

RIIO-ED2 Decarbonisation and the Environment Working Group: session 7



RIIO-ED team
07 July 2020

Timings	Agenda item
10:30 – 11:00	<ol style="list-style-type: none">1. Intro/recap; and2. Updates on outstanding actions<ol style="list-style-type: none">a) Scope 3 emissions (SPEN)b) SF6 (SSEN)
11:00 – 11:45	3. Thinking about a decarbonisation framework for ED2 (Sustainability First)
11:45 – 12:00	Break
12:00 – 12:45	<ol style="list-style-type: none">4. Environmental Action Plan<ol style="list-style-type: none">a) Ofgem slidesb) Roundtable discussion
12:45 – 13:00	AOB

Item 2: Thinking about a decarbonisation framework for RIIO-ED2



Thinking about a decarbonisation framework for ED2

Sustainability First
Judith Ward & Maxine Frerk

Ofgem ED2 DEWG – 7 July 2020
Ofgem ED2 OAWG – 9 July 2020

www.sustainabilityfirst.org.uk

 @SustainFirst

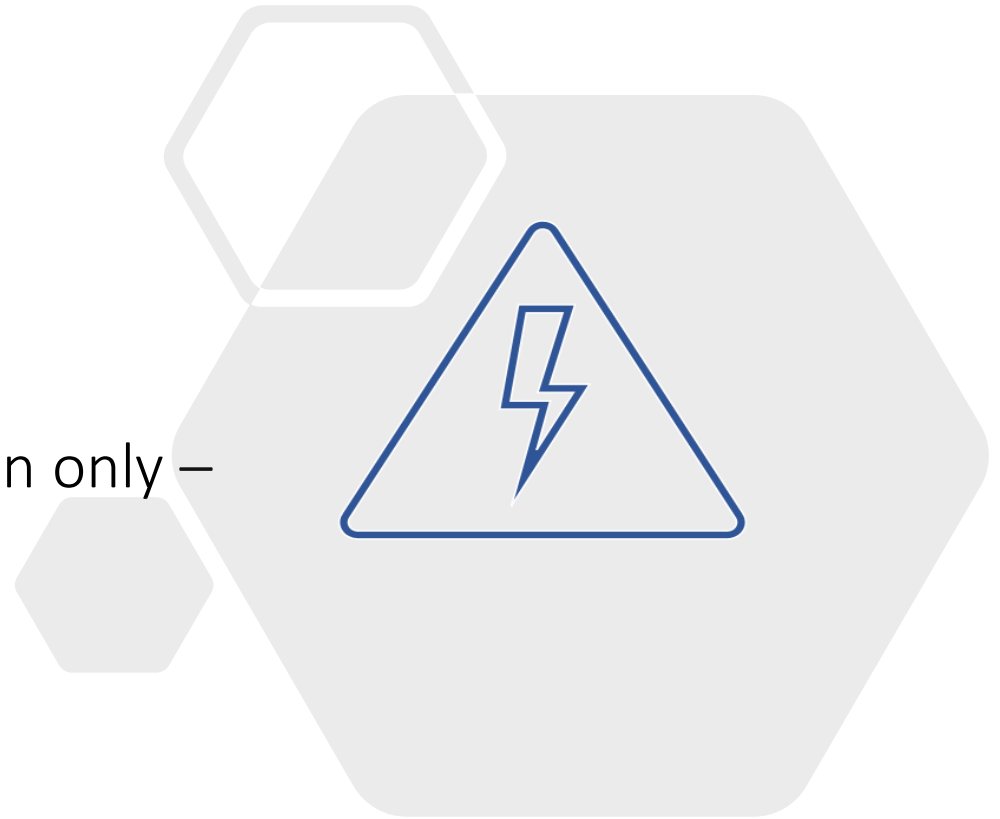
Sustainability
first

A de-carbonisation framework for ED2 – four questions

- How to obtain a common baseline on ED1 emissions to inform science-based targets for ED2 ?
- How to categorise scope 1, 2 and 3 emissions ?
 - Matters a lot for BCF science-based targets - and how best to incentivize each scope
- What might a framework for de-carbonisation look like in-the-round?
- What does a strong net-zero ambition look like for ED2 outputs ?

Hazard Warning

All numbers for illustration only –
not science-based !



