

RIIO-ED2

Cost Assessment Working Group – Meeting 2



Electricity Distribution Team
11 February 2020

- Welcome and introduction from Ofgem
- Terms of Reference
- Frontier Economics presentation on benchmarking principles.
- Recap on Ofgem view of priority areas
- ENWL presentation on cost assessment priorities and work plan in RIIO-ED2
- Review of all DNO views on key principles for cost assessment in RIIO-ED2
- NPg presentation reviewing the balance between totex and disaggregated models
- Future work streams for group
- Actions, Next Steps, AOB



- We propose to hold a WG session approximately every three weeks with feedback sessions to make sure all ground is covered and prioritised appropriately.
- We plan to run sessions in the Glasgow and London Ofgem offices.
- Depending on room availability, we may need to restrict the number of representatives that each member organisation sends to meetings of the Group

Date	Location	Summary	Items to cover
14 January 20	London	Introductory session	ToR, Priorities
11-Feb-20	Glasgow	Key principles	
25-Feb-20	London	Totex	
13-March-20	London	Load, Non load	
27-Mar-20	London	NOCs & Indirects	
8-Apr-20	London	TBC	
28-Apr-20	Glasgow	TBC	

Some key comments from licensees on ToR:

- Update some text in the ToR to make it more specific and relevant to the Cost Assessment Working Group (CAWG).
- A need for Ofgem to provide a level of assurance that the contributions of DNOs to this working group are actively considered by Ofgem or else justifiably discounted.
- Some clarification required around use of the term 'future activities'. Does this relate to ED2 or longer term?
- Clarification required around 'use of disaggregated modelling based on asset base, as well as activity'.
- Clear definition required on what will be considered 'fixed costs', and their application to Business Support Costs (BSCs).
- Item 1.8 has far too many identified items. Prioritisation of this list may be required.

Frontier Economics presentation on benchmarking principles

Principles to support good regulatory benchmarking

A presentation to the CAWG

11 February 2020



Examples of our experience



RPI-X@20: The future role of benchmarking in regulatory reviews
 A FINAL REPORT PREPARED FOR OFGEM
 May 2010

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Total cost benchmarking at RIIO-ED1 – Phase 2 report – Volume 1
 A REPORT PREPARED FOR OFGEM
 April 2013

© Frontier Economics Ltd, London



Review of RIIO-GD1 benchmarking
 A REPORT PREPARED FOR SCOTIA GAS NETWORKS
 October 2012

© Frontier Economics Ltd, London

Developing Network Monopoly Price Controls: Workstream B
 Balancing incentives

A final report prepared for Ofgem

March 2003

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EFFIZIENZVERGLEICH VERTEILERNETZBETREIBER GAS (3. RP)
 Gutachten für die Bundesnetzagentur
 Anonymisierte Fassung
 17. Mai 2019

Unter Mitarbeit von Prof. Timo Kuosmanen und Dr. Mark Andor



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E3GRID2012 – European TSO Benchmarking Study
 A REPORT FOR EUROPEAN REGULATORS
 July 2013

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Choice of model and availability of data for the efficiency analysis of Dutch network and supply businesses in the electricity sector

Background report accompanying Guidelines for price cap regulation in the Dutch electricity sector
 February 2000

Netwerkbeheer Electricity Regulatory Service



© Frontier Economics Ltd, London



Review of the AER's econometric benchmarking models and their application in the draft determinations for Networks NSW
 A REPORT PREPARED FOR NETWORKS NSW
 January 2015

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Why do regulators need benchmarking?

Why benchmark?

- In the short run, the regulator needs to set cost allowances for the price control ahead
- Will want to set cost allowances that are efficient in the short run, to protect consumer interests
- This short run “allocative efficiency” is already a strong motivation to do good benchmarking
- But there is more to it than that...

Benchmarking can generate valuable information at low cost

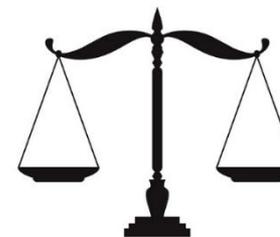
The fundamental problem facing a regulator is asymmetric information...

- In the stylised Principal-Agent models in the literature, higher levels of efficiency arise as higher levels of effort are put in by the firm
- The regulator doesn't have accurate information on how easy/hard it is to make cost savings, whereas firms do



... however benchmarking can be a powerful solution

- Benchmarking is a critical part of the regulator's toolkit for overcoming asymmetric information
- It creates pseudo-competition between firms
- The regulator can use the best performing firms to set allowances
- Without needing to "pay" the laggards to reveal this
- Benchmarking can therefore create strong incentives for ongoing dynamic efficiency: firms know if they fall behind, they will be disciplined by benchmarking at the next review



Benchmarking can unleash powerful incentives – but these must be well targeted

Pseudo competition can unleash strong incentives for companies to improve performance

