ofgem Making a positive difference for energy consumers

RIIO-ED2 Cost Assessment Working Group – Meeting 13

Electricity Distribution Team
22nd October 2020

Agenda

- Welcome and Introductions
- Role of Engineering Justification Papers (EJPs) 10:15-10:55
- RIGs returns and findings - 10:55-11:20
- WPD presentation on RAV Equivalent for DSO - 11:20-12:00
- Lunch
- Incremental costs – 12:30-13:00
- Business Plan Incentive – 13:00-13:30
- DNO sub group presentation on cost exclusions – 13:30-14:00
- Actions, Next Steps, and AOB – 14:00-14:15

SSMD on programme to be published in December, with exception of Regulatory Finance decisions

We are delaying all key finance decisions to February 2021. We do not expect this to affect the DNOs' ability to prepare robust drafts of their Business Plans by 1 July

RIIO-ED2

Engineering Justification Papers

Purpose of Engineering Justification Papers

- The Engineering Justification Papers are required to detail the engineering and economic need case for the major capital projects and programmes proposed as part of the UKPN RIIO ED2 Business Plan.

- They will provide assurance that DNO plans have been developed in line with Ofgem outcomes and through a variety of customer engagements to assess project options that maximise the value for money for customers.

- Major capital projects/programmes should be considered to be those of significant value and/or those that represent a notable change in spending compared to previous regulatory periods.

- We need make use of an evidenced-based approach when making decisions involving regulatory judgments. Stakeholders expect that any decision is inline with our objectives and wider duties and involves a proper and careful consideration of relevant risks, commensurate with the importance of the issue at hand.

- Engineering Justifications Papers are one tool in a tool kit to provide the evidence base to allow us to make proper and careful decision

Core Contents – Initial proposal for starters from UKPN

- **Context:** relevant background information
- **Need:** what are the investment drivers?
- **Options:** what options have been considered to address the issue?
- **Assessment:** cost/benefit of each option with link to CBA & investment drivers
- **Preferred option:** reasoning & scope of option selected
- **Delivery:** assurance around the deliverability of the preferred option

Minimum set of solutions considered for every paper for non-load – example below from UKPNs initial thinking:

- **Do nothing (i.e. no capital investment)**
- **Intervene on failure**
- **Proactive replacement**
- **Proactive refurbishment**
- **Whole system solution / flexibility**

- **Assessed against comprehensive investment drivers including:**
- **Network reliability and resilience**
- **Environmental sustainability**
- **Improved quality of service**
- **Health & safety**
- **Value for money**
- **Benefits to society**

Determining the Threshold for Major Capital Investment Projects and Programmes

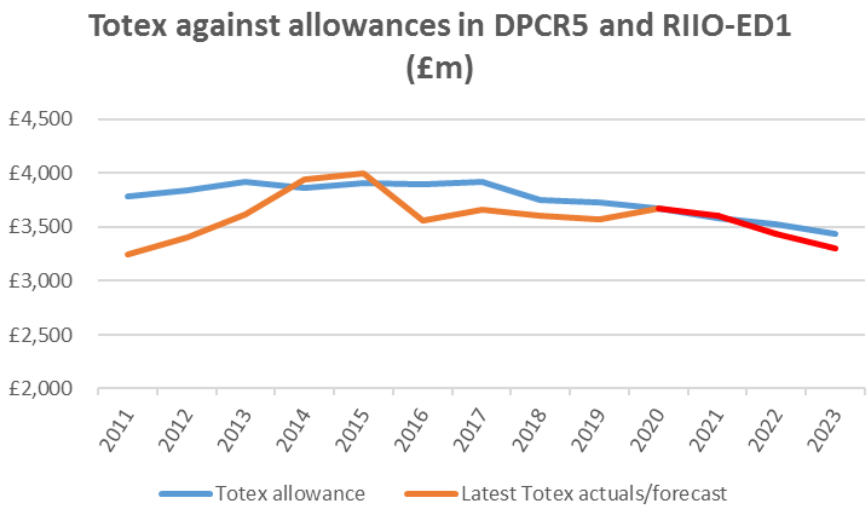
- We need a common threshold and a similar approach for LRE and NLRE
- Must be transparent and clear in project selection process for non load project EJPs to ensure:
  - Full representation of the different types of projects we are proposing in ED2
- Programmes grouped according to common asset type and/or investment driver to ensure
  - Full representation of the different types of projects proposed in ED2
  - Schemes representing a new or significant increase in spend for ED2 are included
- **What should the threshold be?** Have DNOs reviewed potential threshold?
  - How many EJPs at different threshold? (>£1m/>£1.5m/>£2m/>£5m)?

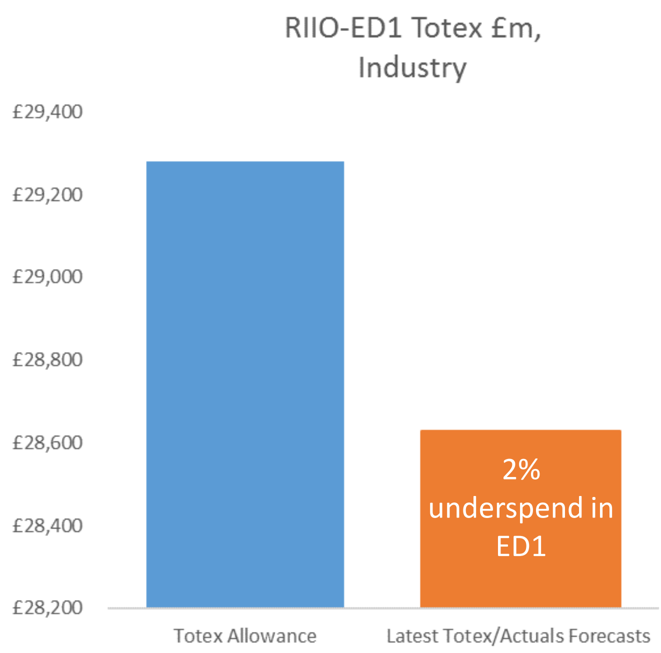
Non Load Programme EJPs – initial thinking below proposed by UKPN