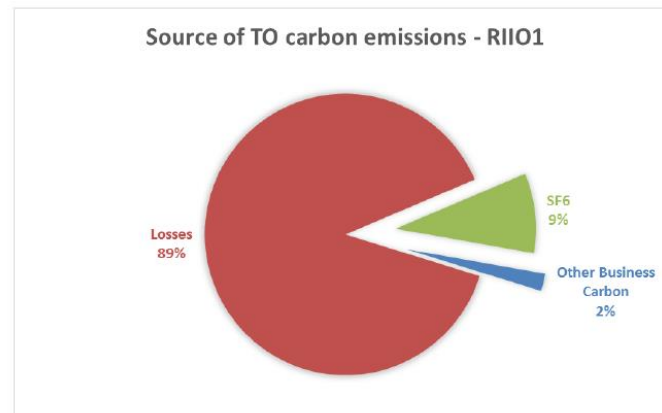
Baselining BCF emissions

- At the start of the ET2 price control process, Ofgem illustrated the position on RIIO-ET1 BCF emissions.
- Losses depicted as 89% of TO BCF emissions

RIIO-ET2 Stakeholder WG 1



What makes up BCF



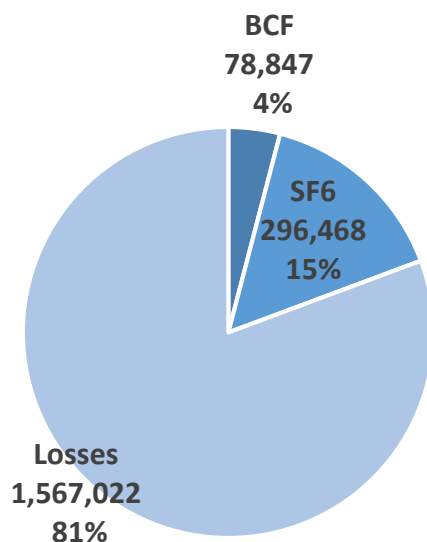
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Source : Ofgem slides. RIIO-ET2 working group. October 2018

Transmission : BCF emissions in 18-19

This ? (prev slide)

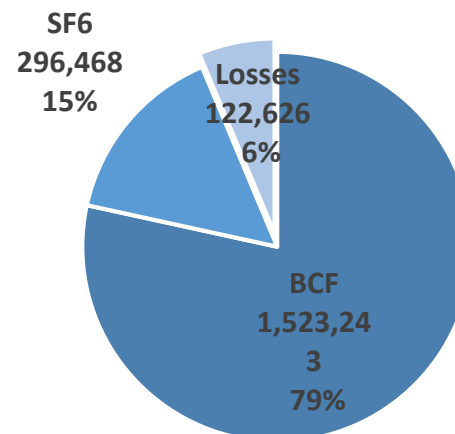
ET GHG emissions 2018-19 tCO₂e
GHG conversion factor for losses - 'electricity consumed'
BCF Total = ~1,942,337 tCO₂e



Transmission 1 – for illustration

Or This ?

ET BCF GHG emissions 2018-19 tCO₂e
GHG conversion factor for losses - 'simple' losses.
BCF Total = ~1,942,337 tCO₂e



Transmission 2 – for illustration only

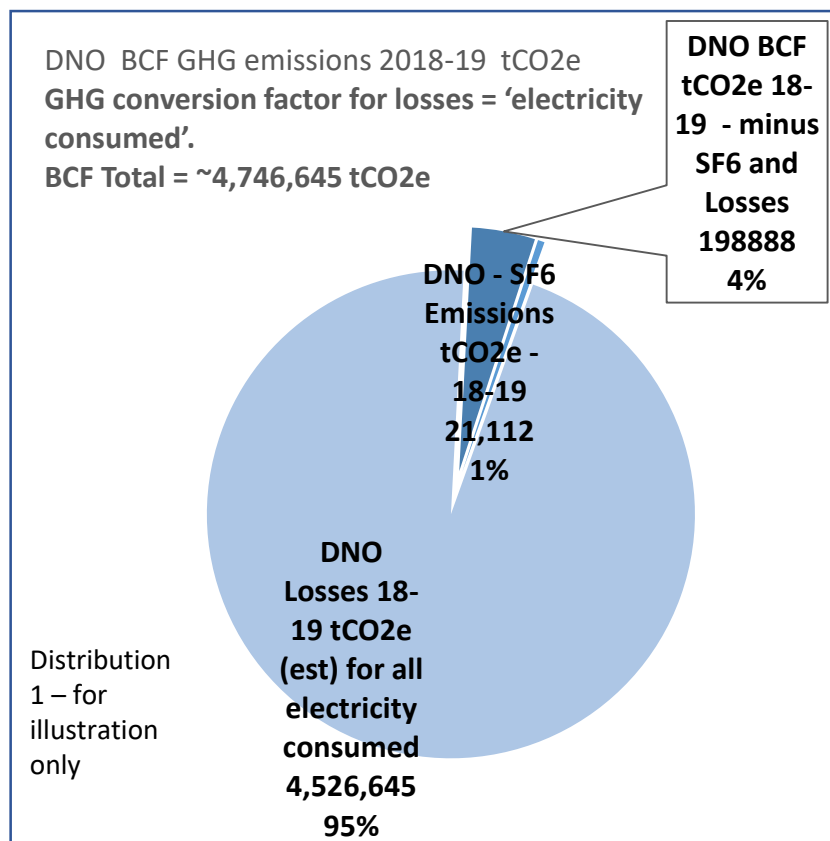
Choice of GHG conversion factor (kgCO₂e/kWh) makes a difference on how T-Losses reported.

