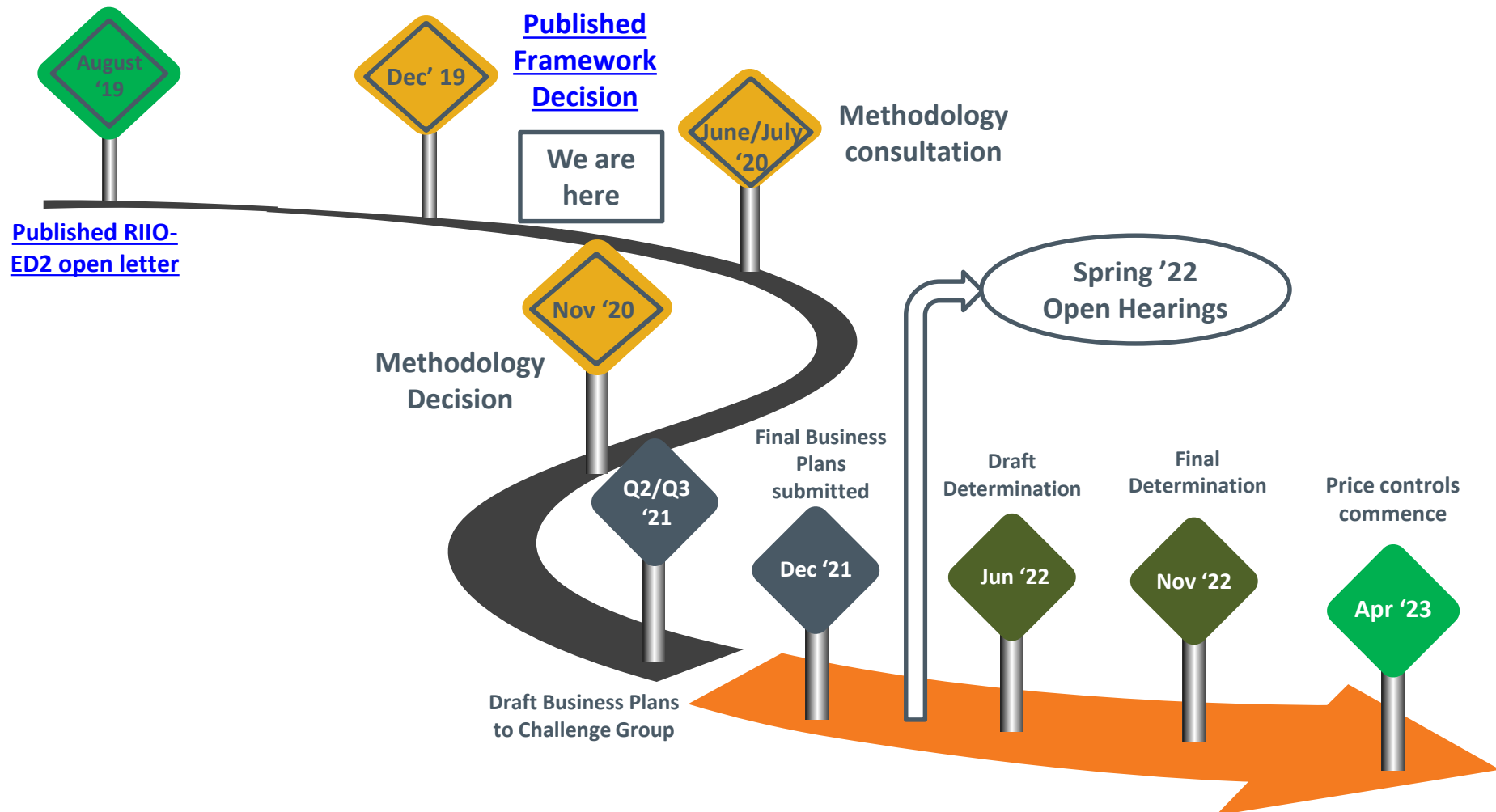# RIIO-ED2

Cost Assessment Working Group – Meeting 5

**Electricity Distribution Team**
27th March 2020

- Welcome and Introductions: 10:00-10:15

- Ofgem review of Productivity and Frontier Shift: 10:15-10:30

- WPD presentation on Ongoing Productivity Growth: 10:30-11:15

- Ofgem presentation on Real Price Effects (RPEs) and Indexation: 11:15-11:45

- Ofgem review of feedback received on Regional and Special Factors: 11:45-12:00

- UKPN presentation on Regional and Special Factors: 12:00-12:30

- Actions, Next Steps, and AOB: 12:30-12:45

ofgem
Making a positive difference
for energy consumers

**August '19**

**Dec' 19**

**Published Framework Decision**

**We are here**

**June/July '20**

**Methodology consultation**

**Published RIIO-ED2 open letter**

**Nov '20**

**Spring '22 Open Hearings**

**Methodology Decision**

**Q2/Q3 '21**

**Final Business Plans submitted**

**Draft Determination**

**Final Determination**

**Price controls commence**

**Dec '21**

**Jun '22**

**Nov '22**

**Apr '23**

**Draft Business Plans to Challenge Group**

- 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, BPI & interpolation, Regional and special factors, How it all fits together | Drivers, duration periods, role of history vs forecasts Review totex models |
| 13-Mar-20 | London | Role of disagg modelling | Review of ED1 and GD2 disagg models PR19 and middle model reviews |
| 27-Mar-20 | London | Productivity, frontier shift, indexation, RPEs | |
| 8-Apr-20 | London | Uncertainty mechanisms How it all fits together (again) | |
| 28-Apr-20 | Glasgow | CBA development EJP development | |

4

# Ofgem review of Productivity and Frontier Shift

## ED1

- In ED1, we used the ongoing efficiency assumption included by all DNOs in their business plans, as we considered them to be reasonable.
- Ongoing efficiency ranged between 0.8 and 1.1% per year for slow-tracked DNOs in ED1.