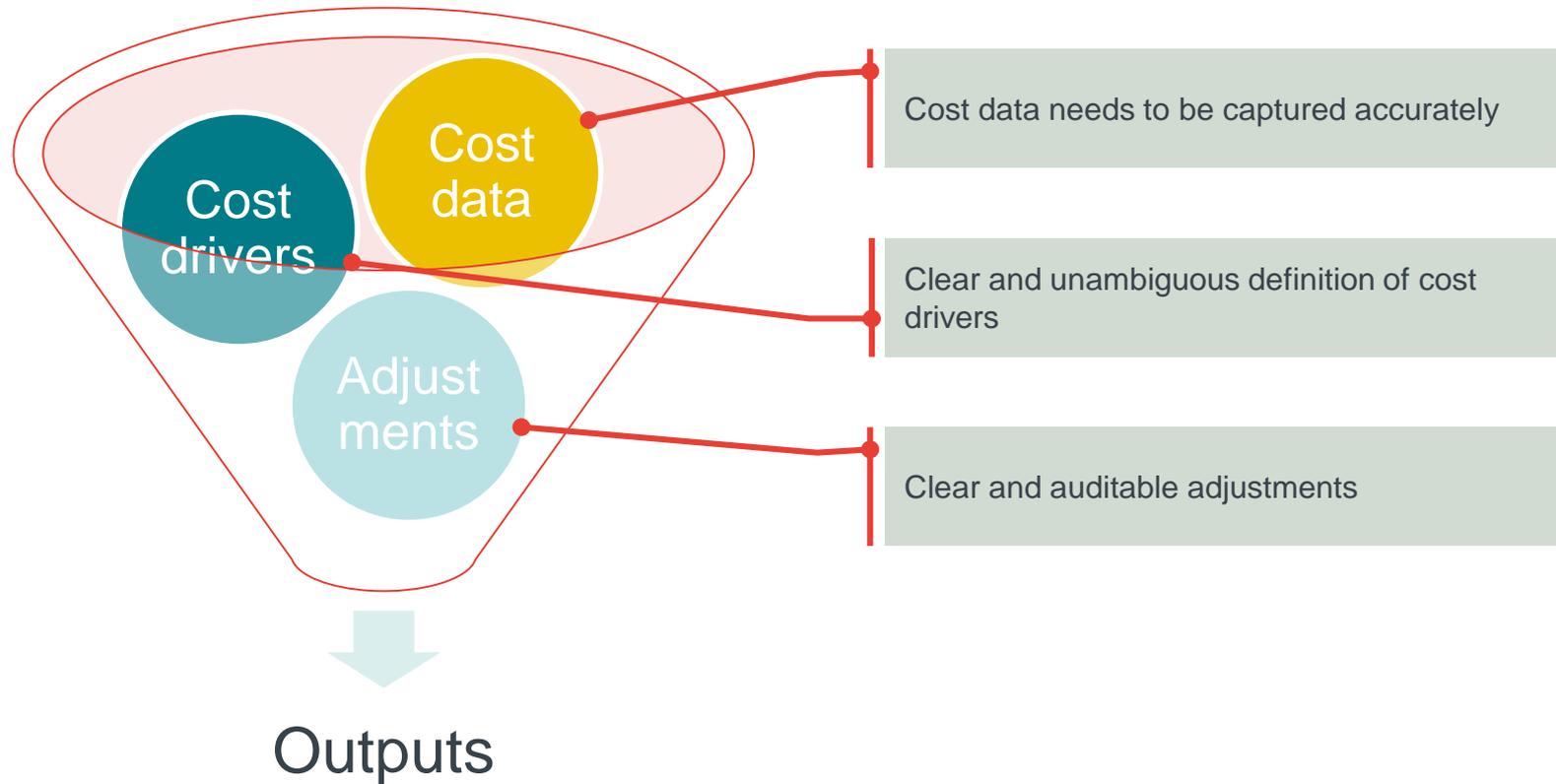
But there are risks

- Firms compete through their performance on the benchmarking model, not for customers
- They will naturally and entirely rationally seek to “optimise vs the model”
- If the model is poorly designed, incentives created can be perverse and companies can focus on improving/delivering the wrong things

So model design is critical

If the model is well targeted on desired outcomes, then it will produce the kind of behaviour that the regulator is seeking to induce

Good models aren't enough though – good outputs require good inputs



To assess any benchmarking model, it is useful to divide it into four components

COST

COST DRIVER

SAMPLE

TECHNIQUE

A number of practical challenges arise in each of these areas

Which cost to benchmark?

- “total cost” or “total expenditure” can be tricky as network investment can be “lumpy”
- But disaggregated benchmark can create distortions between cost types benchmarked differently

COST

COST
DRIVER

- We want to control for material differences between companies
- Control for differences in outputs: customer numbers, throughput, peak demand
- Control for exogenous differences between:
 - Input cost (e.g. regional wages, local taxes)
 - Operating environment (e.g. geography, topography, urban/rural)
 - Past planning decisions and planning constraints

Small sample size

- The cross section available for GB DNO benchmarking will always be limited to 14
- Forecast or historic

SAMPLE

TECHNIQUE

- Small sample size limits the techniques that can be used
- There can be a trade-off between simplicity/clarity and robustness