'Electricity consumed' - 0.2773 kgCO₂e/kWh ? 'Simple' losses Or 0.0217 kgCO₂e/kWh.

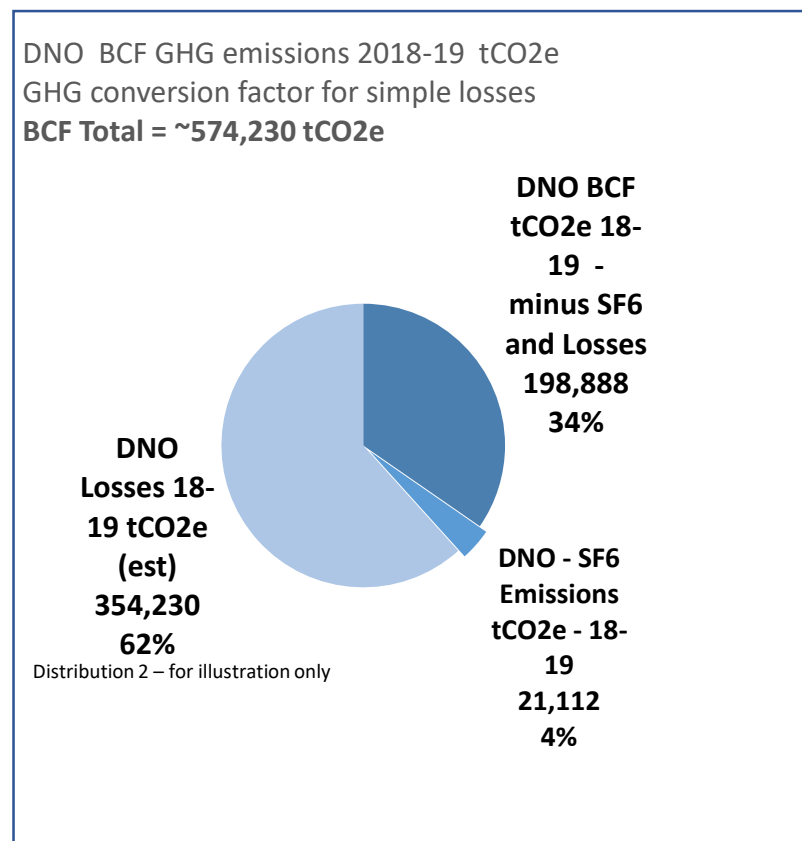
(Govnt GHG Conversion Factors for Company Reporting. Methodology Paper for Emissions Factors. Final Report. Aug 2019. p 28)

Distribution : BCF emissions in 18-19

This ?



Or This ?



Appropriate kgCO₂e/kWh GHG conversion factor for D-Losses ?

'Electricity consumed' - 0.2773 kgCO₂e/kWh ? 'Simple' losses Or 0.0217 kgCO₂e/kWh.

(Govnt GHG Conversion Factors for Company Reporting. Methodology Paper for Emissions Factors. Final Report. Aug 2019)

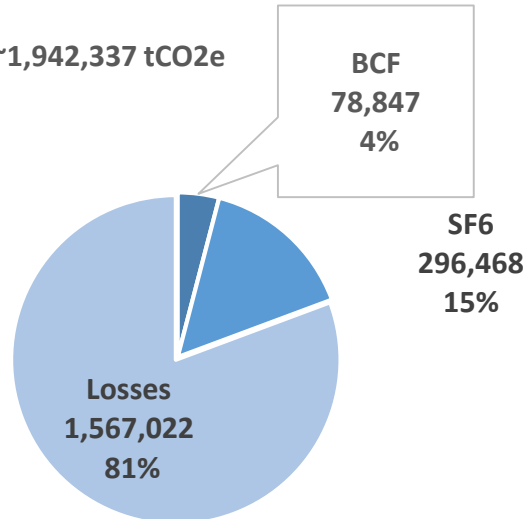
'Step-back' 1 - T & D BCF 18-19 emissions

Transmission BCF

ET GHG emissions 2018-19 tCO₂e

GHG conversion factor for losses - 'electricity consumed'

