



Distributed Generation Owner/Operator Forum

23 January 2020

- 13.30 **Arrival, registration and buffet lunch**
- 14.00 **Introduction, action review and objective setting from the chair and WPD**
- 14.10 **Improving industry and WPD communication to address outages/constraints**
 - Forum member feedback on communication
 - Report back from single point of contact
 - Progress on updating outage portal
- 14.40 **Update on the Accelerated Loss of Mains protection programme**
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- 15.30 **Impact of network charging reforms on existing distributed generation**
Olly Frankland, project manager, Regen
- 16.00 AOB
- 16.30 **Networking and close**



Careers

Have your say

Stakeholder registration



Our Engagement Groups

Our Workshops & Events

How are we delivering?

Our Future Business Plan

[Home](#) / [Distributed Generation Owner Operator Forum](#)

Distributed Generation Owner Operator Forum

We hold a regular forum aimed at owners and operators of MW scale renewables connected to WPD's network. Working in partnership with Regen, these meetings provide an opportunity for DG owners and operators to engage with us, contribute towards improved processes and tackle arising issues.

Previous areas of discussion have included:

- WPD work to address grid constraints;
- Improving communication with generators on outages and constraints; and
- Potential approaches for forecasting and mitigating outages.

Meeting notes & slides from previous events

yourpowerfuture.westernpower.co.uk/distributed-generation-owner-operator-forum


Future Forum Meeting Dates



8th October 2019

If you or a colleague would like to join the forum then please contact Olly at Regen on: ofrankland@regen.co.uk for further details.

Attendance is free of charge and limited to MW scale owner/operators of DG assets.



Western Power Distribution Generation Portal

Log in

You are being granted access to Western Power Distribution's Generation Portal. You understand that your access to this website is subject to the website's [Terms of Use and Privacy Policy](#).

User name:

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PLEASE NOTE, THESE TERMS AND CONDITIONS GOVERN THE USE OF OUR GENERATOR PORTAL. BY CLICKING ON THE "ACCEPT" BUTTON BELOW OR USING THE GENERATOR PORTAL, YOU AGREE TO THESE TERMS AND CONDITIONS, WHICH WILL BIND YOU. IF YOU DO NOT AGREE TO THESE TERMS AND CONDITIONS, YOU MAY NOT USE THE GENERATOR PORTAL AND YOU AGREE THAT YOU WILL CEASE TO DO SO IMMEDIATELY.

<https://generation.westernpower.co.uk/>

WPD ICE plan 2018/19

Section 2 – Availability of information

Initiative		Initiative description
2.1*	Provide historic and forecast outage information and improved curtailment information for DG EHV connections at the point of issue of the connection offer	Develop systems and processes to provide better historical and forecast outage information, for a proposed DG EHV connection at the point of issue of the connection offer. Where the connection offer is for an alternative connection, we will also undertake developments to provide improved curtailment information. This improved information is intended to provide clarity on the likelihood of the level of curtailment
2.2	Further develop the WPD DGOO	Continue to develop the WPD DG Owner Operator Forum, developing an action plan with members to deliver further improvements to outage information provision. Host 4 forums including a visit to a WPD Control Centre providing further insight to members.
2.3	Continuing 2017/18 initiative: report on lost generation due to outages	Continuing 2017/18 initiative: Publish the report developed with the DGOO, on the quantity of generation loss (in MWh) caused due to WPD and National Grid system outages (132kV, 66kV & 33kV only) by generation technology type.
2.4	Further develop the report on lost generation due to outages	Further develop the report on lost generation due to outages to include an estimation of the £ value lost due to outages in the published report.
2.5	Report on reduced DG losses avoided during outages	Develop a report on the amount of DG losses avoided with the processes and procedures which have been developed to reduce the impacts of outages on DG. Develop ways of both quantifying reduced losses and of reporting case studies.
2.6	DG Constraints information leaflet	Produce a leaflet which will provide guidance to DG customers on how outages and constraints on the distribution system may effect their connections.