Programme EJPs Full List

Provision to Replace Aux/Earthing Transformers	Tower Painting
Civils Buildings	Cut Outs Replacement (Smart Meter Impact) CV34
Civils Surrounds	Asset protection scheme
Civils Asbestos	Provision to Replace AVC Schemes
Civils Fire	Pilot Cable Survey & Replacement - EHV
Civils Bridges	Pole Term Replacement
Civils Tunnel	Poor Performing Cable Replacement
Civils Structures	2/3kV cable network
Civils Flooding Secondary Asset Replacement	Concentric Cable Replacement
Civils Flooding Primary Asset Replacement	Jute Cable Replacement
6.6/11kV RMU	CONSAC Replacement LPN
6.6/11kV Transformer (GM)	Ryland Loop service Replacement EPN
6.6/11kV Transformer (PM)	Mural Loop service Replacement SPN
Replace PT for PCB	HV Pole Replacement
6.6/11kV CB (GM) Secondary	LV Pole Replacement
LV UGB Link Boxes	LV Switchgear
Replace Batteries -Primary	EHV Pole Replacement
Replace Batteries -Distribution	Scott Network Cable Replacement
Replace Batteries -Grid	

RIGs returns and findings





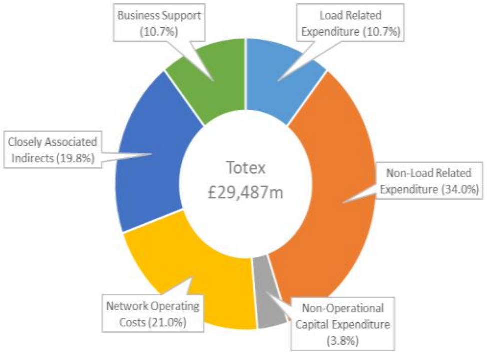
Key Drivers of underspend in RIIO-ED1:

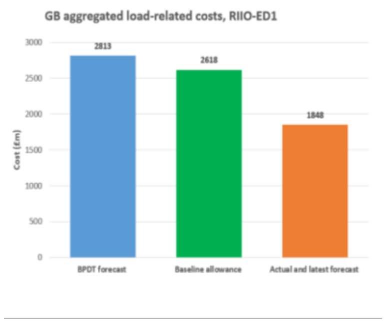
- Load (-£800m) - Economic conditions creating uncertainty in demand for electricity; lower than expected uptake in low carbon technologies (such as heat pumps); and an increase in energy efficiency measures and innovative solutions used by DNOs. This has increased by £300m from the 2019 submission.
- Non-Load (-£1bn)- Efficiencies found in negotiating contracts with commercial incentives to deliver efficiencies; and innovative techniques being used to minimise costs

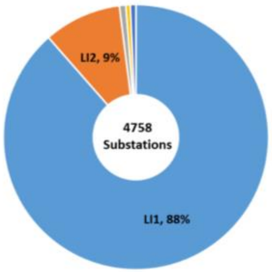
LRE overview

RIIO-ED1:

- Load = 10% of totex, underspending by £1bn against plans
- 88% of substations with >20% capacity

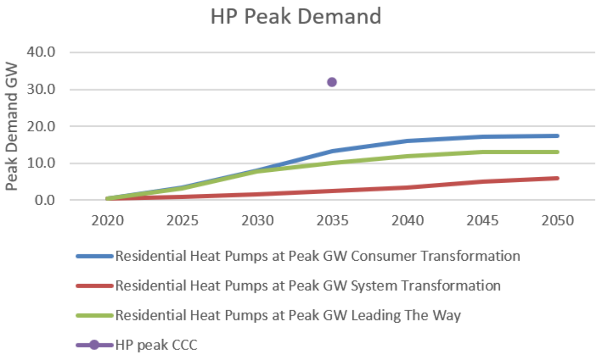


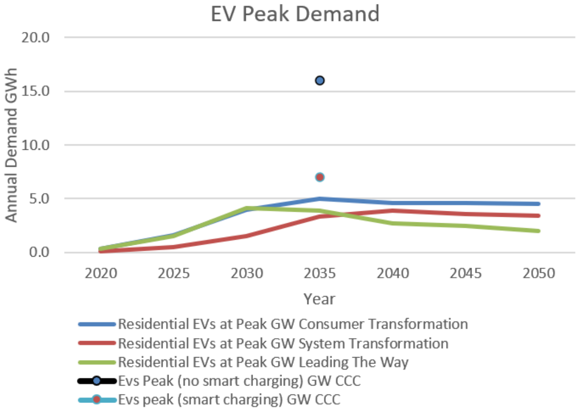




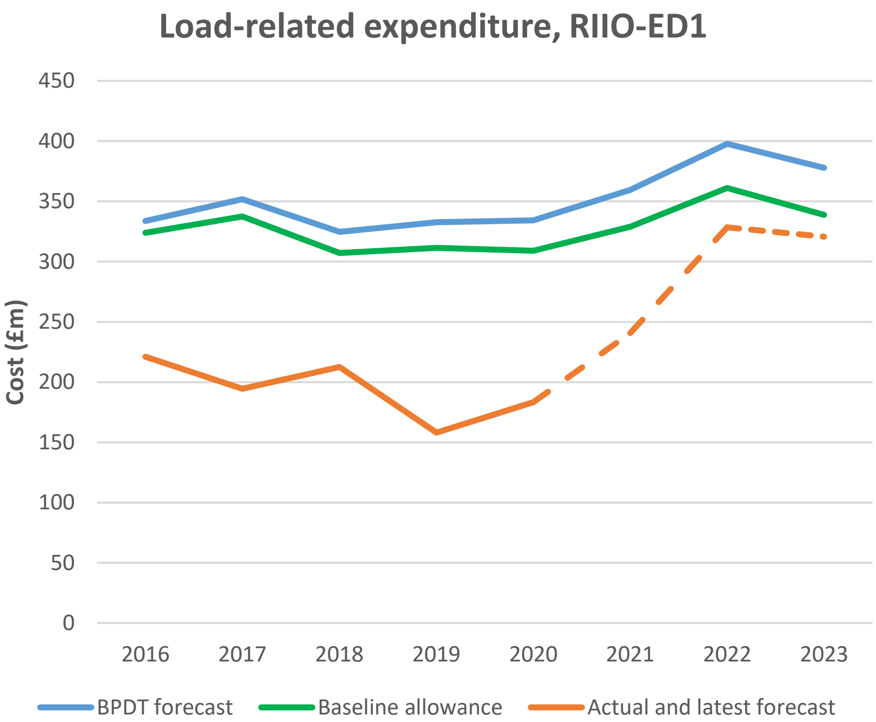
LI1 0%-<80% loading
LI2 80%-<95% loading
LI3 95%-<99% loading
LI4 99% loading for less than 9 hours
LI5 99% loading for more than 9 hours