BCF Total = ~1,942,337 tCO₂e



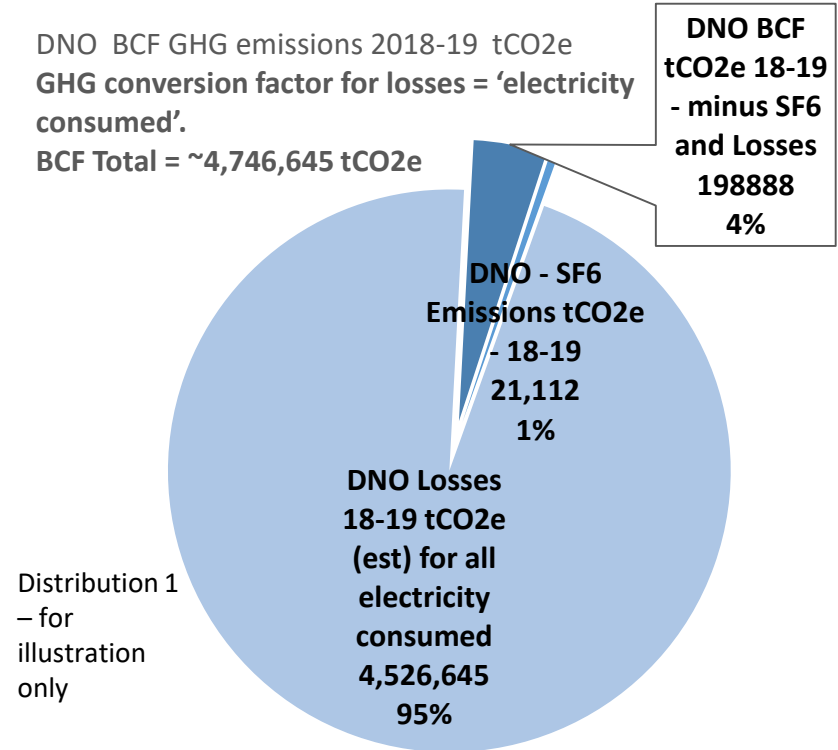
Transmission 1 –
for illustration only

Distribution BCF

DNO BCF GHG emissions 2018-19 tCO₂e

GHG conversion factor for losses = 'electricity consumed'

BCF Total = ~4,746,645 tCO₂e



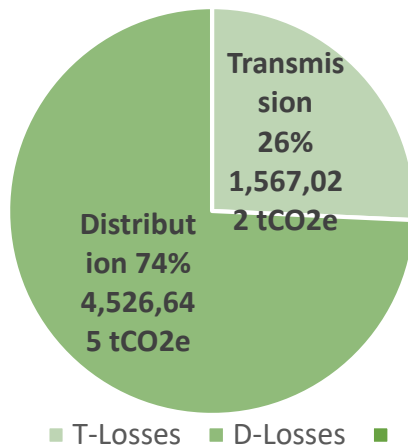
Distribution 1
– for
illustration
only

Distribution BCF over twice that of Transmission

'Step-back' 2 - T & D BCF 18-19 emissions

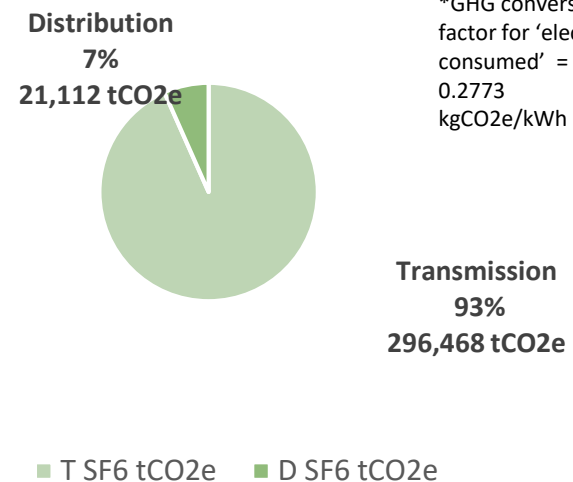
Losses

T& D 18-19. Losses Share %
6,093,667 tCO₂e*



SF6 Leakage

T & D 18-19. SF6 Leakage Share %
317,580 tCO₂e*



*GHG conversion factor for 'electricity consumed' = 0.2773 kgCO₂e/kWh

tCO₂e emissions associated w D-Losses considerably exceed those from T-Losses or SF6. And, T-SF6 leakage share~15x greater than D-SF6

