Thinking about a decarbonisation framework for ED2

Sustainability First

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A de-carbonisation framework for ED2 – four questions

- How to obtain a common baseline on ED1 emissions to inform science-based targets for ED2 ?

- Technical questions : e.g categorizing scope 1, 2 & 3 emissions; which GHG conversion factor for losses; etc ?
  - Matters a lot for BCF science-based targets - and how best to incentivize

- 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

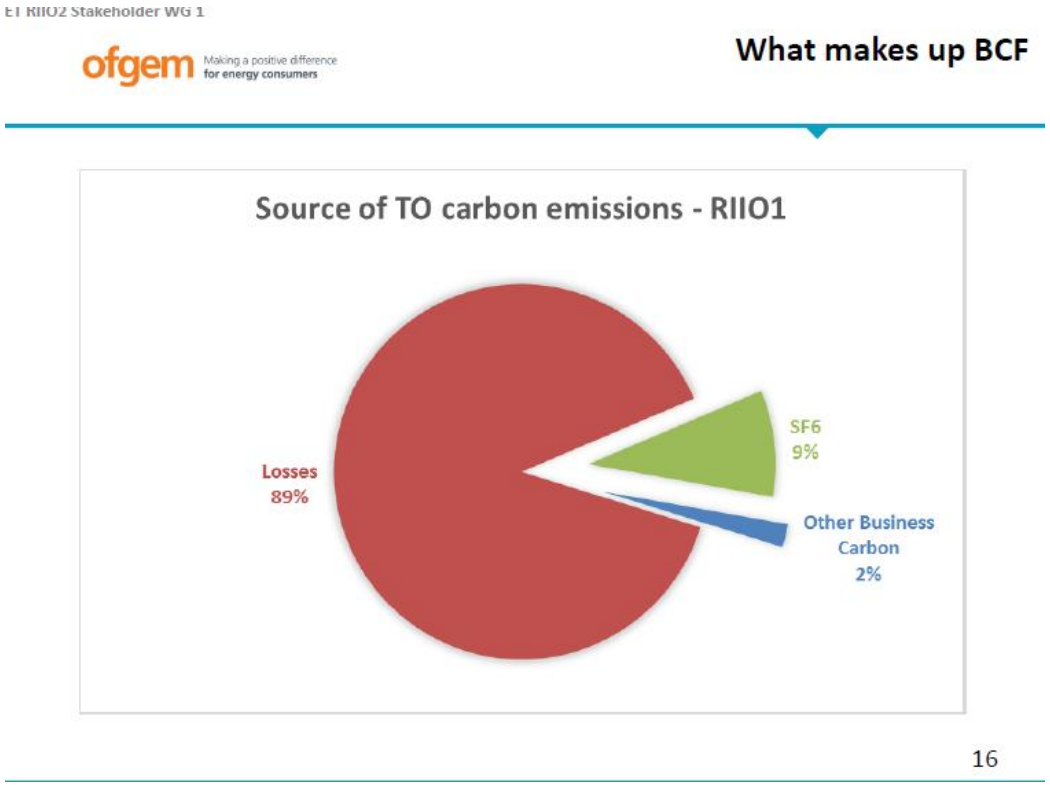
All numbers for illustration only – not science-based !



Baselining BCF emissions

- At the start of the ET2 price control process, Ofgem illustrated the position on RIIO-ET1 BCF emissions.

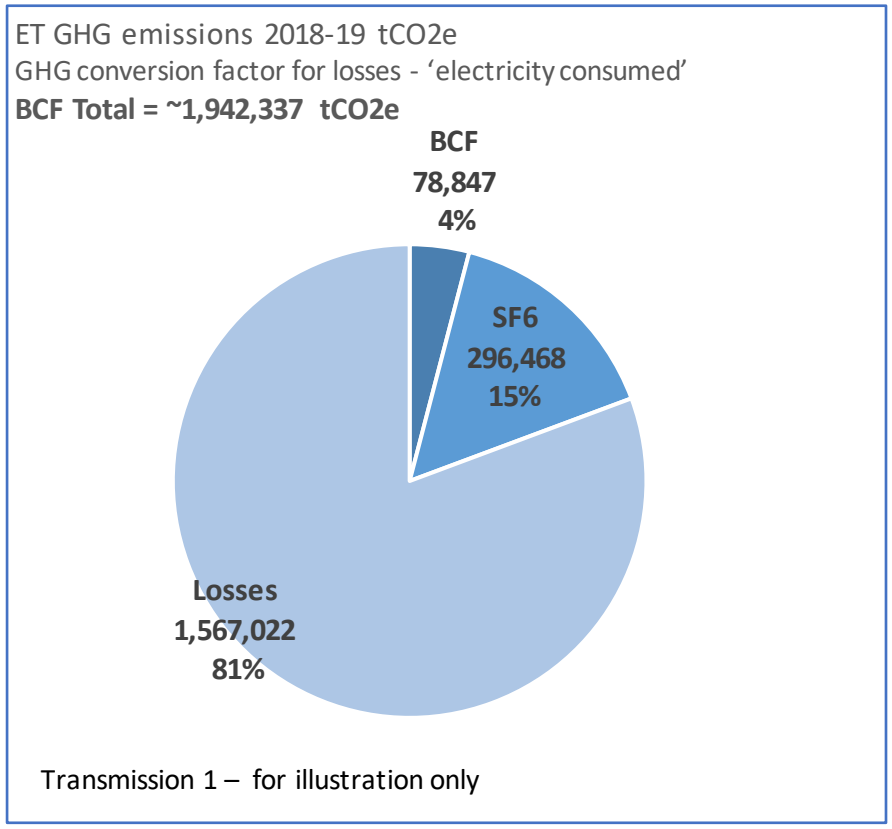
- Losses depicted as 89% of TO BCF emissions



