

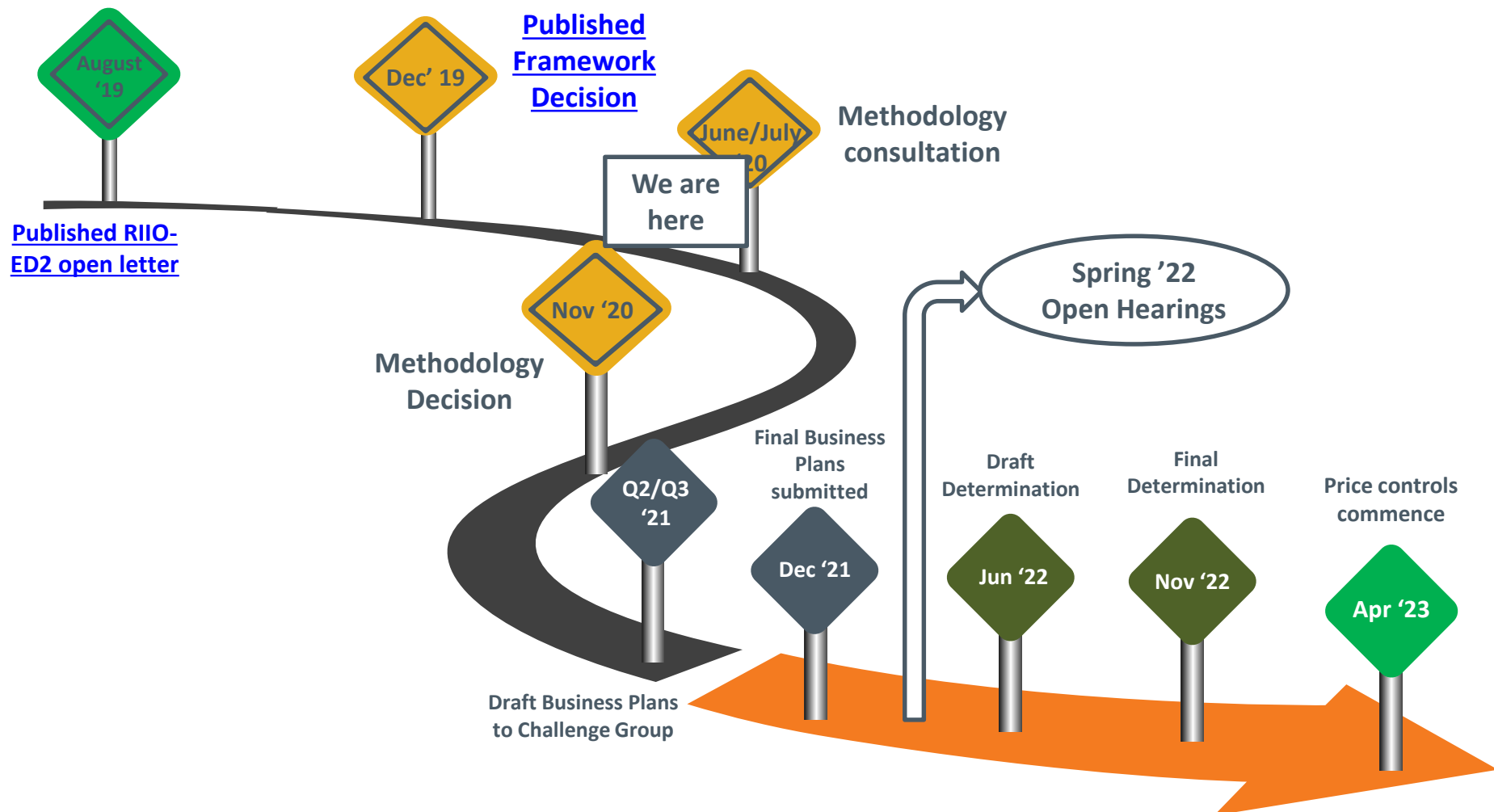
RIO-ED2

Cost Assessment Working Group – Meeting 9



Electricity Distribution Team
9th June 2020

- Welcome and introductions from Ofgem
- Review of Cost Assessment Working Group discussions / position
- WPD presentation on interaction with BPDTs
- Engineering Justification Papers (EJPs) in RIIO-ED2
- Forward work planning
- Actions, next steps, AOB



