



NETWORKS



FlexTech - Hybrids The National Climate Action Plan (CAP) & Multiple Legal Entities

21/08/2020

Agenda



1. CAP 18 Action
2. FlexTech Hybrids
3. Flextech Hybrid Delivery Programme, Short, Medium and Longterm
4. Hybrid Definition (All Island)
5. Hybrids – Draft Multiple Legal Entities Contract Consultation
6. Hybrids – CAP 18 CRU Q2 Draft Response
7. Hybrid Test Cases
8. AOB

Q2 deliverable: Identify required changes to implement more hybrid connections in the market.

Action 18: Facilitate additional hybrid connections (e.g. solar/wind/batteries) operating in the electricity market to increase RES-E penetration			
Steps Necessary for Delivery	Timeline by Quarter	Lead	Other Key Stakeholders
Review of hybrid connection requirements and requirements of the market	Q4 2019	CRU	ESBN, EirGrid
Identify required changes to implement more hybrid connections in the market	Q2 2020	CRU	ESBN, EirGrid
Implement required changes	Q3 2020	CRU	ESBN, EirGrid, DCCAE
Review RESS eligibility and settlement rules for hybrid units	Q2 2021	DCCAE	EirGrid, CRU
Update RESS Terms and Conditions for hybrid units as appropriate	Q3 2021	DCCAE	EirGrid, CRU

- It is currently possible to connect a hybrid generator to the electricity system as a single legal entity.
- Hybrids are a core workstream in FlexTech
- EG and ESBN appointed Hybrid leads

Hybrids – CAP 18 CRU Q4 2019

- **ESBN & EirGrid issued a paper to the CRU in Q4 2019 – Step one of CAP 18**
- **Noted 2016 Hybrid working group**
- **Identified Key Issues:**
 - MLEs
 - Hybrid Definition
 - 120% MEC
 - Review SEM Market design for Hybrids
 - Overlap of Hybrids and Private Wires, requiring consideration
- **Next Steps**
 - Second Joint workshop in January 2020



Climate Action Plan- Action 18 (Facilitate Additional Hybrid Connections)

EirGrid and ESBN Joint Submission to CRU - December 2019

1. Introduction

Hybrid projects are typically made up of two or more technologies that seek to share a connection point to the electricity network. ESB Networks and EirGrid (the SOs) recognise that the facilitation of more hybrid connections can unlock more renewable penetration on the electricity system, optimising the use of existing and new grid connections. The SOs are committed to identifying and addressing all of the challenges, technical, legal or otherwise to ensure additional hybrids can be connected to the system as quickly and as cost effectively as possible.

The SOs welcome the fact that the importance of hybrid generators/connections have been recognised explicitly in the Government's Climate Action Plan (CAP) and are working in partnership with industry and the Commission for Regulation of Utilities (CRU) to ensure the actions identified in the CAP (Action 18) are addressed.

A significant amount of work has already been completed in the last six months which is outlined below, and this work provides the SOs and the CRU with a good platform to positively progress the hybrids workstream in 2020.

The initial action required under CAP Action 18 is to complete a "Review of hybrid connection requirements and requirements of the market". The CRU is identified as the lead for this action and the SOs are identified as "Other key Stakeholders".

This paper has been prepared by the SOs to support the CRU in addressing the delivery of the first element of this CAP Action by the deadline of end Q4 2019.