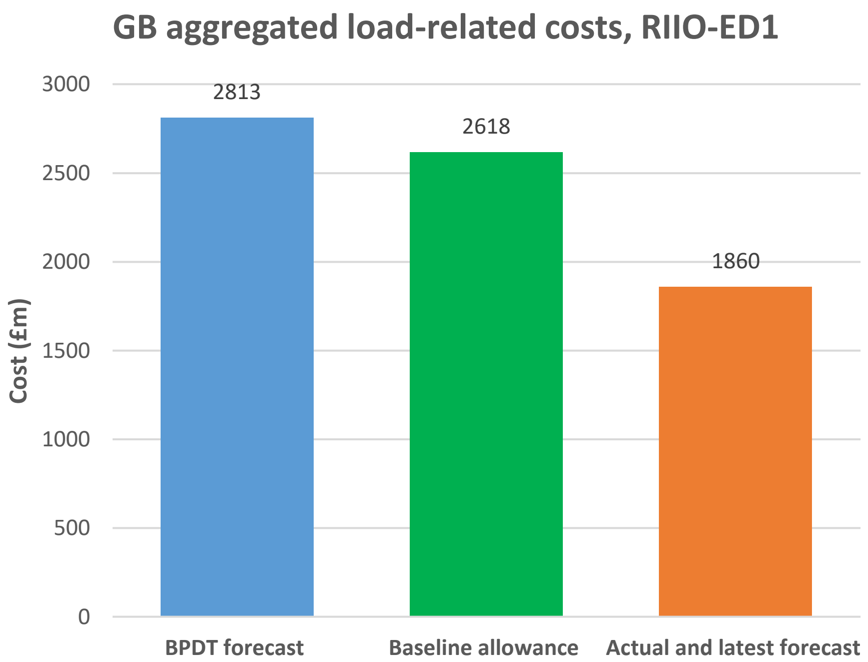
Demand projections– using FES 2020, CCC, UKFIRES, ESC, NIC and ENA not indicating significant increased demand in ED2