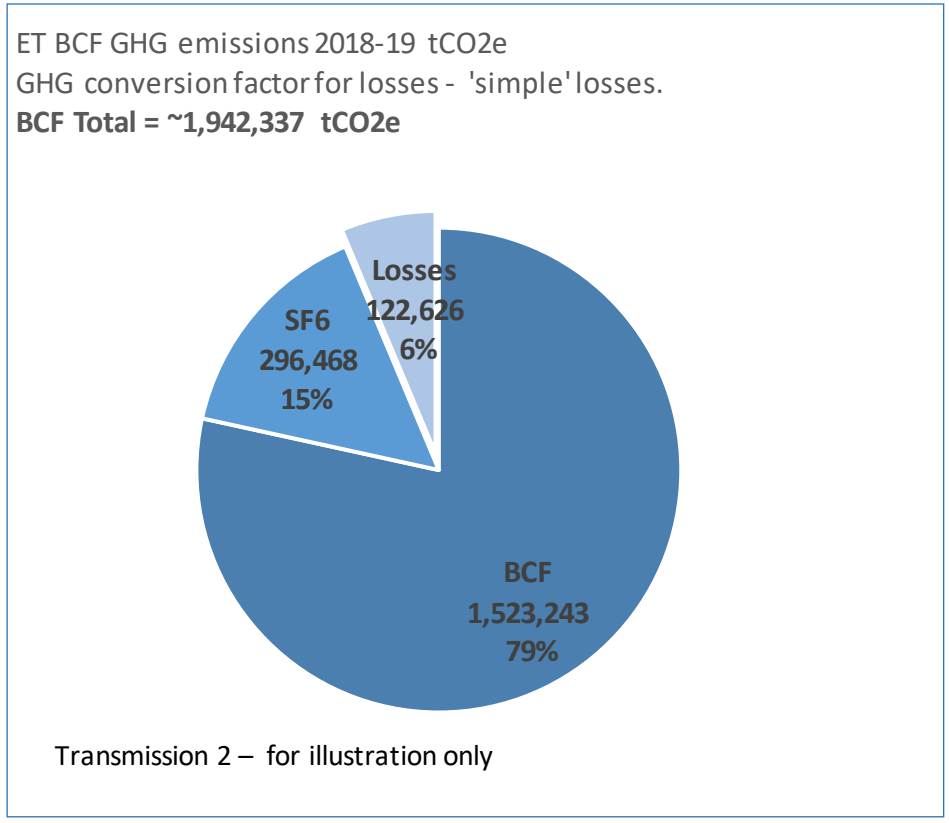
Source : Ofgem slides. RIIO-ET2 working group. October 2018

Transmission : BCF emissions in 18-19

This ? (prev slide)



Or This ?



