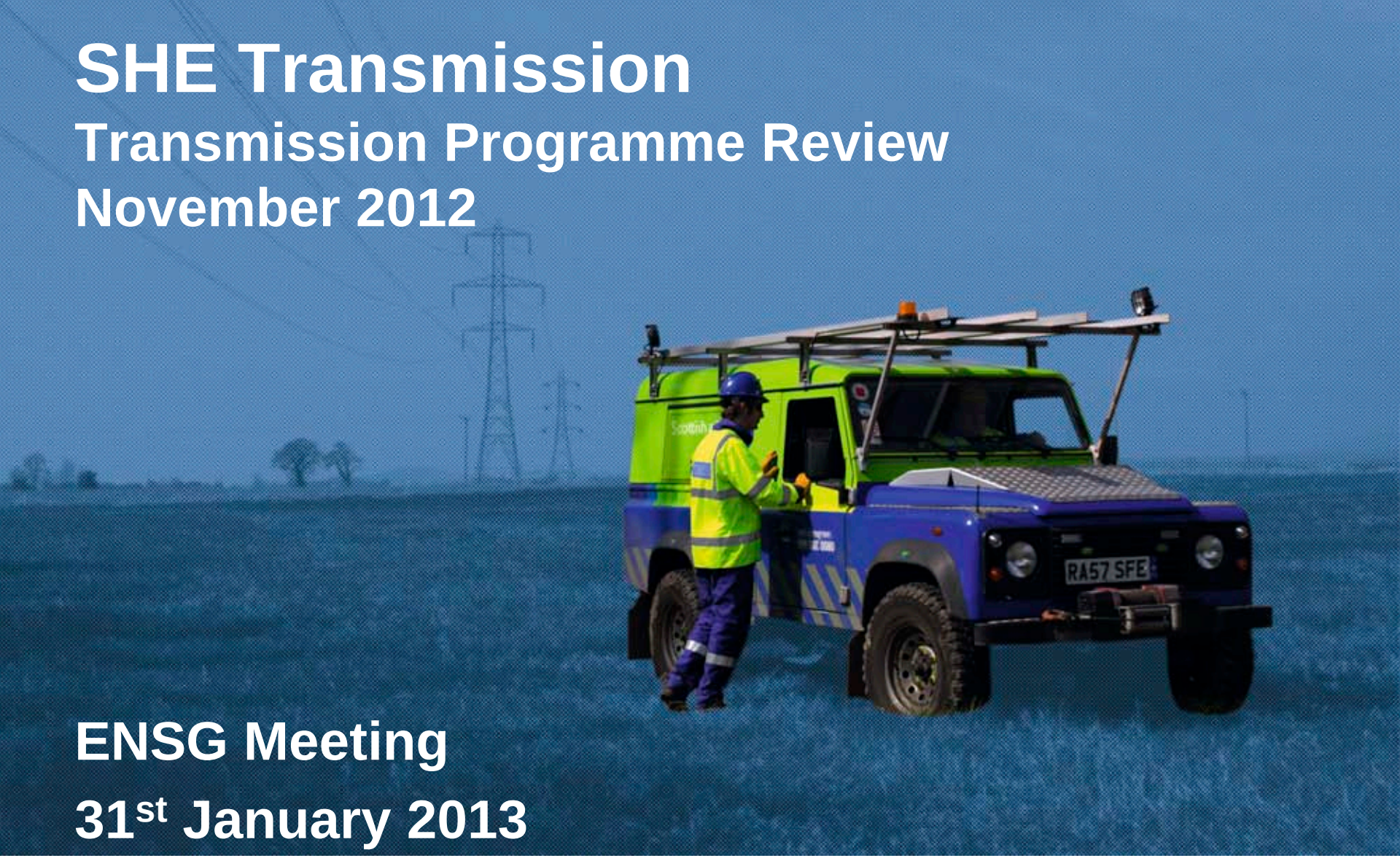
SHE Transmission

Transmission Programme Review

November 2012



ENSG Meeting

31st January 2013

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