

RENEWABLE STATUS UPDATE

RGLG 1st September 2020



Renewable Generation Status – Q2 2020





nienetworks.co.uk

Transmission Connection Applications

RGLG

1st September 2020



| | Generation A | Applications | | | |
|-------------------------------------|---------------------|---|--|--|--|
| Unit | Connection Level | User's Name | Maximum Export Capacity (MW) | | |
| Curraghmulkin Wind Farm | Transmission | Dooish Wind Farm Ltd | 42 | | |
| EP Kilroot GT5 and GT6 OCGTs | Transmission | EP Kilroot Limited | 405.9 | | |
| Aught Wind Farm | Transmission | Aught Wind Farm Limited | 37.2 | | |
| Pigeon Top Wind Farm | Transmission | Pigeon Top Wind Farm Limited | 51.6 | | |
| EP Kilroot GT7 | Transmission | EP Kilroot Limited | 299 | | |
| EP Kilroot GT6 OCGT (Increased MEC) | Transmission | EP Kilroot Limited | 44.1 | | |
| EP Kilroot GT8 OCGT | Transmission | EP Kilroot Limited | 299 | | |
| EP Kilroot GT9 OCGT | Transmission | EP Kilroot Limited | 450 | | |
| Belfast Power CCGT | Transmission | EP Kilroot Limited | 468 | | |
| | Storage Ap | plications | | | |
| Unit | Connection Level | User's Name | Maximum Export / Import Capacity (MW) | | |
| Drumkee Battery Storage | Transmission | Drumkee Energy Limited | 50 / 50 | | |
| Mullavilly Battery Storage | Transmission | Mullavilly Energy Limited | 50 / 50 | | |
| Castlereagh Battery Storage | Transmission | Energia Renewables Company 1 Limited | 50 / 50 | | |
| Kells Battery Storage | Transmission | Kells BES Ltd | 50 / 50 | | |

Consultation on Connecting Further Generation in Northern Ireland

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Interim Connections Process Minded to Decision

- NIE Networks are minded to progress issuing distribution generation offers with non-firm market access for generators 5MW and above
- Go-live in autumn 2020 (based on dependencies)
- Interim connections process until enduring process is developed with go-live to align with update NI RES-E targets





Interim Connections Process Risks

- Influx of applications
- NIE Networks cannot meet 3 month licence standard to offer terms
- Speculative applications leading to unnecessary workload – impact on other applications
- Dispute of new process
- Compliance with CEP





Interim Connections Process

Dependencies

- UR support for licence standard derogation essential to maintain compliance
 - Engagement with UR ongoing
- Change of connection application process to include acceptance of longer timelines for offer issuance
- Update to NIE Networks' Statement of Connection Charges – UR approval required
- Industry co-operation





Interim Connections Process Next Steps

Continue to engage with UR

- Enact changes to application and offer process and documents
- Drafting of decision paper and Statement of Connection Charges





Interim Connections Process Key Messages

- NIE Networks will not introduce a new process that will result in non-compliance
- Interim process applies to generators 5MW and above
- Need to minimise speculative applications
- Milestones will be enforced
- Proposed new process is an interim process
- Enduring process will be developed in





Next Meeting

- To align with outcome of UR decision re. licence standard derogation
- Update on dependencies
- Update on next steps









The Clean Energy Package





Clean Energy Package overview

The CEP comprises 8 pieces of legalisation and more than 1000 pages of text aimed at promoting, decentralisation, decarbonisation and digitalisation.







Energy Policy Context

There are a number of inter-related elements influencing energy policy in Northern Ireland. Changes in any element can impact the other parts significantly







Legislative timelines

| | European Commission Proposal | EU Inter-institutional Negotiations | European Parliament Adoption | Council Adoption | Official Journal Publication | |
|--|-------------------------------------|--|---------------------------------|---------------------|---|--|
| Energy Performance in Buildings Directive | | | 17/04/2018 | 14/05/2018 | 19/06/2018 Directive (EU) 2018/844 | |
| Renewable Energy Directive | <u>30/11/2016</u> | Political Agreement | 13/11/2018 | 04/12/2018 | 21/12/2018 Directive (EU) 2019/2001 | |
| Energy Efficiency Directive | <u>30/11/2016</u> | Political Agreement | 13/11/2018 | 04/12/2018 | 21/12/2018 Directive (EU) 2019/2002 | |
| Governance Regulation | alation <u>30/11/2016</u> Politica | | 13/11/2018 | 04/12/2018 | 21/12/2018 Directive (EU) 2019/2002 | |
| Electricity Regulation | <u>30/11/2016</u> | Political Agreement | 26/03/2019 | 22/05/2019 | 14/06/2019 Directive (EU) 2019/943 | |
| Electricity Directive | tricity Directive <u>30/11/2016</u> | | 26/03/2019 | 22/05/2019 | 14/06/2019 Directive (EU) 2019/944 | |
| Risk Preparedness Regulation | <u>30/11/2016</u> | Political Agreement | 26/03/2019 | 22/05/2019 | 14/06/2019 Directive (EU) 2019/941 | |
| ACER Regulation | <u>30/11/2016</u> | Political Agreement | 26/03/2019 | 22/05/2019 | 14/06/2019 Directive (EU) 2019/942 | |





