

RIIO-ED2 Decarbonisation and the Environment Working Group: session 6



RIIO-ED team
23 April 2020

Purpose of today's meeting is to:

- Get a progress update on outstanding actions
- Discuss group's feedback on the scope of the ED2 Environmental Action Plan
- Review main options that have been proposed through the working group sessions for arrangements in ED2 relating to decarbonisation and the environment.

Timings	Agenda item
09:50 – 10:05	1. Intro/recap
10:05 – 11:15	2. Updates on actions <ul style="list-style-type: none"> a) WPD update on BCF methodologies b) SSE update on SF6 progress c) SPEN update on losses d) SPEN update on T2 environmental tables pros/cons
11:15 – 11:25	Break
11:25 – 12:15	3. EAP <ul style="list-style-type: none"> a) Discuss feedback on the scope of the ED2 EAP
12:15 – 13:00	Lunch
13:00 – 14:30	4. Run through of the Environmental package as a whole <ul style="list-style-type: none"> a) Slides on the proposals for each area b) Discussion
14:30 – 14:45	Actions and next steps

Proposed dates and locations for D&E working group sessions

	Date	WG session	Location
1. Introductory session	9 December 2019	10am-4pm	Ofgem London offices (Room 1.11)
2. Group priorities and policy options: Decarbonising the networks (losses & BCF)	28 January 2020	10am-4pm	Ofgem Glasgow offices (Rooms 1 and 2)
3. Policy options: Reducing environmental impact	19 February 2020	10am-4pm	Ofgem Glasgow offices (Rooms 1 and 2)
4. Evidence and analysis: Reducing env. Impact and decarbonising the networks	12 March 2020	10am-4pm	Teleconference
5. Evidence and analysis: Reduce environmental impact	2 April 2020	9:50am-2:45pm	Teleconference
6. Policy options: All policy areas	23 April 2020	9:50am-2:45pm	Teleconference
7. Evidence and analysis: All policy areas	21 May 2020	10am-4pm	Teleconference

Item 1: Updates on actions

Action	Allocated to	Due date
SF6 action - DNOs to share their methodologies for measuring SF6 leakage with Ofgem as well as other reporting such as internal monitoring metrics	All DNOs	To share with Ofgem by Thursday 9th April.
SF6 action – Provide rough cost estimates if all switchgear was to be replaced with alternatives to SF6 in ED2. Where possible, costs should be broken out by voltage level to understand the order of magnitude.	SSE	To share with Ofgem by Thursday 9th April.
SF6 action - Update on consultation position: the scope and the content of the report.	SSE	Call prior to 23 rd April, and update at WG6
BCF action - WPD have asked for all DNOs' BCF methodologies to be submitted to them and will start compiling. They will provide an update on 23 rd April	All DNOs (co-ordinated by WPD)	To share with Ofgem by 16 th April
Losses action - SPEN will recirculate their losses slides for feedback, and will update on 23 rd April. ENWL will find out about CBA group and how losses work will feed into that	DNOs	To share with Ofgem by 16 th April. Updates at WG6
EAP action – check that table 4.4 of T2 BP is being carried through to the ED2 price control	SPEN	23 rd April
EAP action – Ofgem to send round a table for members to populate with their views on the scope of the EAP for ED2	Ofgem/DNOs	Completed table by 16 th April
EAP action – SPEN to circulate Carbon Trust overview of BCF science-based targets	SPEN	When Carbon Trust send this through
DNOs to arrange a phonecall, in order to further feed in their views on UKPN's Environmental Incentive proposal. Ofgem will catch up with UKPN once this has happened.	DNOs	23 rd April

SSEN SF6 Update

23rd April 2020



Scottish & Southern
Electricity Networks

DEWG Action – SF6 Scenario Costing

Action – Provide rough cost estimates if all switchgear was to be replaced with alternatives to SF6 in ED2

- Based on the high level approximate calculation below we estimate the potential cost for all DNOs to replace all SF6 switchgear with alternatives within the RII02 period to be in the region of £7.8bn (2018/19 prices).
- This estimate is based on the standard averaged ED1 unit cost rates and the number of assets provided in the SF6 ENA report. A 20% uplift has also been added to reflect potential price changes going forward, particularly where there are supply chain pressures if all DNOs were to replace at the same time. It also reflects a potential margin of error given this is a high level rough cost estimate at this stage.

The calculation is illustrative only giving a potential cost based on high level assumptions.