## RIIO1 - other sectors

- For the other sectors, Ofgem conducted a 'growth accounting' approach for the ongoing efficiency assessment
  - The basic idea is: how much of the growth of outputs is not explained by the growth of inputs?
- RIIO1 ongoing efficiency measures were based on the historical efficiency of comparator sectors (eg. Construction)
- Ofgem used the EU KELMS database over the 1970-2007 period
- The ongoing efficiency assumptions used by Ofgem in RIIO1 were:

| | RIIO-GD1 | RIIO-GT1 (NGGT TO) | RIIO-ET1 (NGET TO) | RIIO-ED1* |
|---|---|---|---|---|
| Opex | 1% | 1% | 1% | - |
| Capex | 0.7% | 0.7% | 0.7% | - |
| Repex | 0.7% | - | - | - |
| **Totex** | **0.8%** | **0.7%** | **0.7%** | **0.8-1.1%** |

*Source: CEPA table from Ofgem publications*

**What we said in the RIIO-2 'Tools for Cost Assessment' consultation last year:**

* Setting an <u>ambitious ongoing efficiency challenge</u> is vital to ensuring networks continually strive to identify and exploit opportunities to optimise their processes and operations.

* We want to explore the <u>interlinkages</u> of ongoing efficiency with the other parts of the price control.

* We will seek to identify:
  * The various drivers of efficiency in RIIO-1
  * Residual efficiency from legacy actions (eg. past innovation funding)
* We want to explore ways to <u>use historical performance data from previous price controls</u> to understand how outturn frontier shift compares to RIIO-2 forecasts, and how we could use this information for cost assessment

*'We expect network companies to provide challenging forecasts of their ongoing efficiency assumptions in RIIO-2 as part of their business plans, and to clearly demonstrate how these forecasts compare to what they have delivered previously.'*

**Other sectors' proposals:**
* So far, network companies from other sectors have proposed efficiency improvements of 0.4% (WWU) - 1.1% (National Grid Group) which is a combination of <u>frontier shift and catch up</u> efficiency (see table on the right)

| Sector / company | Totex efficiency improvement assumption from Business Plans |
|---|---|
| **GD** | |
| Cadent | < 0.8% |
| NGN | < 0.8% |
| SGN | 1.0% |
| WWU | 0.4-0.8% |
| **Transmission** | |
| NGGT | 1.1% |
| SPT | ~1% (varies by cost category) |
| SHET | Varies by cost category |
| NGET | 1.1% |
| **ESO** | |
| ESO | 1.0% |