High-Level CEP implementation timetable







Progress on implementation

- SEMC have issued and information paper on implementation of Articles under the Electricity Regulation
- DfE are focusing on the Electricity Regulation and Directives first in particular those elements affecting the SEM
- DfE consultation on transposition of first round of elements from the Electricity Directive will be issued in September
- It is proposed that the UR will be given powers to modify licences where appropriate
- Those elements requiring new policy from DfE will form part of the Energy Strategy





Thank you

Dispatch Down Update RGLG - 1st September 2020



Northern Ireland Dispatch Down in Numbers

| <u>2018</u> | | <u>2019</u> |
|------------------------------------|--|-------------|
| Dispatch Down Energy GWh | 243 | 291 GWh |
| % of Total Energy/Emission 2.1% | | 2.9% |
| | | €25m |
| Lost Revenue | €20m | |
| | | 6.4% |
| Curtailment % | 5.7% | |
| | | 5.0% |
| Constraint % | 4.3% | |
| 12.0% | 12.0% | 11.4% |
| Total dispatch down | $10^{\frac{12.0\%}{5}}_{\frac{10.0\%}{10.0\%}}$ | |
| 8.0% | Dispat | 1 |
| tg 6.0% | nd Farm (%) - (%) | |
| | 0.01&02 2019 Wind Farm Dispatc 0.00 (%) 0.00 (%) 0.00 (%) 0.00 (%) 0.00 (%) 0.00 0.00 (%) 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0. | |
| | 0 0 2.0% — | |
| Silon% | 0.0% | |
| NW W SW M SE NE NI AI | | NW W |



