

2019 Qtr4

Volumes (MWh)	Jan	Feb	Mar	Qtr1	Apr	May	Jun	Qtr2	Jul	Aug	Sep	Qtr3	Oct	Nov	Dec	Qtr4	2019
Available Energy	1,035,718	1,559,040	1,363,019	3,957,776	1,089,840	680,792	777,820	2,548,452	636,808	1,066,656	1,035,492	2,738,957	1,220,160	1,074,349	1,537,971	3,832,479	13,077,6
Generation	979,573	1,428,284	1,218,806	3,626,663	979,902	650,546	722,814	2,353,262	603,251	955,538	940,932	2,499,721	1,133,722	1,022,318	1,358,254	3,514,293	11,993,9
SO Dispatch Down	52,818	119,627	133,267	305,713	104,105	27,450	51,877	183,432	30,641	104,578	84,998	220,217	80,857	48,322	169,506	298,685	1,008,0
Other Reductions	155	1,398	1,556	3,109	968	340	449	1,757	82	613	4,710	5,404	1,000	692	760	2,452	12,7
SO Dispatch Down:		-			-					-			-				
ISO Constraints	11,307	30,212	81,003	122,522	46,182	14,267	25,273	85,723	19,874	61,292	69,068	150,233	56,660	36,564	70,704	163,928	522,
Curtailments	41,511	89,415	52,264	183,190	57,918	13,182	26,603	97,703	10,767	43,287	15,926	69,980	24,188	11,757	98,766	134,711	485,
TSO Testing	0	1	-	1	5	-	0	5	0	-	4	4	10	0	36	46	
Curtailments:																	
SNSP Issue	7,480	46,682	20,219	74,381	12,873	-	2,021	14,894	1,948	2,348	2,891	7,186	-	-	30,875	30,875	127,
ROCOF / Inertia	_	-	350	350	283	-	-	283	-	501	-	501	-	34	-	34	1,:
High Freq / Min Gen	34,031	42,733	31,696	108,460	44,761	13,182	24,582	82,525	8,819	40,437	13,036	62,292	24,188	11,723	67,891	103,801	357,
High Freq / Min Gen	34,031 Jan	42,733 Feb	31,696 Mar			13,182 May	24,582 Jun		8,819 Jul	40,437 Aug	13,036 Sep	62,292 Qtr3	24,188 Oct	11,723 Nov	67,891 Dec	103,801 Qtr4	357,0
High Freq / Min Gen Percentages	· · · ·	,		108,460	44,761	· ·		82,525			.,			,		,	357,0 2019 91.7%
High Freq / Min Gen Percentages Generation	Jan 94.6% 5.1%	<b>Feb</b> 91.6% <b>7.7%</b>	Mar 89.4% <b>9.8%</b>	108,460 Qtr1 91.6% 7.7%	44,761 Apr 89.9% 9.6%	May 95.6% 4.0%	Jun 92.9% 6.7%	82,525 Qtr2 92.3% 7.2%	Jul 94.7% 4.8%	Aug 89.6% 9.8%	Sep 90.9% 8.2%	<b>Qtr3</b> 91.3% <b>8.0%</b>	Oct 92.9% 6.6%	Nov 95.2% 4.5%	Dec 88.3% 11.0%	Qtr4 91.7% 7.8%	2019 91.7% 7.7%
High Freq / Min Gen Percentages Generation TSO Dispatch Down	<b>Jan</b> 94.6%	<b>Feb</b> 91.6%	<b>Mar</b> 89.4%	108,460 <b>Qtr1</b> 91.6%	44,761 <b>Apr</b> 89.9%	<b>May</b> 95.6%	<b>Jun</b> 92.9%	82,525 <b>Qtr2</b> 92.3%	<b>Jul</b> 94.7%	<b>Aug</b> 89.6%	<b>Sep</b> 90.9%	<b>Qtr3</b> 91.3%	<b>Oct</b> 92.9%	<b>Nov</b> 95.2%	<b>Dec</b> 88.3%	<b>Qtr4</b> 91.7%	2019 91.7%
	Jan 94.6% 5.1%	Feb 91.6% 7.7%	Mar 89.4% <b>9.8%</b>	108,460 Qtr1 91.6% 7.7%	44,761 Apr 89.9% 9.6%	May 95.6% <b>4.0%</b>	Jun 92.9% 6.7%	82,525 Qtr2 92.3% 7.2%	Jul 94.7% <b>4.8%</b>	Aug 89.6% 9.8%	Sep 90.9% 8.2%	Qtr3 91.3% 8.0%	Oct 92.9% 6.6%	Nov 95.2% 4.5%	Dec 88.3% 11.0%	Qtr4 91.7% 7.8%	2019 91.7% 7.7%
High Freq / Min Gen Percentages Generation TSO Dispatch Down Other Reductions TSO Dispatch Down: TSO Constraints	Jan 94.6% 5.1% 0.0%	Feb 91.6% 7.7% 0.1% 1.9%	Mar 89.4% 9.8% 0.1% 5.9%	108,460 Qtr1 91.6% 7.7% 0.1% 3.1%	44,761 Apr 89.9% 9.6% 0.1% 4.2%	May 95.6% 4.0% 0.0% 2.1%	Jun 92.9% 6.7% 0.1% 3.2%	82,525 Qtr2 92.3% 7.2% 0.1% 3.4%	Jul 94.7% 4.8% 0.0% 3.1%	Aug 89.6% 9.8% 0.1% 5.7%	Sep 90.9% 8.2% 0.5% 6.7%	<b>Qtr3</b> 91.3% <b>8.0%</b> 0.2% 5.5%	Oct 92.9% 6.6% 0.1% 4.6%	Nov 95.2% 4.5% 0.1% 3.4%	Dec 88.3% 11.0% 0.0% 4.6%	Qtr4 91.7% 7.8% 0.1% 4.3%	2019 91.7% 0.1%
High Freq / Min Gen Percentages Generation TSO Dispatch Down Other Reductions TSO Dispatch Down: TSO Constraints Curtailments	Jan 94.6% 5.1% 0.0% 1.1% 4.0%	Feb 91.6% 7.7% 0.1% 1.9% 5.7%	Mar 89.4% 9.8% 0.1%	108,460 Qtr1 91.6% 7.7% 0.1%	44,761 Apr 89.9% 9.6% 0.1% 4.2% 5.3%	May 95.6% 4.0% 0.0% 2.1% 1.9%	Jun 92.9% 6.7% 0.1%	82,525 Qtr2 92.3% 7.2% 0.1%	Jul 94.7% 4.8% 0.0%	Aug 89.6% 9.8% 0.1%	Sep 90.9% 8.2% 0.5%	<b>Qtr3</b> 91.3% <b>8.0%</b> 0.2% 5.5% 2.6%	Oct 92.9% 6.6% 0.1% 4.6% 2.0%	Nov 95.2% 4.5% 0.1% 3.4% 1.1%	Dec 88.3% 11.0% 0.0%	Qtr4 91.7% 7.8% 0.1%	2019 91.7% 7.7% 0.1% 4.0% 3.7%
High Freq / Min Gen Percentages Generation TSO Dispatch Down Other Reductions TSO Dispatch Down: TSO Constraints Curtailments	Jan 94.6% 5.1% 0.0% 1.1%	Feb           91.6%           7.7%           0.1%           1.9%	Mar 89.4% 9.8% 0.1% 5.9%	108,460 Qtr1 91.6% 7.7% 0.1% 3.1%	44,761 Apr 89.9% 9.6% 0.1% 4.2%	May 95.6% 4.0% 0.0% 2.1%	Jun 92.9% 6.7% 0.1% 3.2%	82,525 Qtr2 92.3% 7.2% 0.1% 3.4%	Jul 94.7% 4.8% 0.0% 3.1%	Aug 89.6% 9.8% 0.1% 5.7%	Sep 90.9% 8.2% 0.5% 6.7%	Qtr3 91.3% 8.0% 0.2% 5.5%	Oct 92.9% 6.6% 0.1% 4.6%	Nov 95.2% 4.5% 0.1% 3.4%	Dec 88.3% 11.0% 0.0% 4.6%	Qtr4 91.7% 7.8% 0.1% 4.3%	2019 91.7% 7.7% 0.1% 4.0% 3.7%
High Freq / Min Gen Percentages Generation TSO Dispatch Down Other Reductions TSO Dispatch Down: TSO Constraints Curtailments TSO Testing	Jan 94.6% 5.1% 0.0% 1.1% 4.0%	Feb           91.6%           7.7%           0.1%           1.9%           5.7%	Mar 89.4% 9.8% 0.1% 5.9% 3.8%	108,460 Qtr1 91.6% 7.7% 0.1% 3.1% 4.6%	44,761 Apr 89.9% 9.6% 0.1% 4.2% 5.3%	May 95.6% 4.0% 0.0% 2.1% 1.9%	Jun 92.9% 6.7% 0.1% 3.2% 3.4%	82,525 Qtr2 92.3% 7.2% 0.1% 3.4% 3.8%	Jul 94.7% 4.8% 0.0% 3.1% 1.7%	Aug 89.6% 9.8% 0.1% 5.7% 4.1%	Sep 90.9% 8.2% 0.5% 6.7% 1.5%	<b>Qtr3</b> 91.3% <b>8.0%</b> 0.2% 5.5% 2.6%	Oct 92.9% 6.6% 0.1% 4.6% 2.0%	Nov 95.2% 4.5% 0.1% 3.4% 1.1%	Dec 88.3% 11.0% 0.0% 4.6% 6.4%	Qtr4 91.7% 7.8% 0.1% 4.3% 3.5%	2019 91.7% 7.7% 0.1% 4.0% 3.7%
High Freq / Min Gen Percentages Generation TSO Dispatch Down Dther Reductions TSO Dispatch Down: TSO Constraints Curtailments TSO Testing Curtailments: SNSP Issue	Jan 94.6% 5.1% 0.0% 1.1% 4.0% 0.0% 0.0%	Feb           91.6%           7.7%           0.1%           1.9%           5.7%           0.0%           3.0%	Mar 89.4% 9.8% 0.1% 5.9% 3.8% 0.0% 1.5%	108,460 Qtr1 91.6% 7.7% 0.1% 3.1% 4.6% 0.0% 1.9%	44,761 Apr 89.9% 9.6% 0.1% 4.2% 5.3% 0.0% 1.2%	May           95.6%           4.0%           0.0%           2.1%           1.9%           0.0%	Jun 92.9% 6.7% 0.1% 3.2% 3.4% 0.0%	82,525 Qtr2 92.3% 7.2% 0.1% 3.4% 3.8% 0.0% 0.6%	Jul 94.7% 4.8% 0.0% 3.1% 1.7% 0.0% 0.3%	Aug 89.6% 9.8% 0.1% 5.7% 4.1% 0.0% 0.2%	Sep 90.9% 8.2% 0.5% 6.7% 1.5% 0.0%	Qtr3 91.3% 8.0% 0.2% 5.5% 2.6% 0.0% 0.3%	Oct 92.9% 6.6% 0.1% 4.6% 2.0% 0.0% 0.0%	Nov 95.2% 4.5% 0.1% 3.4% 1.1% 0.0%	Dec 88.3% 11.0% 0.0% 4.6% 6.4% 0.0% 2.0%	Qtr4 91.7% 7.8% 0.1% 4.3% 3.5% 0.0%	2019 91.7% 7.7% 0.1% 4.0% 3.7% 0.0%
High Freq / Min Gen Percentages Generation TSO Dispatch Down Other Reductions TSO Dispatch Down: TSO Constraints Curtailments	Jan 94.6% 5.1% 0.0% 1.1% 4.0% 0.0%	Feb           91.6%           7.7%           0.1%           1.9%           5.7%           0.0%	Mar 89.4% 9.8% 0.1% 5.9% 3.8% 0.0%	108,460 Qtr1 91.6% 7.7% 0.1% 3.1% 4.6% 0.0%	44,761 Apr 89.9% 9.6% 0.1% 4.2% 5.3% 0.0%	May 95.6% 4.0% 0.0% 2.1% 1.9% 0.0%	Jun 92.9% 6.7% 0.1% 3.2% 3.4% 0.0%	82,525 Qtr2 92.3% 7.2% 0.1% 3.4% 3.8% 0.0%	Jul 94.7% 4.8% 0.0% 3.1% 1.7% 0.0%	Aug 89.6% 9.8% 0.1% 5.7% 4.1% 0.0%	Sep 90.9% 8.2% 0.5% 6.7% 1.5% 0.0%	Qtr3 91.3% 8.0% 0.2% 5.5% 2.6% 0.0%	Oct 92.9% 6.6% 0.1% 4.6% 2.0% 0.0%	Nov           95.2%           4.5%           0.1%           3.4%           1.1%           0.0%	Dec 88.3% 11.0% 0.0% 4.6% 6.4% 0.0%	Qtr4 91.7% 7.8% 0.1% 4.3% 3.5% 0.0%	2019 91.7% <b>7.7%</b> 0.1%