Voltage	SF6 Switchgear Population (ENA)	Averaged unit cost rate (by voltage level)	Approx. cost to replace all SF6 Switchgear + 20% uplift
6.6/11kv	177,997	£12,703	£2,713,377,820
33kv	10,098	£101,221	£1,226,559,252
66kv	363	£228,584	£99,571,040
132kv	4,217	£739,920	£3,744,289,354
		Total	£7,783,797,466

DEWG Action – SF6 ENA Update

Action 3 – Provide update on consultation position: the scope and the content of the report.

The ENA report, is close to being finalised and will be used by DNOs to support our response to the EU consultation.

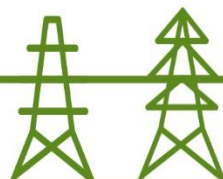
However, the report includes significant technical detail and commercially sensitive information. A request has been made to the ENA to provide a shortened summary paper that can be shared with stakeholders including the DEWG. This summary paper will provide a condensed and easily understandable presentation of the situation and likely costs. It will also remove commercially sensitive information.

RIIO-ED2

Decarbonisation & Environment Working Group

23rd April 2020

T2 BPDT : 4.4 EAP



T2 BPDT : 4.4 EAP : Overview

Made up of three tables;

- Table 1. Environmental baseline measures under RIIO-ET1
- Table 2. Projected environmental measures at end of RIIO-ET2
- Table 3. RIIO-ET2 environmental initiatives

We are unsure if the three tables in A4.4 will be enduring tables or are designed to give a snapshot as part of T2 planning - they appear to be a mixture of these.



T2 BPDT : 4.4 EAP : Table 1

- The introduction of this table to allows a more complete picture of our environmental performance to be visible.
- Some metrics look for improvements for each initiative, others for an aggregated improvement - it isn't clear to us how this was applied.
- We do not currently have all of the data requested.



T2 BPDT : 4.4 EAP : Table 2

- We do not believe that the provision of estimated ranges for estimated benefits is useful
- Rows are by metric and some metrics have multiple initiatives to deliver improvement, for the latter, the combination of ranges becomes meaningless.



T2 BPDT : 4.4 EAP : Table 3

- Includes complete data on embedded environmental costs/benefits and those additional initiatives included in Environmental Action Plan
- Links to CBA so we have included comments on environmental-related aspects here;
 - The CBA calculations are not correct for some of the key environmental benefits including kWh and CO2
 - The choice of application of traded vs non-traded BEIS values for carbon is not clear in the CBA
- There is limited quantification and valuation of environmental benefits in the CBA other than carbon, so there is little data available on estimates of non-carbon environmental benefits e.g. waste, biodiversity



Break

Item 2: Scope of Environmental Action Plan

Background

- In the May 2019 SSMD, we introduced a common environmental framework across GD and T.
- Companies must embed wide range of environmental considerations into their RIIO-2 Business Plans in the form of an Environmental Action Plan (EAP), and to report annually on progress in their Environmental Impact Report (EIR) in RIIO-2.

Action

- In previous WG discussions, group discussed whether it would be appropriate to bring EAP into ED2, group generally agreed this would be positive.
- An action in the last group was for members to provide views on what the scope of the EAP should be for ED2, as well as to provide views on areas that should have minimum requirements attached.

WG feedback

- Members who contributed views (CitiAd, SPEN, SSEN, ENWL) felt that we should retain the majority of areas in the EAP (ENWL felt more information is required in some areas for example embedded carbon). Members who contributed felt that the majority of the areas in scope should be included as minimum requirements for ED2.
- In addition to below regarding what is missing, respondents proposed:
 - Aligning scope where appropriate with existing reporting eg SF6, fluid-filled cables, noise pollution and visual amenity

Environment area	Should be included as minimum requirement in the EAP?	Should be a common measure across all DNOs?	What's missing?
BCF	Yes (ENWL felt that scope 3 should be excluded to ensure commonality)	Yes	1) Clear definition of scopes 1,2 and 3 2) Common methodology across DNOs 3) Accountability requirements for accuracy of data as move down supply chain
Losses (technical)	Yes	Yes	1) Strategy should be justified in context of what reasonable reductions look like in the future 2) Recognise ambition levels within losses reduction strategy and acknowledgement that increase in LCTs, demand and generation will increase losses
Embedded Carbon	SPEN and CA said yes. SSEN and ENWL said that there needs to more understanding first.	Yes	1) Some form of CBA 2) Clear definition of embedded carbon and where in supply chain we start reporting in
Supply Chain	Yes (SSEN felt that a target for % of suppliers meeting code cannot yet be set)	Yes	
Resource Use and Waste	Yes (ENWL felt that more research needed on Circular economy principles)	Yes	Clear definition of recycled and reused materials
Biodiversity and natural capital	Yes, subject to common approach (ENWL suggested natural capital may be more appropriately considered in CBA than EAP)	Yes	Clear definition of biodiversity and natural capital, and of ecosystem
Water use, Air quality, Flood risk, Climate adaptation	TBD (SPEN felt that these areas do not merit minimum requirements)	TBD (Citizens Advice said yes)	Clarity on how climate adaptation will be measured