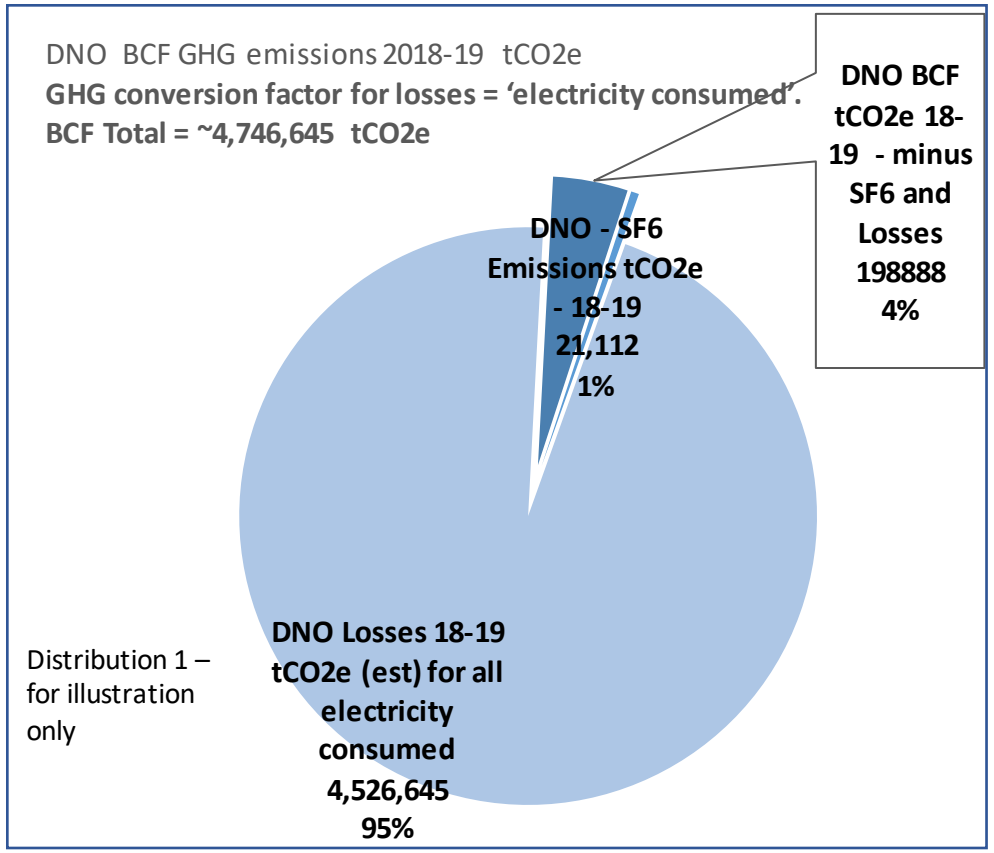
Choice of GHG conversion factor (kgCO2e/kWh) makes a difference on how T-Losses reported.

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

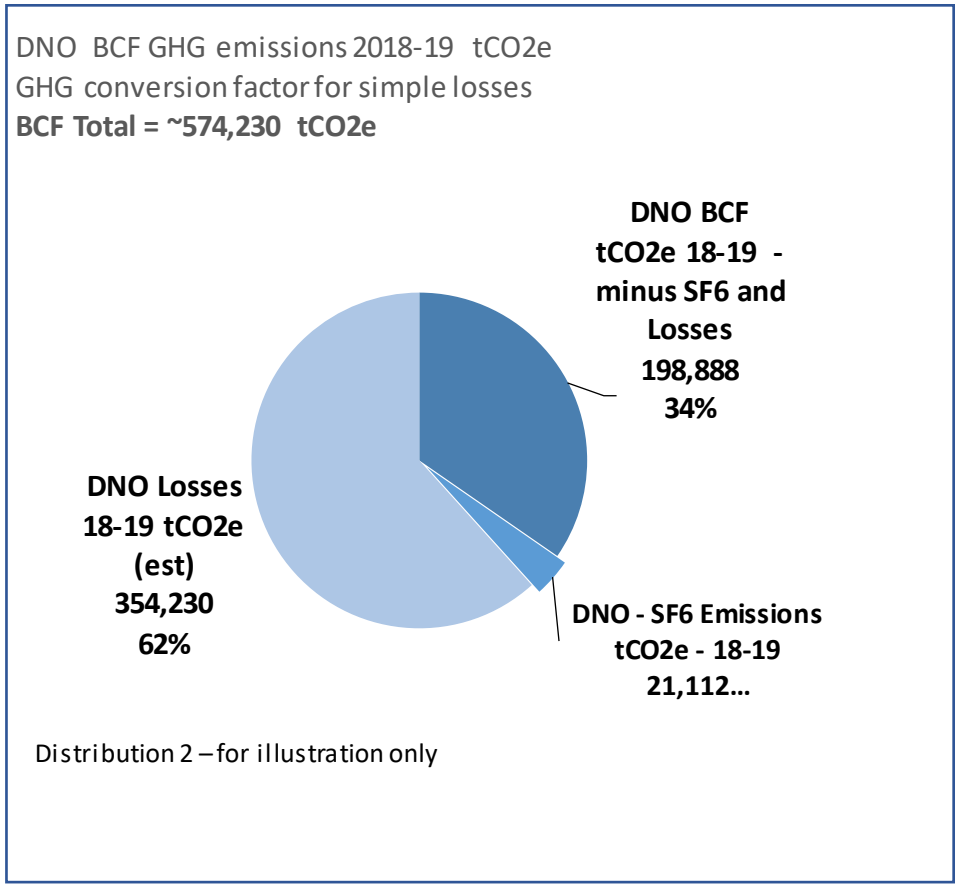
(Govnt GHG Conversion Factors for Company Reporting. Methodology Paper for Emissions Factors. Final Report. Aug 2019. p 28)

Distribution : BCF emissions in 18-19

This ?



Or This ?