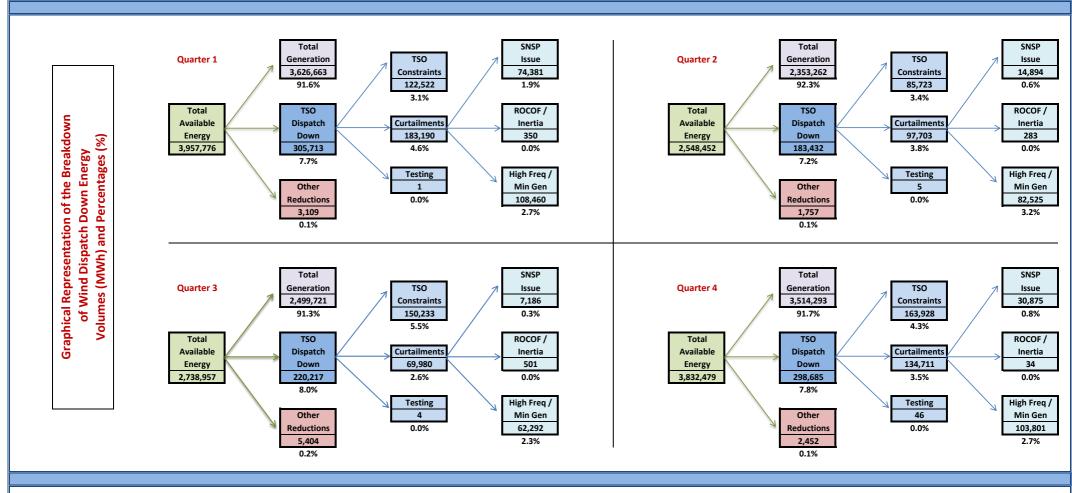
User Guide Available at: http://www.eirgridgroup.com/how-the-grid-works/renewables/