Northern Ireland Dispatch Down in Numbers



ROI Wind Constraints NI Wind Constraints

01-02

Northern Ireland Curtailment

Drivers of Wind Curtailment



Northern Ireland Curtailment

Minimum Generation Levels During Curtailment Events

| Generator Fuel Type MEC (MW) Min Gen (MW) Q2 (2020 Q1 2020 2018 2017 2016 2015 2017 14 Number (MW) Gas/DO 415 110 147 150 162 228 252 257 248 271 Huntstown 2' Gas/DO 412 121 143 127 147 140 151 158 176 181 Poolbeg 4' Gas/DO 352 120 127 124 124 129 124 124 129 124 124 129 125 124 121 117 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 121 118 130 | | | | | | Declared | Avg Generation Level During Curtailment Events (MW) | | | | | | | |
|--|-------|------------|--------------------------|-----------|-------------|----------|---|------|------|------|------|------|------|------|
| Norma Huntstown 2 ² Gas/DO 412 121 143 127 147 140 151 158 176 181 Huntstown 1 ³ Gas/DO 352 120 174 154 157 141 140 191 195 181 Poolbeg A ⁴ Gas/DO 230 120 125 120 117 117 194 121 236 242 Poolbeg B ⁴ Gas/DO 230 120 126 129 117 117 94 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 117 121 118 120 Moneyoint 3 5 Coal/HFO 285 75 0 0 107 | | Ge | nerator | Fuel Type | MEC (MW) | Level | - | | 2019 | 2018 | 2017 | 2016 | 2015 | - |
| No Huntstown 1 ³ Gas/DO 352 120 174 154 157 141 140 191 195 181 Poolbeg A ⁴ Gas/DO 230 120 125 120 117 124 123 129 236 242 Poolbeg B ⁴ Gas/DO 230 120 126 129 117 117 94 121 236 242 Poolbeg B ⁴ Gas/DO 404 194 214 203 206 210 215 224 199 198 Moneypoint 1 Coal/HFO 285 75 83 84 102 119 115 121 117 121 Moneypoint 2 S Coal/HFO 285 75 0 0 107 117 121 127 120 115 Aghada 1 Gas/DO 432 130 154 148 146 197 216 207 218 206 Aghada 1 </td <td></td> <td></td> <td>Dublin Bay¹</td> <td>Gas/DO</td> <td>415</td> <td>110</td> <td>147</td> <td>150</td> <td>162</td> <td>228</td> <td>252</td> <td>257</td> <td>248</td> <td>271</td> | | | Dublin Bay ¹ | Gas/DO | 415 | 110 | 147 | 150 | 162 | 228 | 252 | 257 | 248 | 271 |
| Poolbeg A 4 Gas/DO 230 120 125 120 117 124 123 129 236 242 Poolbeg B 4 Gas/DO 230 120 126 129 117 117 94 121 244 Poolbeg B 4 Gas/DO 404 194 214 203 206 210 215 224 199 198 Moneypoint 1 S Coal/HFO 285 75 83 84 102 119 115 121 117 121 Moneypoint 2 Coal/HFO 285 75 0 0 107 117 121 127 120 115 Aghada 1 Gas 258 75 0 0 107 117 121 127 120 115 Aghada 1 Gas 258 75 0 0 107 117 121 127 120 115 Aghada 1 Gas Gas 63< | | | Huntstown 2 ² | Gas/DO | 412 | 121 | 143 | 127 | 147 | 140 | 151 | 158 | 176 | 181 |
| Poolbeg B4 Gas/DO 230 120 126 129 117 117 94 121 124 Tynagh Gas/DO 404 194 214 203 206 210 215 224 199 198 Moneypoint 1 5 Coal/HFO 285 75 83 84 102 119 115 121 117 121 Moneypoint 2 5 Coal/HFO 285 75 83 84 102 119 115 121 118 120 Moneypoint 2 5 Coal/HFO 285 75 0 0 107 117 121 127 120 115 Aghada 1 Gas 258 75 0 0 0 38 0 0 0 0 0 0 115 121 118 120 115 Aghada 1 Gas 258 75 0 0 0 0 0 0 0 0 | | | Huntstown 1 ³ | Gas/DO | 352 | 120 | 174 | 154 | 157 | 141 | 140 | 191 | 195 | 181 |
| Perform Provide Pa Poolbeg Ba | | | Poolbeg A ⁴ | Gas/DO | 230 | 120 | 125 | 120 | 117 | 124 | 123 | 129 | 226 | 242 |
| Noneypoint 1 Coal/HFO 285 75 83 84 102 119 115 121 117 121 Moneypoint 2 Coal/HFO 285 99 0 0 0 112 116 121 117 121 Moneypoint 2 Coal/HFO 285 99 0 0 107 117 121 127 120 115 Aghada 1 Gas 258 36 0 0 0 38 0 0 0 0 Aghada 2 6 Gas/DO 432 130 154 148 146 197 216 207 218 206 Tarbert 3 HFO 241 35 38 36 36 38 0 <t< td=""><td></td><td></td><td>Poolbeg B⁴</td><td>Gas/DO</td><td>230</td><td>120</td><td>126</td><td>129</td><td>117</td><td>117</td><td>94</td><td>121</td><td>230</td><td>242</td></t<> | | | Poolbeg B ⁴ | Gas/DO | 230 | 120 | 126 | 129 | 117 | 117 | 94 | 121 | 230 | 242 |
| Noneypoint 2 S Coal/HFO 285 75 83 84 102 119 115 121 117 121 Moneypoint 2 Coal/HFO 285 99 0 0 0 112 116 121 118 120 Moneypoint 3 Coal/HFO 285 75 0 0 107 117 121 127 120 115 Aghada 1 Gas 258 36 0 0 107 117 121 127 120 115 Aghada 2 6 Gas/DO 432 130 154 148 146 197 216 207 218 206 Tarbert 3 HFO 241 35 0 36 35 35 0 | | | Tynagh | Gas/DO | 404 | 194 | 214 | 203 | 206 | 210 | 215 | 224 | 199 | 198 |
| No Name No N | | ts | 5 | Coal/HFO | 285 | 75 | 83 | 84 | 102 | 119 | 115 | 121 | 117 | 121 |
| No Name No N | | n Plan | Moneypoint 2 5 | Coal/HFO | 285 | 99 | 0 | 0 | 0 | 112 | 116 | 121 | 118 | 120 |
| No Name No N | eland | ist Rur | Moneypoint 3 5 | Coal/HFO | 285 | 75 | 0 | 0 | 107 | 117 | 121 | 127 | 120 | 115 |
| Particit | f Ire | ML | Aghada 1 | Gas | 258 | 36 | 0 | 0 | 0 | 38 | 0 | 0 | 0 | 0 |