# WPD presentation on Ongoing Productivity Growth

# ONGOING PRODUCTIVITY GROWTH

27th March 2020

**WESTERN POWER DISTRIBUTION**
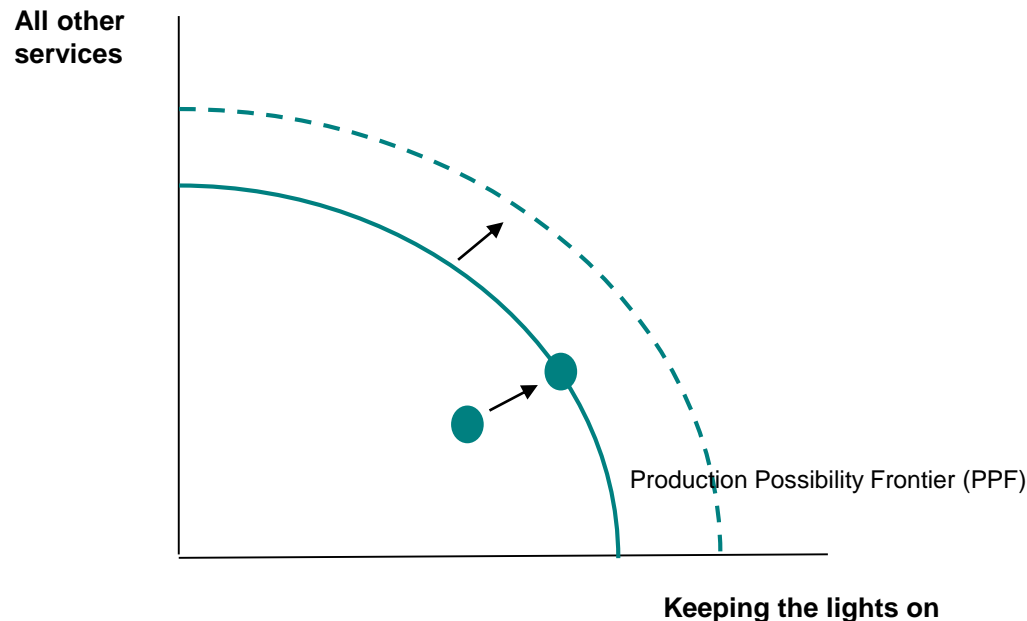*Serving the Midlands, South West and Wales*

# Agenda

≋ Terminology

≋ Key messages

≋ What the emerging ED2 framework has to say on ongoing productivity growth

- Data / information sources

- Assessment methods

≋ Approaches to BPDT design

≋ Interactions, ongoing productivity and RPEs

**WESTERN POWER DISTRIBUTION**
*Serving the Midlands, South West and Wales*

# Terminology

≋ Catch-up Efficiency

≋ Ongoing Productivity Growth (ongoing efficiency often used interchangeably)

**All other services**

Production Possibility Frontier (PPF)

**Keeping the lights on**

≋ Frontier Shift (net position of Ongoing Productivity Growth and RPEs)

**WESTERN POWER DISTRIBUTION**
*Serving the Midlands, South West and Wales*

# Ongoing Productivity Growth - Key Messages

- **Clarity on the assessment approach, if not the detailed mechanics, is required to inform development and completion of the BPDTs**

  - BP cost forecasts with ongoing productivity growth embedded, alongside separate reporting of the assumptions is the regulatory precedence

- **Scope to achieve ongoing productivity growth may not be applicable to all cost categories / activity areas and to different extents** – this would support a more disaggregate approach to ongoing productivity growth cost capture by DNOs in BPDTs and assessment by Ofgem

  - An ongoing productivity challenge should not be applied to cost categories / activity areas that are beyond the control of management / infancy areas that are still maturing, etc.

- **Targeted nature of innovation leads to different improvement opportunities across cost categories**

- **The application of efficiencies should not be linked to RPEs**

  - RPEs can affect areas where efficiencies are difficult to find; and efficiencies may be possible where there is limited RPE impact

**WESTERN POWER DISTRIBUTION**
*Serving the Midlands, South West and Wales*

# Emerging (ED2) RIIO-2 Framework

- **RIIO-2 Business Plan Guidance (Oct 2019)**

- Business Plan requirement to set out: "*the expenditure categories or activity costs to which an ongoing efficiency assumption has been applied*" (para. 2.63, p.30)

  - Scope to achieve ongoing productivity growth may not be applicable to all cost categories / activity areas and to different extents (e.g. innovation)

- From a BPDT design perspective how will this be captured?

  - Embedded in cost forecasts and / or separate?

  - Aggregate or disaggregate?

  - By expenditure category or activity area?

  - By inclusion in narrative?

  - By setting of a flag in the BPDT templates? - e.g. at a C1 or more disaggregate level

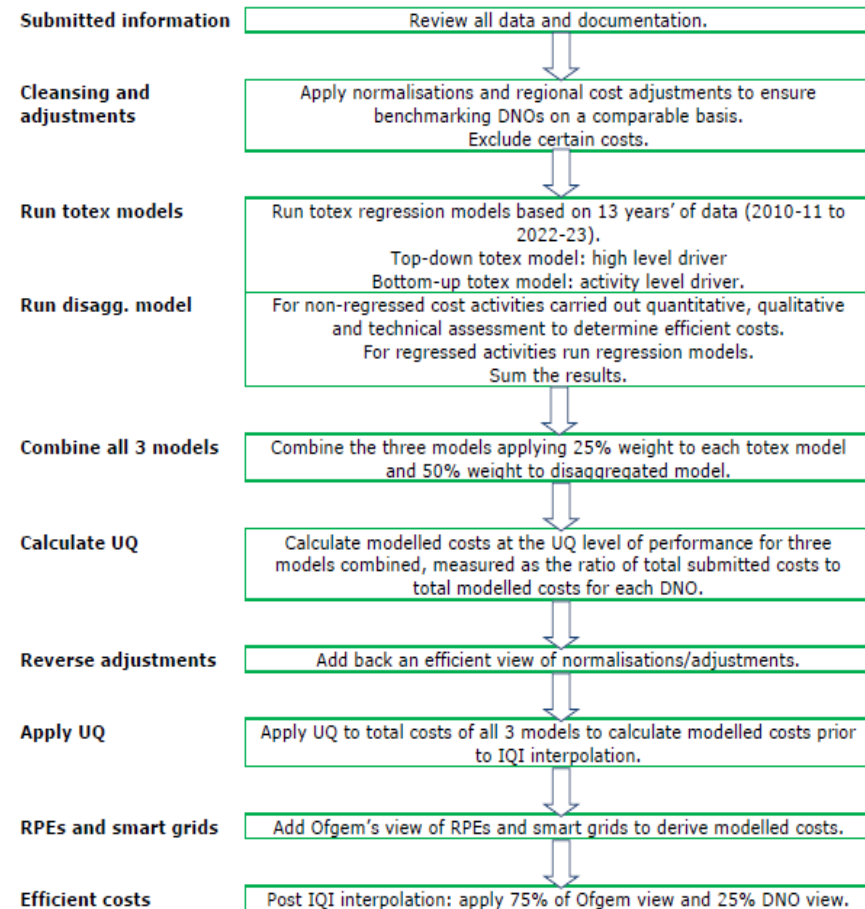- Interaction with Ofgem's determination of high confidence / low confidence activities

- This will inform how DNOs structure the BP in this area

**WESTERN POWER DISTRIBUTION**
*Serving the Midlands, South West and Wales*

# Emerging (ED2) RIIO-2 Framework

≋ **RIIO-2 Sector Specific Methodology Decision – Core Document (May 2019)**

  ▪ Assessing ongoing efficiency: Ofgem intend "*to apply ongoing efficiency assumptions wherever we apply RPEs that represent networks' input prices*" (para. 9.25, p. 68).