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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	2019
NI	9.7%	10.7%	11.8%	10.8%	11.4%	3.8%	11.2%	9.4%	8.2%	15.2%	8.4%	11. <b>0</b> %	7.4%	7.4%	16.2%	11.1%	10.7%
MID	4.5%	6.8%	3.9%	5.3%	7.3%	2.7%	4.3%	5.0%	1.7%	5.8%	6.4%	5.1%	4.9%	2.6%	11.9%	7.0%	5.7%
NE	6.1%	5.2%	4.0%	5.0%	4.9%	2.2%	4.4%	4.1%	1.5%	3.6%	2.2%	2.6%	2.3%	1.4%	8.4%	4.8%	4.3%
NW	3.5%	9.6%	14.7%	9.9%	11.5%	4.7%	8.5%	8.9%	5.6%	17.9%	15.4%	13.7%	6.4%	5.9%	9.3%	7.5%	9.8%
SE	4.0%	5.0%	4.7%	4.6%	5.1%	2.0%	3.0%	3.6%	1.0%	4.4%	2.6%	3.0%	3.3%	1.4%	7.7%	4.3%	4.0%
sw	4.1%	8.5%	14.8%	<b>9.3</b> %	12.3%	5.0%	5.9%	8.3%	4.8%	7.9%	9.8%	7.9%	7.4%	5.4%	11.3%	8.3%	8.5%
w	4.1%	6.6%	7.5%	6.3%	8.9%	5.3%	7.9%	7.6%	5.9%	14.2%	10.6%	10.9%	9.5%	3.6%	8.2%	7.4%	7.8%

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

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

		2011			2012			2013			2014			2015			2016			2017			2018			2019	
Month	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%	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%
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%
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%
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%
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%
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%
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%
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%
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%
Nov Dec	1.2% 0.7%	2.3% 2.2%	2.1% 1.9%	0.1% 0.8%	1.0% 2.8%	0.8% 2.5%	4.0% 2.0%	3.0% 4.4%	3.2% 3.8%	2.0% 4.5%	3.2% 5.0%	3.0% 4.9%	6.9% 6.2%	6.8% 6.3%	6.9% 6.3%	2.7% 3.8%	1.0% 3.1%	1.3% 3.3%	3.2% 5.3%	2.5% 2.5%	2.6% 3.1%	10.2% 14.9%	5.2% 7.2%	6.4% 8.9%	7.4% 16.2%	3.9% 9.6%	4.5% 11.0%
Otr4	1.4%	2.2%	1.9% 2.6%	0.8%	1.6%	2.5% 1.4%	2.0%	4.4% 4.5%	<b>4.0%</b>	4.5% 3.9%	5.0%	4.9% 5.3%	6.2%	6.0%	6.0%	3.0%	<b>2.1%</b>	2.3%	5.5% 8.5%	<b>4.9%</b>	5.1%	14.9%	6.4%	8.9% 7.7%	10.2%	9.8%	7.8%
			2.0%	0.4%																							
Year Total DD Constraints	<b>1.3%</b>	2.4%	0.4%		<b>2.5%</b>	2.1%	1.9%	3.5%	3.2%	<b>2.8%</b>	4.4%	<b>4.1%</b>	5.3%	<b>5.1%</b>	5.1%	3.2%	<b>2.8%</b>	<b>2.9%</b>	<b>5.0%</b>	3.7%	<b>4.0%</b>	9.4%	<b>5.0%</b>	6.0%	10.7%		7.7%
		0.5%		0.3%		0.8%	0.5%	1.0%	0.9%		1.5%		1.9%		1.8%	1.3%		1.4%		1.0%	1.2%	4.0%		2.2%	4.7%	3.8%	4.0%
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%
Wind Installed Capacity (MW)	512	1,578	2,090	600	1,697	2,296	640	1,916	2,556	729	2,260	2,989	751	2,440	3,191	943	2,788	3,731	1,154	3,305	4,459	1,276	3,660	4,936	1,276	4,127	5,403
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%	26%
SNSP Limit		50%			50%			50%			50%		55%	Trial froi	m Oct		erm fror rial fron			erm fror rial fron		65% I	Perm fro	m Apr		65%	

#### Notes:

"Dispatch Down" consists of constraints, curtailments and wind testing.