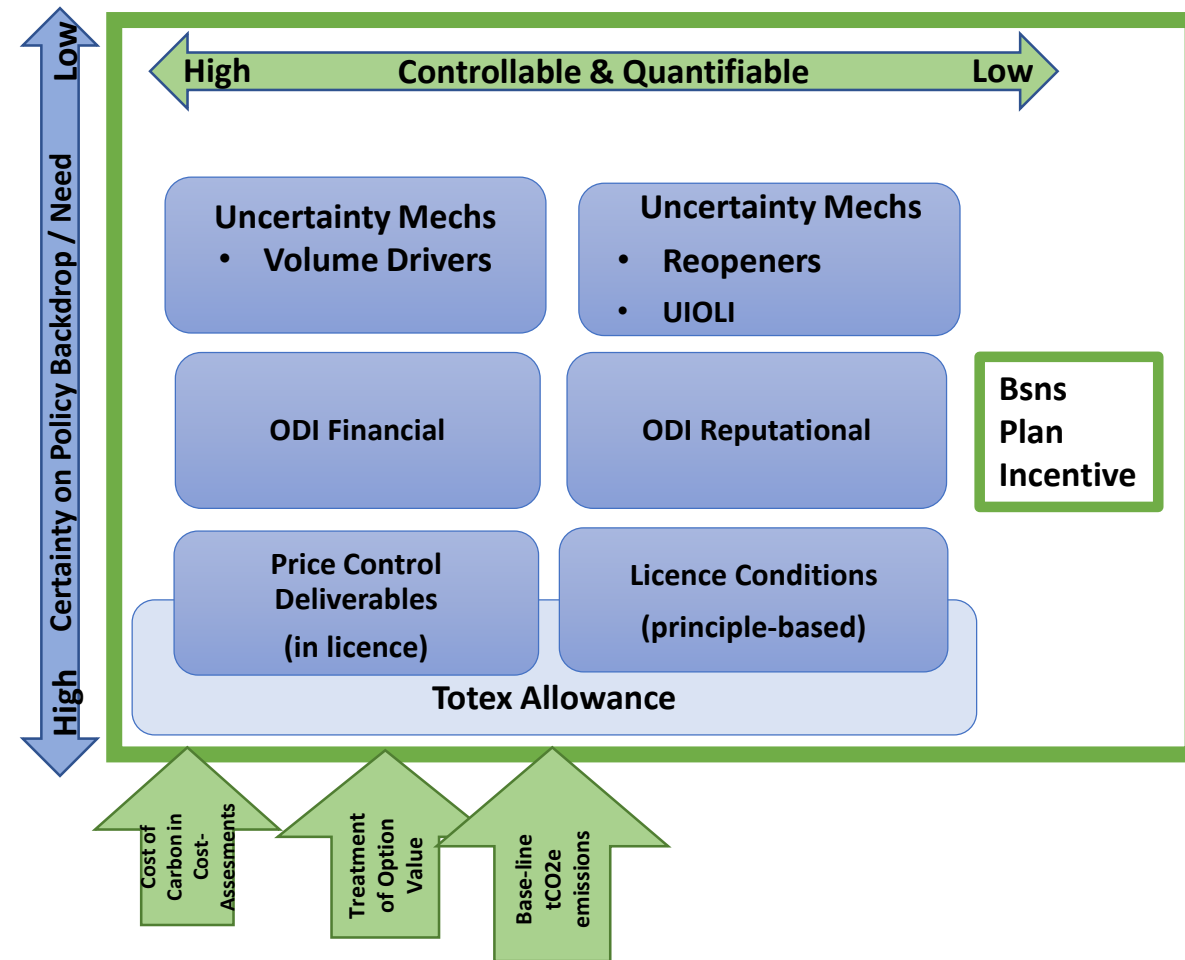
So, where does this take us for ED1 BCF baselining & outputs on GHG reduction for ED2 ?

- Baselining ED1 BCF emissions = crucial first step for science-based targets
- A better understanding & overview will help design of economic & effective incentives & outputs for tackling GHG emissions.
- Possibly more Ofgem guidance on BCF reporting ? (E.g clarify classifications for scopes 1,2 & 3 emissions; GHG conversion factors for losses etc)
- For ED2, BCF numbers for 18-19 would suggest :
 - **D-Losses** – a focus on actions / outcomes = important
 - **SF6** – to look across T & D at a long-term cross-industry strategy & plan

‘Step-back’ 3 - a possible decarbonisation framework for ED2

- What might a framework for decarbonization look like in-the-round ?
- Given net-zero, what incentive arrangements will send strong signals and make most difference in reducing DNO GHG emissions ?

ED2 – Possible framework for approaches to decarbonisation outputs*



Objective (i) – Decarbonise the networks w emphasis on BCF & embedded carbon in networks

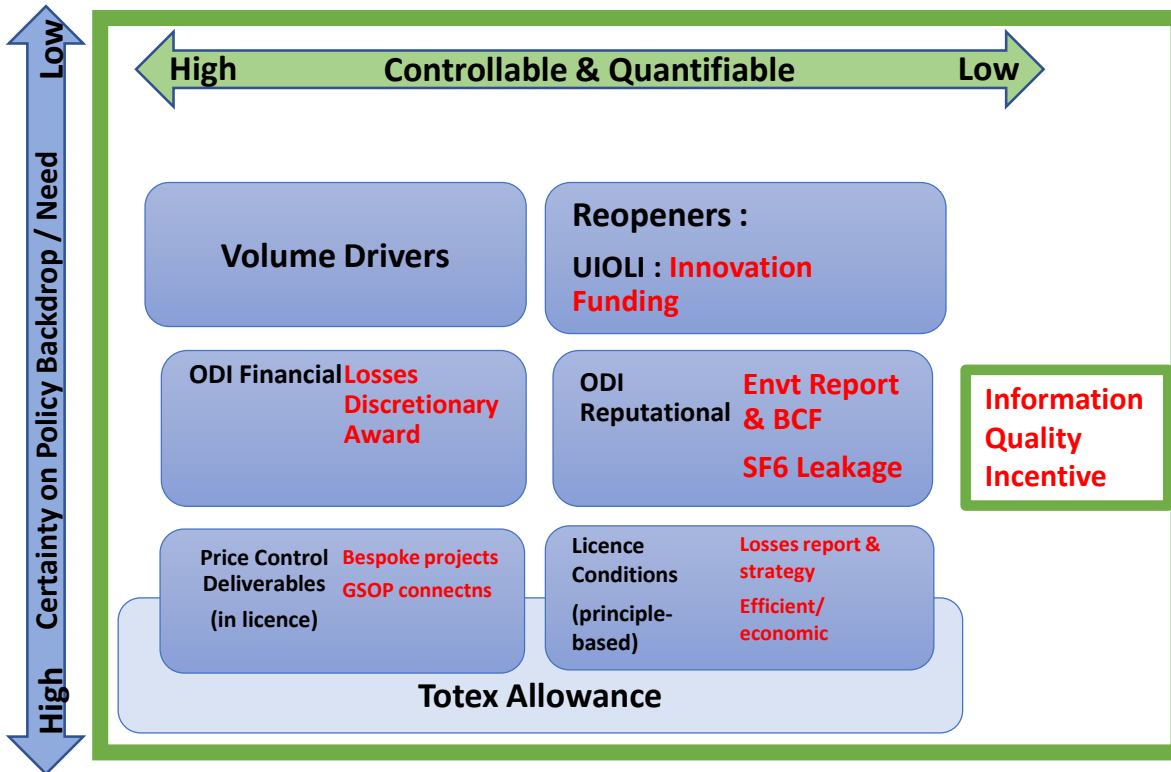
Objective (iii) – Support transition to a smarter more flexible & sustainable energy system