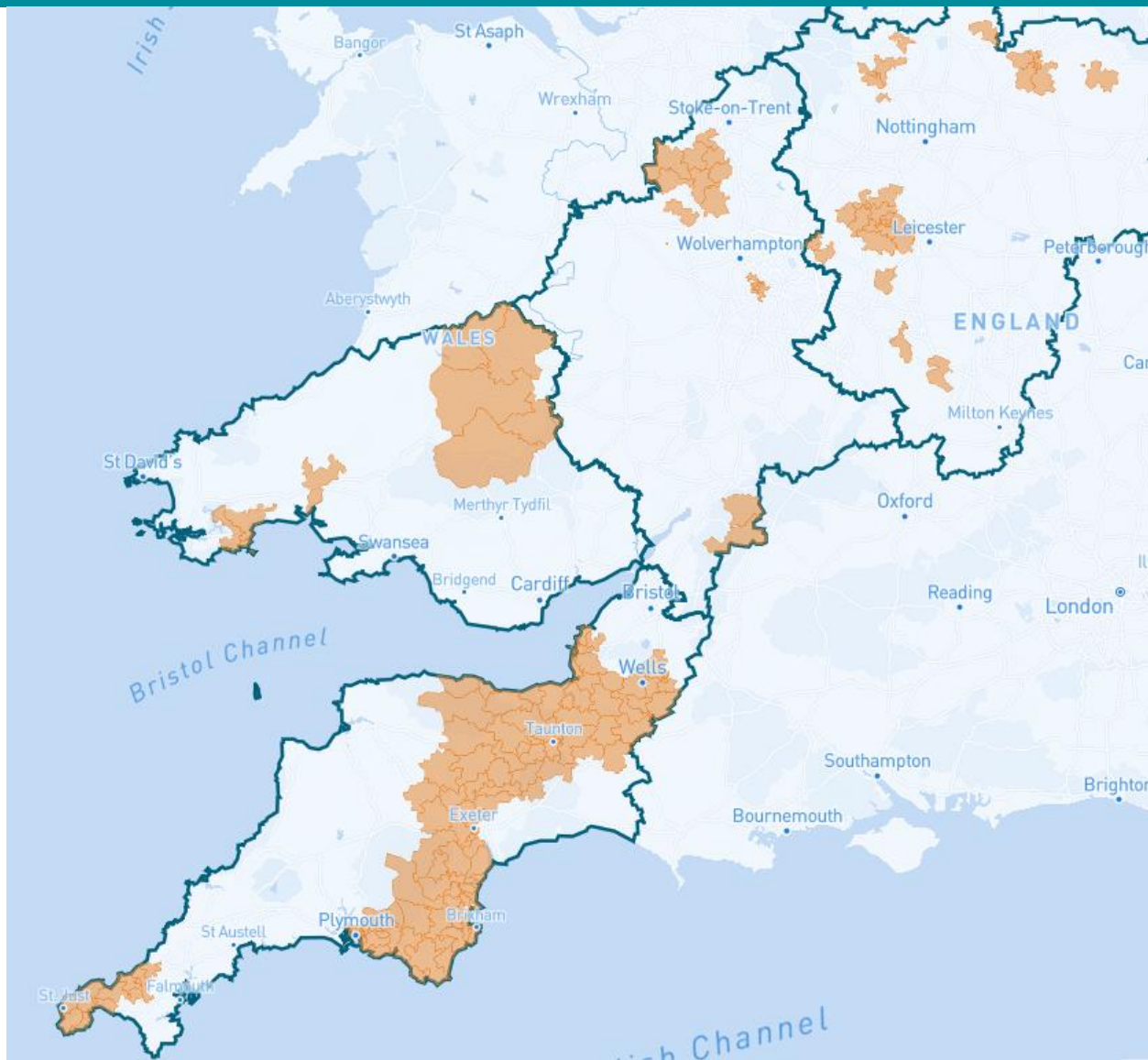
* Initiative shared between Control and Connections Policy

WPD ICE plan 2018/19

Section 2 – Availability of information

Initiative		Initiative description
2.7	Pro-active fault explanation email	In conjunction with the WPD DGOO, develop a pro-active email notification process to provide DG customers with explanations regarding faults on the distribution system which may have effected their connection.
2.8	Contacts for assistance with DG portal	Provide contact details for users to obtain assistance with the WPD DG portal.
2.9	Present to the WPD DGOO on ANM	Present to the WPD DGOO forum on Active Network Management connections and their bearing on outages and constraints.
2.10	Present to the WPD DGOO on operational best practice	Present to the WPD DGOO forum on operational best practice, raising awareness with stakeholders regarding the operation of their connections assets, in particular around outages and constraints.
2.11	Continuing 2017/18 initiative: DNO best practice on outages and constraints	Continuing 2017/18 initiative: WPD to work with Distributed Generation stakeholders to establish DNO industry good practice initiatives with regard to the management & notification of Network outages and generation constraints.