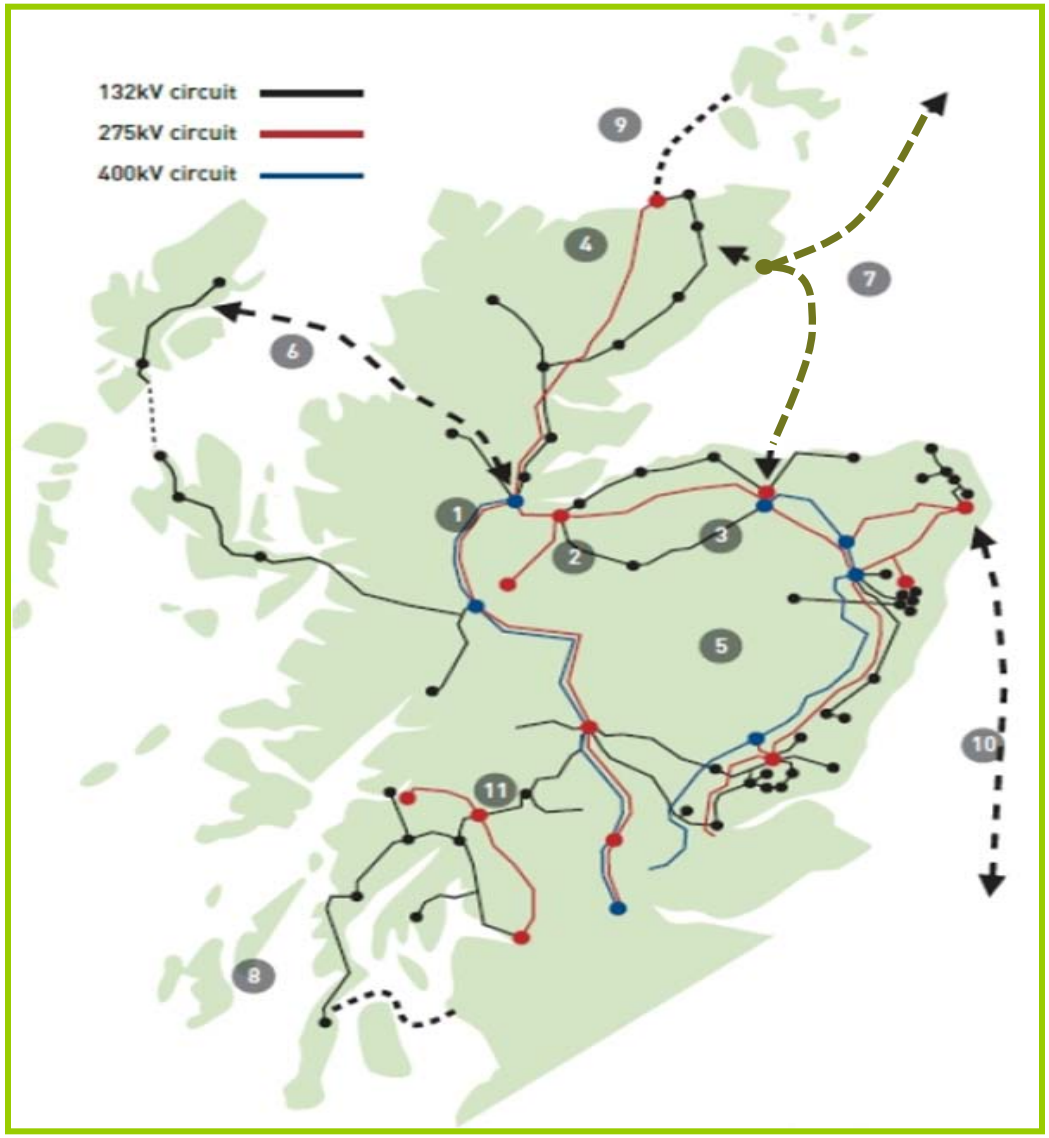
Transmission Development



The next 10 years will be about growing our Network to accommodate renewables:

1. **Beauly-Denny rebuild**
2. **Knocknagael substation (completed)**
3. **Beauly-Kintore 275kV reconductor**
4. **Beauly-Dounreay second circuit**
5. **East Coast 400kV reconductor**
6. **Western Isles Link (HVDC)**
7. **Caithness-Moray-Shetland**
8. **Kintyre-Hunterston subsea link**
9. **Orkney reinforcement**
10. ***East Coast HVDC Link***
11. **Inverarnan (completed)**

Plus other local reinforcements

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Review drivers (1)

Uncertainty in generation profile

- Energy Bill – EMR
- Affordability & commitment
- Marine Technology development
- Offshore deployment costs
- All lead to scope and design change

Learning from Western Isles position

- Need for cost certainty and associated impact on the Needs Case and Technical funding submissions
- Better understanding of risk (cost and schedule quantification)

Strategic Wider Works process

- Understanding and expectations

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Review drivers (2)

Supply chain constraints

- Restricted market
- Manufacturing and construction programmes

Internal challenge

- Project management & governance

Notification of dates

- Early input for CMP192 notification

Scope included

- All major schemes in Construction
- 16 major schemes in Development

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Scope of Review

Projects reviewed

In Construction	In Development
Beauly-Denny	Kintyre-Hunterston AC Link
Beauly Mossford substation	Beauly-Mossford line
Beauly-Blackhillock-Kintore	Caithness HVDC Link (6)
	Shetland Isles Link (2)
Beauly-Dounreay (2)	
	Western Isles Link (2)
	Orkney AC Link
	East Coast 400kV (3)

(3) - Number of project elements

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Controllable Risks

Key project interdependencies identified

- Opportunities to de-link and de-risk programme
- Outage timetable & interactions – first phase

Project programme

- Quantification and assessment of risk improved
- Risk allowance in contractor programmes increased

Planning & consenting

- Timely programmes into Consents Unit

Regulatory process

- Robustness of project status, costs and timetable
- Potential phasing of technical funding submissions

Communications

- Dedicated communications team

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Uncontrollable Risks

Generator certainty

- Commitments and affordability
- Scope changes to Transmission projects

Supply chain

- Cables manufacturing periods & factory slots
- HVDC marketplace
- Competing projects – Other TO's and globally
- Developing strategy - competitiveness of bids in constrained markets

Geography, skills and resources

- Geographical challenge – resources/supply chain
- Working with Government agencies

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Key Projects

- **Caithness – Moray**
  - Delay from 2015–17 to 2018
  - Key issues: supply chain, cable routing, wayleaves & land acquisition
- **Shetland**
  - Delay from 2017 to 2018
  - Key issues: supply chain, cable routing, land acquisition
- **Orkney**
  - Delay from 2016 to 2018
  - Key issues: circuit routing, cumulative impact on Orkney and 132kV route
- **Western Isles**
  - Completion by October 2016 for HVDC Link possible
  - Generator commitment & affordability are key

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Generator Profile for the North of Scotland

