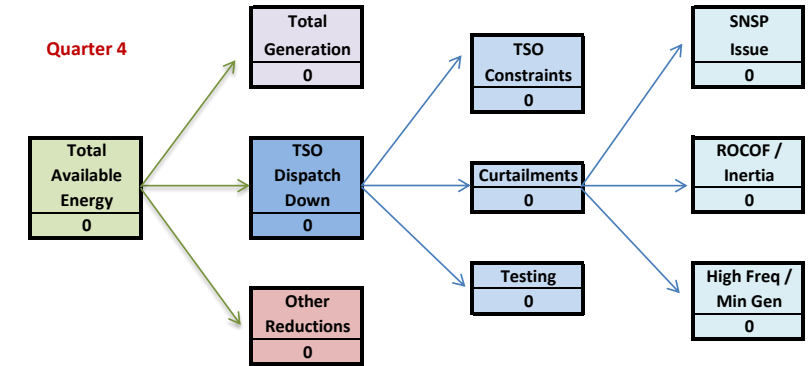
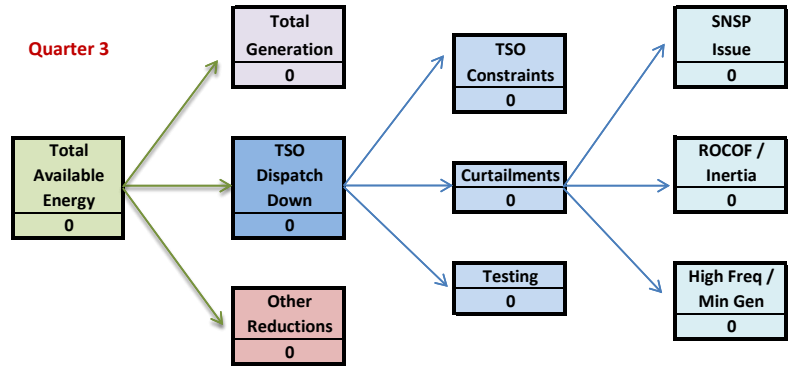
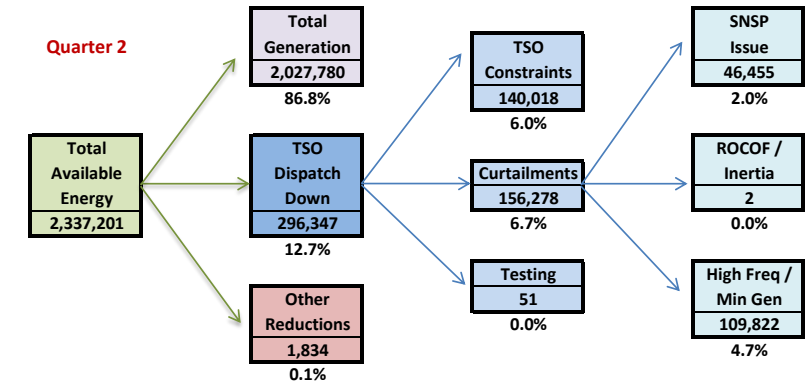
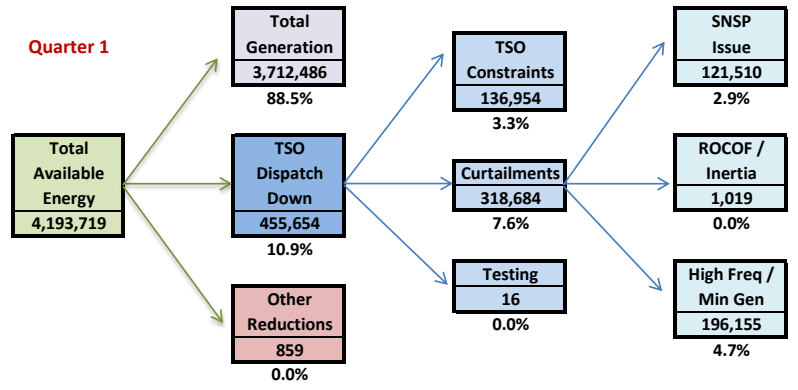
Volumes (MW/h)	Jan	Feb	Mar	Qtr1	Apr	May	Jun	Qtr2	Jul	Aug	Sep	Qtr3	Oct	Nov	Dec	Qtr4	2020
Available Energy	1,236,847	1,689,099	1,267,774	4,193,719	621,936	865,542	849,722	2,337,201	-	-	-	-	-	-	-	-	6,530,921
Generation	1,118,200	1,468,639	1,125,647	3,712,486	562,358	751,719	713,703	2,027,780	-	-	-	-	-	-	-	-	5,740,266
TSO Dispatch Down	111,735	208,467	135,452	455,654	55,768	109,328	131,251	296,347	-	-	-	-	-	-	-	-	752,001
Other Reductions	260	236	364	859	1,709	22	103	1,834	-	-	-	-	-	-	-	-	2,693
TSO Dispatch Down:																	
TSO Constraints	23,965	56,328	56,662	136,954	15,595	64,390	60,033	140,018	-	-	-	-	-	-	-	-	276,972
Curtailments	87,770	152,135	78,779	318,684	40,172	44,913	71,192	156,278	-	-	-	-	-	-	-	-	474,962
TSO Testing	-	4	12	16	-	25	26	51	-	-	-	-	-	-	-	-	67
Curtailments:																	
SNSP Issue	40,335	58,681	22,494	121,510	19,145	11,177	16,132	46,455	-	-	-	-	-	-	-	-	167,964
ROCOF / Inertia	19	999	-	1,019	2	-	-	2	-	-	-	-	-	-	-	-	1,020
High Freq / Min Gen	47,416	92,455	56,285	196,155	21,026	33,736	55,060	109,822	-	-	-	-	-	-	-	-	305,977