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

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



2019 Qtr4

### **Regional Controllable Wind Dispatch Down Percentages**

				2016					2017					2018					2019	1	
	Cap (MW)	Qtr1	Qtr2	Qtr3	Qtr4	2016	Qtr1	Qtr2	Qtr3	Qtr4	2017	Qtr1	Qtr2	Qtr3	Qtr4	2018	Qtr1	Qtr2	Qtr3	Qtr4	2019
MID	470	1.3%	0.4%	2.5%	1.7%	1.5%	2.7%	3.9%	4.2%	5.4%	4.1%	4.8%	5.3%	2.7%	5.5%	4.8%	5.3%	5.0%	5.1%	7.0%	5.7%
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%	0.8%	0.2%	0.6%	0.2%	1.0%	2.6%	3.7%	1.9%
Curtailments		1.3%	0.4%	2.5%	1.7%	1.5%	2.6%	3.6%	3.2%	3.7%	3.3%	3.5%	5.2%	1.9%	5.3%	4.1%	5.1%	4.1%	2.5%	3.3%	3.8%
NE	132	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%
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%	0.0%	0.2%	0.2%	0.1%
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%
NW	334	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%
Constraints		1.3%	1.5%	5.9%	1.2%	2.3%	1.1%	1.5%	2.2%	2.2%	1.7%	0.7%	3.3%	9.4%	8.3%	5.2%	4.8%	4.7%	11.7%	2.9%	5.6%
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%
SE	323	2.6%	0.6%	2.7%	1.9%	2.0%	2.5%	3.3%	3.0%	4.6%	3.4%	4.1%	5.9%	2.6%	5.2%	4.5%	4.6%	3.6%	3.0%	4.3%	4.0%
Constraints		0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.4%	0.0%	0.1%	0.1%	0.0%	0.2%	0.8%	0.3%
Curtailments		2.6%	0.6%	2.7%	1.8%	2.0%	2.5%	3.3%	2.9%	4.5%	3.4%	4.1%	5.9%	2.2%	5.2%	4.4%	4.6%	3.6%	2.8%	3.5%	3.7%
sw	1,409	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%	9.3%	8.3%	7.9%	8.3%	8.5%
Constraints		4.7%	1.7%	4.6%	1.3%	3.3%	0.7%	2.6%	1.2%	1.3%	1.3%	0.3%	5.3%	1.8%	2.8%	2.3%	5.6%	5.5%	5.9%	5.4%	5.5%
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%	3.7%	2.9%	2.1%	2.9%	3.0%
W	784	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%
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%
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%
IE	3,451	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%
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%
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%
NI	1,072	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%	<b>11.3%</b>
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%
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%
AI	4,524	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%
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%
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%

Wind Dispatch Down (Constraint and Curtailment) Percentages and Breakdown per Region - <u>for controllable winfarms only</u> Curtailments + Constraints + Testing = 100% of Dispatch Down (Testing portion is usually very small and hence not shown in the table below)

**Note:** This table shows average figures for controllable winfarms only. This is different from the first table which shows figures for all windfarms.

This allows for more appropriate comparison between winfarms and regions/jurisdictions.