    - This would suggest an assessment approach to ongoing efficiency aligned to input cost categories, not expenditure categories or activity areas. **Is this correct?**

  ▪ **Where are Ofgem intending to apply the ongoing efficiency assumption? To the DNO forecast? To the benchmarked costs?**

    - Where in ED1 did Ofgem apply ongoing efficiency assumptions?

### Figure 3.1: Slow-track approach

| Stage | Description |
|---|---|
| Submitted information | Review all data and documentation. |
| Cleansing and adjustments | Apply normalisations and regional cost adjustments to ensure benchmarking DNOs on a comparable basis. Exclude certain costs. |
| Run totex models | Run totex regression models based on 13 years' of data (2010-11 to 2022-23). Top-down totex model: high level driver Bottom-up totex model: activity level driver. |
| Run disagg. model | For non-regressed cost activities carried out quantitative, qualitative and technical assessment to determine efficient costs. For regressed activities run regression models. Sum the results. |
| Combine all 3 models | Combine the three models applying 25% weight to each totex model and 50% weight to disaggregated model. |
| Calculate UQ | Calculate modelled costs at the UQ level of performance for three models combined, measured as the ratio of total submitted costs to total modelled costs for each DNO. |
| Reverse adjustments | Add back an efficient view of normalisations/adjustments. |
| Apply UQ | Apply UQ to total costs of all 3 models to calculate modelled costs prior to IQI interpolation. |
| RPEs and smart grids | Add Ofgem's view of RPEs and smart grids to derive modelled costs. |
| Efficient costs | Post IQI interpolation: apply 75% of Ofgem view and 25% DNO view. |

**WESTERN POWER DISTRIBUTION**

*Serving the Midlands, South West and Wales*

# Emerging (ED2) RIIO-2 Framework

≋ **RIIO-2 Sector Specific Methodology Decision cont.**

≋ Ofgem proposed to use the EU KLEMS data set to assess UK productivity trends and sought feedback on other sources of evidence Ofgem could use

- **Choice of sectors?** Ofgem propose "*as in RIIO-1, to focus on those sectors that have similarities with network companies, eg those that have significant asset management roles, and to exclude sectors (eg the energy sector) where historical performance is heavily influenced by increases in productivity realised after privatisation.*" (para 9.24, p.68)

- **Choice of time period** – Financial Crisis, Brexit, Coronavirus?

≋ Ofgem may also consider other information, both:

- Quantitative, **Macro** "*ONS, BoE and OBR sources may also be of use*" (para. 9.41)

- **Micro (inferred)** "*We will consider more broadly how we could implement ongoing efficiency to reflect changes in productivity in other areas of network operations*" (SSMD, para. 9.42).

- **How might the multiple sources be aligned? DNOs will require sight of what information Ofgem might require to support the micro view.**

≋ Further consultation took place in Tools for Cost Assessment consultation, Summer 2019

- Can Ofgem provide an update?

- What insights can be learnt from GD&T?

**WESTERN POWER DISTRIBUTION**
*Serving the Midlands, South West and Wales*

# Regulatory Precedence – Approaches to collating ongoing efficiency / productivity information from network companies…

| Price Control | Approach |
|---|---|
| ED1 | DNO cost forecasts embedded ongoing efficiency assumptions but did not include RPE assumptions.  Statement of the ongoing efficiency (by expenditure category) and RPE assumptions were reported in a separate table within the BPDTs. |
| GD2 GT2 ET2 | Regulatory requirement for BPDT cost forecasts to be inclusive of ongoing efficiency assumptions and exclusive of RPEs; with a statement of the ongoing efficiency (by expenditure category) and RPE assumptions in a separate table within the BPDTs. |
| PR19 | Regulatory requirement for **Wholesale** cost forecasts to include RPEs net of assumed efficiency gains; with a statement of the ongoing efficiency (by expenditure category) and RPE assumptions in a separate table within the BPDTs. |
| **ED2** | **?** |

**How does this need to be reported for ED2?**

**WESTERN POWER DISTRIBUTION**
*Serving the Midlands, South West and Wales*

# Ongoing Productivity Growth <-> RPEs

| RPEs | Ongoing Productivity Growth |
|---|---|
| Movements in input prices specific to network cost base above and beyond CPIH – i.e. adding to cost pressures | Ability of network companies to alleviate cost pressures through benefitting from sources of ongoing productivity, e.g. technology |

- Debate as to net position of these two macro factors on network companies

- Relevance of this debate given prior view that Ofgem only intend to apply ongoing efficiency to areas where RPEs are applied (slide 6)

    - **The application of efficiencies should not be linked to RPEs**

    - **RPEs can affect areas where efficiencies are difficult to find; and efficiencies may be possible where there is limited RPE impact**

- Raises question which input prices, expenditure categories or activity areas are appropriate for ongoing productivity / RPE adjustments?