Percentages	Jan	Feb	Mar	Qtr1	Apr	May	Jun	Qtr2	Jul	Aug	Sep	Qtr3	Oct	Nov	Dec	Qtr4	2020
Generation	90.4%	86.9%	88.8%	88.5%	90.4%	86.8%	84.0%	86.8%									87.9%
TSO Dispatch Down	9.0%	12.3%	10.7%	10.9%	9.0%	12.6%	15.4%	12.7%									11.5%
Other Reductions	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.1%									0.0%
TSO Dispatch Down:																	
TSO Constraints	1.9%	3.3%	4.5%	3.3%	2.5%	7.4%	7.1%	6.0%									4.2%
Curtailments	7.1%	9.0%	6.2%	7.6%	6.5%	5.2%	8.4%	6.7%									7.3%
TSO Testing	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%									0.0%
Curtailments:																	
SNSP Issue	3.3%	3.5%	1.8%	2.9%	3.1%	1.3%	1.9%	2.0%									2.6%
ROCOF / Inertia	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%									0.0%
High Freq / Min Gen	3.8%	5.5%	4.4%	4.7%	3.4%	3.9%	6.5%	4.7%									4.7%

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Graphical Representation of the Breakdown of Wind Dispatch Down Energy Volumes (MWh) and Percentages (%)