Review of Cost Assessment Working Group / Discussion

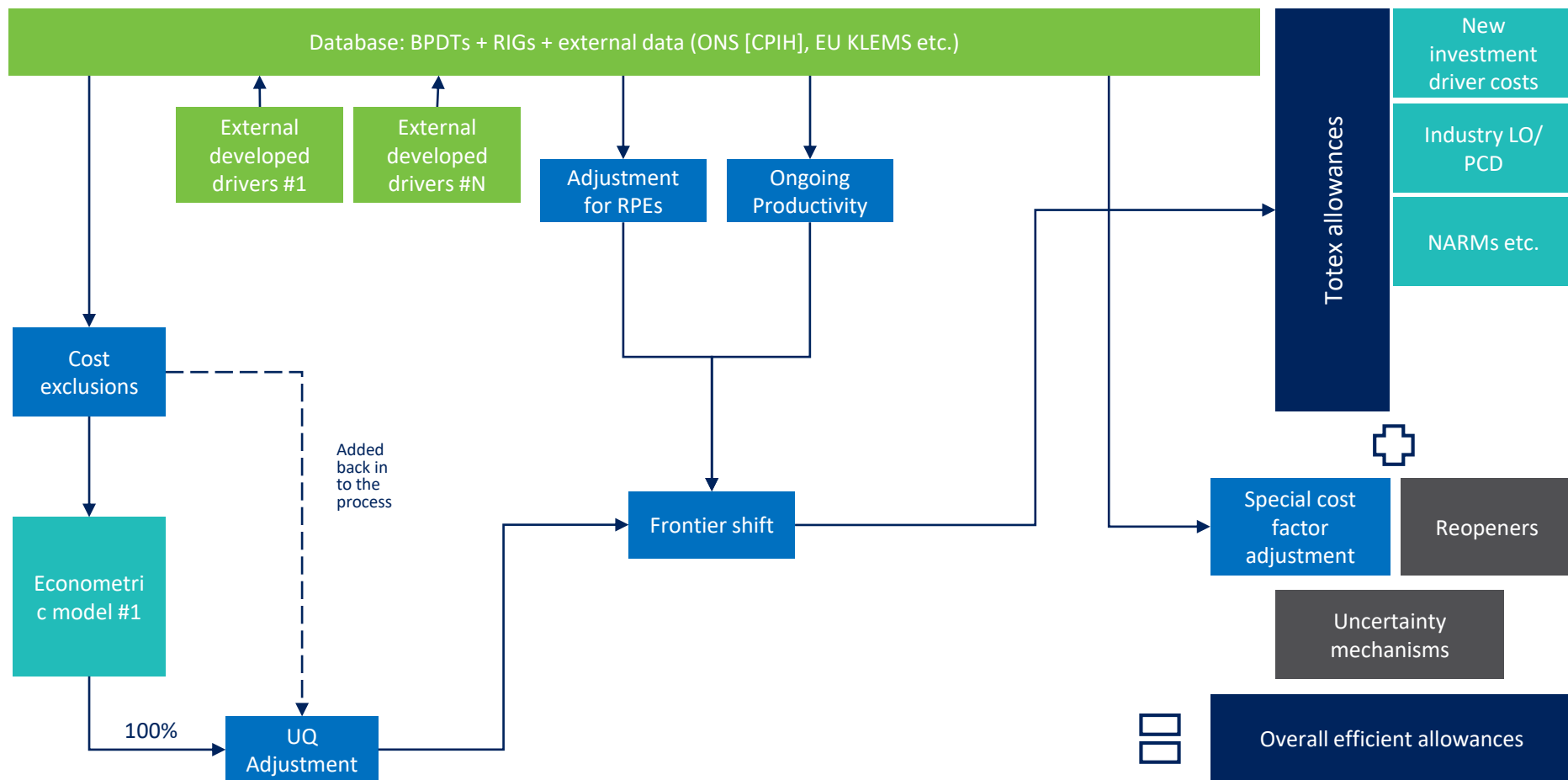
Summary of working group discussions / position:

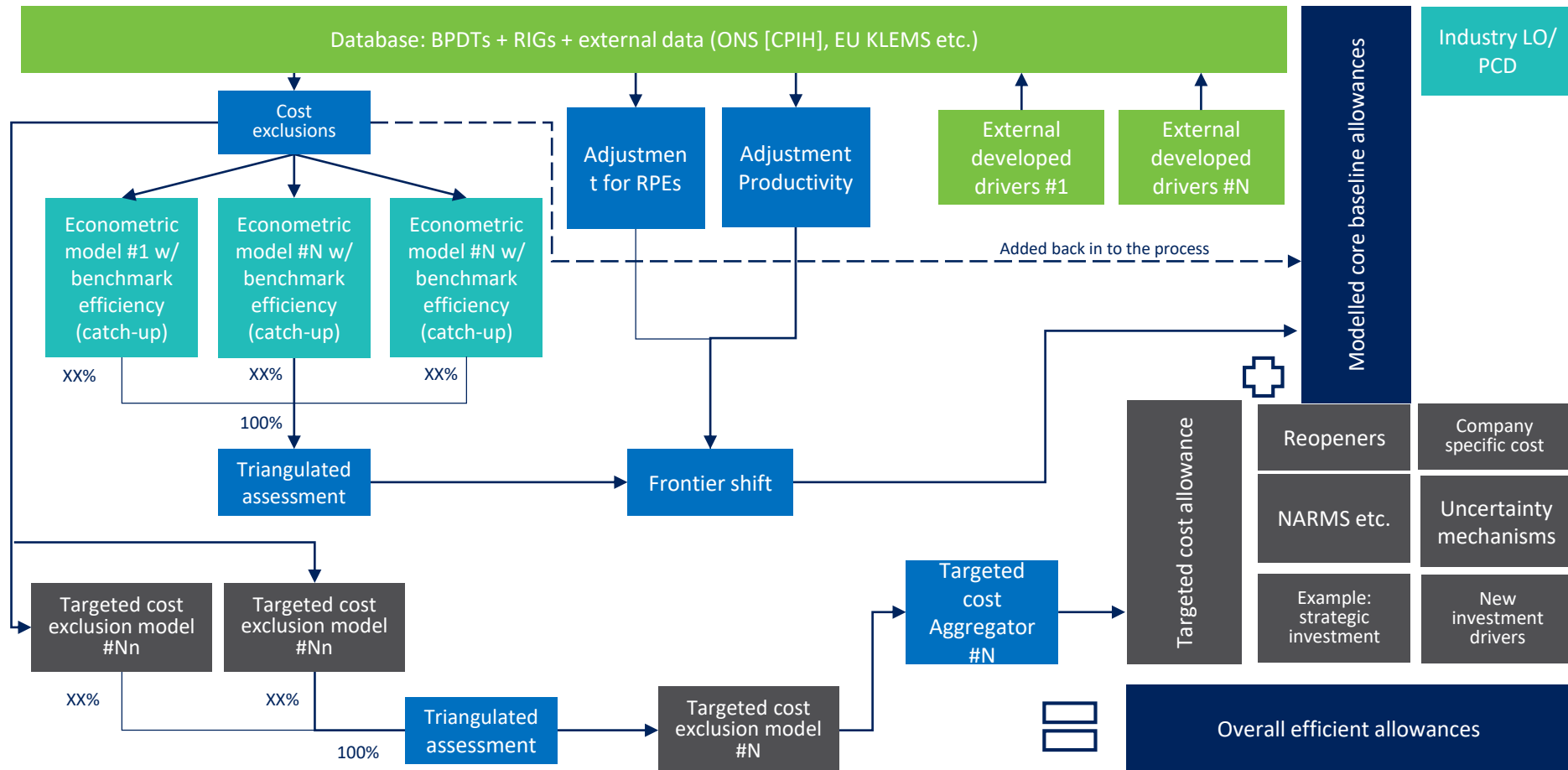
- There is a spectrum of cost assessment and benchmarking approaches available for RIIO-ED2, with a Totex approach at one extreme and a Disaggregated approach at the other:

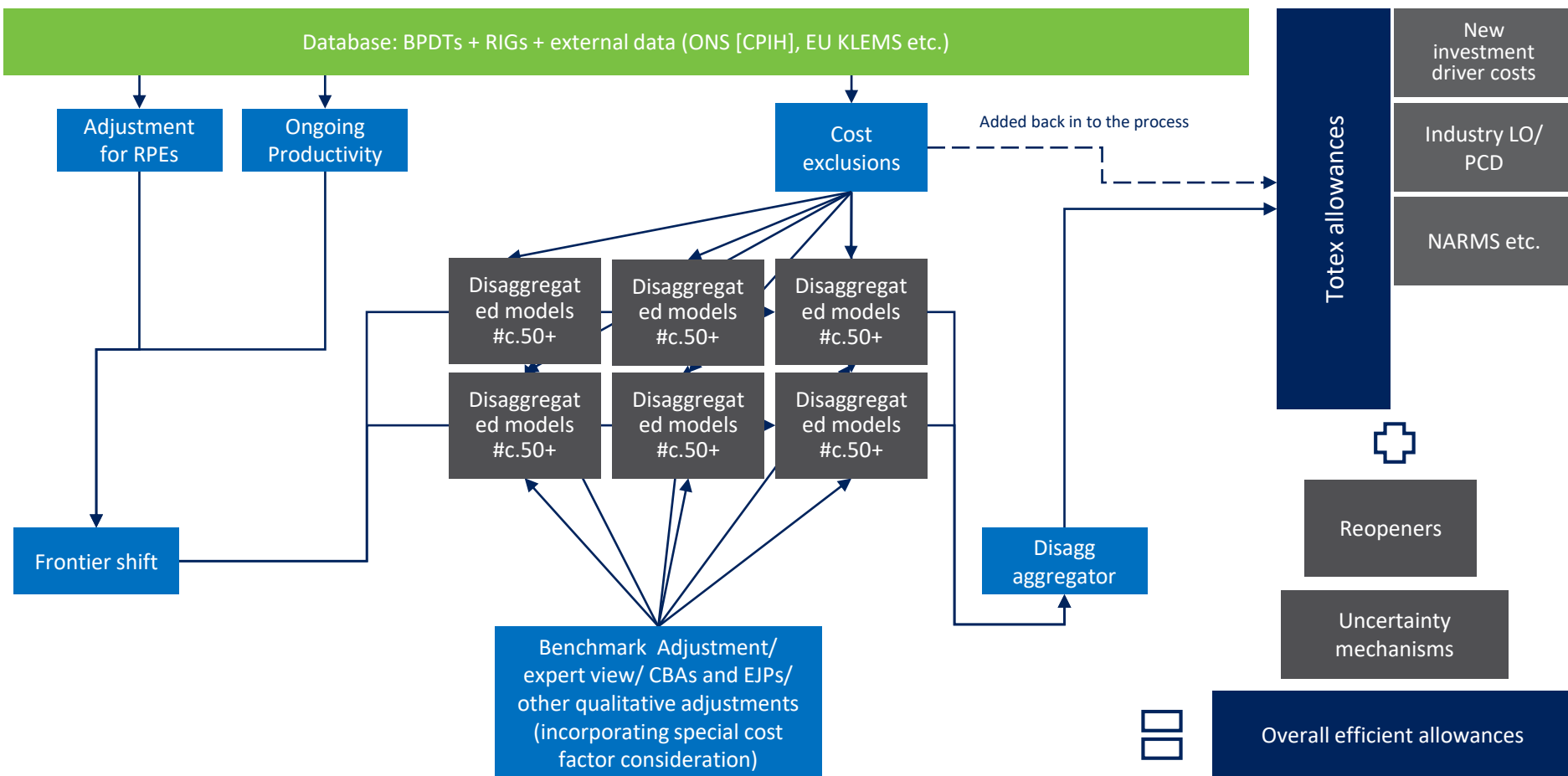
Totex	Middle Model / Opex Plus	Bottom Up / Granular Disagg
<ul style="list-style-type: none"> Total resource use can then be compared to the basket of explanatory factors and outputs delivered, to derive an overall assessment of the relative value for money delivered by each operator. It is “blind” to the more detailed input choices made by the operator that ultimately lead to the recorded total resource use. For example, it is irrelevant whether operators choose to replace or maintain assets, to contract out or keep work in-house. Very pure incentives created. But provides no narrative on exactly why firms are inefficient. 	<ul style="list-style-type: none"> Benchmark broad “blocks” of expenditure Something of a halfway house Provides some narrative on causes of inefficiency But unlikely to satisfy the desire for a detailed engineering appraisal Fewer boundaries between cost categories, so easier to understand incentives created And to manage the risks of incentives to substitute 	<ul style="list-style-type: none"> Each cost type entering a different model and being compared to different cost drivers, potentially using very different techniques. Has the potential to yield more information to the regulator on why different operators might be efficient or otherwise. Increased risk of differences in business model leading to differences in apparent performance. Risk of cherry picking. Risk of confusing, unintended, perverse incentives being created. Resource intensive.