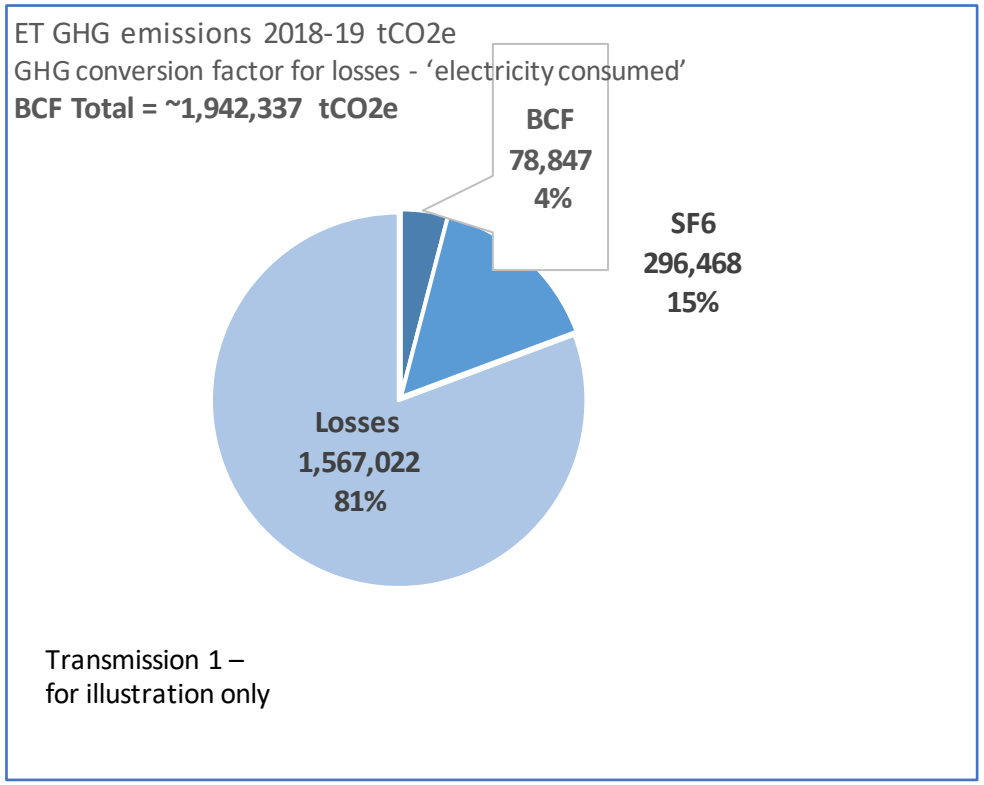
Appropriate kgCO2e/kWh GHG conversion factor for D-Losses ?

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

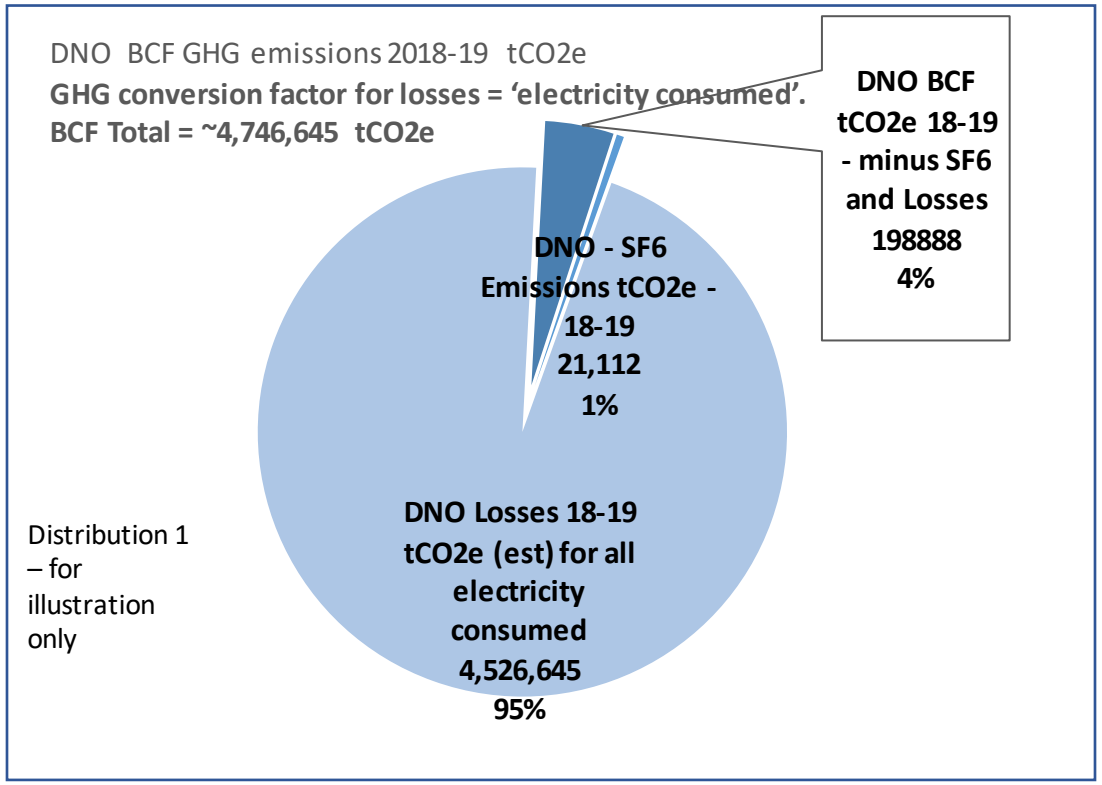
(Govnt GHG Conversion Factors for Company Reporting. Methodology Paper for Emissions Factors. Final Report. Aug 2019)