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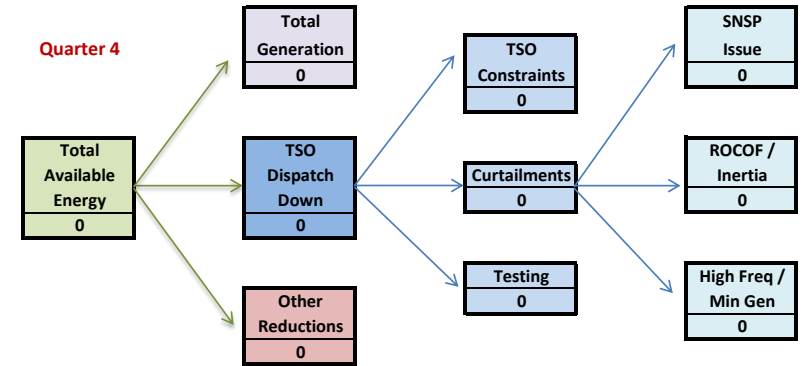
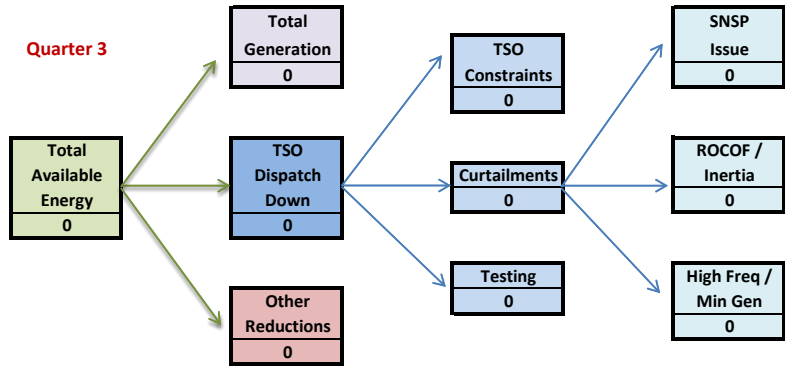
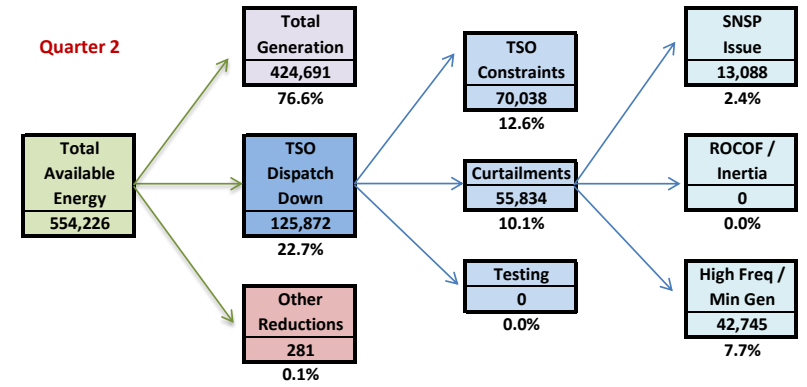
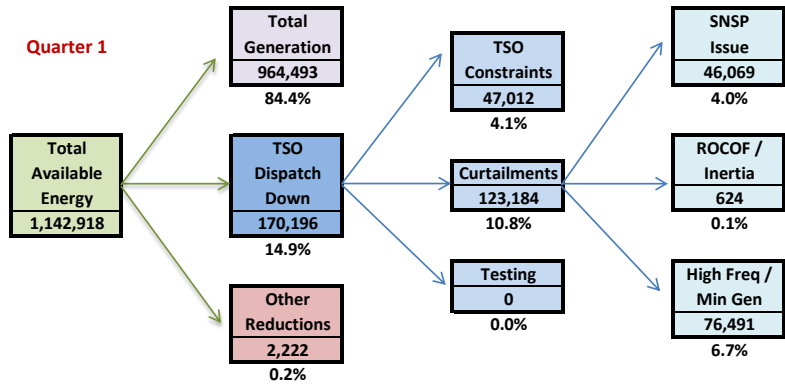
Volumes (MWh)	Jan	Feb	Mar	Qtr1	Apr	May	Jun	Qtr2	Jul	Aug	Sep	Qtr3	Oct	Nov	Dec	Qtr4	2020
Available Energy	389,147	438,470	315,301	1,142,918	172,899	181,950	199,377	554,226	-	-	-	-	-	-	-	-	1,697,144
Generation	338,734	358,761	266,997	964,493	134,036	145,110	145,545	424,691	-	-	-	-	-	-	-	-	1,389,184
TSO Dispatch Down	47,899	76,510	45,788	170,196	37,695	36,036	52,141	125,872	-	-	-	-	-	-	-	-	296,068
Other Reductions	798	668	756	2,222	60	46	175	281	-	-	-	-	-	-	-	-	2,503
TSO Dispatch Down:																	
TSO Constraints	12,585	12,413	22,015	47,012	13,618	19,571	36,850	70,038	-	-	-	-	-	-	-	-	117,050
Curtailments	35,314	64,097	23,772	123,184	24,077	16,466	15,291	55,834	-	-	-	-	-	-	-	-	179,018
TSO Testing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Curtailments:																	
SNSP Issue	14,166	25,754	6,149	46,069	8,763	4,153	172	13,088	-	-	-	-	-	-	-	-	59,157
ROCOF / Inertia	624	-	-	624	-	-	-	-	-	-	-	-	-	-	-	-	624
High Freq / Min Gen	20,525	38,343	17,624	76,491	15,314	12,313	15,119	42,745	-	-	-	-	-	-	-	-	119,237