Objectives (i) & (iii) - Business Plan Incentive –
e.g. cross-company collaboration to improve common basis for

- Science-based BCF targets
- Underpinning for D-scenarios

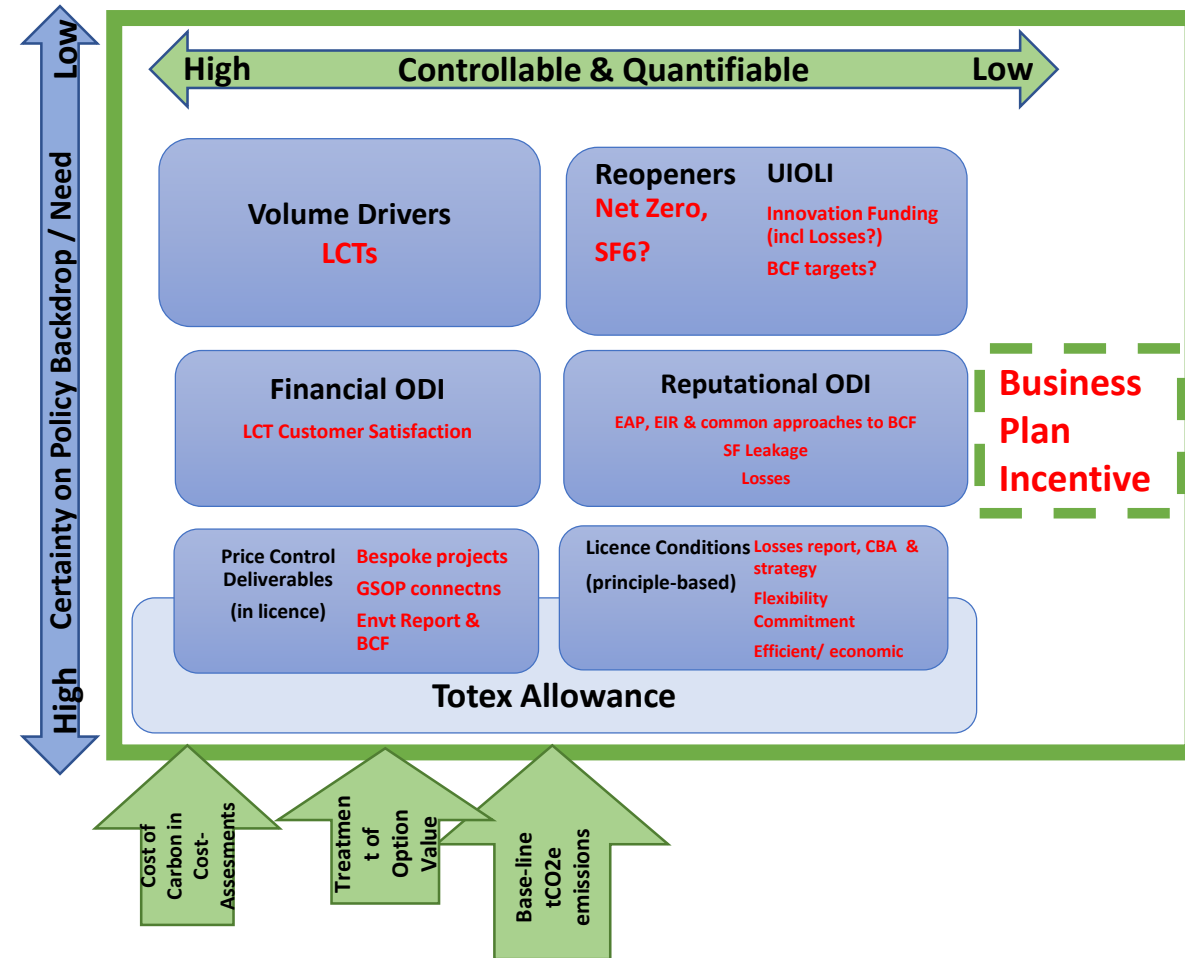
*Not addressed here. Ofgem Objective (ii) - reduce environmental impact of network activity – unless a GHG activity e.g SF6

How does this look for ED1 ?