‘Step-back’ 1 - T & D BCF 18-19 emissions

Transmission BCF



Distribution BCF

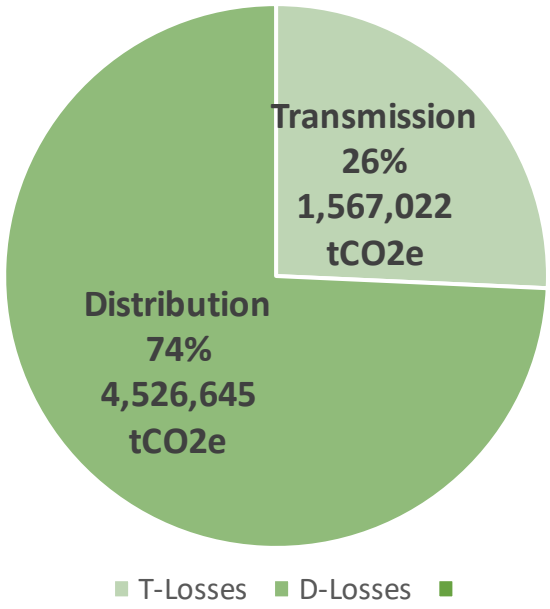


Distribution BCF over twice that of Transmission

‘Step-back’ 2 - T & D BCF 18-19 emissions

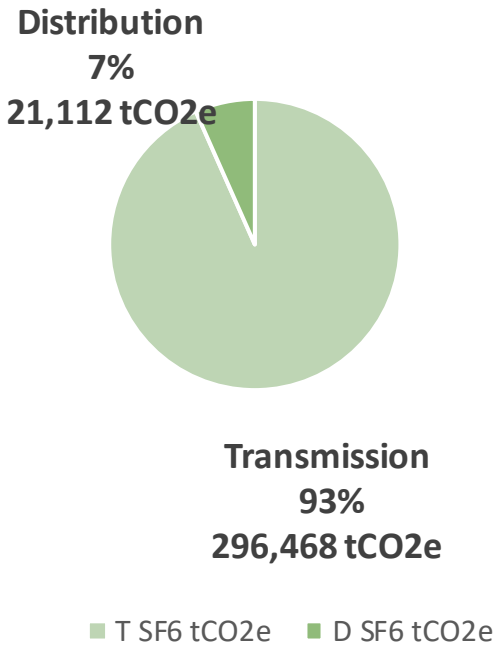
Losses

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

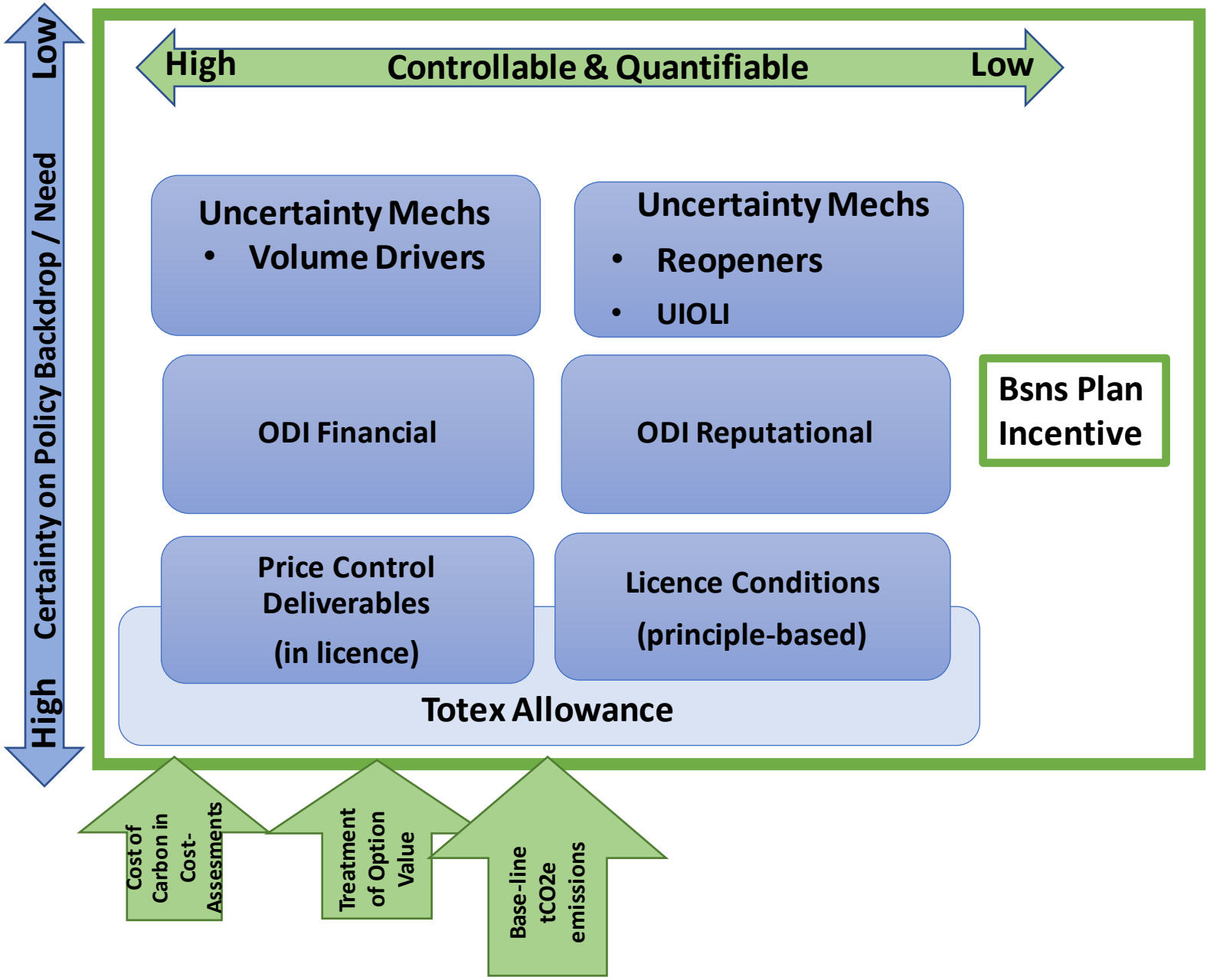
So, where does this take us for ED1 BCF baselining & outputs on GHG reduction for ED2 ?