WPD - Flexible Power tenders



<https://www.flexiblepower.co.uk/our-schemes>



<https://picloflex.com/dashboard>

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Accelerated Loss of Mains Change Programme

Peter Aston, Primary System Design Manager, WPD

23rd January 2020

Loss of mains protection

- Loss of mains protection - Vector shift or Rate of Change of Frequency (ROCOF)
- Vector shift – has experienced mal-operation following 400kV faults
- ROCOF – historical setting of between 0.125Hz/s and 1Hz/s has led to frequent trips
- G59 – modified to v3 on 1 Feb 2018 to include new LOM settings:
 - Removed Vector Shift as Loss of Mains protection
 - Increased ROCOF settings to 1Hz/s, 500ms time delay
 - Applied immediately to new connections
 - **Retrospective for existing sites. Implementation by 31 Aug 2022.**

Cost of balancing the system

- Due to potential loss of DG for ROCOF and VS, National Grid Electricity System Operator (NGESO) holds a large amount of reserve on the network to cover these losses.
- £30.3m (2015/16), £30.7m (2016/17), £59.2m (2017/18)
- Predicted to cost £600m between 2018 and 2024, as DG penetration increases and system frequency is less stable, due to reduced inertia.

Accelerated Loss of Mains Change Programme

- NGESO has identified a system need to accelerate this change before 31 Aug 2022:
 - System stability, emphasised by 9th Aug 2019 low frequency event
 - Cost of operating the system and holding reserve for LOM trips
- NGESO have decided to pay customers connected prior to 1 Feb 2018 to change their LOM protection to the new settings
- From Oct 2019 – Oct 2021 (approx.)
- Either a settings change, disabling of settings, or relay change
- Payment is £1500 / £500 for a settings change or £4000 for a relay change
- Total payments to customers approx. £175m, plus £10m admin

Accelerated Loss of Mains Change Programme - WPD

- Contract with NGESO and other network operators
- Number of sites in WPD approx. 10,000
- Represents about 9GW
- Payments to WPD customers approx. £40-50m
- **Plenty of funding left – please apply!**

Process

- Apply through the ENA Portal – went live 2nd Oct 2019
- DNO verifies application and approves for a window
- NGESO assesses and accepts applications against budget
- Generator undertakes works and provides evidence
- DNO pays generators for works completed
- DNO invoices NGESO for payments to generators plus admin costs
- Further information available at:

<http://www.energynetworks.org/electricity/engineering/accelerated-loss-of-mains-change-programme.html>

Dedicated WPD email: ALOMCP@westernpower.co.uk

Criteria

For participation, sites must meet the following criteria:

- Operate in long term parallel with the distribution network
- Connected prior to 1st Feb 2018
- Currently has the following LOM protection:
 - Vector Shift
 - ROCOF with settings more sensitive than 1Hz/s (i.e. not compliant with G59/3)
 - ROCOF where the settings have already been modified to meet G59/3
- Have not previously received payment

Progress

- Dedicated administration resource in place to undertake this work
- 771 applications received so far
 - 553 in Window 1 (2nd Oct – 12th Nov)
 - 218 in Window 2
- 498 sites recommended to NGESO by WPD in Window 1
- 486 sites approved by NGESO in Window 1
- ~5 sites completed works, ~30 by end of Jan 2020
- Completion dates currently spanning all of 2020
- Recognised contractors list published -
<https://www.westernpower.co.uk/downloads-view/81532>

Witnessing and sample site visits

- Relay changes and disabling of settings are required to be witnessed, unless works are undertaken by a recognised contractor.
- A % of sites where changes were not witnessed will be subject to a sample site visit (maybe up to 600 sites for WPD).
- Sample site visits (for selected sites) are required for payment to be released.