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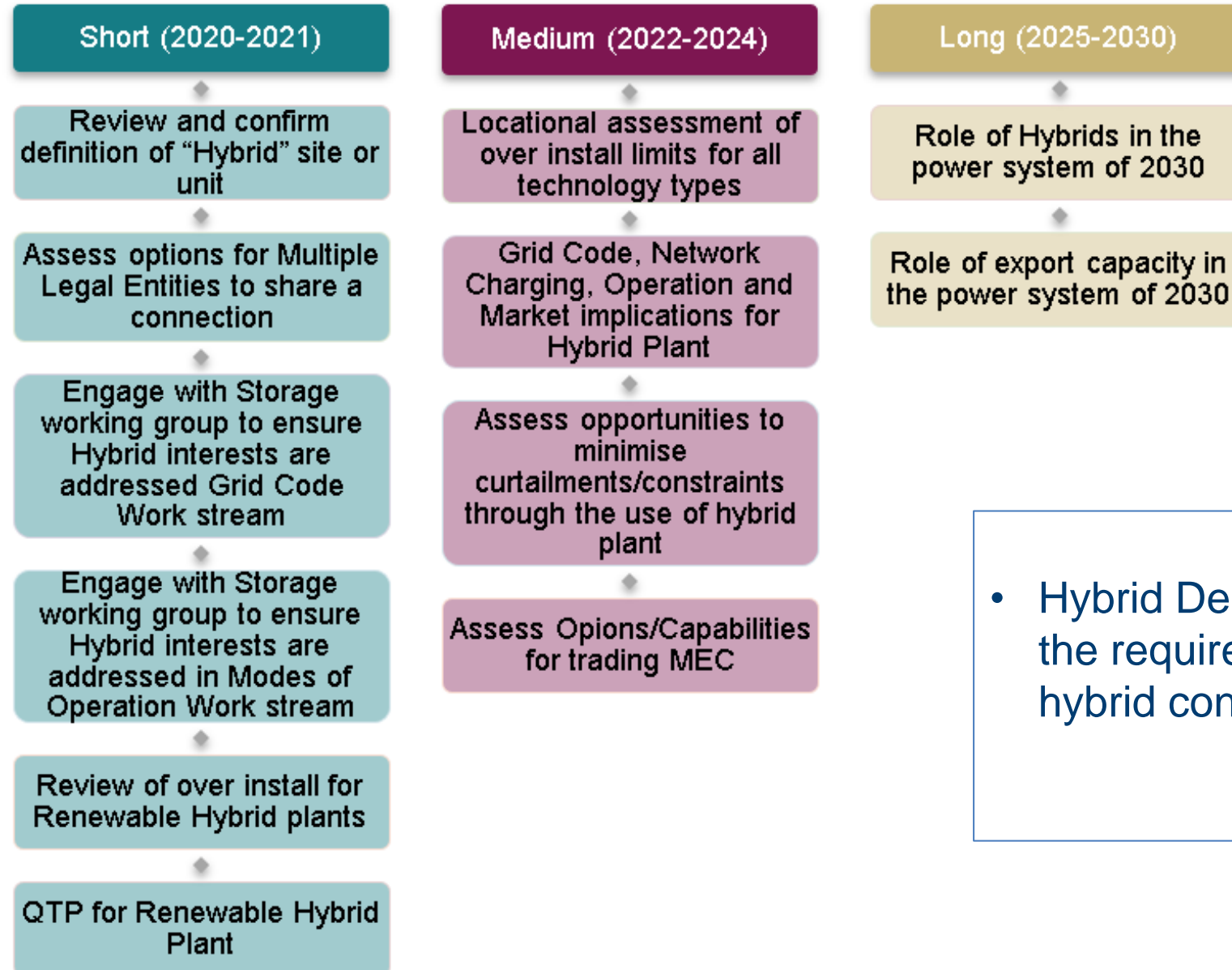
FlexTech Consultation – Hybrids are a core workstream

FlexTech System Operator Working Groups & Task Force



- An All Island SOs FlexTech meeting was also held in Q1 2020
- In Q2 2020 EirGrid have progressed in conjunction with all SOs to finalise the FlexTech Consultation, published July 2020.

FlexTech - Hybrids Delivery Programme



- Hybrid Delivery Programme Identifying the required changes to implement more hybrid connections in the market.

- **ESB Networks, EirGrid, Northern Ireland Electricity Networks, System Operator Northern Ireland and the Grid Code Panel have consulted and agreed on the below Hybrid definition.**
- A **Hybrid Site** to be any project that has multiple generating units or **power generating modules** which utilise multiple primary energy sources or technology types in generating/**storing electricity** and are electrically connected behind a single defined Connection Point to a licensed System Operator
- A **Hybrid Unit** is a single generating unit or **power generating module** which utilises multiple primary energy sources or technology types in generating/**storing electricity** and are electrically connected behind a single defined Connection Point to a licensed System Operator