- 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 to allow benchmarking. E.g to clarify: classification for scopes 1,2 & 3 emissions; GHG conversion factors for losses; common periods for BCF baselines & target-setting.
- For ED2, BCF numbers for 18-19 would suggest :
  - **D-Losses** – a focus on actions / outcomes = important
  - **SF6** – to look **<u>across</u>** 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

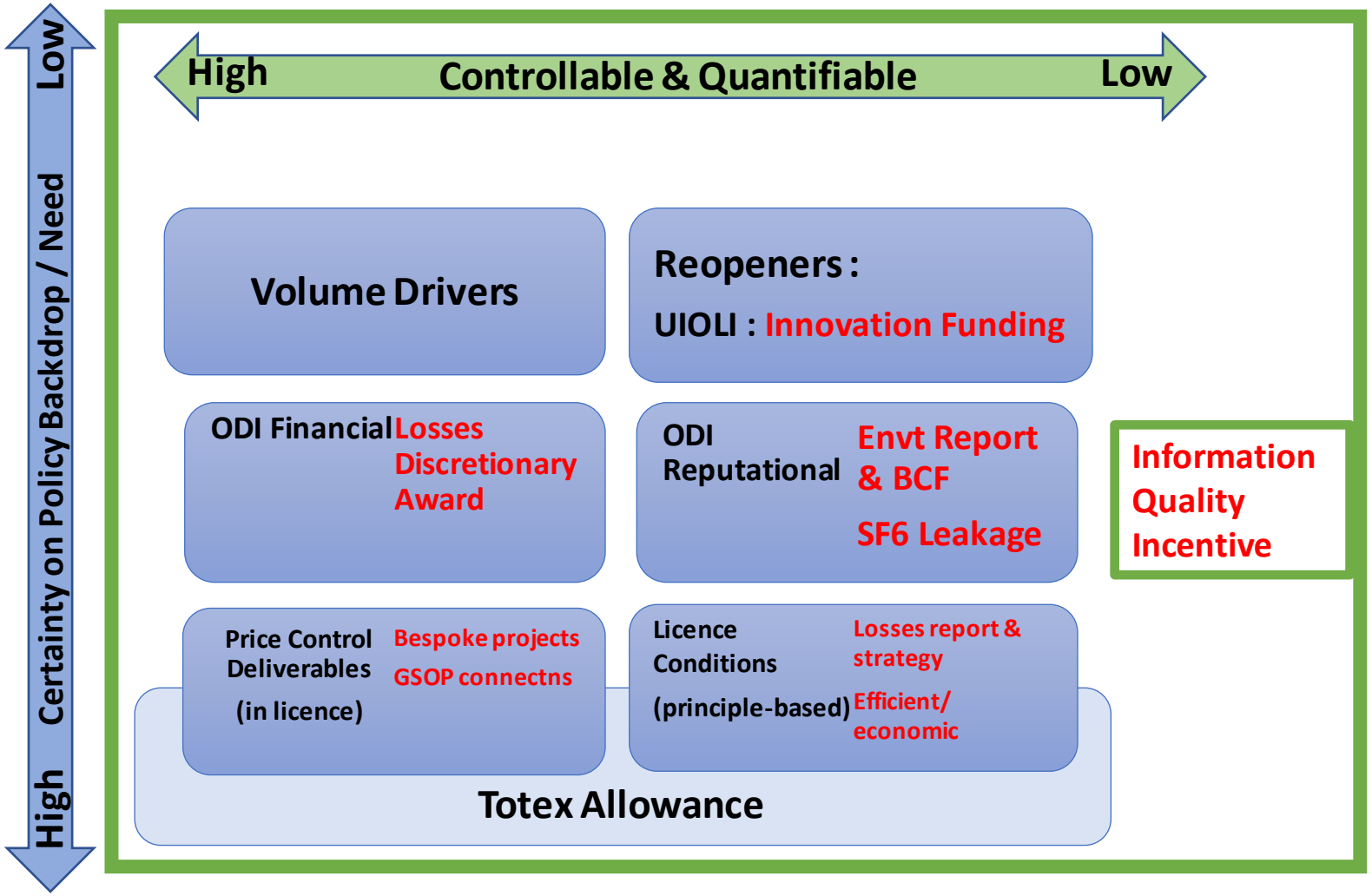
Objective (iii) – Support transition to a smarter more flexible & sustainable energy system