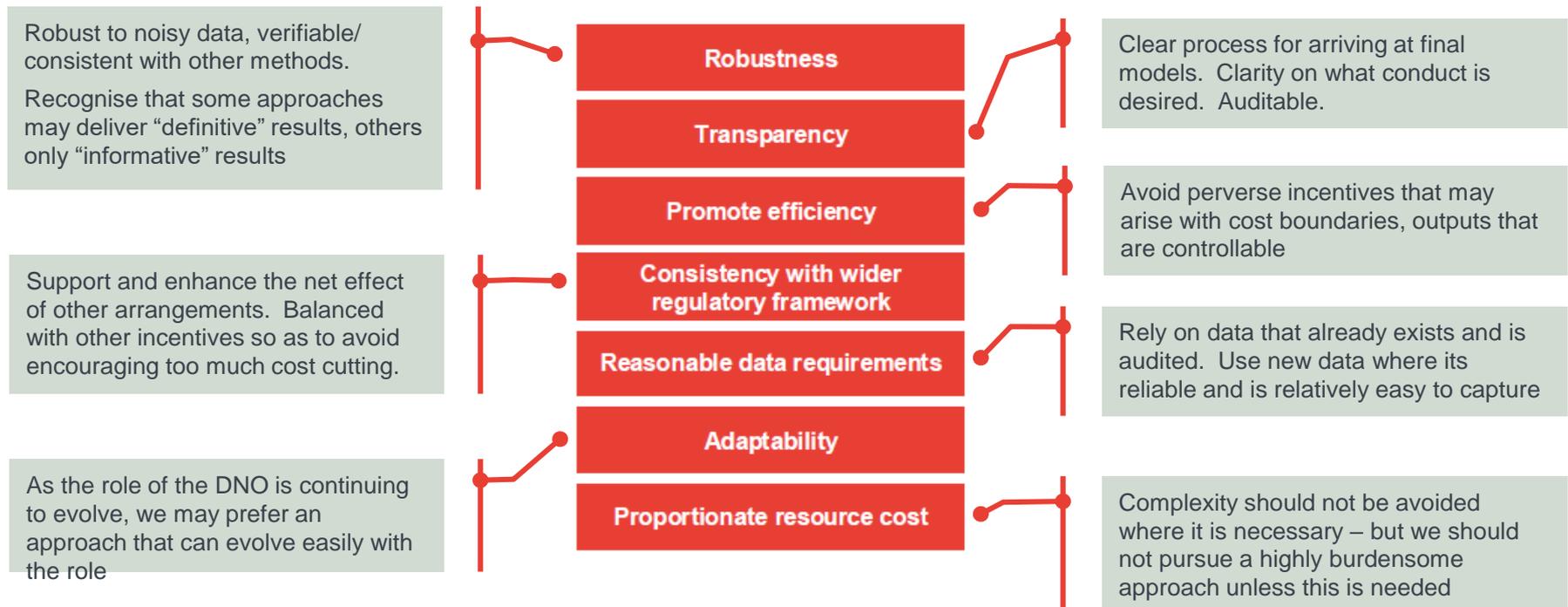
Key challenges/questions for ED2

Increasingly diverse set of tools at DNOs' disposal	<ul style="list-style-type: none">▪ Technology neutrality increasingly important: establish a level playing field for flex/active network management vs traditional reinforcement▪ More diversity in “business model” than ever?▪ Importance of exogenous cost drivers: use of MEAV more inappropriate than at ED1
Low Carbon Technology rollout (and associated challenges) may vary by region	<ul style="list-style-type: none">▪ Benchmarking models may need to cope with different assumptions for Low Carbon Technology by region▪ Benchmark plans to allow competition over “uptake risk acceptance”▪ Benchmark common baselines and cover volume risk through uncertainty mechanisms?▪ Need to ensure settlement is internally consistent
Low carbon transition and Net Zero	<ul style="list-style-type: none">▪ Benchmarking plans or history (or both)?<ul style="list-style-type: none">▫ Benchmarking plans requires robust plans. Needs an effective BP incentive▫ Is the transition gradual enough that ED1 outturn can be used as a guide to ED2?▪ Anticipatory investment: should benchmarking be able to cope with plans to make some assets 2050-ready?
Increased public scrutiny	<ul style="list-style-type: none">▪ Demonstrating validity/robustness of approach more important than ever?▪ ED1 models were complex with uncertain incentives – simplification needed?
Differences in starting point?	<ul style="list-style-type: none">▪ Is it necessary to account for differences in funding from ED1 arising from Fast Track?

Principles need to provide practical assistance in helping meet these challenges

RPI-X@20 principles – the Frontier report

Figure 1. Criteria against which to assess the merits of different benchmarking methodologies



A cut down version – prepared for recent client work looking back at ED1

1. Robustness



- Results should not be overly sensitive to small changes in specification or input data
- General ranking of efficiency scores should remain relatively stable under alternative specifications
- Model should pass standard statistical tests of power and reliability

2. Transparency



- More transparent models and processes should be preferred
- This enables operators and regulators to be clear about what conduct is being encouraged and how operators are rewarded for cost reductions
- Simplicity can be an important element of transparency

3. Promote efficiency



- Avoid or minimise distorting incentives to favour one cost type over another, with all potentially substitutable costs subject to similar “strength” benchmarking
- Benchmarking should not overly incentivise the deferral of investments necessary to support a transition to a low carbon economy

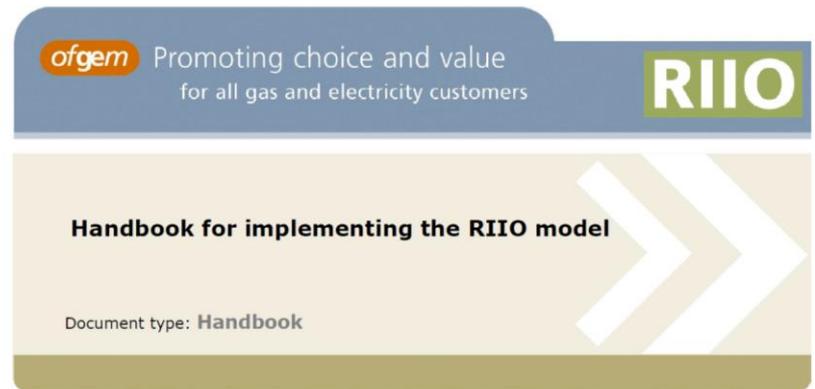
4. Proportionate resource costs and data requirements



- All relevant resource costs associated with the benchmarking exercise should be considered, including the cost of time spent by Ofgem, network companies and advisers
- This should be considered against the aggregate scale of cost allowances in the sector
- Take into account the quality of data that is able to be collected as part of the benchmarking process

Revisiting the RIIO Handbook

- There were good reasons for moving to the RIIO model
- The RIIO handbook set out a lot of important principles that should be kept in mind



Proportionate treatment:

Assessment approach can vary according to quality of plans and performance in previous periods, incentivising good plans

Strong incentives:

To deliver well-justified plans

A toolkit approach:

Using a range of information to assess performance, ensuring a robust and well-informed outcome

Strong focus on totex:

Incentivises companies to minimise total costs, and provides an overall view of value-for-money

Longer term focus:

Companies should focus on minimising costs over the long term

Incentivising innovative solutions:

Companies should be incentivised to try new approaches as a means of finding the lowest cost way of delivering outputs

RIIO-GD2 – CEPA/Ofgem developed a set of principles to guide the development of their benchmarking models

Criteria for cost pools

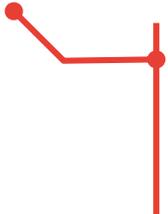
- **complementarity:** Is there a strong technical/economic reason to believe that activities or groups of expenditure are complementary and should be benchmarked together and a consistent set of cost drivers can be identified?
- **cost trade-offs:** Can GDNs make trade-offs in expenditure between the different activities/areas included in the cost pool, and so benchmarking those activities/costs together will help avoid biased relative efficiency results or unintended managerial incentives for the GDNs?
- **cost boundary complexity:** How complex is the boundary of cost reporting data that needs to be defined to benchmark the identified cost pool/activity (eg how well defined is the group of costs within Ofgem's regulatory reporting templates)?
- **risk of inaccurate/biased models:** Is there too much 'noise' in the data to be confident that including certain types of expenditure within aggregated regressions could lead to inaccurate model results, or coefficient estimates that are difficult to interpret using engineering/economic logic?