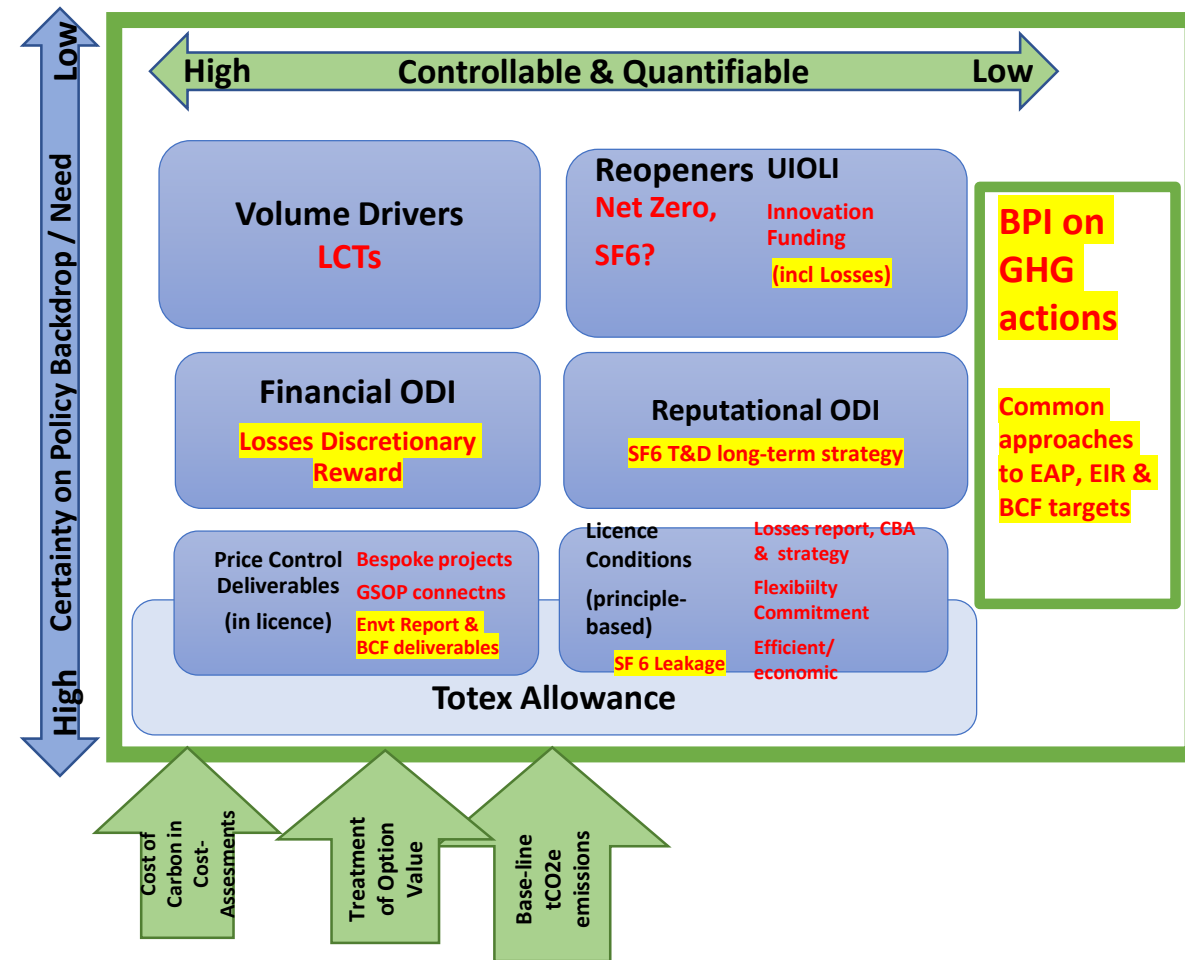
- ED1 incentives run to April 2023
- Outputs framed six years backlong-before today's net-zero imperative.
- ED2 period = critical in setting path to 6th Carbon Budget
- ED1 to ED2 : major reset needed for GHG reduction.

ED2 – Where do working group discussions seem to take us ?



- Largely incremental from ED1
- A stress on reputational incentives (caution on 'measurable outputs').
- A focus on reopeners & uncertainty mechs (caution on net-zero trajectory)
- Can such a package deliver the necessary 'step-up' towards net-zero ?

ED2 – What might a strong net-zero ambition look like on decarbonisation outputs ?



How to send strong signals & make most impact in reducing DNO GHG emissions ?

EAP, EIR & science-based targets for BCF : common basis for measurement, reporting, & benchmarking – incl common classification of scope 1, 2 & 3 emissions.