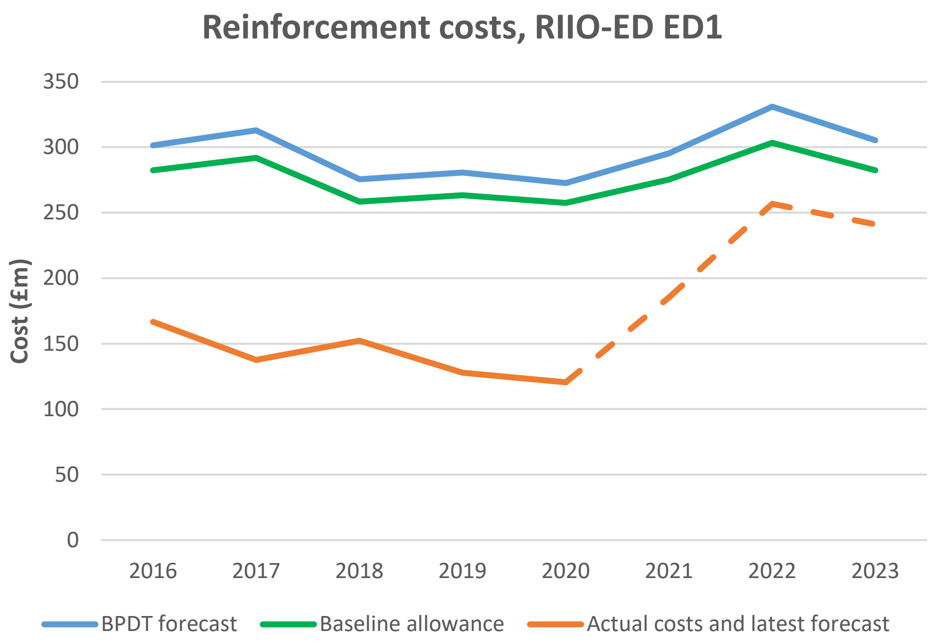


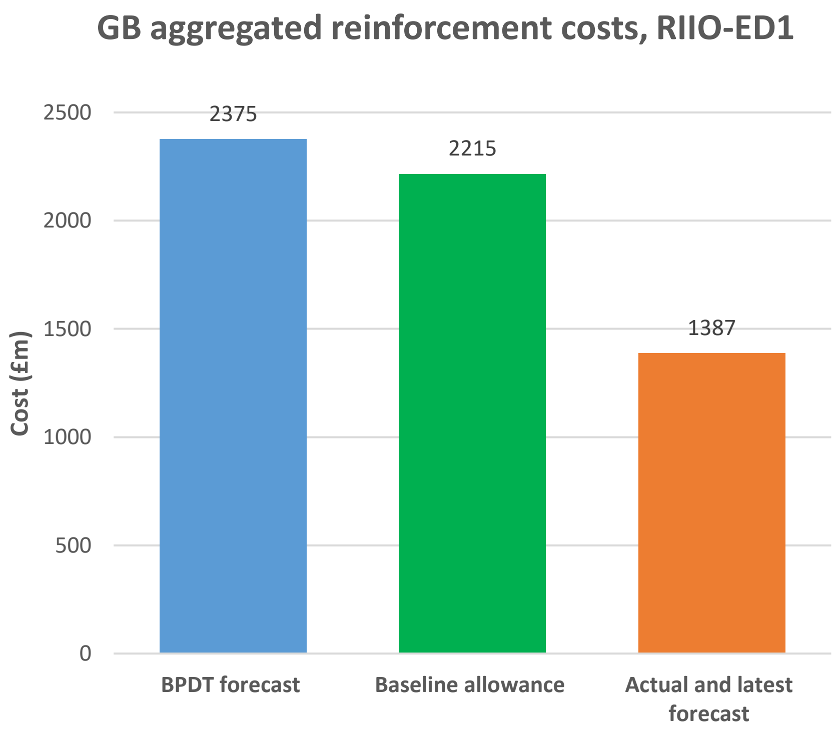
Total LRE actual against forecast



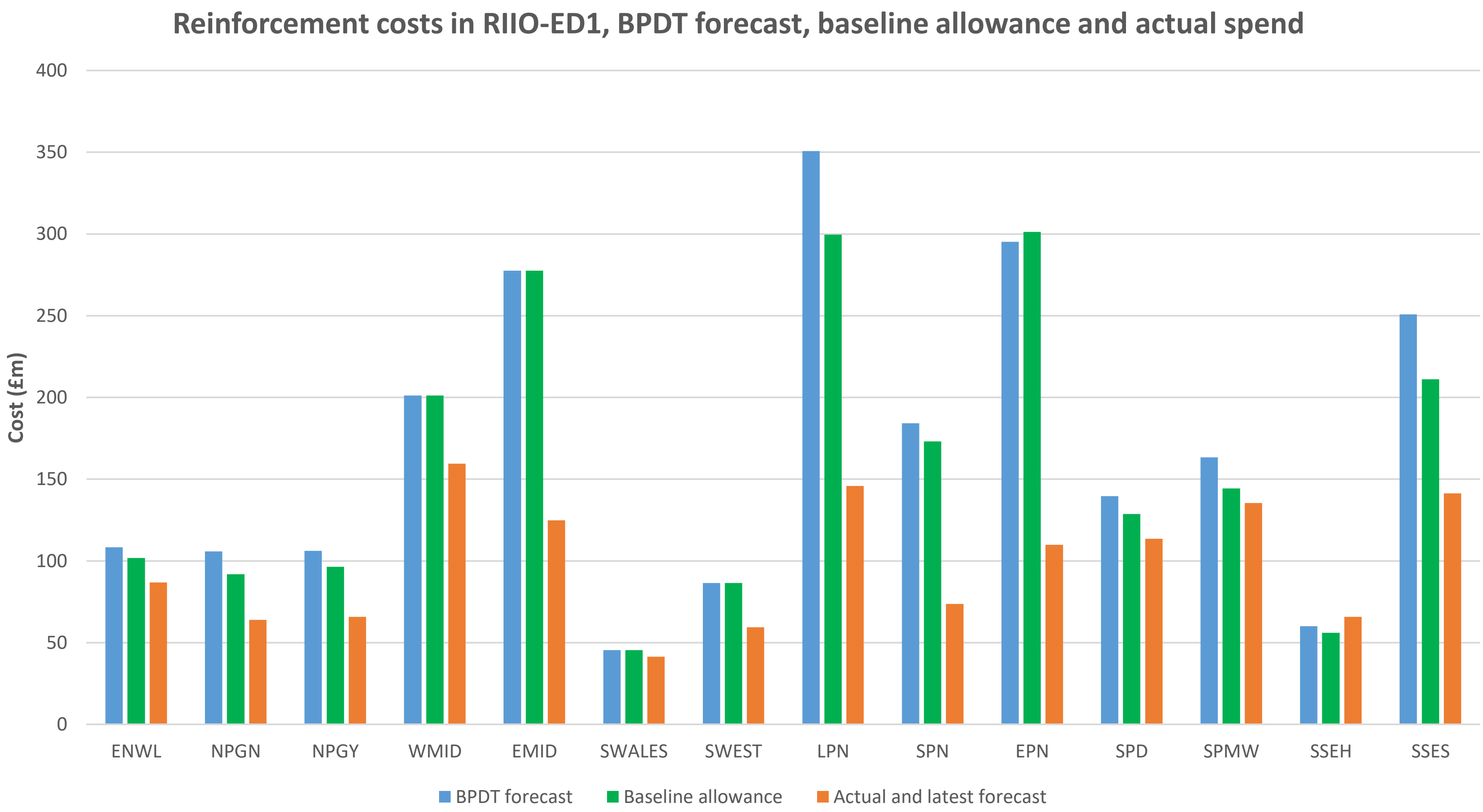


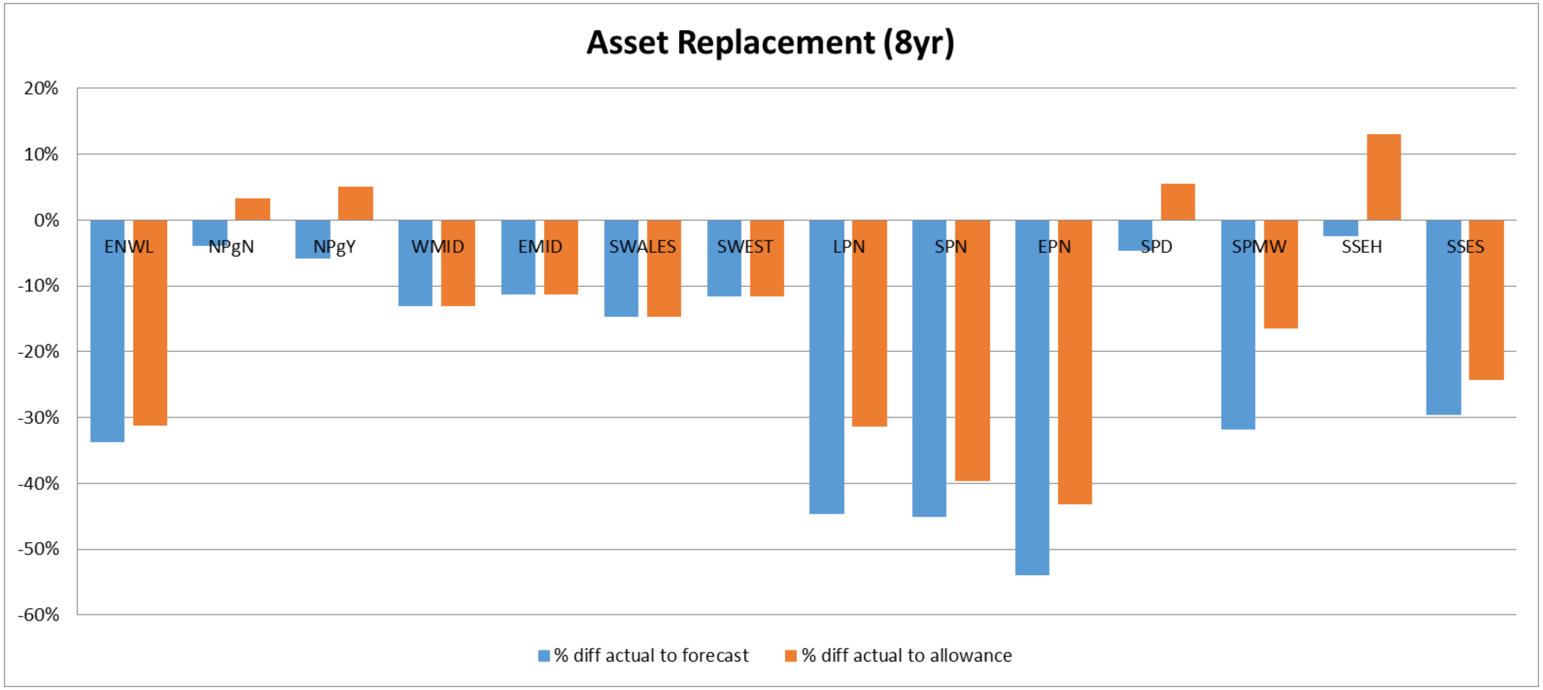
Reinforcement expenditure against forecast