Principles for cost drivers

- **make economic and/or engineering sense** – so they can be interpreted and understood as reasonable and relevant
- **be accurately and consistently measurable**
- **have a relatively stable relationship with the costs over time** and incorporate as much relevant information as possible – in order to be able to distinguish between costs which are explained by differences in exogenous conditions and costs which are explained by differences in efficiency
- **be beyond the control of the network company**, as far as is reasonably practicable, to avoid distorting company incentives in ways which might be ultimately inefficient.

Criteria for model selection

- **economic/technical rationale** – Do the model specifications and results have a clear economic/technical rationale
- **transparency** – Including the data used, the results and ease of interpretation for stakeholders
- **robustness** – Does the model pass statistical tests? Is the model sensitive to the underlying assumptions



Broadly consistent with the Frontier principles in these three main areas
Breaks out what “promotes efficiency” may mean in respect of cost and cost driver definition

Summary thoughts for ED2

Progress so far on RIIO

- The thinking done so far for GD2 on the objectives, principles and criteria for assessment are helpful
- They are reasonably consistent with long standing principles support in the past by Ofgem
- Frontier generally support these principles

Challenges

- The risk will come as we move from the abstract – where there may be considerable consensus – into practical work
- With a small cross section there is always a limit to what can be done
- Trade offs will need to be made

Some guiding principles

- It may be helpful to prioritise objectives/principles that are most important to ensure we don't lose sight of them in the heat of battle
- Given the importance of facilitating the energy transition in a timely and efficient manner, we would argue that the primary objective should be that **benchmarking should encourage a focus on overall long run efficiency**
- Other principles are important but should be subsidiary to this
- Technology neutrality is also likely to be critical
- As decisions are taken incrementally, they should be tested to ensure we do not sacrifice too much purity of intent to practicality/pragmatism



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**Presentation on priorities and work plan for cost assessment in
RIIO-ED2**

- Ofgem's costs assessment approach to be outlined in July consultation
- Developing and refining totex benchmarking
- Disaggregated benchmarking
- Data (do we have the necessary data and comparative data for benchmarking)
- CBAs
- Capturing costs for DSO functions
- Justification papers and commentary
- Whole life costs and efficient solutions
- Scenarios (range of scenarios, common view)
- Historical v future performance (how projections are made)
- By group, by DNO
- Transparency
- Use of outputs in benchmarking
- Business Plan Data Templates
- Conversion to allowances



Cost Assessment Working Group - priorities & workplan

11 February 2020

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- Cost assessment for a RIIO price control is a very complex process
- Cost assessment needs to distil the results and outcomes of all the other parallel debates on RIIO policy and the future role and desired outcomes of the sector
- Many issues are interacting and occasionally in conflict
- ED is different to ET & GD hence need to consider what works, drawing on in-period learning
- RIIO-ED1 precedent may not be a good guide to meeting future challenges
- Ofgem will need to agree the prioritisation of the key areas for attention

- Needs to be in the context of a DNO's future role



- The ToR will need to be reviewed and updated following taking account of stakeholder feedback.

CAWG ToR RIIO ED2: To inform development of toolkit for assessing efficient costs in RIIO ED1.

Advisory not decision making body.

Objectives:

- Review approach in RIIO ED1 - fit for purpose for RIIO ED2?
- Further development of totex benchmarking
- Develop and refine disaggregated benchmarking for: NI, NOCs, CAIs, BS & non-operational capex
- Determine use of disaggregated modelling based activity
- Establish treatment of: fixed costs; organisational design issues, regional factors, RPES, frontier shift, workforce renewal allowance, pension costs
- Establishing principles for using data sources in comparative analysis and expert review
- Determining appropriate cost drivers
- Determining the treatment to be given to innovative solutions, investment avoidance and associated investment costs
- Setting allowances for future activities (e.g. DSO)
- Identifying material uncertainties and developing uncertainty mechanism



1. Identifying how cost assessment fits together / establishing benchmarking principles
2. Identifying how to handle new or bigger issues like scenario uncertainty
3. Establishing the ED2 Business Plan Incentive (which is time critical as its incentives are required soon)
4. Refining the approach to well understood, business as usual, cost benchmarking (e.g. totex/disagg models)
5. Assessing established macro factors / uncertainty mechanisms
6. Identifying dependencies and interactions with other Ofgem Working Groups