Percentages	Jan	Feb	Mar	Qtr1	Apr	May	Jun	Qtr2	Jul	Aug	Sep	Qtr3	Oct	Nov	Dec	Qtr4	2020
Generation	87.0%	81.8%	84.7%	84.4%	77.5%	79.8%	73.0%	76.6%									81.9%
TSO Dispatch Down	12.3%	17.4%	14.5%	14.9%	21.8%	19.8%	26.2%	22.7%									17.4%
Other Reductions	0.2%	0.2%	0.2%	0.2%	0.0%	0.0%	0.1%	0.1%									0.1%
TSO Dispatch Down:																	
TSO Constraints	3.2%	2.8%	7.0%	4.1%	7.9%	10.8%	18.5%	12.6%									6.9%
Curtailments	9.1%	14.6%	7.5%	10.8%	13.9%	9.0%	7.7%	10.1%									10.5%
TSO Testing	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%									0.0%
Curtailments:																	
SNSP Issue	3.6%	5.9%	2.0%	4.0%	5.1%	2.3%	0.1%	2.4%									3.5%
ROCOF / Inertia	0.2%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%									0.0%
High Freq / Min Gen	5.3%	8.7%	5.6%	6.7%	8.9%	6.8%	7.6%	7.7%									7.0%

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Graphical Representation of the Breakdown of Wind Dispatch Down Energy Volumes (MWh) and Percentages (%)



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Notes:

Other Reductions include DSO constraints, developer outage and developer testing.

Certain types of reductions are outside of the control of the TSO and are not logged.
Therefore, **Available Energy \neq Generation + TSO Dispatch Down + Other Reductions.**

The format of this report has been modified from Qtr4 2019 to show the levels of constraints/curtailments in actual percentages instead of proportions.

Reason Codes Used for Curtailments/Constraints:

Transmission (TSO) Constraints: Used to resolve a local network issue.

TSO Testing: Used when wind farm testing is carried out by the TSO, e.g. for commissioning and monitoring.

Curtailments:

High Frequency/Minimum Generation: Used when attempting to alleviate an emergency high frequency event or in order to facilitate the minimum level of conventional generation on the system to satisfy reserve requirements, priority dispatch or to provide ramping capabilities.

SNSP Issue: Used to reduce the System Non-Synchronous Penetration.

ROCOF/Inertia: Used when the Rate of Change of Frequency (ROCOF) value for the loss of the largest single infeed is unacceptably high and wind must be dispatched down as a result or when the system inertia is too low.

Other Reductions:

DSO/DNO Constraints: Used when a dispatch is carried out as a result of a request from the Distribution System Operator or the Distribution Network Operator.

Developer Outage: Used when a wind farm must reduce output mainly to carry out software upgrades.

Developer Testing: Used when testing is carried out by a wind farm developer.

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