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

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

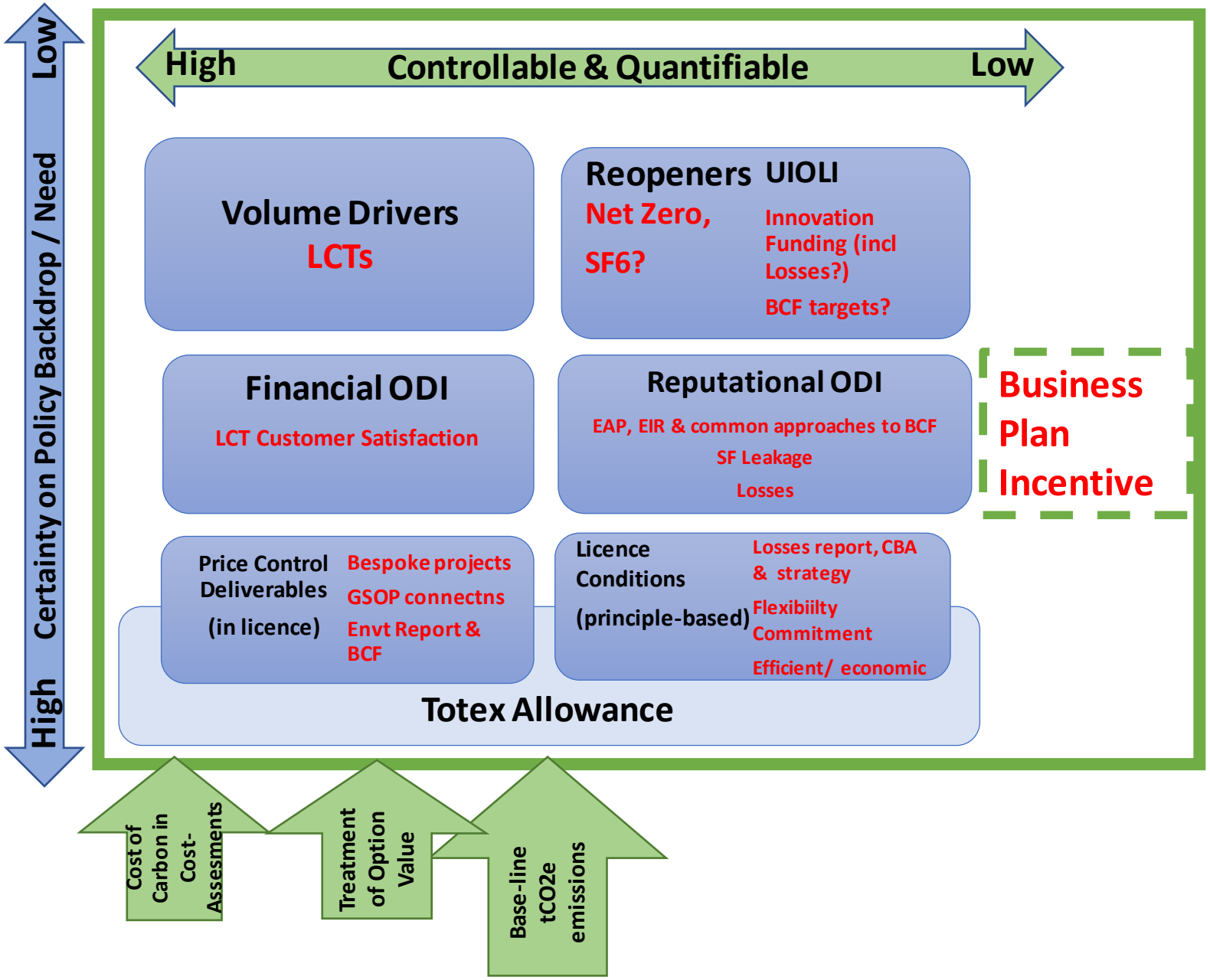
*Not addressed here. Ofgem Objective (ii) - reduce environmental impact of network activity – unless a GHG activity e.g SF6