Lunch

Item 3: Discussion on WG proposals for ED2 environmental measures

Purpose:

- Review the main options that have been proposed through the working group sessions for arrangements in ED2 relating to decarbonisation and the environment.
- We are still evaluating the merits and drawbacks of all proposals (and considering where alternative options may be appropriate/desirable). As such we have not yet 'landed' on consultation positions. However, we want to replay the proposals we have received in the WGs so far and seek more information from group on outstanding questions we have, answers to which may inform the options we include in our summer consultation.

Next steps:

- Group to feed back views between now and our final scheduled WG on 21 May.
- Ofgem will continue to evaluate options ahead of our summer consultation.

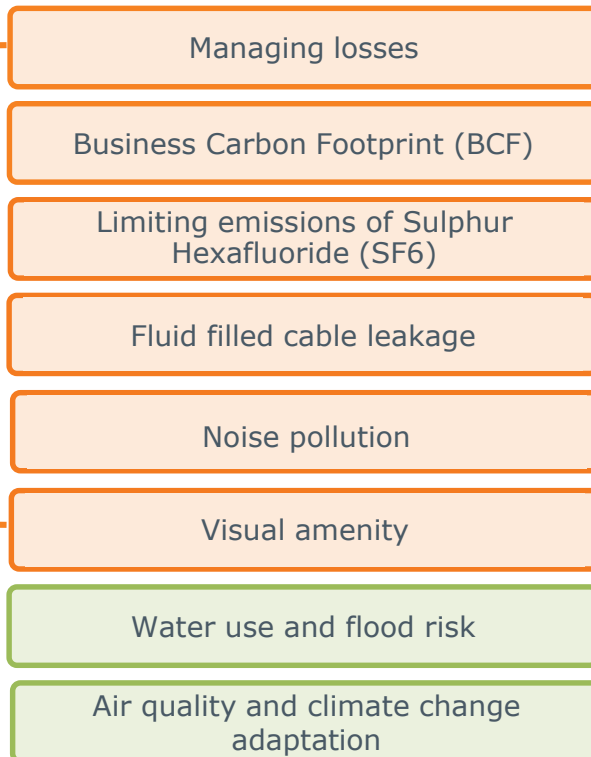
This is our penultimate WG session

**RIIO-ED2
objective**

Deliver an environmentally sustainable network: Enable the transition to a smart, flexible, low cost, and low carbon energy system for all consumers and network users.

**Main issue areas considered by the Decarbonisation and the
Environment working group**

**Issue areas
currently
covered by
RIIO-ED1
arrangements**



**Proposals
addressing these
issue areas are
being worked on
in other WGs incl.
OAWG, CSVSWG,
CAWG and sub-
groups.**

Main issue areas considered by the Decarbonisation and the Environment working group, mapped by objectives:

i) Decarbonise networks with emphasis on BCF and embedded carbon in networks	ii) Reduce the environmental impact of network activity	iii) Support the transition to a smarter, more flexible and sustainable energy system
BCF	SF6	Anticipatory investment
Managing losses	Fluid-filled cables	New (LCT) connections
Embedded carbon	Noise pollution	Delivering net zero (reopeners)
	Visual amenity	
	PCBs	
	Supply chain	
	Resource use and waste	
	Biodiversity/natural capital	
	Water use and flood risk	
	Air quality	
	Climate adaptation	

We are still evaluating the merits and drawbacks of proposals that have been presented through the WG sessions (and considering where alternative options may be appropriate/desirable). In some areas, proposals have not been brought forward.

Background

The group have highlighted that a barrier to a successful incentive at ED1 is the lack of a consistent approach to measuring BCF across the companies. Additional challenge is that the DNO is only in control of its BCF to an extent. Need to ensure that ED2 arrangements account for this.

Proposals brought forward:

- WG feedback is that BCF should be within the scope of an ED2 EAP and subject to annual reporting.
- WPD proposed that a common BCF methodology could be developed by the ENA Environment Committee. As a product of this work, Ofgem could introduce more comparable and granular annual reporting eg by scope. This could be combined with science-based targets to reduce BCF.
- Options for within-period arrangements could include:
 - **Price Control Deliverable (PCD) and reputational ODI:** Introduce a common PCD with targets and actions to reduce emissions embedded in Business Plans and retain reputational incentive through regulatory reporting.
 - **PCD and financial ODI:** In addition to a common PCD with associated allowance to fund reductions in scope 1-2 emissions, UKPN suggested introducing a financial incentive (the Environmental Performance Incentive) to encourage reductions beyond business plan targets.