Qn : a Financial ODI ? Clear link to BPI?
Specific EAP BCF projects as PCDs?

Losses : CBA. strategy & common approaches to measurement

Qn : a Financial ODI ? (eg retain LDA?) UIOLI Funding ?

SF 6 : Long-term strategy and plan across T&D for SF6 containment & replacement?

Qn : a new reputational incentive ?

SF 6 Leakage - Qn - Licence? (ET = Financial ODI)

Cost-of-carbon for net-zero : guidance on value (same as Ofgem ? traded / non-traded?) and how to integrate into cost-assessments for :

- Avoided emissions for BCF reporting
- New load-related / LCT & strategic investments

Bespoke ODI : as per ET2 for well-justified exceptional ambition on net-zero

Contact us

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Break

Item 3: EAP

- In RIIO-ED2, we want an environmental framework that drives DNOs to be ambitious, and to think both holistically and long term about the ways in which they can reduce their environmental impact.
- One of the ways we aim to do this is through the introduction of an environmental action plan (EAP).
- As part of BP submissions, DNOs will need to put an EAP forward which set out how they will reduce their environmental impact in ED2. In our BP guidance we will set out our expectations for an EAP and for specified areas, minimum levels of ambition that should be included in DNOs' plans. This will include:
 - ✓ The activities DNOs plan to carry out in each of the areas,
 - ✓ Performance indicators they plan to use to track performance and associated targets.
 - ✓ Where possible we expect indicators to be common across the sector.
 - ✓ If DNOs fail to put forward a sufficient EAP, they may face a penalty under the business plan minimum requirements assessment.

Business carbon footprint (BCF)

- Adopt science-based target for company to reduce its scope 1 and 2 BCF by 20XX, without relying on international GHG offsetting
- Commit to efficient and economic actions to address controllable BCF in RIIO-2
- Identify **common BCF methodology for tracking** outcomes of implementing actions and overall progress towards science-based target
- **Commit to reporting on BCF reduction and progress towards science-based target using the common BCF methodology. This should include scope 3 emissions.**

Sulphur Hexafluoride (SF₆)

- **Commit to efficient and economic actions to address SF₆ in RIIO-2**
- **Adopt a stretching target for company to reduce number of SF₆ assets by 20xx**
- **Commit to reporting on total SF₆ bank and reduction rates using a common DNO methodology**

Losses

- Develop and adopt strategy to contribute efficiently to fewer losses on network, including over the long term, than would otherwise be the case in the absence of strategy
- **Commit to reporting** on key milestones of implementing losses reduction strategy
- Contribute to evidence base on proportion of losses that network companies can influence/control

Embedded carbon

- Monitor and report on embedded carbon in new projects
- **Commit to collaborating** with supply chain on addressing challenges to reduce embedded carbon in network
- Commit to establishing baseline and a target to reduce embedded carbon on new projects during RIIO-2

Climate Adaptation

- Develop and adopt a long-term strategy outlining how the DNO will plan for, and mitigate against, the impacts of climate change

Supply chain

- Adopt high standards of environmental management in supplier code, including requirements for public disclosure of metrics and cascading code to their suppliers that are material to company's inputs
- Adopt target of more than 80% of suppliers (by value) meeting code in RIIO-2
- **Commit to reporting** on actual percentage of suppliers (by value) meeting code

Resource use and waste

- Update procurement processes to embed Circular Economy principles
- Adopt a target for:
 - Zero waste to landfill by 20xx
 - Recycled and reused materials as a percentage of total materials by 20xx
 - Report on actual waste to landfill, recycling and reuse as a percentage of total

Biodiversity/natural capital

- Adopt appropriate tool to assess net changes in natural capital from different options for new connections and network projects
- Adopt appropriate tool to monitor the provision of ecosystem services from network sites & report annually

Fluid-filled cables

- Adopt a stretching target for reductions in the volume of fluid used to top up cables

Noise pollution

- Measure and report on actions taken to reduce noise pollution

NOx and air quality

- Measure and report on actions taken to reduce Nox

We propose to keep the minimum requirements for ED2 broadly similar to those at T/GD2. We have added climate adaptation, SF6, fluid-filled cables, noise pollution and NOx. We feel that areas that we would expect to see in the EAP would benefit from having minimum requirements attached.

Questions

- As per earlier feedback, we plan on giving clearer definitions on embedded carbon, natural capital/biodiversity. Do the minimum requirements need to be more prescriptive or have higher level principles?
- We expect the minimum standards proposed to be achievable within baseline allowances. Do you consider any of the minimum levels of ambition would represent significant, as opposed to incremental, expenditure?
- Do you consider that any of the areas identified should be omitted?
- Are there are key areas omitted?

BCF

- Do we need to be more prescriptive on which elements of scope 3 emissions should be included? Should scope 3 emissions be included in the common methodology?

SF6

- Should there be minimum requirements for SF6? If so, are the ones we have identified appropriate?

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.