- We have spent significant time reviewing the advantages and disadvantages of these different cost assessment approaches, as well as reviewing our RIIO-ED1 approach. The three cost assessment options / proposals tabled thus far for RIIO-ED2 include:

1. Indicative Totex approach.
2. Indicative Hybrid approach.
3. Indicative Disaggregated approach.







CEPA/Ofgem set of principles to guide the development of the benchmarking models

- We reviewed, the set of principles development for our cost assessment benchmarking models in RIIO-GD2:

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

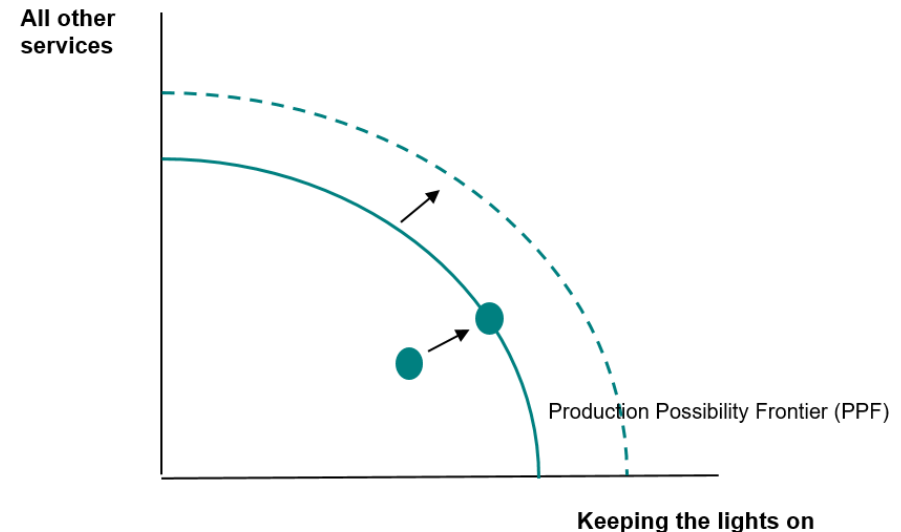
- **economic/technical rationale** – Do the model specifications and results have a clear economic/technical rationale
- **transparency** – Including the data used, the results and ease of interpretation for stakeholders
- **robustness** – Does the model pass statistical tests? Is the model sensitive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

Next Steps

- The three indicative approaches to cost assessment in RIIO-ED2 will be consulted on in the SSMC.
- Some key challenges and areas to be further considered:
 - Data and inputs including external data sources.
 - Outputs and allowance aggregation.
 - Treatment of incremental costs.
 - Interaction with Business Plan Incentive (BPI).
 - Interaction with BPDTs.
- We will continue to work with DNOs on proposed approaches for cost assessment in RIIO-ED2, in the run up to the Draft and Final Determinations.

Summary of working group discussions / position:

- Ongoing efficiency (OE) refers to the productivity improvements that we consider even the most efficient company is capable of achieving.
- Applying an OE assumption to allowances helps us determine the efficient cost level for each DNO, as it captures the productivity improvements we expect them to make over the ED2 period.
- In RIIO-ED2, we aim to set a challenging OE target, and we are looking for challenging submissions in business plans.
- We have discussed OE assumptions with the CAWG, including:
 - the **interactions** with other parts of the price control, such as RPEs, innovation, and Business Plan Incentives.
 - the parameters for using a **growth accounting methodology** to set OE assumptions.
 - the use of energy companies' own **historical productivity data** to inform our decision.
 - whether OE assumptions should be **embedded in BPDs**' cost forecasts directly, or reported separately.



- Proposals for the treatment of Productivity and Ongoing Efficiency in RIIO-ED2:
 1. Using a growth accounting approach to set OE assumptions, like other sectors in RIIO-1. The key parameters to consider would be:
 - The choice of dataset;
 - The time period;
 - The choice of industry comparators; and
 - The productivity metric.
 2. Using network companies' own historical productivity data to inform OE (eg. DEA).
 3. Considering OE challenges for other sectors in RIIO2, and DNOs' own submissions.

Next steps:

- We will continue to work with stakeholders on ongoing efficiency assumptions on the run up to Draft and Final Determinations. Areas to be further considered:
 - The interactions of ongoing efficiency assumptions with other parts of the price control;
 - Explore different methodologies to derive OE assumptions, and their applicability to ED2; and
 - Treatment of ongoing efficiency assumptions in BPDTs.
- Further engagement with GD and T teams on their approach to setting OE in RIIO-2.

Summary of working group discussions / position:

- We adjust DNOs' base allowance with a price inflation index across the price control period. RPEs are additional adjustments made to DNOs' allowance when the evolution of some of their input prices (eg. wages) significantly differs from this general price inflation
- In our framework decision (January 2020), we said that we would use price indexation for RPEs where possible in ED2, not an ex-ante allowance like in ED1
- We have discussed RPE assumptions with the CAWG, including:
 - Our **expectation for DNOs to submit RPE proposals in ED2**, with justification, evidence and indices.
 - The application of the ED1 **criteria to assess DNOs' RPE proposals** for ED2.
 - The **materiality threshold** for RPE claims:
 - We said that we expected a high materiality bar; and
 - Some DNOs challenged this idea, arguing that the materiality threshold had to mirror the one of the ongoing efficiency challenge.
 - The **joint application of OE assumptions and RPE indexation** on the same expenditure areas

Next steps:

- We will continue to work with stakeholders on RPEs on the run up to Draft and Final Determinations. Areas to be further considered:
 - Criteria for assessing RPE submissions; and
 - Materiality threshold of RPE claims.