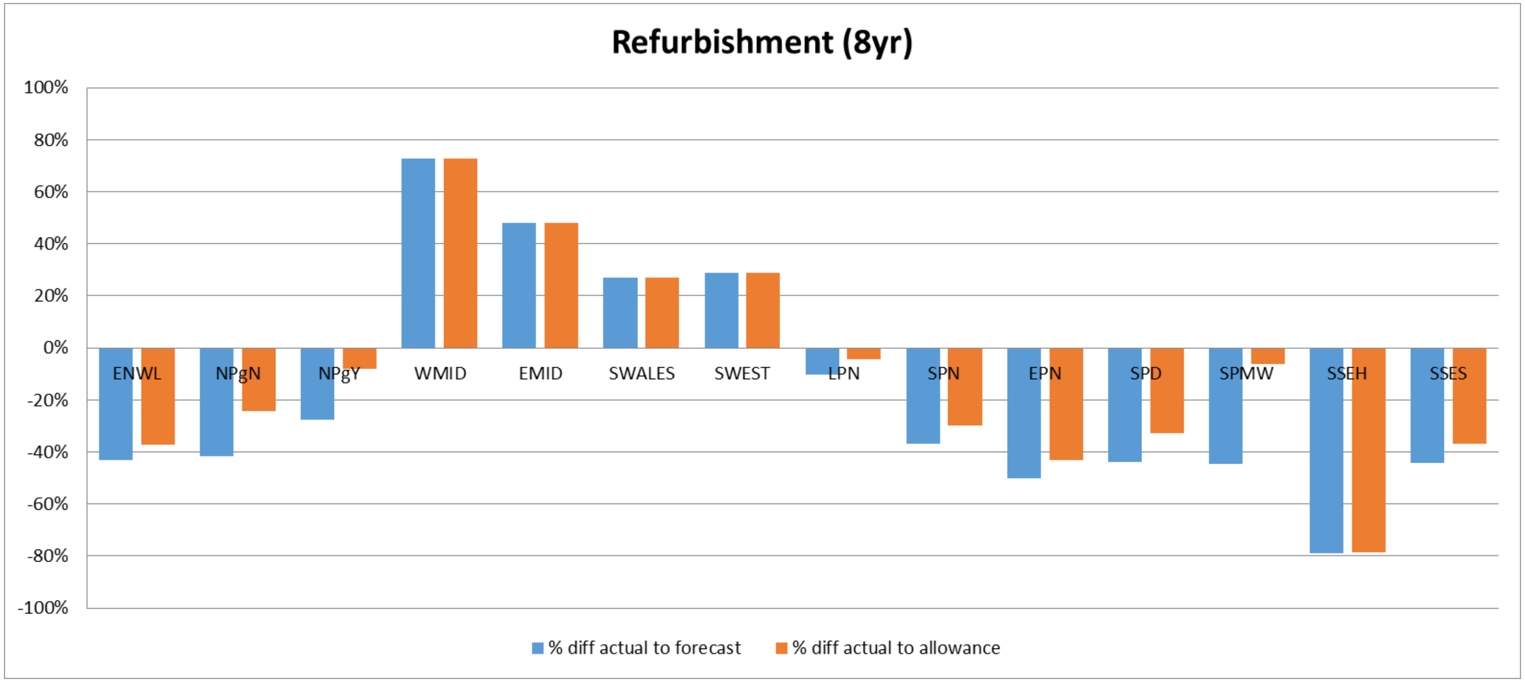




Reinforcement expenditure against forecast




Asset Replacement (8yr)
20%
10%
0%
-10%
-20%
-30%
-40%
-50%
-60%
ENWL
NPgN
NPgY
WMID
EMID
SWALES
SWEST
LPN
SPN
EPN
SPD
SPMW
SSEH
SSES
% diff actual to forecast
% diff actual to allowance