Ofgem initial thoughts/questions:

1. In ED1 we are seeing stakeholder and public pressure on DNOs to reduce their carbon footprint. If combined with ambitious science-based targets, to what extent is there a need for a financial ODI?
2. How would we ensure that BCF arrangements work with other price control arrangements/don't drive unintended consequences? Eg don't want DNOs to chase BCF reduction at expense of LCT uptake.
3. PCDs link funding to actions, are DNOs able to detail the actions upfront in BPs that they would take to reduce their BCF and to what extent are these actions fixed eg electrifying a fleet of vehicles or variable eg depend on number of LCTs that come onto the network?
4. Should alternative approaches be considered eg a use-it-or-lose-it (UIOLI) allowance?

Background

Losses are a significant portion of DNO carbon emissions and likely to increase as we move to a low carbon future. Losses are not completely in DNO control and are not accurately measurable. As a result, there are difficulties in introducing an accurate output measure or a financial incentive.

Proposals brought forward:

- DNO strategy for managing losses should be within the proposed scope of a RIIO-ED2 Environmental Action Plan and subject to annual reporting through the EIR.
- Options for within-period arrangements could include:

Proposal	By	Detail
Reputational incentive and strengthened CBA approach	WSP	<ul style="list-style-type: none"> - Retain a reputational incentive (which builds on ET2 approach where DNO performance is monitored against own losses strategy) with a strengthened CBA approach (CBA to include financial and environmental cost of losses within network investments). SPEN suggested that progress against the losses strategy could be given a RAG rating or scored against a number of areas. - Licence obligation for DNOs to manage losses, and potentially remove LDR.
Financial incentive through the EPI	UKPN	<ul style="list-style-type: none"> - Controllable losses could be included as part of a financial incentive (the EPI) also covering BCF, Fluid-Filled Cables and LCT uptake.

Ofgem initial thoughts/questions:

1. Do you have views on the proposed approach to integrate losses reporting requirements into the proposed business plan and annual public reporting framework? (ET2 question)
2. Do you consider that a sharpened reputational incentive and CBA approach would drive the right behaviour?
3. Do you think that a RAG rating or score against a number of areas would sharpen a reputational incentive? If so, which areas should be considered for inclusion?
4. Is the LDR still required, or can its activities be moved to the losses strategy and innovation allowances?
5. How would a financial incentive work, given that losses are difficult to measure and there is a lack of comparability between companies?

Background

The objective of the undergrounding scheme is to ensure the DNOs protect the landscape in certain designated areas. Non-mandatory scheme that funds the DNOs to bury overhead lines in areas of outstanding natural beauty, national parks and national scenic areas in Scotland.

Proposals brought forward:

- DNO approach to visual amenity should be captured within the proposed scope of a RIIO-ED2 Environmental Action Plan.
- Options for within-period arrangements could be:
 - **Option 1a (ED1 approach):** Retain the scheme as is, with a funding pot and 10% allowance provision.
 - **Option 1b (ET2 approach):** In addition to the above, introduce the requirement for DNOs to survey stakeholders on its stakeholder engagement process on new projects. PCDs would be set for project outputs if and when projects are approved within the price control period.
 - **Option 2:** UKPN suggested that visual amenity could be incorporated within an EQUAM, with a financial ODI attached to reward successful delivery.

Ofgem initial thoughts/questions:

1. Do you disagree with retaining the scheme as is?
2. In ET2, they will undertake updated willingness to pay (WTP) research to inform the setting of the expenditure cap. Do you consider that the same should be done for ED2?
3. Is the introduction of a stakeholder survey requirement (introduced in ET2) appropriate?
4. How to ensure an approach like the EQUAM is not overly burdensome on both DNOs and Ofgem? How to mitigate against the risk of windfall gains?

Background

There is an ongoing review of F-gas regulations by the EU commission, which is likely to enforce a ban on SF6 being installed beyond a fixed date or could even mandate retrospective replacement. In addition to this there is increased stakeholder desire for DNOs to go further to make progress in this area.