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Volumes (MWh)	Jan	Feb	Mar	Qtr1	Apr	May	Jun	Qtr2	Jul	Aug	Sep	Qtr3	Oct	Nov	Dec	Qtr4	2019
Available Energy	801,555	1,213,856	1,038,607	3,054,018	844,400	549,280	623,313	2,016,992	492,177	844,249	835,526	2,171,952	962,630	881,604	1,206,090	3,050,324	10,293,287
Generation	768,913	1,122,835	935,319	2,827,067	763,806	524,774	586,832	1,875,412	472,304	769,095	763,460	2,004,859	896,665	844,660	1,083,184	2,824,510	9,531,847
TSO Dispatch Down	30,220	82,547	95,073	207,839	76,207	22,461	34,629	133,297	18,714	70,820	68,258	157,793	61,882	34,149	115,630	211,662	710,591
Other Reductions	98	283	130	511	648	33	146	826	50	168	155	373	371	319	324	1,014	2,724
TSO Dispatch Down:									-								
TSO Constraints	1,572	23,762	64,291	89,625	40,555	12,707	15,469	68,730	13,267	46,286	55,977	115,530	46,192	26,385	44,826	117,403	391,288
Curtailments	28,648	58,785	30,782	118,214	35,647	9,754	19,161	64,562	5,448	24,534	12,281	42,263	15,681	7,764	70,769	94,214	319,252
TSO Testing	0	0	-	0	5	-	0	5	0	-	-	0	10	-	36	46	51
Curtailments:																	
	4 2 0 7	29,776	12,496	46,559	7,967	-	1,220	9,187	-	1,786	2,149	3,935	-	-	21,532	21,532	81,213
SNSP Issue	4,287									1				24		24	
ROCOF / Inertia	4,287 -		350	350	-	-	-	-	- [	-	-	-	-	34	-	34	384
	-	-		350	- 27,680	- 9,754	- 17,941	- 55,375	- 5,448	22,748	- 10,132	- 38,328	- 15,681	34 7,730	49,236		384 237,655
ROCOF / Inertia	-	-	350	350		- 9,754 May			- 5,448 Jul				- 15,681 Oct		- 49,236 <b>Dec</b>		
ROCOF / Inertia High Freq / Min Gen	- 24,361	29,009	350 17,936	350 71,305	27,680	.,	17,941	55,375		22,748	10,132	38,328	, 	7,730	,	72,647	237,655
ROCOF / Inertia High Freq / Min Gen Percentages	- 24,361 Jan	- 29,009 Feb	350 17,936 Mar 90.1% 9.2%	350 71,305 <b>Qtr1</b>	27,680 Apr	Мау	17,941 Jun	55,375 Qtr2	lut	22,748 Aug	10,132 Sep 91.4% 8.2%	38,328 Qtr3	Oct 93.1% 6.4%	7,730 Nov 95.8% <b>3.9%</b>	Dec	72,647 Qtr4	237,655 2019
ROCOF / Inertia High Freq / Min Gen Percentages Generation	- 24,361 Jan 95.9%	- 29,009 Feb 92.5%	350 17,936 <b>Mar</b> 90.1%	350 71,305 <b>Qtr1</b> 92.6%	27,680 <b>Apr</b> 90.5%	<b>May</b> 95.5%	17,941 Jun 94.1%	55,375 <b>Qtr2</b> 93.0%	Jul 96.0%	22,748 Aug 91.1%	10,132 <b>Sep</b> 91.4%	38,328 Qtr3 92.3%	Oct 93.1%	7,730 <b>Nov</b> 95.8%	<b>Dec</b> 89.8%	72,647 Qtr4 92.6%	237,655 2019 92.6%
ROCOF / Inertia High Freq / Min Gen Percentages Generation TSO Dispatch Down	- 24,361 Jan 95.9% <b>3.8%</b>	- 29,009 Feb 92.5% 6.8%	350 17,936 Mar 90.1% 9.2%	350 71,305 Qtr1 92.6% 6.8%	27,680 Apr 90.5% 9.0%	May 95.5% <b>4.1%</b>	17,941 Jun 94.1% 5.6%	55,375 Qtr2 93.0% 6.6%	Jul 96.0% <b>3.8%</b>	22,748 Aug 91.1% 8.4%	10,132 Sep 91.4% 8.2%	38,328 Qtr3 92.3% 7.3%	Oct 93.1% 6.4%	7,730 Nov 95.8% <b>3.9%</b>	Dec 89.8% 9.6%	72,647 Qtr4 92.6% 6.9%	237,655 2019 92.6% 6.9%
ROCOF / Inertia High Freq / Min Gen Percentages Generation TSO Dispatch Down Other Reductions	- 24,361 Jan 95.9% <b>3.8%</b>	- 29,009 Feb 92.5% 6.8%	350 17,936 Mar 90.1% 9.2% 0.0% 6.2%	350 71,305 Qtr1 92.6% 6.8%	27,680 Apr 90.5% 9.0%	May 95.5% <b>4.1%</b>	17,941 Jun 94.1% 5.6%	55,375 Qtr2 93.0% 6.6%	Jul 96.0% <b>3.8%</b>	22,748 Aug 91.1% 8.4%	10,132 Sep 91.4% 8.2%	38,328 Qtr3 92.3% 7.3%	Oct 93.1% 6.4%	7,730 Nov 95.8% 3.9% 0.0% 3.0%	Dec 89.8% 9.6% 0.0% 3.7%	72,647 Qtr4 92.6% 6.9%	237,655 2019 92.6% 6.9% 0.0% 3.8%
ROCOF / Inertia High Freq / Min Gen Percentages Generation TSO Dispatch Down Other Reductions TSO Dispatch Down: TSO Constraints Curtailments	24,361 <b>Jan</b> 95.9% <b>3.8%</b> 0.0% 0.2% 3.6%	- 29,009 Feb 92.5% 6.8% 0.0% 2.0% 4.8%	350 17,936 90.1% 9.2% 0.0% 6.2% 3.0%	350 71,305 <b>Qtr1</b> 92.6% <b>6.8%</b> 0.0% 2.9% 3.9%	27,680 <b>Apr</b> 90.5% <b>9.0%</b> 0.1% 4.8% 4.2%	May 95.5% 4.1% 0.0% 2.3% 1.8%	17,941 Jun 94.1% 5.6% 0.0% 2.5% 3.1%	55,375 Qtr2 93.0% 6.6% 0.0% 3.4% 3.2%	Jul 96.0% 3.8% 0.0% 2.7% 1.1%	22,748 Aug 91.1% 8.4% 0.0% 5.5% 2.9%	10,132 Sep 91.4% 8.2% 0.0% 6.7% 1.5%	38,328 Qtr3 92.3% 7.3% 0.0% 5.3% 1.9%	Oct 93.1% 6.4% 0.0% 4.8% 1.6%	7,730 Nov 95.8% 3.9% 0.0% 3.0% 0.9%	Dec 89.8% 9.6% 0.0% 3.7% 5.9%	72,647 Qtr4 92.6% 6.9% 0.0% 3.8% 3.1%	237,655 2019 92.6% 6.9% 0.0% 3.8% 3.1%
ROCOF / Inertia High Freq / Min Gen Percentages Generation TSO Dispatch Down Other Reductions TSO Dispatch Down: TSO Constraints	- 24,361 Jan 95.9% <b>3.8%</b> 0.0%	- 29,009 Feb 92.5% 6.8% 0.0% 2.0%	350 17,936 90.1% 9.2% 0.0% 6.2%	350 71,305 Qtr1 92.6% 6.8% 0.0% 2.9%	27,680 <b>Apr</b> 90.5% <b>9.0%</b> 0.1% 4.8%	May 95.5% 4.1% 0.0% 2.3%	17,941 Jun 94.1% 5.6% 0.0% 2.5%	55,375 Qtr2 93.0% 6.6% 0.0% 3.4%	Jul 96.0% 3.8% 0.0% 2.7%	22,748 Aug 91.1% 8.4% 0.0% 5.5%	10,132 Sep 91.4% 8.2% 0.0% 6.7%	38,328 Qtr3 92.3% 7.3% 0.0% 5.3%	Oct 93.1% 6.4% 0.0% 4.8%	7,730 Nov 95.8% 3.9% 0.0% 3.0%	Dec 89.8% 9.6% 0.0% 3.7%	72,647 Qtr4 92.6% 6.9% 0.0% 3.8%	237,655 2019 92.6% 6.9% 0.0% 3.8%
ROCOF / Inertia High Freq / Min Gen Percentages Generation TSO Dispatch Down Other Reductions TSO Dispatch Down: TSO Constraints Curtailments	- 24,361 95.9% <b>3.8%</b> 0.0% 0.2% 3.6%	- 29,009 Feb 92.5% 6.8% 0.0% 2.0% 4.8%	350 17,936 90.1% 9.2% 0.0% 6.2% 3.0%	350 71,305 <b>Qtr1</b> 92.6% <b>6.8%</b> 0.0% 2.9% 3.9%	27,680 Apr 90.5% 9.0% 0.1% 4.8% 4.2%	May 95.5% 4.1% 0.0% 2.3% 1.8%	17,941 Jun 94.1% 5.6% 0.0% 2.5% 3.1%	55,375 Qtr2 93.0% 6.6% 0.0% 3.4% 3.2%	Jul 96.0% 3.8% 0.0% 2.7% 1.1%	22,748 Aug 91.1% 8.4% 0.0% 5.5% 2.9%	10,132 Sep 91.4% 8.2% 0.0% 6.7% 1.5%	38,328 Qtr3 92.3% 7.3% 0.0% 5.3% 1.9%	Oct 93.1% 6.4% 0.0% 4.8% 1.6%	7,730 Nov 95.8% 3.9% 0.0% 3.0% 0.9%	Dec 89.8% 9.6% 0.0% 3.7% 5.9%	72,647 Qtr4 92.6% 6.9% 0.0% 3.8% 3.1%	237,655 2019 92.6% 6.9% 0.0% 3.8% 3.1%
ROCOF / Inertia High Freq / Min Gen Percentages Generation TSO Dispatch Down Other Reductions TSO Dispatch Down: TSO Constraints Curtailments TSO Testing Curtailments: SNSP Issue		Feb 92.5% 6.8% 0.0% 2.0% 4.8% 0.0% 2.5%	350 17,936 90.1% 9.2% 0.0% 6.2% 3.0% 0.0% 1.2%	350 71,305 <b>Qtr1</b> 92.6% <b>6.8%</b> 0.0% 2.9% 3.9% 0.0% 0.0%	27,680 <b>Apr</b> 90.5% <b>9.0%</b> 0.1% 4.8% 4.2% 0.0% 0.9%	May 95.5% 4.1% 0.0% 2.3% 1.8% 0.0%	17,941 Jun 94.1% 5.6% 0.0% 2.5% 3.1% 0.0%	55,375 Qtr2 93.0% 6.6% 0.0% 3.4% 3.2% 0.0% 0.5%	Jul 96.0% 3.8% 0.0% 2.7% 1.1% 0.0%	22,748 Aug 91.1% 8.4% 0.0% 5.5% 2.9% 0.0% 0.2%	10,132 Sep 91.4% 8.2% 0.0% 6.7% 1.5% 0.0% 0.3%	38,328 Qtr3 92.3% 7.3% 0.0% 5.3% 1.9% 0.0% 0.2%	Oct 93.1% 6.4% 0.0% 4.8% 1.6% 0.0%	7,730 Nov 95.8% 3.9% 0.0% 3.0% 0.9% 0.0%	Dec 89.8% 9.6% 0.0% 3.7% 5.9% 0.0% 1.8%	72,647 Qtr4 92.6% 6.9% 0.0% 3.8% 3.1% 0.0% 0.7%	237,655 2019 92.6% 6.9% 0.0% 3.8% 3.1% 0.0% 0.8%
ROCOF / Inertia High Freq / Min Gen Percentages Generation TSO Dispatch Down Other Reductions TSO Dispatch Down: TSO Constraints Curtailments TSO Testing Curtailments:	24,361 95.9% 3.8% 0.0% 0.2% 3.6% 0.0%	- 29,009 Feb 92.5% 6.8% 0.0% 2.0% 4.8% 0.0%	350 17,936 90.1% 9.2% 0.0% 6.2% 3.0% 0.0%	350 71,305 Qtr1 92.6% 6.8% 0.0% 2.9% 3.9% 0.0%	27,680 Apr 90.5% 9.0% 0.1% 4.8% 4.2% 0.0%	May           95.5%           4.1%           0.0%           2.3%           1.8%           0.0%	17,941 Jun 94.1% 5.6% 0.0% 2.5% 3.1% 0.0%	55,375 Qtr2 93.0% 6.6% 0.0% 3.4% 3.2% 0.0%	Jul 96.0% 3.8% 0.0% 2.7% 1.1% 0.0%	22,748 Aug 91.1% 8.4% 0.0% 5.5% 2.9% 0.0%	10,132 Sep 91.4% 8.2% 0.0% 6.7% 1.5% 0.0%	38,328 Qtr3 92.3% 7.3% 0.0% 5.3% 1.9% 0.0%	Oct 93.1% 6.4% 0.0% 4.8% 1.6% 0.0%	7,730 Nov 95.8% 3.9% 0.0% 3.0% 0.9% 0.0%	Dec 89.8% 9.6% 0.0% 3.7% 5.9% 0.0%	<b>Qtr4</b> 92.6% <b>6.9%</b> 0.0% <b>3.8%</b> 3.1% 0.0%	237,655 2019 92.6% 6.9% 0.0% 3.8% 3.1% 0.0%