Cost/Assessment justification framework	Incentives & dealing with Uncertainty	Regionality & macro factors	Modelling
<ul style="list-style-type: none"> • Overall cost assessment framework - how it all fits together • Role for each tool in the toolbox & interaction • CBA development • Social Value & benefits identification • EJP development • Role and sourcing of Expert View • Methodology confidence/Role of interpolation • Granularity of plan requirements • BPDT/commentary development • Treatment of innovative solutions • NARMs development & interaction with cost assessment • Role of national plan and common scenario • Role of local plans and regional scenarios • WS1A P1 ANM vs Flexibility vs Reinforcement Common Methodology • WS4 P1 Whole System CBA 	<ul style="list-style-type: none"> • Interaction with Business Plan incentive/TIM • Indexation • Alternative revenue models • Facilitating Net Zero • Anticipatory investment • Treatment of new or emerging activities • Role of competition • Treatment of uncertain costs / activities; uncertainty mechanism design • HVP thresholds & associated outputs • Common Adjustment mechanism • Options around outputs and incentives • Strategic Investment 	<ul style="list-style-type: none"> • Regionality & special factors • RPEs • Productivity & frontier shift • Organisation design (eg insource v outsource) • Pensions (link to Financing WG?) • Workforce renewal / training allowance • WS1B P2 Whole System FES – Coordination of National and Regional FES 	<ul style="list-style-type: none"> • Model form • Totex cost drivers • Regression approaches • Role for aggregated approaches • Disaggregated model form • Benchmarking • Defining average efficiency • Role and extent of historic data series • Definition/role of output/outcome factors • Volume assessment tools • Data sources & validation • DSO costs • Input of enhanced engagement • Sensitivity and confidence • Low carbon drivers • How to measure outputs associated with low-carbon transition • WS3 P1 DSO Transition Plan

Each workstream should also consider:

- Lessons from Transmission and Gas Distribution under RII0-2
- Stakeholder views & feedback
- Consequential licence/code changes and impact and interaction thereof

Red text identifies relevant OAWG focus points
Green text identifies possible Open Networks (ON) interactions

Interaction across cost base areas



Topic	Investment justification framework	Modelling	Incentives & Uncertainty	Regionality & macro factors
Network Investment; <ul style="list-style-type: none"> • Load Related • Non-Load Related core/health related (e.g. Asset Replacement, Refurbishment) • Non-Load Related non-core (e.g. flooding, operational IT) 	Level of detail required for projects/ programmes Design & function of CBA/EJP Role of Expert View is key, Whole life costs	Validity of historic investment categorisation? New categorisations Incremental costs Cost Driver selection Asset replacement modelling Interaction with NARMs	Accommodating new drivers, eg Net Zero New mechanisms for load? Role of Scenarios from DFES, Flexibility	Accommodating potential changes in DNO scope – Net zero, DSO, addressing fuel poverty, supporting vulnerable customers,
Network Operating Costs (NOCs)	Extent of data trend? Changing approaches to inspections	Cost driver selection	Interaction with IIS measure Ongoing Smart Meter costs ONIs definitions and drivers	Incorporating macro change drivers – ie Ash Dieback, climate change adaptation
Closely Associated Indirects (CAIs)	Assessment of efficiency associated with directs	Model form Needs to not discriminate on org design Cost driver selection Impact of uncertainty mechanisms	Interaction with BMCS & other incentives	Accommodating potential changes in DNO scope – Net zero, DSO, addressing fuel poverty, supporting vulnerable customers, managing competition processes Organisational design
Non-Operational Capex		Cost driver selection		Reflecting impact of decarbonisation activities
Business Support Costs (BSCs)		Fixed cost issues External benchmarks Cost driver selection		Accommodating potential changes in DNO scope – Net zero, DSO, addressing fuel poverty, supporting vulnerable customers
Incremental costs, whole life costs and innovative solutions	How best treated? How captured in historic data?			

Cost Assessment areas for consideration



- Each stream needs a list of questions as a starting scope – examples below

Topic	Description
Benchmarking Model form, data sources and cost drivers	Work to consider the various model forms (DEA, SFA, RE, COLS etc), the time series to which modelling is considered and what cost drivers are appropriate. Also considering what the benchmark is and how this is applied within the modelling suite. Where the data required to support model form is captured and if it is captured at all (RIGs/BPDTs). Link to BPI high confidence costs. Defining / estimating a notional company of average efficiency.
CBAs, Engineering Justification Papers (EJP) and expert review	What are the expectations and requirements based on investment type, how do CBAs and EJP fit together, to ensure that effort and evidence is appropriately targeted to support investment justification but also to support review and decision making based on business plans? All areas also need looking at separately. Link to BPI.
Uncertainty mechanisms	What are the key areas of uncertainty within costs/volumes? What mechanisms are required in what areas, and how do these align with other areas of the framework such as CBAs, eg capacity mechanism? Also links to BPI and TIM through high/low confidence costs. Links to PCDs. In what circumstances would the CAM apply to distribution business?
Allowances/Interpolation	The role that interpolation plays within ED2 framework and how this works with the BPI in its current guise. Question whether removal is still in question. Relationship to sensitivity/confidence of benchmarking models.
RPEs and productivity	What (if any) indexation for RPEs, what are the learnings from GDNs are there alternative indices that should be considered? Is total factor productivity (TFP) utilising EU KLEMS data best for setting or calibrating the frontier shift assumptions?
Other costs; including pensions and workforce resilience	Assessment/treatment of organisational design issues, regional factors, workforce renewal allowance and pension costs.



- Many of the issues in scope are complex and quite technical
- Important to identify range of views and options ahead of proposals being submitted
- A sub-group structure could be developed to focus on the key priority areas as per OAWG
- Important for commitment to development/assessment between working group meetings
- CAWG meeting schedule should be aligned to the sub-group structure to allow efficient and effective participation
- CAWG largely in oversight mode





- Overall CAWG would plan to consider (say) two key topics per meeting
- CAWG would also consider any overarching issues & interface with other Ofgem WGs
- Example below based on current meeting dates and identified priority areas
- CAWG would be a working group with tailored participation per meeting

Investment justification framework	Incentives & dealing with Uncertainty	Regionality & macro factors	Modelling
<ul style="list-style-type: none"> • Overall framework – 11 February • CBA development – 13 March? • EJP development – 8 April? 	<ul style="list-style-type: none"> • Uncertainty mechanisms – 27 March? • BP Incentive, interpolation etc. – 28 April? 	<ul style="list-style-type: none"> • Productivity, frontier shift, indexation, RPEs – 8 April? • Regional and special factor treatment – 28 April? 	<ul style="list-style-type: none"> • Totex – 25 February • Disagg modelling – directs – 13 March? • Disagg modelling – indirects – 27 March?