Hybrids - MLE Contract Consultation



- **ESBN/EirGrid Hybrid Leads have drafted a specific MLE consultation**
 - Proposing a contract structure to industry, to obtain more specific feedback on the detail of the contract requirements to facilitate MLEs, which will be issued to CRU for review in June 2020
- **Next Steps**
- **Issue of Hybrid – MLE public consultation to CRU once reviewed and agreed by ESBN and EirGrid SMs.**
- **External joint EG/ESBN MLE legal review progressing through June/July**
- **Publish Hybrid – MLE public consultation September 2020.**
- **Flextech Industry 2020 public on-line Forum in Q4 2020**

Hybrid Working Group Multiple Legal Entities Consultation

Part of FlexTech Integration Initiative

July 2020



Hybrids – CAP 18 CRU Q2 Response

- ESNB drafted a CAP 18 draft response for EirGrid's review. Step two of Action 18
- Next Steps
- Issue of CAP 18 Hybrid – CRU Paper to SM for approval
- Issue to CRU 19th of June



Climate Action Plan – Action 18 (Facilitate Additional Hybrid Connections)

ESB Networks and EirGrid's Joint Submission to CRU – June 2020

Q2 deliverable under CAP Action 18: Identify required changes to implement more hybrid connections in the market.

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1. Introduction

This paper has been prepared by the System Operators (SO) to support the CRU in addressing the delivery of CAP Action 18, increasing the penetration of RES-E in maximising the use of transmission and distribution infrastructure. It is currently possible to connect a hybrid generator to the electricity system as one legal entity, as per the 2016 Joint Operator Recommendation Paper¹.

A significant amount of work has been undertaken across the broader workstream of Hybrids through the FlexTech programme, and on the Multiple Legal Entities (MLE) aspect of Hybrids in Q1&2 2020.

2. CAP Action 18 -Work Completed in Q1 & 2 2020 by SOs

2.1. FlexTech -Hybrids

Hybrids are a core workstream in FlexTech, EG and ESNB appointed Hybrid leads responsible for identifying and progressing issues within their organisation, and co-ordinating issues which require co-ordination across the various organisations: ESNB, EG, SONI, NIEN, SEMO and the Grid Code Panel.



In Q1 2020 a number of physical meetings were held between EG and ESNB's Hybrid teams in Q1 2020, an All Island SOs FlexTech meeting was also held in Q1 2020. In Q2 2020 EG have progressed in conjunction with all SOs to finalise the FlexTech June 2020 publication, currently with the CRU for

Hybrid Test Cases

Technologies		Testing Criteria					
Case Type	Assume MLE allowed	MEC Overinstall	DSO Planning Design Impact	Metering	RTU/Communications (DSO RTU 1-5MW) (TSO)	Dynamic MEC	Non Secure Connection
Case 1	Wind & Wind	<120%	No impact now but with non-secure network access could make a difference	Submetering required as per existing practice?	Unknown, Is the 5MW/1MW limits for MEC or installed capacity or does this have to be changed.		
Case 2		>120%	No impact now but with non-secure network access could make a difference	Submetering required as per existing practice?	Unknown, Is the 5MW/1MW limits for MEC or installed capacity or does this have to be changed.		
Case 1	Wind & Solar	<120%	No impact now but with non-secure network access could make a difference	Submetering required as per existing practice?	Unknown, Is the 5MW/1MW limits for MEC or installed capacity or does this have to be changed.		
Case 2		>120%	No impact now but with non-secure network access could make a difference	Submetering required as per existing practice?	Unknown, Is the 5MW/1MW limits for MEC or installed capacity or does this have to be changed.		
Case 1	Wind/Solar & Battery	<120%	No impact now but with non-secure network access could make a difference	Submetering required as per existing practice?	Unknown, Is the 5MW/1MW limits for MEC or installed capacity or does this have to be changed.		
Case 2		>120%	No impact now but with non-secure network access could make a difference	Submetering required as per existing practice?	Unknown, Is the 5MW/1MW limits for MEC or installed capacity or does this have to be changed.		
Case 1	Diesel & Wind/Solar	<120%	No impact now but with non-secure network access could make a difference	Submetering required as per existing practice?	Unknown, Is the 5MW/1MW limits for MEC or installed capacity or does this have to be changed.		
Case 2		>120%	No impact now but with non-secure network access could make a difference	Submetering required as per existing practice?	Unknown, Is the 5MW/1MW limits for MEC or installed capacity or does this have to be changed.		

Questions