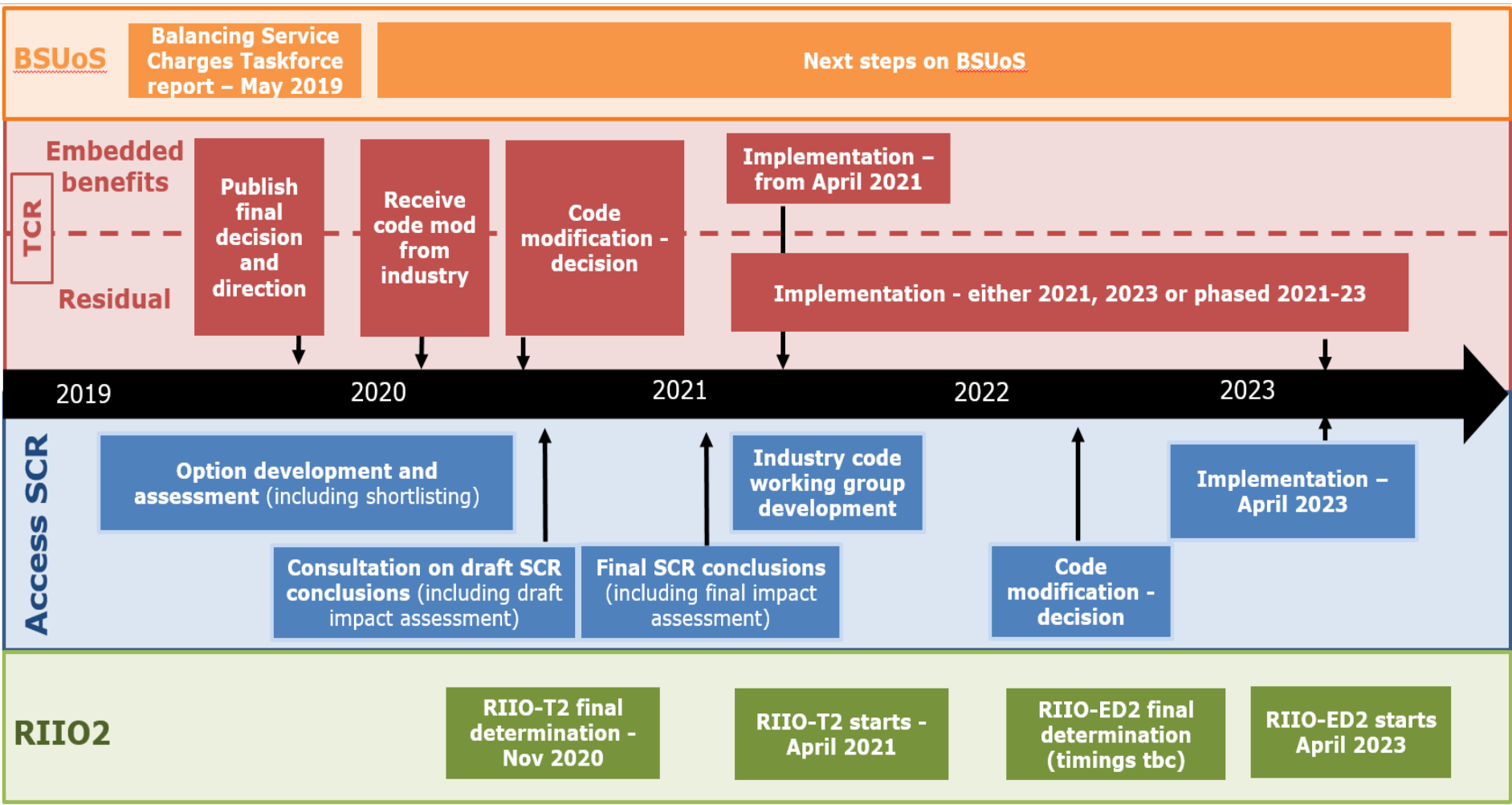
Questions?

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Network Charging

Significant Code Reviews

An emerging picture



Concerning how and who pays the cost to run the electricity networks – these
Ofgem review is looking mainly at distribution network
Network charges are c. 25% of the final users electricity bills
Critical cost for generators (our main perspective here)