Proposed meeting schedule – time based view



Meeting Date	Subjects
11 Feb	Overall framework, underlying principles
25 Feb	Totex
13 Mar	Disagg modelling – directs CBA development
27 Mar	Disagg modelling – indirects Uncertainty mechanisms
8 Apr	Productivity, frontier shift, indexation, RPEs EJP development
28 Apr	BP Incentive, interpolation Regional and special factor treatment

- Confirmation of other dates (up to and beyond sector methodology) required from Ofgem, as lots more detailed in slide 3 than have so far captured in proposed agendas for dates available

Proposed meeting schedule – alternative grouping for discussion



Meeting Date	Subjects
11 Feb	Overall framework, underlying principles
25 Feb	Totex
13 Mar	Disagg modelling – directs Disagg modelling – indirects
27 Mar	Uncertainty mechanisms Productivity, frontier shift, indexation, RPEs
8 Apr	CBA development EJP development
28 Apr	BP Incentive, interpolation Regional and special factor treatment

Lunch

Presentations on principles for cost assessment in RIIO-ED2

Summary of DNO views on principles

Prepared by Northern Powergrid for the ED2 cost assessment working group

February 2020

Overview

- Companies took an action from the first ED2 cost assessment working group (in January 2020) to provide views on “benchmarking principles”
- This document summarises views circulated to the group by UKPN, WPD, SPEN, ENWL and Northern Powergrid
- It is arranged based on ten themes identified in the responses:
 - The use of totex vs disaggregated benchmarks
 - Business plan incentives
 - Best practice
 - Stakeholder views
 - Benchmarking method
 - Setting benchmarks
 - Data sources
 - Cost drivers
 - Company specific adjustments
 - Future costs
- The summary was produced by Northern Powergrid and is subject to validation by individual companies

Totex vs disaggregated

NPg	Cost assessment should reinforce the strong incentives that are intended to deliver customer benefits under RIIO.
NPg	Benchmarking models should not undermine the totex approach or equalisation of incentives.
SPEN	Although it is necessary for the results of the cost assessment to be easily explained, this will not result in the models being overly simplistic.
SPEN	Recognition will be given to that certain cost activities are not suitable for benchmarking and qualitative approach to assessment may need to be considered were necessary.
UKPN	Cost assessment should encourage innovative solutions to remain an integral part of DNO operations and philosophy.
UKPN	Cost assessment should recognise different business models and avoid dictating structures.
UKPN	Totex benchmarking must be considered to be at least as important as disaggregated benchmarking. Disaggregated benchmarking should not be used in a way that “cherry-picks” all of the best elements to form the “perfect DNO” and thereby sacrifice outputs.
WPD	Transparent – the method should be clear and reproducible. The rationale for using the selected method over alternatives should be evident and well justified.
ENWL	Justification and thought should be given to how modelling results are calibrated in the overall assessment of costs. Totex is useful in that it is immune to trade-offs between activities. Normalisation of year-on-year capex spend is essential if using simple drivers such as MEAV.

Business plan incentive

NPg	Low confidence costs should be subject to equivalent treatment to high confidence costs (i.e. rewards should be available for submitting low requests).
UKPN	Calculations of rewards and allowances may be complex and need not be understandable to non-experts, but there should be an obvious and understandable link between rewards and good performance.
WPD	Alignment to BPI – there should be transparent links from cost assessment to the high confidence/low confidence Business Plan Incentive framework
NPg	Companies should not be penalised for challenging their own costs i.e. if a ratchet is applied to cost allowances (reducing them to plan levels, below the benchmark); then an offsetting financial award should be made to ensure equivalence with cost reductions during the period
WPD	Allowance setting – confidence assessments should determine what proportion of allowances are based upon different benchmarking approaches and what proportion should be based upon licensees forecasts.
ENWL	Care and consideration needs to be given where the BPI interacts with other parts of the incentives package (e.g. TIM) and with the wider parts of the overall framework. BPI needs to avoid creating perverse incentives to DNOs given the challenges being faced. High/low confidence cost categories are likely to be key to this. Lessons need to be learned from application within GD & T.

Best practice

NPg	Past practice should be objectively evaluated before it is adopted for future use.
SPEN	Where relevant best practice from other sectors cost assessment will be considered.
ENWL	Best practice should consider mechanics of modelling

Stakeholder views

NPg	Cost assessment should provide a strong discipline to encourage honest conversations between companies and their stakeholders.
SPEN	The Cost Assessment process will not undermine the needs and wants from stakeholders and CEG.
UKPN	Stakeholder interests must be strongly considered and cost assessment structured to ensure stakeholder expectations can be met.
UKPN	Price control must be designed so that vulnerable and disadvantaged customers are not left behind in an evolving energy landscape.
ENWL	Local/regional reviews where backed by robust stakeholder evidence should be accommodated. Given the enhanced role of customer engagement, regional information and insight gained as part of this engagement must be reflected and accepted as part of companies' business plan submissions and in turn the regulatory decisions made as part of the RIIO-ED2 process. Cost assessment processes/outcome should be complementary to this.

