Northern Ireland Quarterly Solar Dispatch Down Report 2019

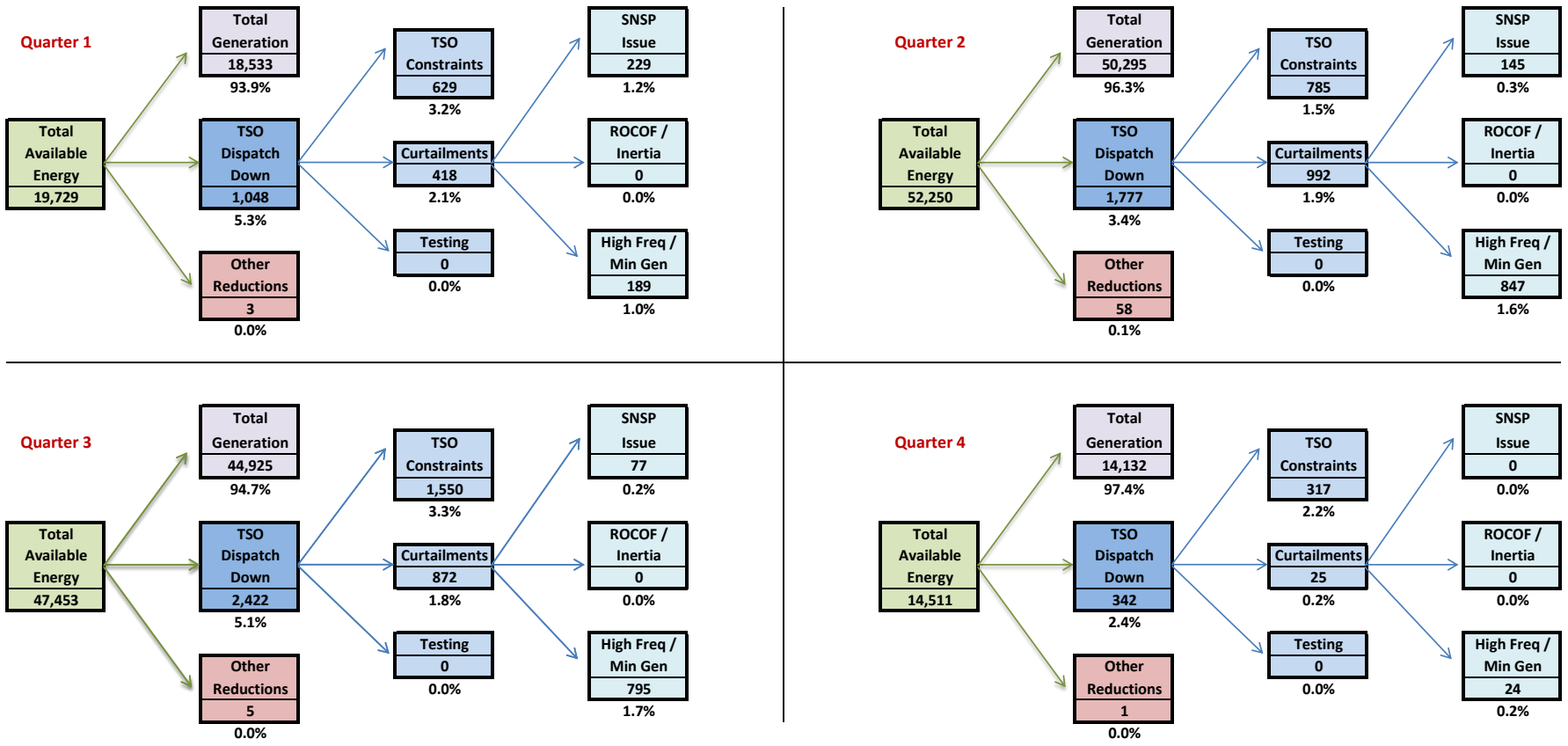
2019 Qtr4

Volumes (MWh)	Jan	Feb	Mar	Qtr1	Apr	May	Jun	Qtr2	Jul	Aug	Sep	Qtr3	Oct	Nov	Dec	Qtr4	2019
Available Energy	2,627	6,394	10,707	19,729	15,358	18,441	18,451	52,250	17,682	17,032	12,739	47,453	8,855	3,414	2,242	14,511	133,942
Generation	2,583	6,048	9,902	18,533	14,349	18,313	17,633	50,295	16,834	16,054	12,037	44,925	8,647	3,390	2,094	14,132	127,885
TSO Dispatch Down	24	292	732	1,048	912	108	757	1,777	807	937	677	2,422	190	22	131	342	5,589
Other Reductions	0	2	2	3	24	6	28	58	-	3	1	5	-	1	-	1	68
TSO Dispatch Down:																	
TSO Constraints	14	20	595	629	263	5	517	785	612	426	512	1,550	181	22	115	317	3,281
Curtailments	11	271	136	418	649	103	240	992	195	511	165	872	9	0	16	25	2,306
TSO Testing	-	0	-	0	-	0	-	0	-	-	0	0	-	-	-	-	1
Curtailments:																	
SNSP Issue	10	180	40	229	113	-	32	145	11	57	9	77	-	-	0	0	452
ROCOF / Inertia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High Freq / Min Gen	1	91	97	189	536	103	207	847	184	454	156	795	9	0	16	24	1,855

Percentages	Jan	Feb	Mar	Qtr1	Apr	May	Jun	Qtr2	Jul	Aug	Sep	Qtr3	Oct	Nov	Dec	Qtr4	2019
Generation	98.3%	94.6%	92.5%	93.9%	93.4%	99.3%	95.6%	96.3%	95.2%	94.3%	94.5%	94.7%	97.7%	99.3%	93.4%	97.4%	95.5%
TSO Dispatch Down	**0.9%**	**4.6%**	**6.8%**	**5.3%**	**5.9%**	**0.6%**	**4.1%**	**3.4%**	**4.6%**	**5.5%**	**5.3%**	**5.1%**	**2.1%**	**0.6%**	**5.8%**	**2.4%**	**4.2%**
Other Reductions	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
TSO Dispatch Down:																	
TSO Constraints	0.5%	0.3%	5.6%	3.2%	1.7%	0.0%	2.8%	1.5%	3.5%	2.5%	4.0%	3.3%	2.0%	0.6%	5.1%	2.2%	2.4%
Curtailments	0.4%	4.2%	1.3%	2.1%	4.2%	0.6%	1.3%	1.9%	1.1%	3.0%	1.3%	1.8%	0.1%	0.0%	0.7%	0.2%	1.7%
TSO Testing	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Curtailments:																	
SNSP Issue	0.4%	2.8%	0.4%	1.2%	0.7%	0.0%	0.2%	0.3%	0.1%	0.3%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.3%
ROCOF / Inertia	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
High Freq / Min Gen	0.0%	1.4%	0.9%	1.0%	3.5%	0.6%	1.1%	1.6%	1.0%	2.7%	1.2%	1.7%	0.1%	0.0%	0.7%	0.2%	1.4%

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

Graphical Representation of the Breakdown of Solar 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 ≠ 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/solar 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/solar 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/solar farm must reduce output mainly to carry out software upgrades.
- **Developer Testing:** Used when testing is carried out by a wind/solar farm developer.

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