Summary of working group discussions / position:

- Regional and company specific adjustments are adjustments made to a DNO's cost allowances to reflect specific factors that might mean the efficient level of costs is higher in some regions than in others.
- In RIIO-ED1, DNOs were told to justify and provide evidence that a regional or company specific adjustment was warranted.
- Our ambition for RIIO-ED2 is to ensure transparency throughout the submission process similarly found in other sectors (e.g. RIIO-GD2)
- The following points were discussed throughout the working groups:
 - Range of approaches including incentive on company-specific claims.
 - Consideration that regional and company specific factors need to be considered separately (i.e. different approaches to modelling adjustments).
 - Greater decentralisation of policy needs to be reflected in regional adjustments.
 - RIIO-ED1/GD2/T2 approach - placed onus on network companies to justify through robust and transparent evidence that a regional or company specific adjustment is warranted.
 - Ofwat's approach - where all regional/company specific factors were taken into account and classified as cost drivers in their model regressions.

Proposals for the treatment of Regional and Company Specific factors in RII0-ED2:

1. DNOs providing claims for adjustments:

- a. **ED1/GD2 approach** – Network companies submit requests and have to justify through robust and transparent evidence that a regional or company specific adjustment is warranted
- b. **Ofwat approach** – Network company adjustments classified as ‘cost drivers’ in model regressions (companies proposed additional cost drivers and Ofwat found the models not statistically significant/robust).

2. Treatment of adjustments in the modelling:

- a. **Pre-modelling adjustment** - Data adjusted ahead of modelling.
- b. **Within-model adjustment** - Factor is controlled through the explanatory variables included in the models.
- c. **Post-modelling adjustment** - Modelling is based on unadjusted data and adjustments will be applied prior to determining the expenditure allowance.

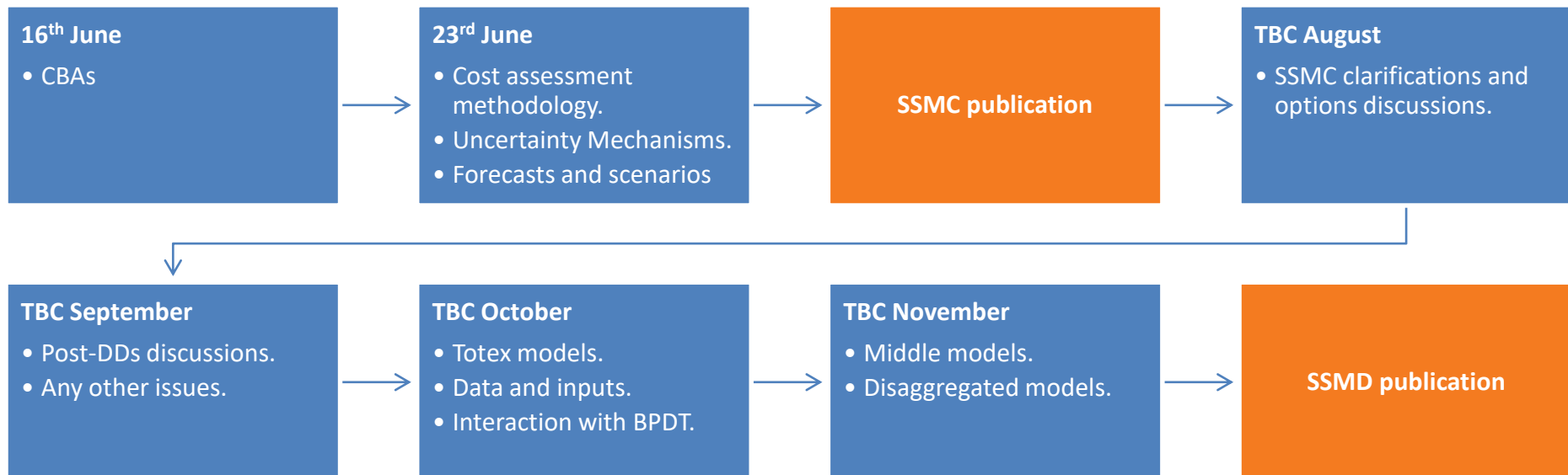
Next steps:

- Ofgem to outline approaches for the SSMC for both issues. We will continue to work with stakeholders on Regional and Company Specific factors on the run up to Draft and Final Determinations. Areas to be further considered:
 - Criteria for assessing Regional and Company Specific submissions
 - Materiality threshold of Regional and Company Specific claims
- Review of adjustments in ED1 (including the suitability of the data collated) and how changes were made in the modelling
- Further engagement with GD and T internal teams on their approach to Regional and Company Specific Factors

WPD discussion item on interaction with BPDs

Forward Work Planning

- We have touched on all elements at a high level, but we recognise the need for further consideration and development of the cost assessment methodology in the run up to Sector Specific Methodology Decision, Draft Determinations and Final Determinations.
- Our proposal:
 - Monthly CAWG meetings between SSMC and SSMD publications.
 - Focus on policy / high level issues.
 - Deep dives on specific areas and models post-SSMD.



Engineering Justification Papers (EJPs) in RIIO-ED2

- In our Framework Decision, in relation to NARMs, we noted the use of 'engineering judgement' as part of a **toolbox approach** in assessing and justifying DNOs investment decisions.
- In the RIIO-2 tools for cost assessment document, under cost assessment techniques, we noted the following:
 - Needs case assessment will focus on considering the rationale for the proposed scheme/project (both technical and financial cost-benefit), the options considered for meeting the functional requirements of the project and the timing of the work. The information will draw on the supplied **engineering justification** and cost benefit analysis (CBA) documentation.
- In the Business Plan Guidance document, in relation to Cost benefit analysis (CBA) and engineering justifications, we noted the following:
 - Both the CBA and engineering justifications are **important decision support tools** as part of the **justification for investment needs in RIIO-2**.

- In demonstrating due diligence has been followed in the appraisal of potential investment decisions by companies, CBAs and engineering justifications should:
 - be **consistent with published guidance** and recognised best practice, for example the Green book and the Spackman discounting approach.
 - demonstrate **evidence of structured options development**, including consideration of whole system options and non-network options, where applicable, against a baseline scenario which involves the minimum level of intervention that would be required to remain compliant with all applicable regulation.
 - **demonstrate the value of projects across different scenarios**, and include an explicit consideration of (quasi) option values of deferring the investment; this might include the consideration of the outputs of jointly developed GDN/DNO Local Area Energy Plans (LAEPs).
 - be **clearly linked to the Business Plan**, where applicable, with sensitivity to changes in input parameters assessed, for example future energy scenarios
 - act as **a robust decision support tool**, open to scrutiny and challenge in conjunction with other appropriate means of justification for investment decisions.
 - be **transparent about which risks, costs and benefits** have neither been considered nor monetised as part of the analysis.
 - be **transparent about assumptions, inputs and rationale** for decisions, calculations and results.

- **EJPs are an essential document.** They are required for scrutiny and challenge of business plan proposals in conjunction with other appropriate means of justification for investment decisions. They aid transparency on **which risks, costs and benefits have** been considered and provide detail **on assumptions, inputs and rationale** for decisions, calculations and results.
- **EJPs should not duplicate existing information and repetition should be minimised.** They should provide additional information, qualitative and / or quantitative, to support the case, where this may not be immediately apparent from consulting the BPDTs and business plan documentation alone.
- **EJPs should provide clarity on the decision making process.** The text should not need to explain basic concepts the purpose is to understand the decision making process with the outcomes captured in the BPDTs. The need for EJPs should be proportionate in size and scope to the materiality of the cost activity area.
- **EJPs should have a supporting narrative on data.** This should detail what data is held, how it has been used and how the data and supporting analysis supports the investment decision. **Provision of limited samples of data to demonstrate methodologies or aid understanding will be required. The expectation is that more data is available for > EHV assets, and provision of data should scale with unit costs. (For Discussion)**
- NARM is a comparative measure of network investment efficiency and allows comparison across asset categories. It is not on its own sufficient justification of efficient expenditure, on a particular project or asset class. We expect a **toolbox approach** in assessing and justifying DNOs investment decisions.