Benchmarking method

NPg	Model specification should be principles-driven, not data-mining driven.
UKPN	Cost assessment methodologies must make equal engineering and economic sense.
WPD	Proportionate – cost assessment methods need to be proportionate to materiality and reflect level of expected impact on network companies and customers. Proportionality considerations also extend to new costs areas and areas of significant policy interest where cost assessment methods need more in depth consideration
WPD	Sector relevance - Results should be intuitive from both an economic and engineering perspective. Time series selection should be reflective of policy, technology and other changes to the sector to inform an appropriate selection that reflects future costs using the best available information
WPD	Recognition of cost–quality trade-offs. Regression and other cost assessment methods in isolation make no acknowledgement for higher marginal costs of service delivery and quality. Implicit assumptions of models is “all other things being equal”, e.g. that state of technology is both the same for all DNOs (which it isn’t) and that the level of delivered/forecast quality is the same for all DNOs (which it isn’t). Both require proportionate consideration to understand how such ‘static’ modelling assumptions may not be observed in reality or incentivised. To be frontier efficient is meaningless without reference to relative output/service etc. performance
WPD	Benchmarking and cost assessment methods should be independent of individual DNO influence, supported where relevant with external comparators (where those comparators are consistent with the definition of cost categories and activity volumes)
WPD	Stability and sensitivity robustness – stability of methods is imperative to demonstrate robustness in and reliability of approach used to inform allowances, e.g. stability of modelling results when a single DNO or year is removed. Evidence of similar cross checks and sensitivity tests is equally important
ENWL	Different types of models measure different aspects of efficiency e.g. efficiency of volumes delivered, efficiency of each unit delivered, whole life cost efficiency. Ofgem should use a range of models to assess efficiency in order to capture all aspects and this must make both economic and engineering ‘sense’.

Setting benchmarks

NPg	Benchmarks should be realistic and achievable i.e. set based on companies, not unachievable activity composites.
UKPN	Disaggregated benchmarking should not be used in a way that “cherry-picks” all of the best elements to form the “perfect DNO” and thereby sacrifice outputs.
UKPN	Performance incentive/penalties and associated allowances should be aligned to all key outputs expected in ED2.
WPD	Consistent – Methods should be applied in a consistent way, unless due justification exists to apply a differing methodology (i.e. no cherry picking). Consistency in application of modelling approaches and assumptions is relevant across different models, cost categories and network price controls (i.e. to include relevant/transferable cost assessment methods from the GD&T controls)
WPD	Cost assessment alignment with outputs / deliverables – benchmarking adjustments should consider the impact on deliverables and make appropriate trade-off amendments.
ENWL	Benchmarking should be agnostic of delivery structure (i.e. should not be biased or unbiased to outsourcing or insourcing)

Data sources

NPg	Regulatory practice should not be ossified and should draw on the best available data at the time.
SPEN	The use of historical data will be assessed before inclusion in models
UKPN	Cost assessment should be built on consistently reported information
UKPN	New data sets should be scrutinised and validated.
WPD	Use all available relevant data (i.e. no cherry picking of information or discounting of information without due justification)
ENWL	Comparative analysis is only effective if comparable and appropriately normalised data is used. Any data must not be used in models that has not been captured and reviewed as part of routine reporting or a valid external source (ONS etc). It must be recognised that cross-sector and international comparisons of costs are difficult to achieve given differences in reporting basis, licensee responsibilities and network configurations.

Cost drivers

NPg	Cost driver selection should be principles-driven, not data-mining driven.
NPg	Cost drivers should be outside of company control, relevant and complete.
SPEN	Cost Drivers will not be counter-intuitive and should always be statistically relevant.
SPEN	The cost drivers selected and discarded will be explained, and justified.
SPEN	'Efficiency' or modelled costs will not be determined by the scale of network in which DNO's operate and will be able to recognise legitimate differences between companies.
UKPN	Cost assessment should recognise network reliability as a fundamental measurable for a DNO.
ENWL	Cost drivers should be logical and justifiable, current cost drivers (ED1) should be starting point.

Company specific adjustments

NPg	Company specific adjustments should be subject to a high bar including: Testing via econometric benchmarking where possible; or intensive scrutiny if off-model adjustments are to be made; Full transparency of the company's proposal to allow third-party review;
NPg	Company specific adjustments should be subject to equivalence with other "low confidence" costs under the business plan incentive i.e. subject to potential penalties.
SPEN	The discounting of any activities, or costs will be consulted on and justified
UKPN	Regional labour and special factors, where justified, must be taken into consideration in cost assessment.
WPD	Recognition of special cases – qualitative assessments are to be used to assess special cases, which do not fit within reasonably sized ranges within benchmarking methods. Outlying unit costs and volumes should not be dismissed without assessment of engineering justification.
ENWL	Consideration should and needs to be given to the outcomes of economies of scope and scale. Modelling should acknowledge the fixed costs that can be shared across ownership groups.

Future costs

UKPN	Cost assessment must complement, not conflict, with wider, long-term national & regional targets, particularly Net Zero.
UKPN	DSO requirements should be clear and any economies of scale recognised in how costs are reported in the respective tables.
UKPN	Scenarios must be clearly defined and appropriately calibrated for the respective activities and networks.
ENWL	Future costs and requirements need to be accommodated within the suite of cost assessment models, this is crucial given the changing operating environment and requirements on the network.