**WESTERN POWER DISTRIBUTION**
*Serving the Midlands, South West and Wales*

# Ofgem – RPEs and Indexation

- For RIIO-ED1 we set ex-ante allowance for Real Price Effects (RPEs).

- This decision was made because of:
  - The **challenges in designing an RPE index** and appropriately addressing its interaction with other areas of the price control settlement; and
  - We did not think there was a **sufficiently strong case for changing our approach**.

- There were a number of criteria used to assess proposals and make a decision on the treatment of RPEs in RIIO-ED1. These included:
  - Exposure to risk – forecasting risk and the overall riskiness of the price control framework;
  - Impact on incentives – role of RPE indexation on efficiency;
  - Volatility and predictability in network charges – RPE indexation increasing volatility of network charges;
  - Balance of charges between current and future consumers -  lag between the change in input price indices and its impact on DNOs' allowances;
  - Complexity and unintended consequences – complexity of ex-ante allowances v indexation; and
  - Resource costs – additional costs associated with indexation.

- We did note at Final Determinations that **we would explore alternatives to this approach** at future price control reviews.

Consultation

**RIIO-2 tools for cost assessment**

| Publication date: | 28 June 2019 | Contact: | RIIO Team |
| --- | --- | --- | --- |
| | | Team: | Network Price Controls |
| Response deadline: | 23 August 2019 | Tel: | 020 7901 7000 |
| | | Email: | RIIO2@ofgem.gov.uk |

This document outlines the scope, purpose and questions of the consultation and how you can get involved. Once the consultation is closed, we will consider all responses. We want to be transparent in our consultations. We will publish the non-confidential responses we receive on our website at ofgem.gov.uk/consultations. If you want your response – in whole or in part – to be considered confidential, please tell us in your response and explain why. Please clearly mark the parts of your response that you consider to be confidential, and if possible, put the confidential material in separate appendices to your response.

- In our RIIO-2 Framework Decision in July 2018, we confirmed that we would **index uncertain costs**, where possible, including for labour and construction cost inflation (to the extent evidence suggests that input prices are different from general consumer price inflation).

- For RIIO-2, we intend to **place strong emphasis on the materiality of RPE claims**, and to impose a **high evidential bar** to ensure their appropriateness. We consider these principles as being important for the following reasons:
  - it will challenge network companies to focus on key risk areas, and to produce robust evidence of why general consumer price inflation is not an adequate proxy for certain input prices;
  - it will optimise our assessment process by allowing us to focus only on significant and robust claims; and
  - it will ensure only genuine input price risks are treated, thereby simplifying any RPE indexation mechanism and its overarching governance framework.

- We presented the following **guidance on the types of evidence companies are expected to submit** in support of their RPE proposals in our RIIO-2 Business Plan Guidance document:
    - we expect companies to show that each RPE is **material relative to both totex and general consumer price inflation**;
    - we expect companies to provide clear evidence of a **sustained deviation between input costs and general consumer price inflation**; and
    - we expect companies to **propose indices for any proposed RPEs**, along with evidence to support their use in indexation and justification for their selection over alternatives.

Question 18: What RPEs should we account for, how should we gauge materiality, and what criteria should we use for index selection?

Summary of some of the key feedback received from DNOs:

- Ofgem should account for any RPEs that there is a logical and evidential base for. It is likely that most of the categories and **costs that have been subject to RPE estimation in previous price reviews will be sufficiently material to warrant consideration for RIIO-2**. Propose the following criteria in selecting indices:

  - level of correlation to company cost;

  - inability of individual companies to materially influence the measure; and

  - that the data will be sufficiently reliable.

- **For Ofgem to introduce indexation, it is essential that the index will provide a better match for expected costs than the approach to date** in relation to RPEs. If Ofgem does identify input factors where it is not possible to identify an index Ofgem is willing to use, but where the evidence indicates (on the balance of probabilities) that companies will face positive real price effects, Ofgem should set a fixed allowance for that incremental expected cost pressure.

- Clearly there should be a **minimum bar below which no RPE adjustments should be made** to minimise complexity. RPEs will not all move in the same way, providing an element of hedging, and the totex incentive mechanism ensures the **risks are shared between the networks and customers**. This bar should be set as a % of totex to make it relative, taking into account the likely impact of RORE.

- Ofgem has acknowledged the **links between ongoing efficiency and RPEs**, and as such any assessment on RPEs needs to be taken alongside the assessment on ongoing efficiency so as to **ensure that Ofgem's allowances reflect the tendency for companies' efficient costs to change over time**.

- Recommended a **simplified approach where RPEs and ongoing efficiency offset each other**, but adopt CPIH as the index to which expenditure allowances would be linked. This approach recognises the close link between the regulatory treatment of ongoing productivity and input price inflation. This approach also has a number of other benefits that will benefit consumers. It would **avoid volatility in customers' bills** that would come as a result of an indexation approach, as some RPEs indices have been extremely volatile. Customers would instead be protected from unexpected increases in real input prices. This could be especially sensitive given unknown BREXIT impacts.