Paper Area	Generated from M16 RRP	High Level Paper Required
Load related	Connections within the price control Reinforcement (Primary Network) Reinforcement (Secondary Network) Fault Level Reinforcement	Yes: Core LRE
Non-load capex (excluding non-op capex)	Asset Replacement Refurbishment no SDI Refurbishment SDI Civil Works Condition Driven	Yes: Core NLRE
	Diversions (Excluding Rail Electrification) Diversions (Rail Electrification) BT21CN Operational IT and telecoms Blackstart Flood Mitigation Physical Security QoS & North of Scotland Resilience Legal & Safety Rising and Lateral Mains Overhead Line Clearances Worst Served Customers Visual Amenity Losses	Yes: Non Core NLRE See discussion point (1) & (2)
Non-op Capex	IT and Telecoms (Non-Op) Property (Non-Op) Vehicles and Transport (Non-Op) Small Tools and Equipment	No
HVP	High Value Projects DPCR5 High Value Projects RIIO-ED1	By Expection Only
Moorside	Moorside	By Expection Only
Network Operating Costs	Faults Tree Cutting Inspections Repair and Maintenance Severe Weather 1 in 20 ONIs Dismantlement Remote Generation Opex Substation Electricity Smart Metering Roll Out	Yes: ESQCR Compliance & Faults See discussion point (1) & (2)
Closely associated Indirects	Core CAI Wayleaves Operational Training (CAI) Vehicles and Transport (CAI)	Yes CAI See discussion point (1) & (2)
Business Support Costs	Core BS IT& Telecoms (Business Support) Property Mgt	No
Other costs within Price Control	Atypicals Non Sev Weather Atypicals Non Sev Weather (excluded from Totex) Network Innovation Allowance (NIA) Network Innovation Competition (NIC) IFI & Low Carbon Network Fund	Yes: Innovation and DSO Transition See discussion point (1) & (2)
Costs outside Price Control	Connection costs outside of the price control Other cost outside of the price control Total Costs outside Price Control	No

For core LRE and NLRE to avoid duplication, high level methods, policy's and arguments should be presented once. Linkages to supporting documents should be clear.

Non Core NLRE propose single paper, to cover material issues as required.

Key Discussion Points:

- 1) Is the level of aggregation appropriate?
- 2) Papers prepared at DNO level or license area level?
- 3) Any other material high level areas?

Health Index Asset Category	Paper Required (Subject to Materiality)	Data Requirements
LV OHL Support	No: Narrative Provided in High Level Papers and Detail in BPDts	Description of data held and limited sample for demonstration calcs See discussion point (1)
LV UGB		
LV Switchgear and Other		
HV OHL Support - Poles		
HV Switchgear (GM) - Primary		
HV Switchgear (GM) - Distribution		
HV Transformer (GM)		
EHV OHL Support - Poles	Yes: Combined EHV Linear Assets See discussion point (2)	Description of data held and limited sample for demonstration calcs
EHV OHL Fittings		
EHV OHL Conductor (Tower Lines)		
EHV OHL Support - Towers	Yes: Combined EHV Cables See discussion point (2)	Description of data held and limited sample for demonstration calcs
EHV UG Cable (Gas)		
EHV UG Cable (Non Pressurised)		
EHV UG Cable (Oil)	Yes: EHV Switchgear	Individual Asset data
EHV Switchgear		Individual Asset data
Submarine Cables	Yes: Submarine Cables	Individual Asset data
EHV Transformer	Yes: EHV Transformer	Individual Asset data
132kV OHL Fittings	Yes: Combined 132kV OHL Works	Description of data held and limited sample for demonstration calcs
132kV OHL Conductor (Tower Lines)		
132kV OHL Support - Tower		
132kV UG Cable (Gas)	Yes: Combined 132kV Cable Works	Description of data held and limited sample for demonstration calcs
132kV UG Cable (Non Pressurised)		
132kV UG Cable (Oil)		
132kV Switchgear	Yes: 132kV CBs	Individual Asset data
132kV Transformer	Yes: 132kV Transformer	Individual Asset data
Substation Auxiliary Systems	Yes: Substation Auxiliary Systems	Description of data held and limited sample for demonstration calcs
Protection, Control and SCADA	Yes: Protection, Control and SCADA	
	Yes: Major Projects	
Major Projects	See discussion point (3)	

- Key discussion points
 - 1) NLRE named assets across all voltage levels, is this required for HV/LV assets?
 - 2) EHV: Options, (i) treat as LV with no specific papers, (ii) disaggregate linear asset to routes
 - 3) Materiality threshold for major projects required to be determined?
 - 4) Any areas missed?

Actions, next steps, AOB

- The next meeting will be on the 16th June, we will be discussing CBAs.
- We propose another CAWG on the 23rd June to further discuss:
 - our Cost Assessment Methodology for the SSMC; and
 - Uncertainty Mechanisms.
- We will circulate notes and an actions log from this meeting.