Renewable Generation Status – Q1 2019

NI Connected Renewable Generation Technology

- **Wind**: 1,426 MW
- **PV**: 307 MW
- **Biogas**: 112 MW
- **Hydro/Tidal**: 8 MW
- **Other/Mixed Schemes**: 19 MW

Total c. 1652MW

NI Connected & Committed Renewable Generation Technology Mix

- **Wind**: 1,426 MW
- **PV**: 307 MW
- **Biogas**: 112 MW
- **Hydro/Tidal**: 8 MW
- **Other/Mixed Schemes**: 19 MW

Total c. 1872MW

+ 220MW to Connect
Transmission Applications & Offers

RGLG
21st May 2019
<table>
<thead>
<tr>
<th>Project Name</th>
<th>Developer</th>
<th>MEC/MIC</th>
</tr>
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<tr>
<td><strong>Applications</strong></td>
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<tr>
<td>Castlereagh 50MW BESA</td>
<td>Viridian Renewables Company 1 Limited</td>
<td>50MW MEC &amp; MIC</td>
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<tr>
<td>Islandmagee Gas Storage</td>
<td>Costain Oil, Gas and Process Ltd.</td>
<td>34.75MW MIC</td>
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<td><strong>Offers Issued</strong></td>
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<td>BPS 100MW BESA</td>
<td>AES Ballylumford Limited</td>
<td>100MW MEC &amp; MIC</td>
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<td>Atlantic Gateway</td>
<td>Atlantic Gateway Property Ltd.</td>
<td>100MW MIC</td>
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<tr>
<td>Curraghamulkin Wind Farm (also called Dooish)</td>
<td>DW Consultancy</td>
<td>42MW MEC</td>
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<td>Belfast Power Limited</td>
<td>Evermore Energy</td>
<td>489.6MW</td>
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<td>Drumkee Battery Storage</td>
<td>Low Carbon</td>
<td>50MW MEC &amp; MIC</td>
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<tr>
<td>Mullavilly Battery Storage</td>
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<tr>
<td>KPS 50MW BESA</td>
<td>AES Kilroot Limited</td>
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Consultation on NIE Networks Providing Non-Firm Distribution Offers

Connections Innovation Working Group

May 21st 2019
Connections Innovation Working Group

- CIWG formed to consider the connection of further generation to the distribution system
  - Absence of further target presents uncertainty around supporting investment
- Technical & Commercial impact analysed and discussed
- Joint paper developed to consult on NIE Networks issuing non-firm offers to connect to the distribution system
Key Messages

Paper sets out overview of analysis and discussions including:

• System capacity and implication of Firm Access

• Managing the system – curtailment and the impact of uncontrollable generation

• Analysis – additional generation and its impact on constraints and curtailment
  • Constraints will increase without additional network build
  • Curtailment will increase and not subject to grandfathering
Consultation Questions

- Should the status quo be maintained in relation to distribution connection offers until new RES policy is implemented?
- Should distribution offer process change to enable the issue of non-firm offers to LSG generation?
- Should the amount of new offers be limited?
Next Steps

• Consultation paper to be published in early June 2019
• Industry Workshop late June/early July
• Decision Paper September
Contestability Update
Distribution and Transmission
Update on TDPNI and Renewable Developments

RGLG – 21 May 2019
G59 ROCOF IMPLEMENTATION PROGRAMME
RGLG Update 21/05/19
LSG RoCoF Progress

- All LSG sites >5MW have been changed to new RoCoF setting
- 1120 MW of 1Hz/s RoCoF compliant Large Scale Generation (including sites that have connected since the programme started)
- 68 LSG sites have been changed
SSG RoCoF Implementation

- Letters requesting G59 changes sent out 01 June 2018
- SSG owners to acknowledge receipt
  - Online or by return pre-paid envelope
- For assurance purposes SSG owners to use G59 approved contractors
  - List of approved contractors on NIE Networks website
- G59 approved contractor list established following procurement exercise
  - c22 contractors on list
- SSG owners to make the changes by 30 September 2019
- Costs associated with making the changes borne by SSG owners
SSG RoCoF – Current Status

• Currently engaged in programme
  • 1261 SSG’s (90%) – 371 MW (93%)