- Another DNO's view was that all **RPEs that are measurable should be accounted for**. **Materiality should be gauged** on the dual basis of the **materiality of individual input costs as a proportion of total costs** (i.e. taking into account both the input price and the volume of inputs used) and that the majority of the cost base has been accounted for.

- **RPE indexation requires more development before it can be proposed**. Mirroring our response, any indices chosen must be relevant, accurate and exogenous.

Question 19: What common input and expenditure categories are appropriate for structuring RPEs?

Summary of some of the key feedback received from DNOs:

- One DNO commented that the **input and expenditure category template provided by the RIIO-1** reviews appear to **provide a reasonable starting point for RIIO-2**.

- One DNO provided a response in relation to the structuring of RPEs and application of a notional cost structure, which may be equally relevant to the ED control as it is for the GD and other sector controls.

   - The use of notional cost structures in RIIO-ED2 may well be less relevant with companies taking different approaches to in-sourcing and outsourcing for example, along with more significant changes with networks taking different solutions to network problems for example DSOs implementing different capex/opex solutions to constraint issues. As such the use of notional cost structures can only be considered after Ofgem has published its strategy decision for particular sectors and companies have proposed solutions for delivery.

   - it is not clear why Ofgem intends use average (notional) cost structures, given the **existence of a totex framework** and that the choice of input proportions is within management control. That is companies can reallocate resources to maximise outputs and in doing so seeks to achieve allocative efficiency.

   - In adopting this approach **Ofgem appears to be overlooking an important component of overall efficiency**, being allocative efficiency and concentrating primarily on productive (i.e. unit cost) and dynamic (innovation driven) efficiency.

# Ofgem review of Regional and Special Factors

## RIIO-2 Guidance

Companies should be able to sufficiently justify that:

- the regional or company-specific factor must be clearly defined.

- the factor, and the subsequent costs it drives, must be beyond the control of an efficient company (having taken all the feasible measures to mitigate the costs).

- the company (or a small number of companies) are impacted by a significant amount, and in a materially different way to others.

## Regional Labour: GD2 Cost Assessment Methodology

1. As at GD1, we intend to apply pre-modelling adjustments
    a. A conceptually simple approach
    b. A clear monetary effect on specific activities

2. A within-model explanatory variable is unsuitable
    a. Poor regulatory precedent (Bristol Water 2015)
    b. Practical considerations to overcome, use of labour price indices historically unsuccessful

## Urbanity/Sparsity: GD2 Cost Assessment Methodology

1. As at GD1, we intend to apply pre-modelling adjustments

   a. A conceptually simple approach

   b. A less clear monetary effect on specific activities (compared to labour) and still some methodology issues to consider

2. We may still explore a within-model 'density' explanatory variable for some models

   a. Early model testing not promising – relationship between density and costs somewhat ambiguous, variable may be capturing other effects

   b. "Further work is required to construct a suitable sparsity/density measure and to understand whether including such a measure in the regressions is a feasible approach to accounting for this regional factor" – Oxera (WWU)

   c. We intend to compare the shortlisted Emergency and Repair models (with pre-model adjustments) against models with different density variables

## Company Specific Factors

1. GDNs have the opportunity to respond to other GDNs' company-specific factors.

2. Note that we have not set a particular materiality threshold for regional and company-specific factors.

## Selected general comments:

- Greater decentralisation of policy implementation needs to be reflected in regional adjustments. For example:
    - Local Authorities will play a greater role in meeting Net Zero, and this should be taken into account with greater qualitative adjustments
    - Localised roll-out of street work schemes
- Ofgem should be willing to make no regional or company-specific adjustments at all where the data does not demonstrate an economically and statistically significant relationship
    - Pre-modelling should not be an automatic fallback if this is the case
- Ofgem's criteria for assessing regional adjustments should include *evidence completeness,* eg. DNOs should consider and evidence any counter-veiling issues that might offset part of the difference to other companies
- Ofgem needs to leave scope for 'special factors' adjustments – eg. non-standard legacy situations could lead to abnormal unit costs

## Other comments include:

- Urban areas do not always raise DNO costs with greater congestion. Counter-effects could completely offset the costs of greater density, such as:
    - greater density and lower travel distances, which reduces travel time; and
    - lower exposure of assets to damage during weather such as high winds.
- Pre-modelling adjustments can affect wider modelling outcomes if the data is flawed/ inaccurate proxies are used for the adjustment

Ofgem received some feedback after CAWG-3 on Regional and Company-Specific cost adjustments. Summary of feedback:

- There is a need to review **regional adjustments** for ED2.

- There is a need to understand how **company-specific factors** will be assessed and treated in ED2. This includes, but not limited to what the criteria of assessment is, the materiality, the information and evidence base that Ofgem are looking for.

One DNO argued that **regional and company-specific cost adjustments need to be considered separately**:

- *Regional adjustments*: within-model adjustments are appropriate.

- *Company-specific factors*: within-model adjustments do not work well, because as they only impact specific companies their explanatory power will likely be insufficient in the model regressions.