Refurbishment (8yr)
100%
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
-100%
ENWL
NPgN
NPgY
WMID
EMID
SWALES
SWEST
LPN
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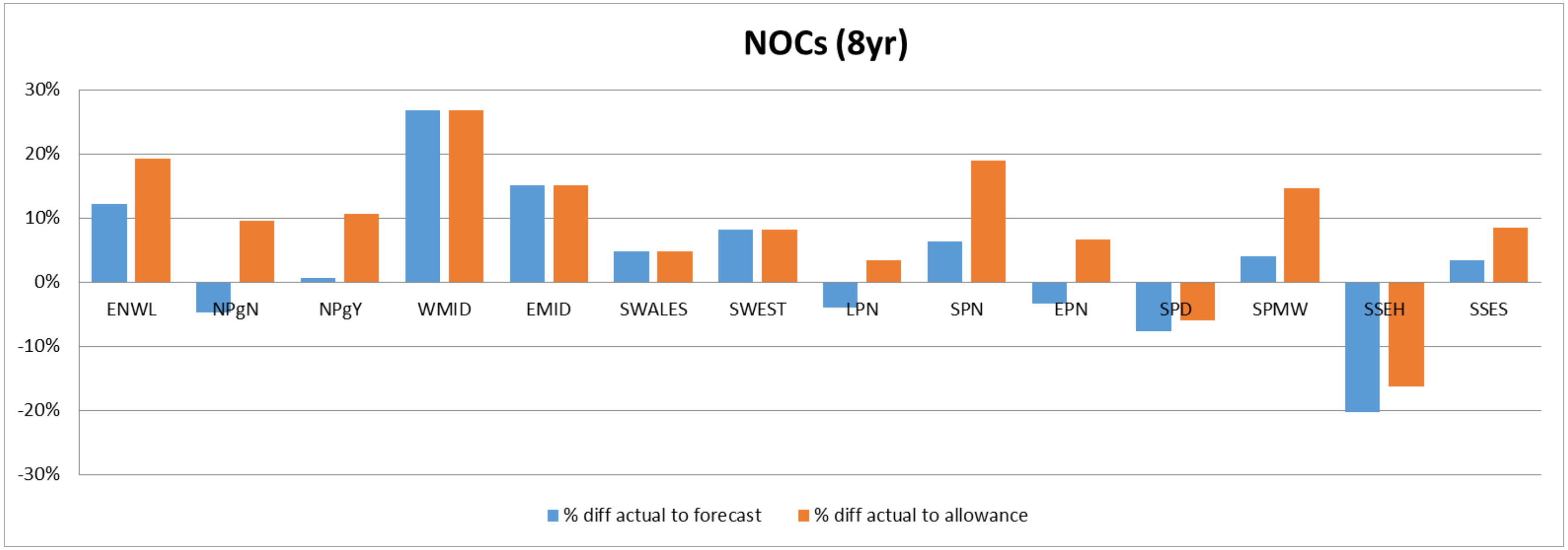
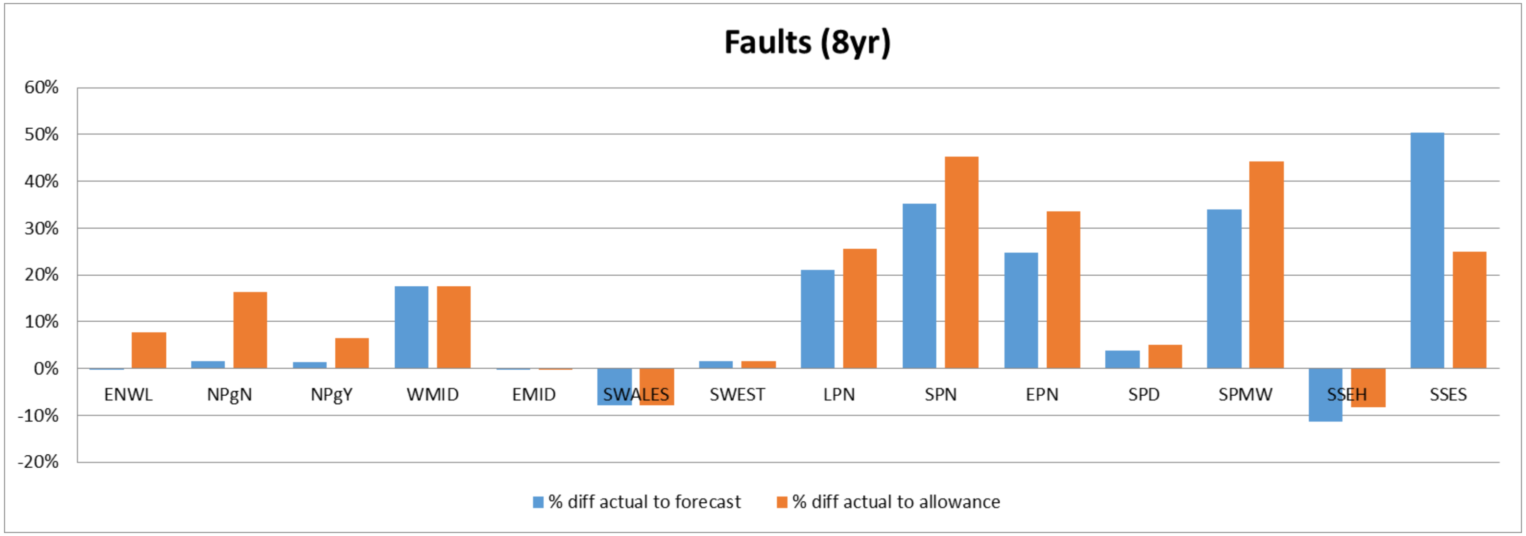
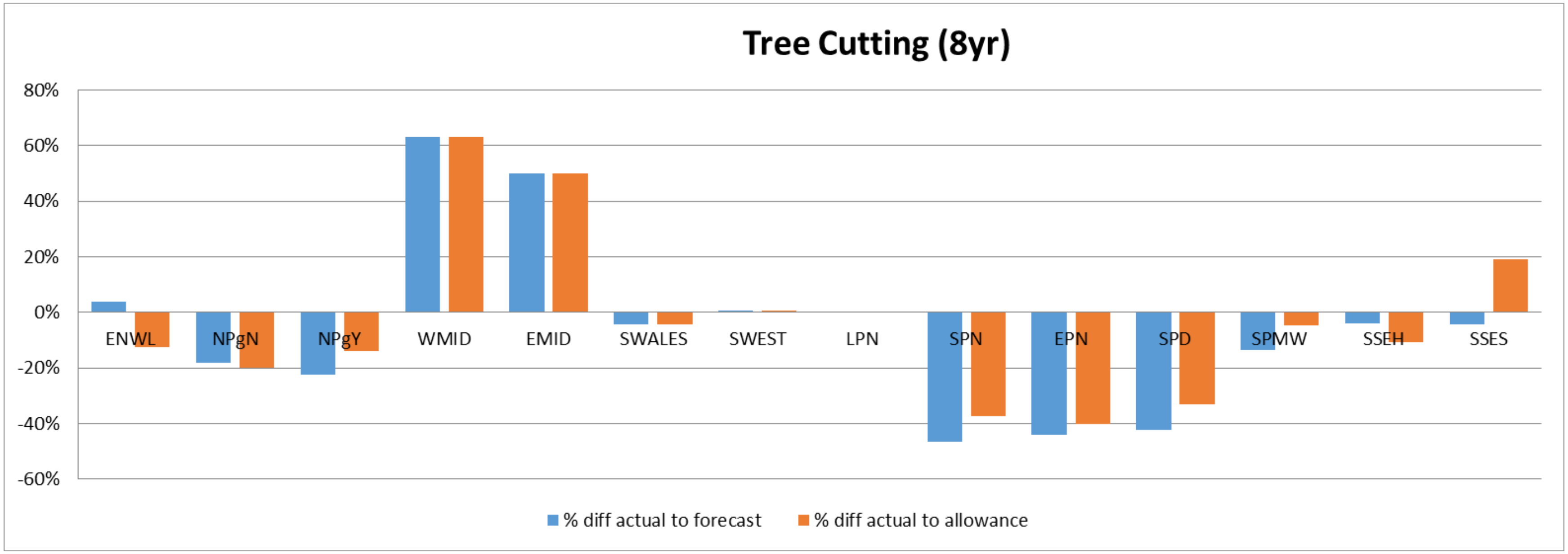
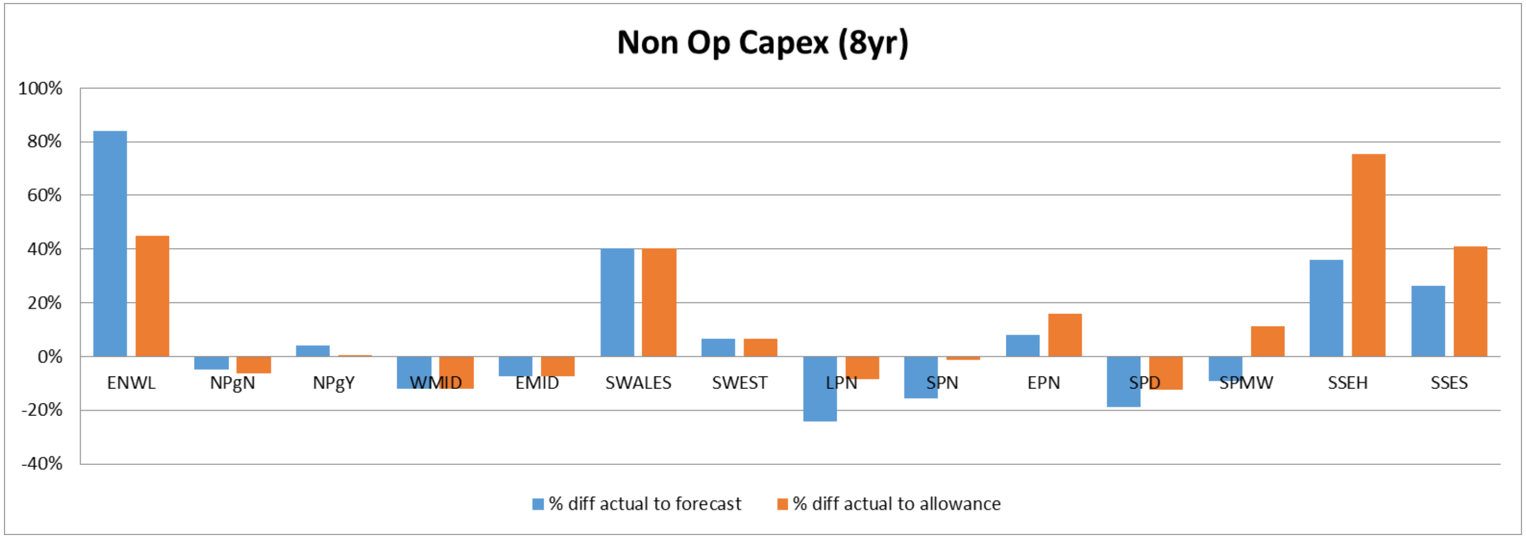
SSES
% diff actual to forecast
% diff actual to allowance