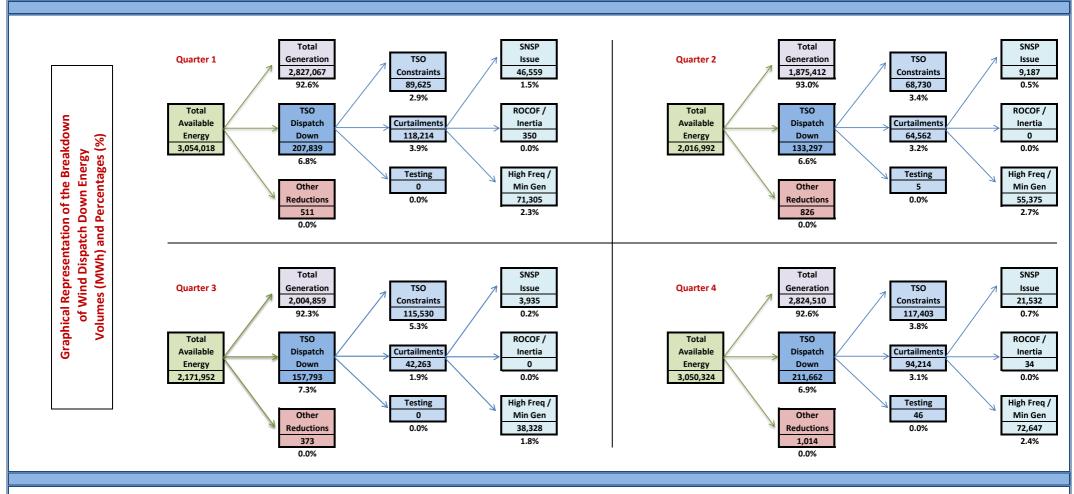
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2019 Qtr4



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# Northern Ireland Quarterly Wind Dispatch Down Report 2019