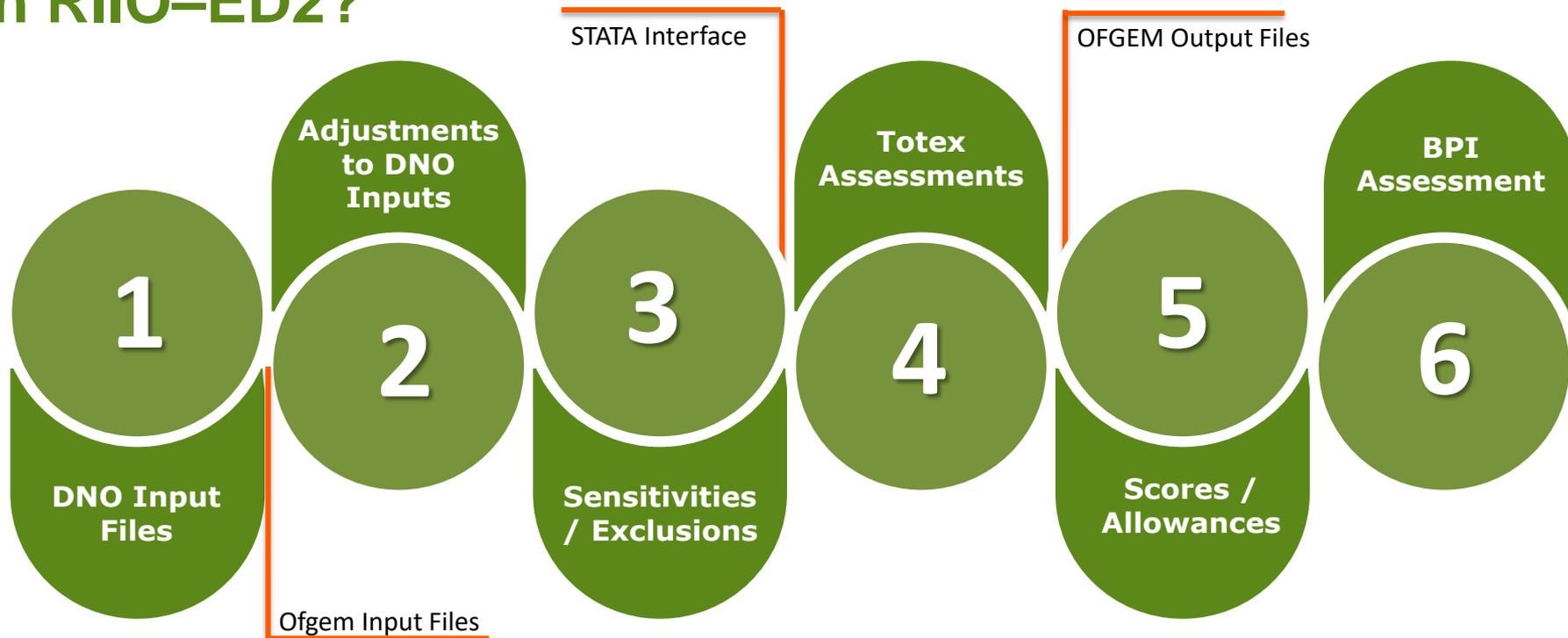
Cost Assessment Working Group:

Principles for RIIO- ED2



Internal Only

How should the Cost Assessment fit together in RIIO-ED2?



How Should the Cost Assessment be carried out?

Cost Assessment Area	Thoughts	Focus / Issues
1) DNO input Files	BPDT, CBA, Justification Papers, Productivity	<ul style="list-style-type: none"> • Interactions with RIGs WG for development of BPDT • Building on T2 CBA template • Scenarios based on DFES
2) Adjustments to DNO Inputs	Regional Factors, Special Factors, Net Zero, Uncertainty Mechanisms	<ul style="list-style-type: none"> • Variable WTP & VOLL • Flexibility, EV's, Heat Pumps
3) Sensitivities/ Exclusions	Cost Pools, Time periods, Dropping Cost areas, Dropping projects, DSO	<ul style="list-style-type: none"> • Use of historic data within modelling • Best practice from other sectors cost assessment
4) Totex Assessments	Totex, Middle level and Disaggregated models, Cost Drivers, Model Specifications, Regressions, Unit Costs, Expert view, Qualitative Assessments	<ul style="list-style-type: none"> • Balancing needs and wants from user groups/ CEG with economic assessment • Ensuring drivers are suitable and make sense for assessment • Modelled costs determined by company size not applicable in ED2
5) Scores and Allowances	RPE's, UQ Adjustment, DNO/Ofgem View, Innovative Solutions	<ul style="list-style-type: none"> • How is an innovative solution assessed in current climate?
6) BPI Assessment		<ul style="list-style-type: none"> • Link with cost assessment





Internal Only

At our last CAWG we asked licensees to provide their view on:

- 1. Ofgem's key principles for cost assessment in RIIO-ED2** i.e. How should Ofgem carry out cost assessment?
- 2. How should the cost assessment process fit together?**

We received [comments](#) from several licensees on these questions.

Setting baseline totex allowances

11. We aim to **set the baseline totex allowance so that**, in conjunction with uncertainty mechanisms, the **licensee has sufficient but not excessive funding** in the round **to deliver the baseline level of outputs** and deliverables through the control period.

To determine that the allowances are sufficient but not excessive, **we make our best estimate of what a notional company of average efficiency** (that has operated its network economically and efficiently in the past) **would need to spend in the RIIO-2 period to deliver the relevant outputs.**

To construct this best estimate of average efficiency, we either use **independent benchmarks of efficiency where available**, and set allowances at the lower of the independent benchmark and the company's own forecast of costs. Or, where no independent benchmarks are available, we start with the **company's forecast but disallow any costs that are not adequately justified.**

12. We will provide a **baseline totex allowance**, and **incentivise companies to outperform** this where we are confident that expenditure is likely to impact on the delivery of outputs. This should **lead to companies identifying the right projects/activities** and seeking to **maximise profits through improvements to service quality while lowering costs.**

Where the delivery of outputs may not fully align with expenditure (for instance due to time horizons, or difficulty in measuring network contribution to consumer outcome) then the need for the work should be independently validated, and any associated network expenditure should only be subject to totex incentives for the delivery of discrete projects.

Specifying uncertainty mechanisms

23. Where there is **material uncertainty in the evolution of prices** at the start of a control period, **indexation should be used to avoid forecasting errors** – this includes the prices of financial securities as well as the prices of labour and construction materials.
24. Where there is **material uncertainty in the evolution of quantities (but unit rates are stable)** at the start of the control period, **volume drivers should be used to adjust allowances** within the control period.
25. Where there is **material uncertainty as to both prices and quantities (and/or the economic needs case is not proven, or the scope of expenditure is unclear)** at the start of the control period, **a reopener should be used to consider variation in allowances** within the control period.
26. If **scope changes during the control period so that allowances are no longer required** (or are delivered to a materially different specification), there should be **automatic mechanisms to return such unused allowances to consumers** (identified upfront as price control deliverables).

NPg presentation reviewing the balance between totex and disaggregated models

- The next meeting will take place on 25thth February. It will be in London.
- We will circulate notes and an actions log from this meeting.

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.

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