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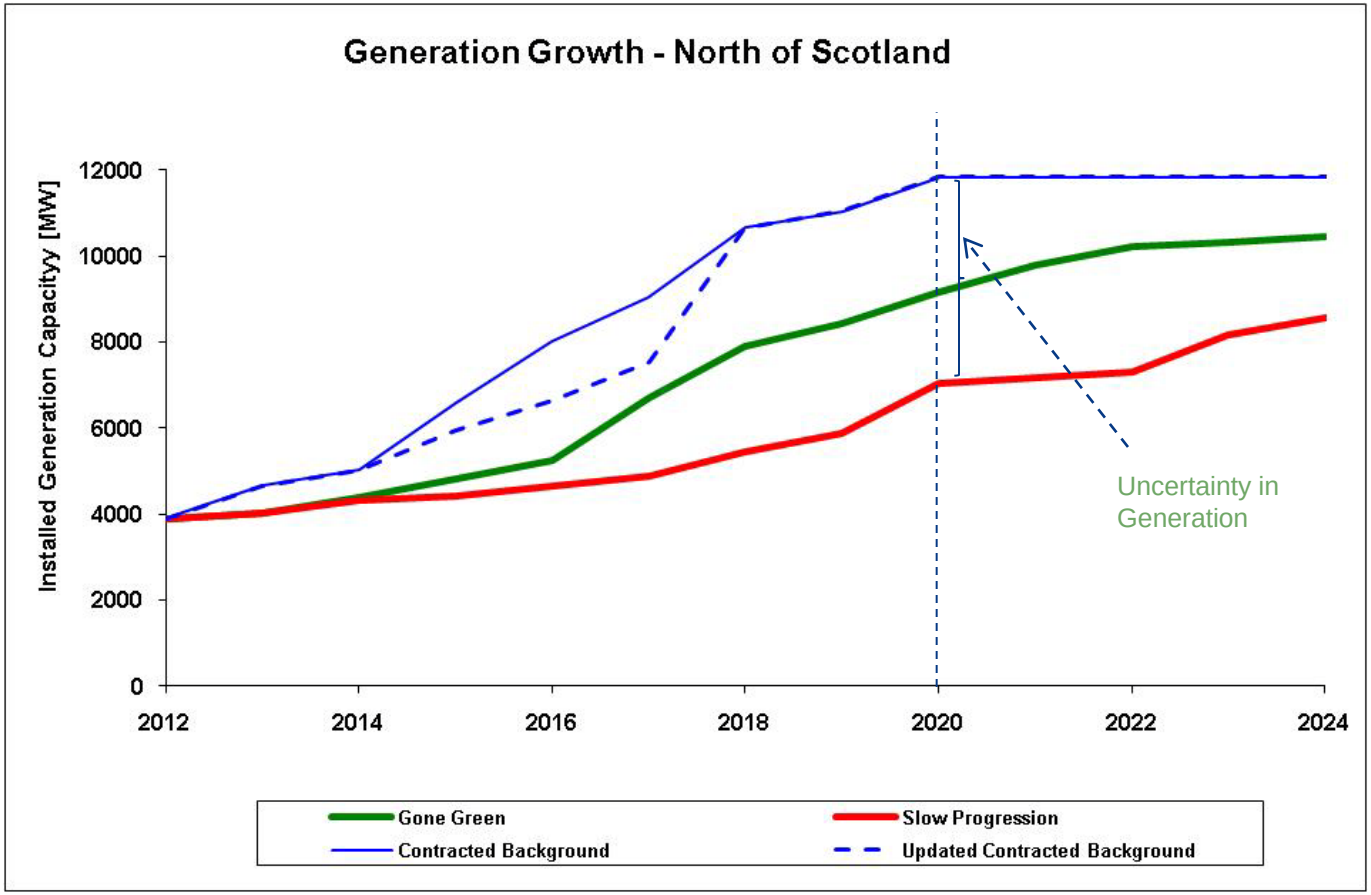

1. 4000MW: 1200MW Peterhead, 1400MW Hydro, 1300MW Wind, future growth is renewables
2. Contracted volumes – back on track by 2018, and targets met
2. Gone Green meets UK & Scottish targets