NOCs (8yr)
30%
20%
10%
0%
-10%
-20%
-30%
ENWL
NPgN
NPgY
WMID
EMID
SWALES
SWEST
LPN
SPN
EPN
SPD
SPMW
SSEH
SSES
% diff actual to forecast
% diff actual to allowance

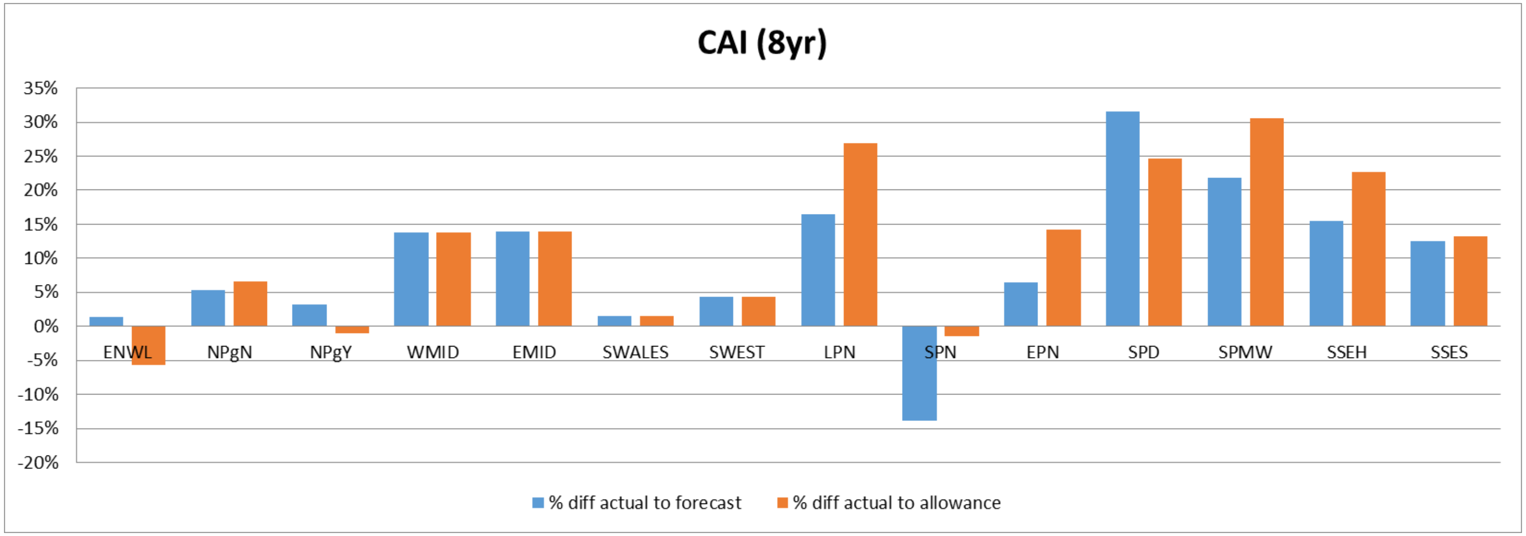
Faults – Five years and remainder of ED1 forecast