How does this look for ED1 ?



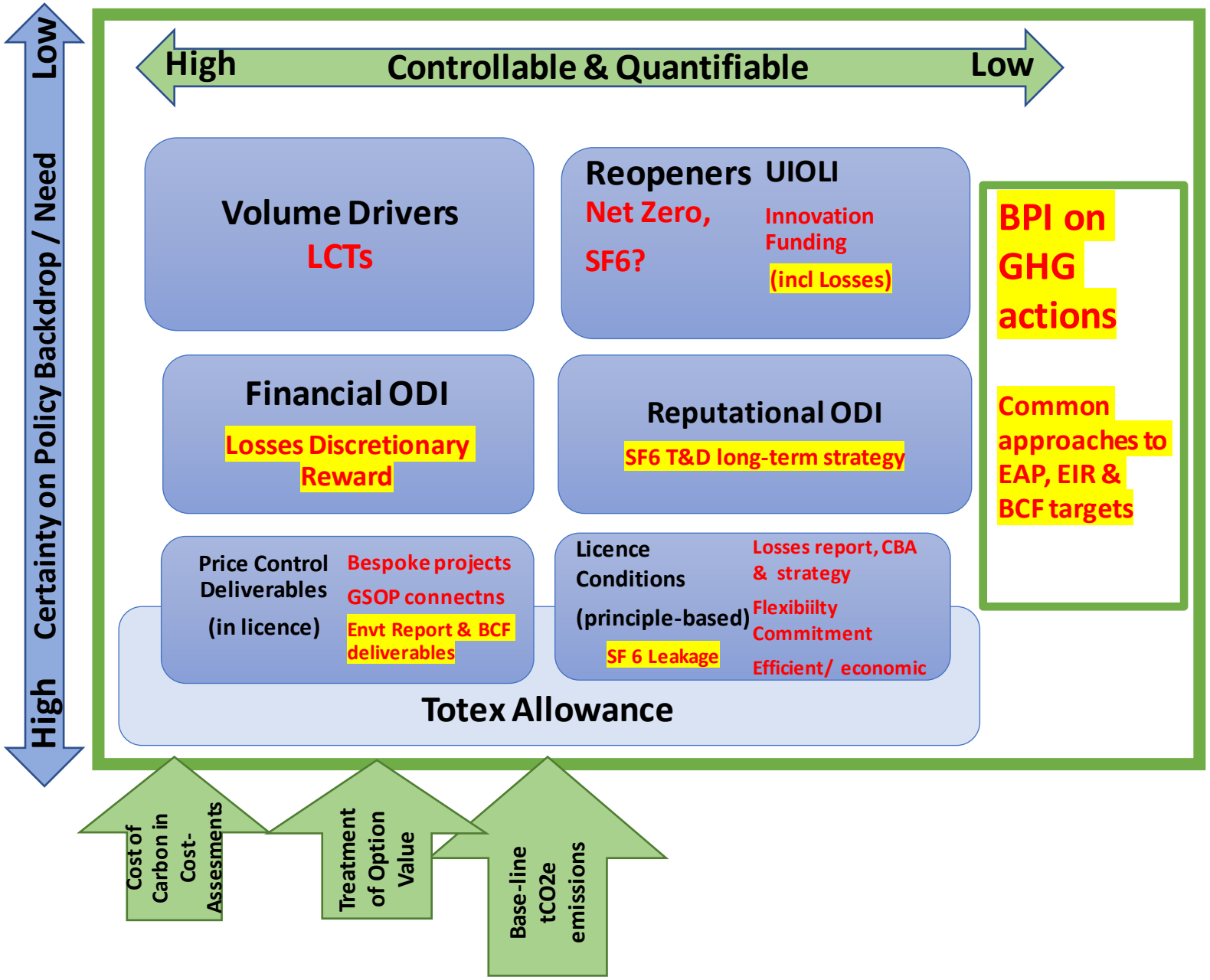
- ED1 incentives run to April 2023
- Outputs framed six years back ……long-before today's net-zero imperative.
- ED2 period = critical in setting path to 6th Carbon Budget
- ED1 to ED2 : major reset needed for GHG reduction.

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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