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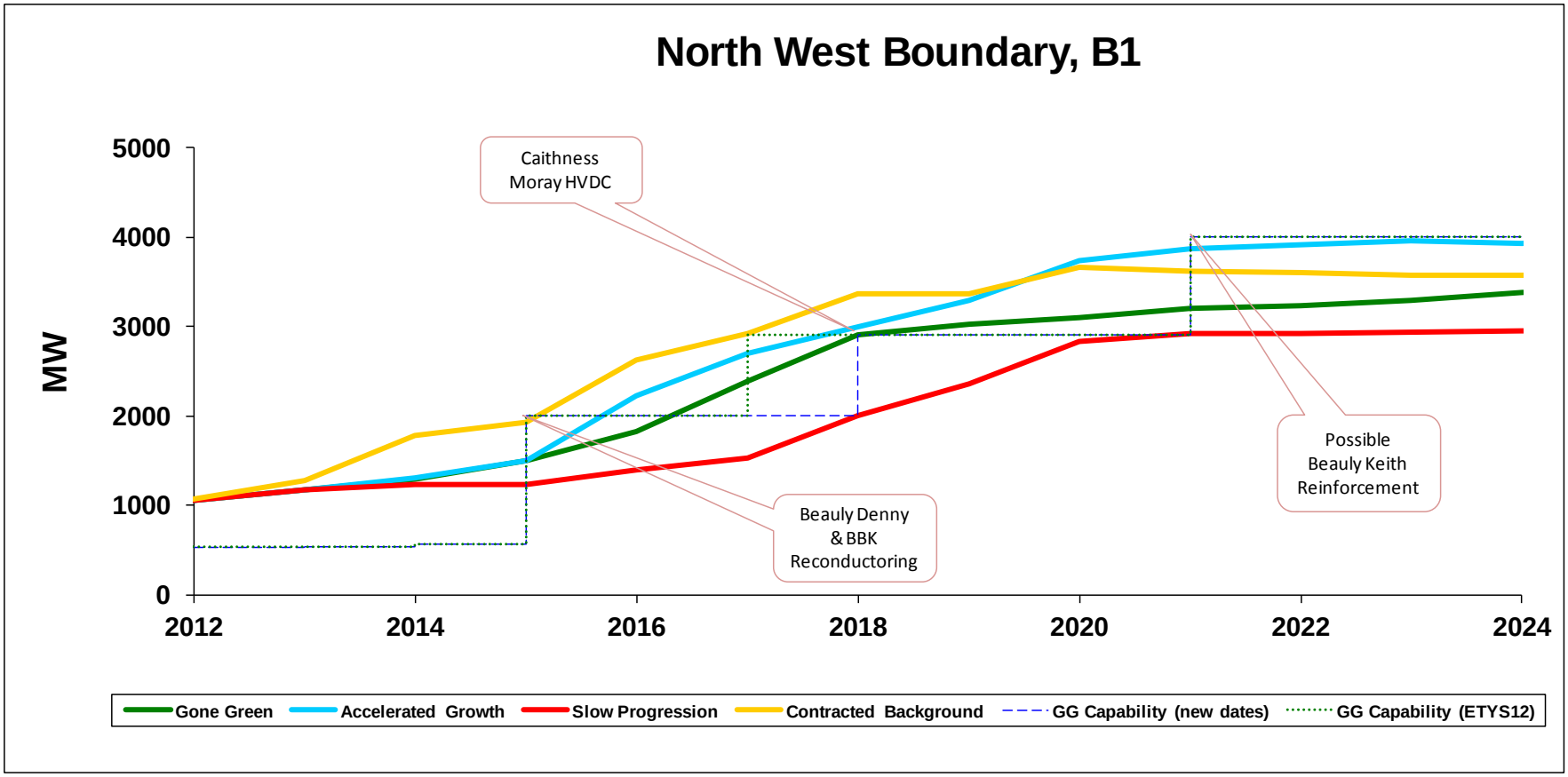
North-West Grid Capacity

1. Grid capacity likely to be sufficient for the actual growth
2. Effect on forecast constraints to be assessed by NGET



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Feedback & Impacts

Generators affected:

- 21 schemes (2.4GW)
- of which – 5 consented (0.64GW)

Issued December Statement to allow NGET to reduce underwriting commitments for Generators

NGET will assess:

- Opportunities to advance connections (active management)
- Effect on system constraints

Main stakeholder feedback:

- Developers – for some specific projects
- Scottish Renewables & Renewables UK
- Crown Estate & Orkney Council

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Challenges in feedback

Peak in 2018

- Resource planning on cables, subsea laying, line & s/stn builds
- Commissioning resource being addressed
- Continual assessment of alignment with renewables growth

First phase

- Refinement of outage programmes
- SPT's Beauly-Denny completion 2015
- SWW process
- Confirmation of supplier dates

Constraints

- Assessed by NGET, informed by SHE Transmission

Date certainty

- Risks understood, some addressed, some remain

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Ongoing Collaboration

Suppliers	**-** cables, hvdc and resources
Government agencies	**-** skills and training
DECC	**-** ‘affordability’ group
Scottish Government	**-** planning and consents
Ofgem	**-** Strategic Wider Work funding process
SPT	**-** project interfaces
NGET	**-** outage programmes - confirm & refine
	- constraint management (ANM)
Developers	**-** user commitment

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