2019 Qtr4

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Volumes (MWh)	Jan	Feb	Mar	Qtr1	Apr	May	Jun	Qtr2	Jul	Aug	Sep	Qtr3	Oct	Nov	Dec	Qtr4	2019
Available Energy	234,163	345,183	324,412	903,758	245,440	131,512	154,508	531,459	144,631	222,407	199,966	567,004	257,530	192,744	331,880	782,155	2,784,37
Generation	210,660	305,449	283,487	799,596	216,097	125,772	135,983	477,851	130,947	186,443	177,472	494,863	237,056	177,658	275,070	689,784	2,462,09
TSO Dispatch Down	22,598	37,080	38,195	97,873	27,898	4,989	17,247	50,135	11,926	33,758	16,740	62,424	18,975	14,172	53,875	87,023	297,45
Other Reductions	56	1,116	1,426	2,598	320	307	303	931	32	445	4,554	5,031	630	373	436	1,439	9,99
TSO Dispatch Down:																	
TSO Constraints	9,735	6,450	16,712	32,897	5,628	1,560	9,805	16,993	6,607	15,006	13,090	34,703	10,468	10,179	25,878	46,525	131,11
Curtailments	12,863	30,630	21,483	64,976	22,270	3,429	7,443	33,142	5,319	18,752	3,645	27,717	8,507	3,993	27,997	40,497	166,33
TSO Testing	0	1	-	1	0	-	-	0	-	-	4	4	-	0	-	0	
Curtailments:										Ì			Ì				
SNSP Issue	3,193	16,906	7,723	27,822	4,906	-	801	5,707	1,948	562	742	3,251	-	-	9,343	9,343	46,12
ROCOF / Inertia	-	-	-	-	283	-	-	283	-	501	-	501	-	-	-	-	7
High Freq / Min Gen	9,670	13.724	13.760	37.154	17,081	3,429	6.642	27,151	3,372	17,689	2,904	23,964	8,507	3,993	18,654	31,154	
		15,724	13,700	57,154	17,001	3,423	0,042	27,151	3,372	17,005	2,504	23,504	8,507	3,333	18,054	51,154	119,4
ÿ	Jan	Feb	Mar	Qtr1	Apr	May	Jun	Qtr2	Jul	Aug	Sep	Qtr3	Oct	Nov	Dec	Qtr4	2019
Generation	· · ·	-/				· · ·	.,.	,	· · ·				· · · ·	· ·	,	,	
Generation	Jan	Feb	Mar	Qtr1	Apr	May	Jun	Qtr2	lut	Aug	Sep	Qtr3	Oct	Nov	Dec	Qtr4	2019
Generation TSO Dispatch Down	Jan 90.0% 9.7%	Feb 88.5%	Mar 87.4% 11.8%	<b>Qtr1</b> 88.5%	<b>Apr</b> 88.0%	May 95.6% <b>3.8%</b>	Jun 88.0% 11.2%	<b>Qtr2</b> 89.9%	<b>Jul</b> 90.5%	Aug 83.8%	Sep 88.8% 8.4%	<b>Qtr3</b> 87.3%	Oct 92.0% 7.4%	<b>Nov</b> 92.2%	<b>Dec</b> 82.9%	Qtr4 88.2%	<b>2019</b> 88.4%
Percentages Generation TSO Dispatch Down Other Reductions TSO Dispatch Down:	Jan 90.0% <b>9.7%</b>	Feb 88.5% 10.7%	Mar 87.4% 11.8%	Qtr1 88.5% 10.8%	Apr 88.0% 11.4%	May 95.6% <b>3.8%</b>	Jun 88.0% 11.2%	Qtr2 89.9% 9.4%	Jul 90.5% 8.2%	Aug 83.8% 15.2%	Sep 88.8% 8.4%	Qtr3 87.3% 11.0%	Oct 92.0% 7.4%	Nov 92.2% 7.4%	Dec 82.9% 16.2%	Qtr4 88.2% 11.1%	2019 88.4% 10.7%
Generation TSO Dispatch Down Other Reductions TSO Dispatch Down:	Jan 90.0% <b>9.7%</b>	Feb 88.5% 10.7%	Mar 87.4% 11.8%	Qtr1 88.5% 10.8%	Apr 88.0% 11.4%	May 95.6% <b>3.8%</b>	Jun 88.0% 11.2%	Qtr2 89.9% 9.4%	Jul 90.5% 8.2%	Aug 83.8% 15.2%	Sep 88.8% 8.4%	Qtr3 87.3% 11.0%	Oct 92.0% 7.4%	Nov 92.2% 7.4%	Dec 82.9% 16.2%	Qtr4 88.2% 11.1%	2019 88.4% 10.7%
Generation TSO Dispatch Down Other Reductions TSO Dispatch Down: TSO Constraints	Jan 90.0% 9.7% 0.0%	Feb 88.5% 10.7% 0.3%	Mar 87.4% 11.8% 0.4%	<b>Qtr1</b> 88.5% <b>10.8%</b> 0.3%	Apr 88.0% 11.4% 0.1%	May 95.6% 3.8% 0.2%	Jun 88.0% 11.2% 0.2%	<b>Qtr2</b> 89.9% <b>9.4%</b> 0.2%	Jul 90.5% 8.2% 0.0%	Aug 83.8% 15.2% 0.2%	Sep 88.8% 8.4% 2.3%	<b>Qtr3</b> 87.3% <b>11.0%</b> 0.9%	Oct 92.0% 7.4% 0.2%	Nov 92.2% 7.4% 0.2%	Dec 82.9% 16.2% 0.1% 7.8%	Qtr4 88.2% 11.1% 0.2%	2019 88.4% 10.7% 0.4%
Generation TSO Dispatch Down Other Reductions TSO Dispatch Down: TSO Constraints Curtailments	Jan 90.0% 9.7% 0.0% 4.2%	Feb           88.5%           10.7%           0.3%           1.9%	Mar 87.4% 11.8% 0.4% 5.2%	Qtr1 88.5% 10.8% 0.3% 3.6%	Apr 88.0% 11.4% 0.1% 2.3%	May 95.6% <b>3.8%</b> 0.2%	Jun 88.0% 11.2% 0.2% 6.3%	Qtr2 89.9% 9.4% 0.2% 3.2%	Jul 90.5% 8.2% 0.0% 4.6%	Aug 83.8% 15.2% 0.2% 6.7%	Sep 88.8% 8.4% 2.3% 6.5%	Qtr3 87.3% 11.0% 0.9% 6.1%	Oct 92.0% 7.4% 0.2% 4.1%	Nov 92.2% 7.4% 0.2% 5.3%	Dec 82.9% 16.2% 0.1% 7.8%	Qtr4 88.2% 11.1% 0.2% 5.9%	2019 88.4% 10.7% 0.4%
Generation TSO Dispatch Down Other Reductions TSO Dispatch Down: TSO Constraints Curtailments TSO Testing	Jan 90.0% 9.7% 0.0% 4.2% 5.5%	Feb           88.5%           10.7%           0.3%           1.9%           8.9%	Mar 87.4% 11.8% 0.4% 5.2% 6.6%	<b>Qtr1</b> 88.5% <b>10.8%</b> 0.3% 3.6% 7.2%	Apr 88.0% 11.4% 0.1% 2.3% 9.1%	May 95.6% 3.8% 0.2% 1.2% 2.6%	Jun 88.0% 11.2% 0.2% 6.3% 4.8%	<b>Qtr2</b> 89.9% <b>9.4%</b> 0.2% 3.2% 6.2%	Jul 90.5% 8.2% 0.0% 4.6% 3.7%	Aug 83.8% 15.2% 0.2% 6.7% 8.4%	Sep 88.8% 8.4% 2.3% 6.5% 1.8%	<b>Qtr3</b> 87.3% <b>11.0%</b> 0.9% 6.1% 4.9%	Oct 92.0% 7.4% 0.2% 4.1% 3.3%	Nov 92.2% 7.4% 0.2% 5.3% 2.1%	Dec 82.9% 16.2% 0.1% 7.8% 8.4%	<b>Qtr4</b> 88.2% <b>11.1%</b> 0.2% 5.9% 5.2%	2019 88.4% 10.7% 0.4% 4.7% 6.0%
Generation TSO Dispatch Down Other Reductions	Jan 90.0% 9.7% 0.0% 4.2% 5.5% 0.0%	Feb           88.5%           10.7%           0.3%           1.9%           8.9%           0.0%           4.9%	Mar 87.4% 11.8% 0.4% 5.2% 6.6% 0.0% 2.4%	Qtr1 88.5% 10.8% 0.3% 3.6% 7.2% 0.0% 3.1%	Apr 88.0% 11.4% 0.1% 2.3% 9.1% 0.0% 2.0%	May 95.6% 3.8% 0.2% 1.2% 2.6% 0.0%	Jun 88.0% 11.2% 0.2% 6.3% 4.8% 0.0%	Qtr2 89.9% 9.4% 0.2% 3.2% 6.2% 0.0%	Jul 90.5% 8.2% 0.0% 4.6% 3.7% 0.0% 1.3%	Aug 83.8% 15.2% 0.2% 6.7% 8.4% 0.0% 0.3%	Sep 88.8% 8.4% 2.3% 6.5% 1.8% 0.0%	Qtr3 87.3% 11.0% 0.9% 6.1% 4.9% 0.0% 0.6%	Oct 92.0% 7.4% 0.2% 4.1% 3.3% 0.0% 0.0%	Nov 92.2% 7.4% 0.2% 5.3% 2.1% 0.0% 0.0%	Dec 82.9% 16.2% 0.1% 7.8% 8.4% 0.0% 2.8%	Qtr4 88.2% 11.1% 0.2% 5.9% 5.2% 0.0%	88.4% 10.7% 0.4% 4.7% 6.0% 0.0% 1.7%
Seneration SO Dispatch Down Other Reductions SO Dispatch Down: SO Constraints Curtailments SO Testing Curtailments:	Jan 90.0% 9.7% 0.0% 4.2% 5.5% 0.0%	Feb           88.5%           10.7%           0.3%           1.9%           8.9%           0.0%	Mar 87.4% 11.8% 0.4% 5.2% 6.6% 0.0%	Qtr1           88.5%           10.8%           0.3%           3.6%           7.2%           0.0%	Apr 88.0% 11.4% 0.1% 2.3% 9.1% 0.0%	May 95.6% 3.8% 0.2% 1.2% 2.6% 0.0%	Jun 88.0% 11.2% 0.2% 6.3% 4.8% 0.0%	Qtr2           89.9%           9.4%           0.2%           3.2%           6.2%           0.0%	Jul 90.5% 8.2% 0.0% 4.6% 3.7% 0.0%	Aug 83.8% 15.2% 0.2% 6.7% 8.4% 0.0%	Sep 88.8% 8.4% 2.3% 6.5% 1.8% 0.0%	Qtr3 87.3% 11.0% 0.9% 6.1% 4.9% 0.0%	Oct           92.0%           7.4%           0.2%           4.1%           3.3%           0.0%	Nov 92.2% 7.4% 0.2% 5.3% 2.1% 0.0%	Dec 82.9% 16.2% 0.1% 7.8% 8.4% 0.0%	<b>Qtr4</b> 88.2% <b>11.1%</b> 0.2% 5.9% 5.2% 0.0%	2019 88.49 10.79 0.4% 4.7% 6.0% 0.0%