| Particit | lic | | Aghada 2 ⁶ | Gas/DO | 432 | 130 | 154 | 148 | 146 | 197 | 216 | 207 | 218 | 206 |
| Particit | qnd | | Tarbert 3 | HFO | 241 | 35 | 0 | 36 | 35 | 35 | 0 | 0 | 35 | 0 |
| Great Island ⁸ Gas/DO 464 165 185 188 175 193 202 255 257 0 Sealrock 1 Gas/DO 80 40 62 69 65 70 71 76 74 76 Sealrock 2 Gas/DO 81 40 62 68 65 70 73 78 75 76 Sealrock 2 Gas/DO 81 40 62 68 65 70 73 78 75 76 Sealrock 2 Gas/DO 81 40 62 68 65 70 73 78 75 76 Sealrock 2 Gas/DO 81 41 51 62 62 65 62 74 75 85 Great Island Ree 9 Peat/Bioma 132 44 60 58 62 74 76 79 75 West Offaly 10 Peat 137 48 58 74 </td <td>Re</td> <td>Tarbert 4</td> <td>HFO</td> <td>241</td> <td>35</td> <td>38</td> <td>36</td> <td>36</td> <td>38</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> | Re | | Tarbert 4 | HFO | 241 | 35 | 38 | 36 | 36 | 38 | 0 | 0 | 0 | 0 |
| Sealrock 1 Gas/DO 80 40 62 69 65 70 71 76 74 76 Sealrock 2 Gas/DO 81 40 62 68 65 70 73 78 75 76 Sealrock 2 Gas/DO 81 40 62 68 65 70 73 78 75 76 Peat/Bioma Ss 118 41 51 62 62 65 62 74 75 85 Lough Ree 9 Peat 91 32 44 60 58 62 74 76 79 75 West Offaly 10 Peat 137 48 58 74 75 86 88 96 101 101 Average Total ROI Min Gen During Curtailment B10 Gas/HFO 101 63 78 69 71 66 63 62 64 65 9 Ballylumford Ballylumford 01 63 78 69 71 66 63 62 64 65 | | | Whitegate ⁷ | Gas/DO | 445 | 160 | 193 | 197 | 185 | 192 | 202 | 225 | 187 | 188 |
| Sealrock 2 Gas/DO 81 40 62 68 65 70 73 78 75 76 Peat/Bioma Peat/Bioma Ss 118 41 51 62 62 65 62 74 75 85 Lough Ree ⁹ Peat 91 32 44 60 58 62 74 76 79 75 West Offaly ¹⁰ Peat 137 48 58 74 75 86 88 96 101 101 Average Total ROI Min Gen During Curtailment B10 Events (MW) 1198 1222 1158 1227 1329 1403 1280 1329 Patrix Ballylumford B10 Gas/HFO 101 63 78 69 71 66 63 62 64 65 | | | Great Island 8 | Gas/DO | 464 | 165 | 185 | 188 | 175 | 193 | 202 | 255 | 257 | 0 |
| Peat/Bioma Peat/Bioma SS 118 41 51 62 62 65 62 74 75 85 Lough Ree ⁹ Peat 91 32 44 60 58 62 74 76 79 75 West Offaly ¹⁰ Peat 137 48 58 74 75 86 88 96 101 101 Average Total ROI Min Gen During Curtailment Events (MW) 1198 1222 1158 1227 1329 1403 1280 1329 Ballylumford B10 Gas/HFO 101 63 78 69 71 66 63 62 64 65 | | | Sealrock 1 | Gas/DO | 80 | 40 | 62 | 69 | 65 | 70 | 71 | 76 | 74 | 76 |
| Image: bit of the system Edenderry ss 118 41 51 62 62 62 74 75 85 Image: bit of the system Lough Ree ⁹ Peat 91 32 44 60 58 62 74 76 79 75 Image: bit of the system West Offaly ¹⁰ Peat 137 48 58 74 75 86 88 96 101 101 Average Total ROI Min Gen During Curtailment Events (MW) 1198 1222 1158 1227 1329 1403 1280 1329 Image: bit of the system Ballylumford Gas/HFO 101 63 78 69 71 66 63 62 64 65 Image: provide the system Ballylumford Image: provide the system Image: provi | | | Sealrock 2 | Gas/DO | 81 | 40 | 62 | 68 | 65 | 70 | 73 | 78 | 75 | 76 |
| West Offaly ¹⁰ Peat 137 48 58 74 75 86 88 96 101 101 Average Total ROI Min Gen During Curtailment Events (MW) 1198 1222 1158 1227 1329 1403 1280 1329 Ballylumford B10 Gas/HFO 101 63 78 69 71 66 63 62 64 65 | | > 5 | | - | | | 54 | 62 | 62 | 65 | 62 | 74 | 75 | 05 |
| West Offaly ¹⁰ Peat 137 48 58 74 75 86 88 96 101 101 Average Total ROI Min Gen During Curtailment Events (MW) 1198 1222 1158 1227 1329 1403 1280 1329 Ballylumford B10 Gas/HFO 101 63 78 69 71 66 63 62 64 65 | | pato | Edenderry | | | | | | | | | | | |
| Average Total ROI Min Gen During Curtailment Events (MW) 1198 1222 1158 1227 1329 1403 1280 1329 Ballylumford B10 Gas/HFO 101 63 78 69 71 66 63 62 64 65 Ballylumford Ballylumford Ballylumford Image: Constraint of the second secon | | Dis Dis | | | | _ | | | | | | | | |
| Ballylumford Gas/HFO 101 63 78 69 71 66 63 62 64 65 2 Ballylumford | | Aver | | | | | 58 | /4 | /5 | 80 | 88 | 96 | 101 | 101 |
| B10 Gas/HFO 101 63 78 69 71 66 63 62 64 65 2 Ballylumford | | | | | | | 1198 | 1222 | 1158 | 1227 | 1329 | 1403 | 1280 | 1329 |
| 원 Ballylumford Ballylumford | | | | 0 /1150 | | | 70 | | | | 6.0 | | | |
| | | lants | | Gas/HFO | 101 | 63 | /8 | 69 | /1 | 66 | 63 | 62 | 64 | 65 |
| Ballylumford Gas/HFO 247 113 143 124 120 127 122 127 0 83 Kilroot K1 HFO/Coal 255 93 96 94 104 113 113 107 117 122 | g | | | Gas/HFO | 247 | 113 | 148 | 155 | 118 | 114 | 121 | 106 | 121 | 110 |
| E B32 Gas/HFO 247 113 143 124 120 127 122 127 0 83 E E E Kilroot K1 HFO/Coal 255 93 96 94 104 113 113 107 117 122 | rela | un P | | | | | | | | | | | | |
| [은 Kilroot K1 HFO/Coal 255 93 96 94 104 113 113 <mark> 107 117 122 </mark> | 12 | st Rı | | | | | | | | | | | | |
| | rthe | Mu | Kilroot K1 | HFO/Coal | 255 | 93 | 96 | 94 | 104 | 113 | 113 | 107 | 117 | 122 |