Ofgem's main concern

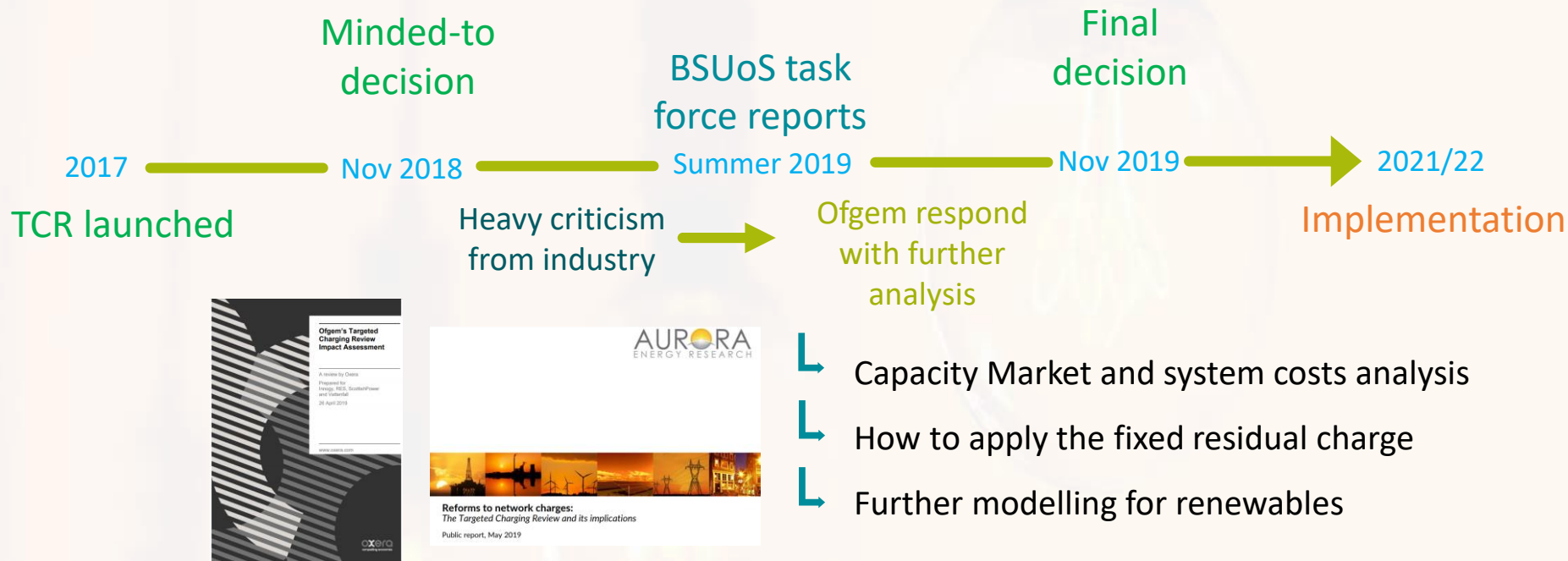
- Fairness - some people and businesses (and generators) can avoid or reduce network charges by putting things behind the meter etc. The network bill doesn't (necessarily) reduce because of that
- Those left pay more.

Our concerns

- The distribution network lacks capacity and the existing charging regime does not support the network development that we need to support significant growth of distributed renewables.
- Many areas are 'full' – stifling economic growth and decarbonisation

This is mentioned but is secondary...

Targeted charging review - background



Targeted charging review - decision

Final decision – Nov 2019

Embedded benefits

2021 implementation

TGR set to zero (in compliance with EU regs)

BSUoS embedded benefit will be removed (£2.50/MWh)

Another taskforce will be set up to decide how BSUoS will be charged

It is not feasible to charge any of the components of BSUoS in a more cost-reflective and forward-looking manner that would effectively influence user behaviour that would help the system and/or lower costs to customers. Therefore, the costs included within BSUoS should all be treated on a cost-recovery basis.

LCCC currently use strike price to cover cost of BSUoS for large CfD generators – they may expand this to smaller generators

Targeted charging review - opposition

Opposition

Poorly received by renewables and storage industry. Criticisms include:

Fixed charge

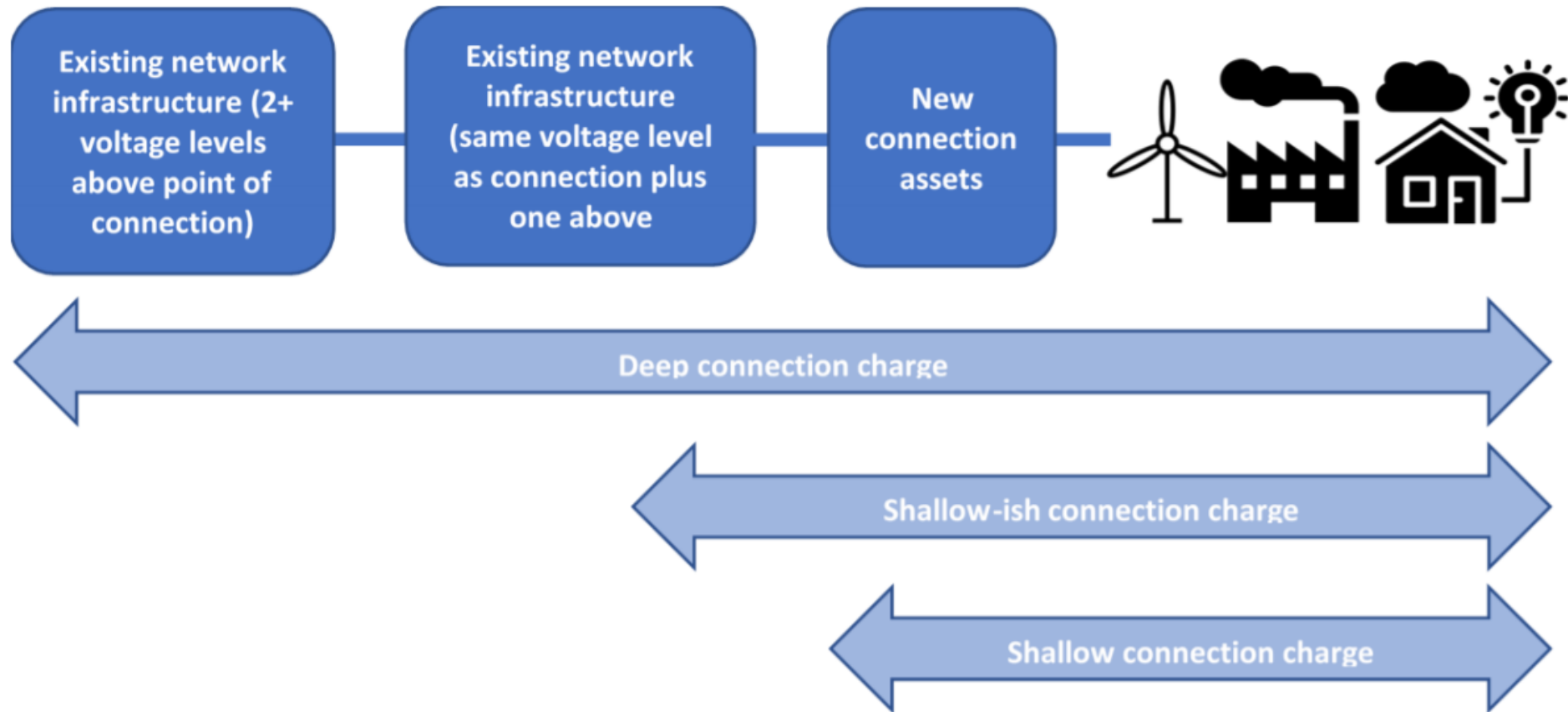
- ↳ removes incentive to change behaviour
- ↳ penalises those who use less and rewards those who use more
- ↳ penalises those with on-site generation

Embedded benefit changes

- ↳ Could result in £2.50-5/MWh loss for renewables
- ↳ Could delay subsidy-free renewables by 2 years

Access and forward looking

Figure 1: different connection charges faced by connecting users⁴



Access and forward looking

Proposed reforms:

- DUoS gives locational signal, connection charge doesn't need to
- Network company can procure flexibility to 'free up' network capacity for new connectees

Impact on connectees:

- Lower upfront charges with higher ongoing charges in constrained areas
- More use of flexibility procurement to enable connection

Access and forward looking

Network capacity - access rights

- Removed plans for auctioning – look at some kind of market
- Better definitions for domestic and large users

Timeframes:

- Draft conclusions mid-2020
- Implementation in April 2023

Resources

Regen webinar

<https://www.regen.co.uk/event/network-charging-an-emerging-picture/>

Charging Futures forum

<http://www.chargingfutures.com/>

Ofgem

<https://www.ofgem.gov.uk/publications-and-updates/access-and-forward-looking-charges-significant-code-review-winter-2019-working-paper>

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Future forum dates and key events

Next **WPD DGOO forum** (Bristol):
23 April 2020

[Flexible Power Networking and Surgery](#)

One Drummond Gate, London
19 February



[Flexible Power - Routes to Participation Webinar](#)

24 January



📍 : Bradninch Court, Castle Street, Exeter, EX4 3PL
☎ : 01392 494 399

24 January, 2020