• Already changed
  • 551 SSG’s (40%) – 174 MW (44%)
SSG RoCoF – Current Status

MW of SSG completed against time
SSG RoCoF – Current Status

Changes Complete (MW)

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<th>Source</th>
<th>Value</th>
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<td>BioGas</td>
<td>33</td>
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<tr>
<td>Diesel</td>
<td>45</td>
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<tr>
<td>PV</td>
<td>18</td>
</tr>
<tr>
<td>Wind</td>
<td>78</td>
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Not Complete (MW)

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<th>Value</th>
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<td>BioGas</td>
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<tr>
<td>Diesel</td>
<td>82</td>
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<tr>
<td>PV</td>
<td>14</td>
</tr>
<tr>
<td>Wind</td>
<td>79</td>
</tr>
</tbody>
</table>
SSG RoCoF – Customer Interactions

- Non-responders
  - Initial letter followed by October, February & April reminders
- Responders
  - Initial letter followed by February and April reminders
- March – Four Information Evenings
- May – 2 additional information evenings
- May – G59 presence at Balmoral Show
- July – Final reminder to all SSG’s not changed
- October – De-energisation notices to all SSG’s not changed
- Dedicated G59 email address >600 contacts
- Dedicated phone number – 60 contacts following April reminder letter
SSG RoCoF – Non-Compliance

• All SSG’s have to comply with the D-Code
  • UR and DCRP have confirmed this
• After 1st October non-compliant SSG’s will be subject to de-energisation notices
• Initial discussions with Ofgem re subsidy payments to non-compliant SSG’s
  • UR involvement in further discussions
• Initial discussions with DfE re approach to SSG’s who are subject to Connection Agreement termination notices
  • UR involvement in further discussions
SSG RoCoF – 30 September 2019

- NIE Networks expect there to be a significant number of SSG’s and MW changed by 30th September 2019
  - Based on high level of engagement so far
  - Continued direct correspondence with SSG’s
  - Impact of information evenings
  - Impact of clear messaging on the implications of non-compliance
    - De-energisation, Ofgem, DfE and supplier contract implications
EU NETWORK CODES
RGLG Update 21/05/19
EU Codes that affect NIEN & its Customers

- Requirements for Generators (RFG) – significant impact for new generation connections
  - EIF May 2016, Generators connecting after 27th April 2019 must comply with RfG

- Demand Connection Code (DCC) – Only applies to new demand at distribution which intends to provide demand response
  - EIF Aug 2016, compliance required by Aug 2019

- System Operation Guide Lines (SOGL) – Mainly deals with how TSO operates the transmission system
  - EIF August 2017, majority of articles become active at 12, 18 and 24 months, small number of articles effective immediately
RfG Implementation - Update

• TSO/DNO consultation report on the proposals for General Application of RfG Requirements for NI approved by UR on 16th November 2018

• The agreed parameters have been updated to the draft G98/NI, G99/NI, D Code & PPM Setting Schedule documents

• Joint consultation on all 4 documents was issued early 10th January 2019 and closes on 15th February 2019

• Consultation focuses on document structure and new legal text only:
  • New RfG requirements are now required by law
  • The parameters have already been consulted on and approved

• Consultation report submitted to UR

• UR Approval for all documents 26th April 2019

• All documents available on NIE Networks website
  • https://www.nienetworks.co.uk/distribution-code
G98/NI – Applies from 27th April 2019

- G98/NI replaces G83
  - Covers type tested generators up to 16A/phase
  - Also covers multiple premises in a close geographic area
  - Also covers generators <800W and storage but RfG specific requirements will not apply to these types
  - Non-type tested generators will be referred to G99/NI (G59 replacement)
  - Includes changes as a result of feedback in GB
  - Includes parameters from the RfG consultation
G99/NI – Applies from 27th April 2019

- G99/NI replaces G59/1/NI
  - Covers type tested generators >16A/phase and <100kW
  - Covers all non-type tested generators
  - Includes all technical and compliance requirements for Type A and Type B generators
  - Includes all technical requirements for Types C & D generators, PPM compliance requirements will be detailed in the PPM setting schedule
  - Includes changes as a result of feedback in GB
  - Includes parameters from the RfG consultation
D Code (Issue 5) – Applies from 27th April 2019

- D Code legal text changes required to take account of RfG
  - Includes changes as a result of feedback in GB
  - Includes parameters from the RfG consultation