Plants Running >20 MW Above Declared Min Gen Review of operation of must run plants during

curtailment events indicates that some of the plants are consistently operating at levels well above their declared minimum generation levels over the past 8 years

Northern Ireland Curtailment

Interconnector Activity During Wind Curtailment Events

| | | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Q1 2020 | Q2 2020 | 2014 to Q2 2020 |
|-----------------------|-------------------------|------------|------|------|------|------|------|---------|---------|--------------------|
| | Curtailment Events(nr.) | 137 | 119 | 87 | 103 | 112 | 135 | 63 | 25 | 781 |
| Jen v | EWIC Avg Net (MW) | 190 | -1 | -64 | -271 | -190 | -311 | -326 | -287 | -157 |
| ailn | EWIC Avg Net (%) | 36% | 0% | -12% | -51% | -36% | -59% | -62% | -54% | -30% |
| Curtailment Events | Moyle Avg Net (MW) | 99 | -46 | -127 | -186 | -49 | -72 | -27 | 15 | -49 |
| Ľ | Moyle Avg Net (%) | 40% | -18% | -42% | -62% | -16% | -19% | -7% | 4% | -15% |

Notes:

Moyle's permitted export capacity has varied from 250MW in 2014 and 2015, increasing to 300MW between 2016 and Q1 2019, and increasing to 380MW from Q2 2019 onwards

Positive figures represents imports, negative figures represent exports

<u>EWIC Out of Service</u>: 2014 = 43 days, 2015 = 14 days, 2016 = 109 days, 2017 = 53 days, 2018 = 49 days, 2019 = 12 days, 2020 = 6 days <u>Moyle Out of Service</u>: 2014 = 65 days, 2015 = 2 days, 2016 = 46 days, 2019 = 9 days

Summary

- Northern Ireland dispatch down at very high levels, so far at 18.4% in 2020. Impacts on CO₂ emissions, meeting RES-E targets and renewable project revenues
- Continued support for DS3
 - Increasing SNSP is important but more focused required on reducing min gen levels
- Need to look at how exports on Moyle can be maximised
- High constraints highlights the priority for the delivery of the North-South Interconnector
- Need also the delivery of the ATRs for existing operational windfarms
- Need for greater reporting and analysis on dispatch down "If you can't measure it, you can't improve it"