Proposals brought forward:

- SF6 should be within the proposed scope of a RIIO-ED2 Environmental Action Plan and subject to annual reporting through the EIR.
- Maintain upfront funding for ongoing replacement of SF6 switchgear and if legislation mandates no new SF6 installations, increased ex-ante allowances would be needed to enable compliance. A reopener could be introduced to enable compliance if there is a retrospective ban.
- Options for within-period arrangements could be:
 - **Reputational incentive:** ENWL proposed maintaining reputational incentive in its current form to drive continued focus on leakage mitigation in this area. Enhance the current incentive by working towards a consistent methodology for measuring leakage.
 - **Financial incentive:** ENWL also proposed that a financial ODI could be developed to drive a more proactive approach to reducing SF6 in switchgear on the network. This would require clear measurable outputs against a defined baseline.
 - **Alternative financial incentive:** Under the proposed EPI mechanism from UKPN, SF6 is considered as part of scope 1 emissions.

Ofgem initial thoughts/questions:

1. In addition to upfront funding, that is sufficient to accommodate legislative change, would retaining a reputational incentive drive sufficient progress in this area? Is there stakeholder appetite and willingness to pay to drive a more proactive approach through a financial ODI?
2. Do you think DNO methodologies can be aligned in time to design such an incentive?
3. Are there alternative approaches we should consider? For example, a PCD?

Background

Some underground cables are fluid (oil) filled. There is an environmental risk that these cables can leak fluid, which has particular implications for the integrity of groundwater sources.

Proposed outputs

- DNO approach to fluid-filled cables should be captured within the proposed scope of a RIIIO-ED2 Environmental Action Plan.
- Options for within-period arrangements could be:
 - **Option 1 (ED1 approach):** Retain the requirement for DNOs to report actual and forecast costs and volumes associated with fluid-filled cables, as well as details of planned replacement.
 - **Option 2:** UKPN suggested introducing a common PCD to deliver targets, with further ambition rewarded through the EPI.

Ofgem initial thoughts/questions:

1. Do you disagree with retaining the ED1 arrangements for fluid-filled cables?
2. Is an additional financial incentive required, or is the EA/ENA Operating Code sufficient to drive behaviour?
3. Are there alternative options we should be considering?

Background

The group flagged that there is a lack of comparability in the reporting of noise pollution (/noise complaints).

Proposed outputs

- Approach to noise reduction should be captured within the proposed scope of a RIIO-ED2 Environmental Action Plan.
- Within period option could include retaining the reporting requirement along with enhanced reporting to explain the steps taken by DNOs in cases where noise reduction activities have been conducted.

Ofgem initial thoughts/questions:

1. Do you disagree with retaining the reporting requirements for noise reduction?
2. How to make noise pollution reporting more comparable?
3. Are there alternative options we should be considering?

- Do you think we have ‘missed’ anything – this could be in the context of existing RII0-ED1 outputs or new proposals you think we should consider?

Next steps:

- Group to feed back views between now and our final scheduled WG on 21 May
- Ofgem will continue to evaluate options ahead of our summer consultation
- Ask group members to complete outstanding actions and feed back, either to the wider group in the final WG or separately with Ofgem

Annex: Additional material

Questions set out at the beginning of chapter 3 of the ET2 Sector Specific Methodology Consultation:

Questions

- 1) What are your views on the overall outputs package considered for this output category?
- 2) For each potential output considered (where relevant):
 - a) Is it of benefit to consumers, and why?
 - b) How, and at what level should we set targets? (eg should these be relative/absolute)
 - c) What are your views on the design of the incentive? (eg reward/penalty/size of allowance)
 - d) Where we set out options, what are your views on them and please explain whether there are further options we should consider?
- 3) What other outputs should we be considering, if any?
- 4) What are your views on the RIIO-ED1 outputs that we propose to remove?

EAP-related questions set out in the ET2 SSMC:

Questions

- 1) Do you have any views on the extent to which company activities relating to environmental impacts should be embedded in Business Plans?
- 2) We invite views on whether the proposed environmental impact categories are appropriate areas to focus on. Are there any areas that should be excluded and/ or other areas that should be covered? We also invite views on the potential indicators and/ or metrics that are appropriate for each environmental impact category.
- 3) We welcome views on the option of an annual reporting framework to increase transparency of the networks' impact on the environment.

Our core purpose is to ensure that all consumers can get good value and service from the energy market. In support of this we favour market solutions where practical, incentive regulation for monopolies and an approach that seeks to enable innovation and beneficial change whilst protecting consumers.

We will ensure that Ofgem will operate as an efficient organisation, driven by skilled and empowered staff, that will act quickly, predictably and effectively in the consumer interest, based on independent and transparent insight into consumers' experiences and the operation of energy systems and markets.