  - Pre-modelling adjustments are preferred, as the company-specific factors can still be taken into account in the modelling to determine efficient costs (compared to post-modelling adjustments).

## Regional adjustments - proposed next steps:

• Review of what regional factors have been controlled for in the GD and ET (and PR19) controls and the approach taken to making adjustments.

  • Adjustments other than labour and density may need to be considered for ED, depending on recent regulatory precedence

• Review of adjustments in ED1 (including the suitability of the data collated) and how these were made in the modelling

• Consider other adjustments needed for ED2:

  • WPD suggested a street works regional factor for ED2: de-centralisation of policy implementation across the country and timing differences in the roll-out of schemes which has an impact of compliance activity levels and hence costs across DNOs

## Company-specific factors proposed next steps:

• Review the precedence set from the GD and ET price controls

• Ofgem to clarify the treatment of company-specific factors within the framework of setting totex baseline allowances

  • Within that, to clarify the allocation of costs to higher and lower-confidence costs and what this means in terms of the BPI assessment, as it needs early clarity

**Ofwat included company adjustments, classified as 'cost drivers', in model regressions.** This was possible due to their multivariate regression approach – more water companies than in energy meant more data points for the regressions.

- **Density** – explanatory variable used in the regression models
  - *Rationale*: dense areas may be associated with higher property, rental and access costs,
  - *Calculation*: Ofwat used population per squared km in each local authority district (LAD), and weighted the LAD density based on the composition of each company's customer base Quadratic density variable used in the model too, to account for opposing effects on costs
- **Population growth** - explanatory variable used in the regression models
  - *Rationale:* Ofwat's econometric model was only funding companies for average growth in new connections, but costs might differ for companies depending on whether they have low/ high population growth forecasts– the adjustment is a unit cost adjustment (to the cost of connecting new homes)
  - *Calculation*: $Adjustment = upper\ quartile\ growth\ unit\ cost \times (company\ forecasted\ growth - historical\ industry\ average\ growth)$
- **Topography** – explanatory variable used in the regressions.
  - *Rationale:* topography and the distribution of demand centres across the region can influence a company's distribution costs through greater requirements to pump and transport water to customers.
  - *Calculation:* number of booster pumping stations per length of mains as a measure of topography
- **Scale** - explanatory variable in the regression model
  - *Rationale:* larger companies incur greater costs
  - *Calculation:* number of households for each wholesale water/ wastewater company
- **Complexity** - explanatory variable in the regression model (water sector specific)
  - *Rationale*: water treatment is more costly if complexity increases, as multiple stages are required
  - *Calculation*: proportion of water treated at complexity level 3 or higher, and weighted average complexity
- **Regional labour costs** are <u>not</u> adjusted in PR19
  - Ofwat and CEPA considered regional wage adjustments, but consistently found that this was not a cost driver (pre-model and within-model tests)
  - Regional wage variable found to be correlated with density variable, so the regional wage difference is captured through density
- **Company-specific adjustments** submissions – water companies submitted requests for specific adjustments
  - 62 submissions in total, 43 rejected and the rest accepted/ partially accepted after Ofwat's review

# UKPN presentation on Regional and Special Factors

# Regional and Special Factors

## Understanding the Baseline Level of Efficiency in London

# Background

- Statistical models used by Ofgem and Ofwat to assess baseline efficient costs for a sector are, by nature, limited in their ability to capture all the factors that affect cost and performance, for reasons other than differences between companies' relative efficiency.

- For RIIO-ED1, cost assessment attempted to address differences in regional costs in two ways:
  – Regional labour cost adjustments – whereby all licensees' labour costs where adjusted before being benchmarked. This was done by referring to regional labour cost indices.
  – Regional factors – other costs submitted as regional factors by licensees which were accessed on a qualitative basis

# Background

- Regional costs differences where considered as part of all three models (Totex top-down, Totex bottom-up and Disaggregated).

- UKPN's allowances (12/13 prices) in ED1 for regional factors are approximately £15m per annum (all LPN) and for regional labour costs are approximately £31m per annum (split across the 3 DNOs).

- Historically, Ofgem (RIIO-ED1 and RIIO-GD1) and Ofwat (PR19) have given licensees the opportunity to submit special cost factor evidence to quantify any additional cost effects not captured by their models. Understandably, any submissions need to provide robust evidence that these effects are:
  – collectively material,
  – outside of management control, and
  – not accounted for in the regulators' econometric models.

# Study

- A study was commissioned by UK Power Networks, Cadent Gas, Scotia Gas Networks and Thames Water to further investigate whether regulatory models have historically gone far enough in considering regional factors for London. The output was a report issued in October 2019, which is publicly available.

- NERA Economic Consulting (NERA) and Arcadis performed the study; identifying the key factors affecting the cost of providing utility services in London, as compared to other parts of the country, and quantifying the effect of these differences.