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High Freq / Min Gen

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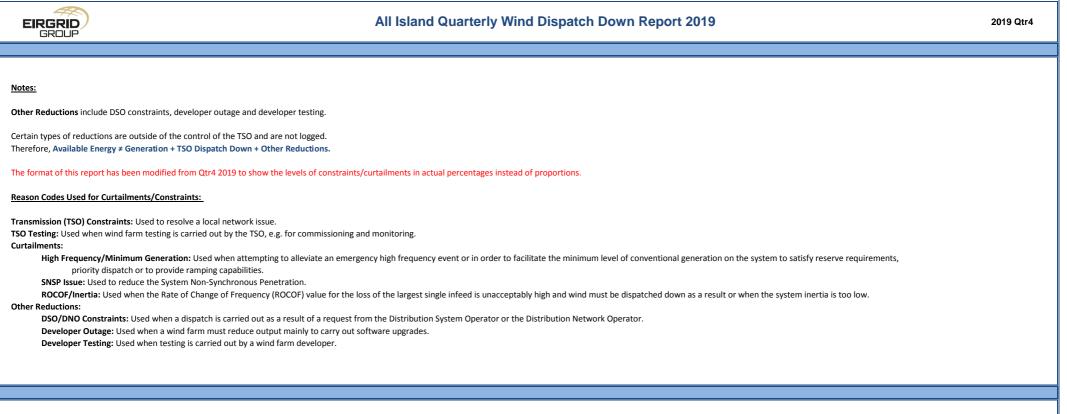


## Northern Ireland Quarterly Wind Dispatch Down Report 2019

2019 Qtr4

SNSP SNSP Total Total Quarter 1 Generation TSO Issue Quarter 2 Generation TSO Issue 799,596 Constraints 27.822 477,851 Constraints 5,707 88.5% 32,897 3.1% 89.9% 16,993 1.1% 3.6% 3.2% TSO ROCOF / TSO ROCOF / Total Total **Graphical Representation of the Breakdown** Curtailments Available Dispatch Curtailments Inertia Available Dispatch Inertia 64,976 33,142 Down 0 Down 283 Energy Energy Volumes (MWh) and Percentages (%) 903.758 97,873 7.2% 0.0% 531.459 50.135 6.2% 0.1% of Wind Dispatch Down Energy 10.8% 9.4% High Freq / Testing High Freq / Testing Other Min Gen Other Min Gen 0 Reductions 0.0% 37,154 Reductions 0.0% 27,151 2,598 4.1% 931 5.1% 0.3% 0.2% Total SNSP Total SNSP Quarter 3 TSO TSO Generation Issue Quarter 4 Generation Issue 494,863 689,784 Constraints 3,251 Constraints 9,343 87.3% 34,703 0.6% 88.2% 46,525 1.2% 6.1% 5.9% Total TSO ROCOF / Total TSO ROCOF / Available Dispatch Curtailments Inertia Available Dispatch Curtailments Inertia Energy Down 27,717 501 Energy Down 40,497 0 567,004 62,424 4.9% 0.1% 782,155 87,023 5.2% 0.0% 11.0% 11.1% Testing High Freq / Testing High Freq / Other Min Gen Other Min Gen 4 0 0.0% 0.0% 31,154 Reductions 23.964 Reductions 5,031 4.2% 1,439 4.0% 0.2% 0.9%

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