# Potential factors – what & why

As a group, a large number of potential factors were put forward, which were grouped under the following headings:

**Physical make-up of network surroundings (Nature of Streets)**

- Costs to access assets and reinstate areas being higher due to the greater density of roads and assets being deeper underground

**Permitting and Traffic Management**

- All of London is subject to permit schemes (rather than noticing), with permits/rentals/suspensions being more expensive to obtain and more likely to be subject to conditions

# Potential factors – what & why

**Transport and Logistics**

- Transport and logistics being higher where depots cannot be positioned in Central London, thereby increasing the amount of travel between depots, sites of work and staff homes. Work sites may also be smaller, being plant & equipment cannot be left on site during work.

**Network configuration in London (Network-specific Factors)**

- Inspections, repairs and maintenance of assets in tunnels, confined spaces and less accessible substations is more expensive to conduct
  - The most extreme evidence of this – Kingsway fault incident in April 2016

38

# Potential factors – what & why

**Labour Costs**

- Higher staff and contractor costs to compensate for commuting time & costs, working "unsocial" hours due to working hour restrictions, and working "on call" at site rather than from home

**Higher operational property costs**

- Rents, rates and facilities

# Potential factors – values

The table below is as included in the report and summarises the estimated additional costs of utilities operating in London compared to other regions. For some factors, the information available at time did not indicate that the factor had a material impact on costs.

**Table 1: Summary of Bottom-up Estimate of the London-Specific Costs Faced by London Utilities (£m / annum, 17/18 real)**

| £ million pa. (17/18 real) | Cadent | SGN | UKPN LPN | UKPN EPN | UKPN SPN | Thames Water (drinking water) | Thames Water (waste-water) |
|---|---|---|---|---|---|---|---|
| Nature of Streets | 15.67 | 11.49 | 8.14 | 1.28 | 1.22 | 31.74 | 16.46 |
| Permitting and Traffic Management | 5.37 | 4.02 | 2.81 | 0.00 | 0.00 | 6.49 | 1.22 |
| Transport and Logistics | 0.78 | 0.05 | 0.38 | 0.00 | 0.00 | 0.05 | 0.05 |
| Network-specific Factors | 8.39 | 12.10 | 16.06 | 0.17 | 7.75 | 0.00 | 0.00 |
| Labour Costs | 25.31 | 18.23 | 23.77 | 4.74 | 6.37 | 7.80 | 11.12 |
| Property Costs | 0.64 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 56.15 | 45.90 | 51.16 | 6.19 | 15.34 | 46.08 | 28.86 |

*Source: Summary of NERA and Arcadis analysis*

# Potential factors – models

ED1 benchmarking accounted for regional factors in the following cases:

- Regional labour adjustments were applied to reflect the additional cost of London wages. Labour costs were benchmarked using pre-modelling adjustments to "normalise" labour costs.
- Benchmarking conducted by asset type accounted for the volume and value of underground assets for each licensee.
  - Unit cost benchmarking
  - Expert view feeding into MEAV

- Other regional factors were assessed separately outside of benchmarking.

# Potential factors – models

For the "London-specific" factors for which no adjustments are made, re-running of models to exclude these factors indicated that the costs implicitly included in the allowance were less than the actual costs of these factors. The exception to this is EPN (most of the region is outside of London).

**Table 2: Proportion of London-Specific Costs Allowed for Implicitly by Existing Benchmarking Models (£m, annual average)**

| Model | Original Models | | | Models excluding London-specific Costs | | | Ldn-specifc costs | Implicit Allowance (£m) | (%) |
|---|---|---|---|---|---|---|---|---|---|
| | Modelled costs | Actual costs | Efficiency Score | Modelled costs | Actual costs | Efficiency Score | | | |
| TW water | 449.57 | 529.91 | -18% | 436.32 | 501.22 | -15% | 28.69 | 13.25 | 46% |
| TW wastewater | 603.90 | 598.24 | 1% | 590.85 | 578.73 | 2% | 19.51 | 13.05 | 67% |
| Cadent London | 187.11 | 199.19 | -6% | 184.37 | 184.75 | 0% | 14.45 | 2.74 | 19% |
| SGN Southern | 321.08 | 329.90 | -3% | 317.41 | 320.82 | -1% | 9.08 | 3.67 | 40% |
| LPN | 207.73 | 203.73 | 2% | 205.60 | 196.11 | 5% | 7.62 | 2.13 | 28% |
| EPN | 228.74 | 229.66 | 0% | 227.50 | 228.52 | 0% | 1.13 | 1.24 | 109% |
| SPN | 343.89 | 253.91 | 26% | 343.27 | 252.82 | 26% | 1.09 | 0.62 | 57% |

*Note: Efficiency Score is calculated as the difference between modelled costs and actual costs, divided by modelled costs. Costs reported in benchmarking model price-base.*
*Source: NERA and Arcadis Analysis.*

# Summary

- Whilst ED1 benchmarking goes some way to addressing the largest area of regional cost differences – labour cost – there is evidence that it does not go far enough in addressing the full extent of regional factors and therefore dismisses such expenditure as inefficiency.

- Where modelling cannot be easily tailored to address cost differences arising from other regional factors, licensees could be given the opportunity to submit costs as part of their business plans as "special factors". These would need to be :
  - Measurable
  - Collectively material
  - Outside of management control

- The next meeting will take place on 8th April. It will be teleconference only. We will be covering:
    - Uncertainty Mechanisms; and
    - How it all fits together (again).

- We will circulate notes and an actions log from this meeting.