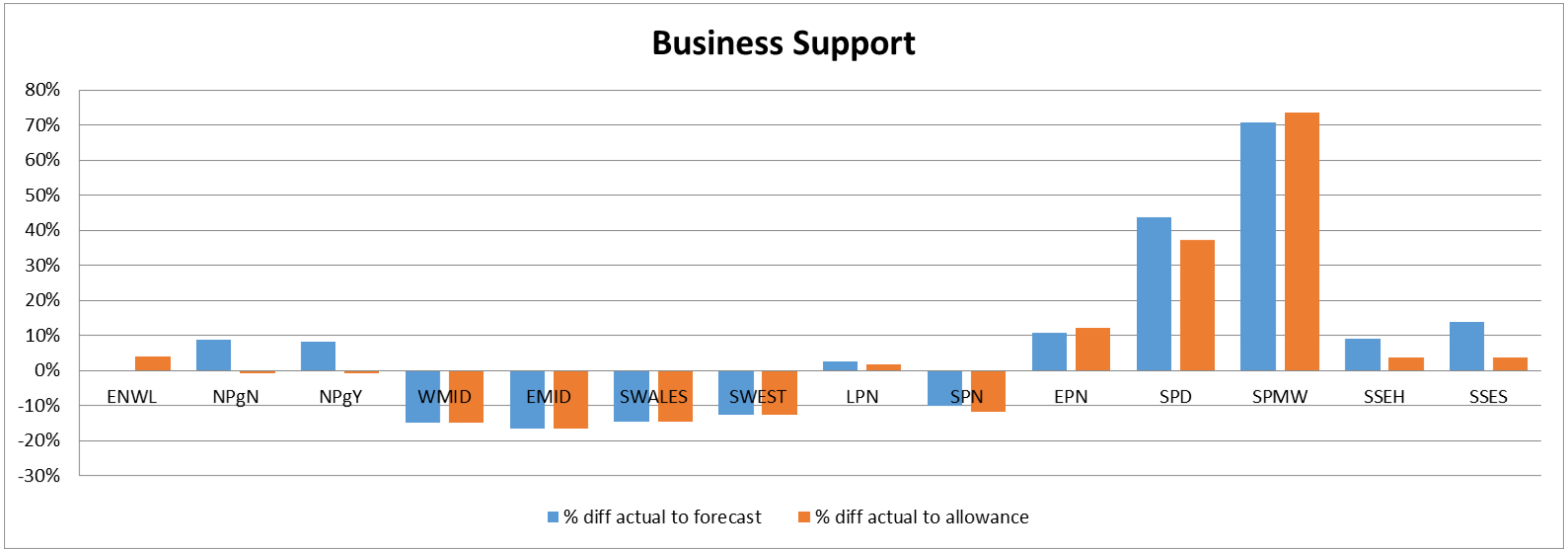



Tree Cutting (8yr)
80%
60%
40%
20%
0%
-20%
-40%
-60%
ENWL
NPgN
NPgY
WMID
EMID
SWALES
SWEST
LPN
SPN
EPN
SPD
SPMW
SSEH
SSES
% diff actual to forecast
% diff actual to allowance


Non Op Capex (8yr)
100%
80%
60%
40%
20%
0%
-20%
-40%
ENWL
NPgN
NPgY
WMID
EMID
SWALES
SWEST
LPN
SPN
EPN
SPD
SPMW
SSEH
SSES
% diff actual to forecast
% diff actual to allowance

Closely Associated Indirects (CAIs) – Five years and remainder of ED1 forecast




Business Support
80%
70%
60%
50%
40%
30%
20%
10%
0%
-10%
-20%
-30%
ENWL
NPgN
NPgY
WMID
EMID
SWALES
SWEST
LPN
SPN
EPN
SPD
SPMW
SSEH
SSES
% diff actual to forecast
% diff actual to allowance

RAV equivalent for DSO

RAV Equivalent for DSO

Ben Godfrey

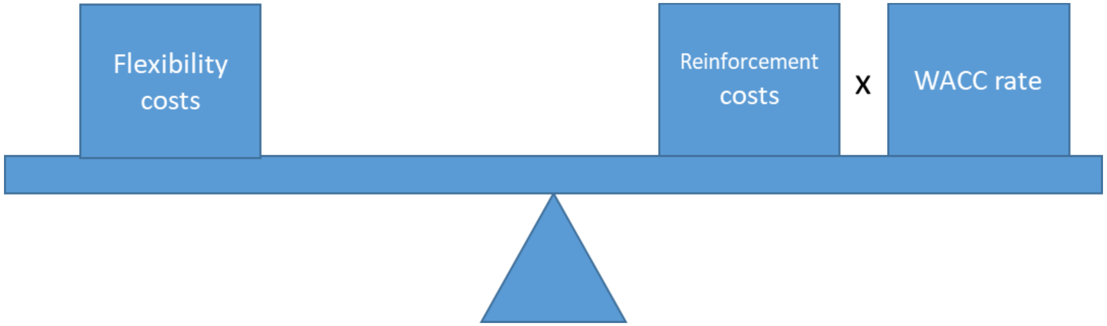
Network Strategy Manager

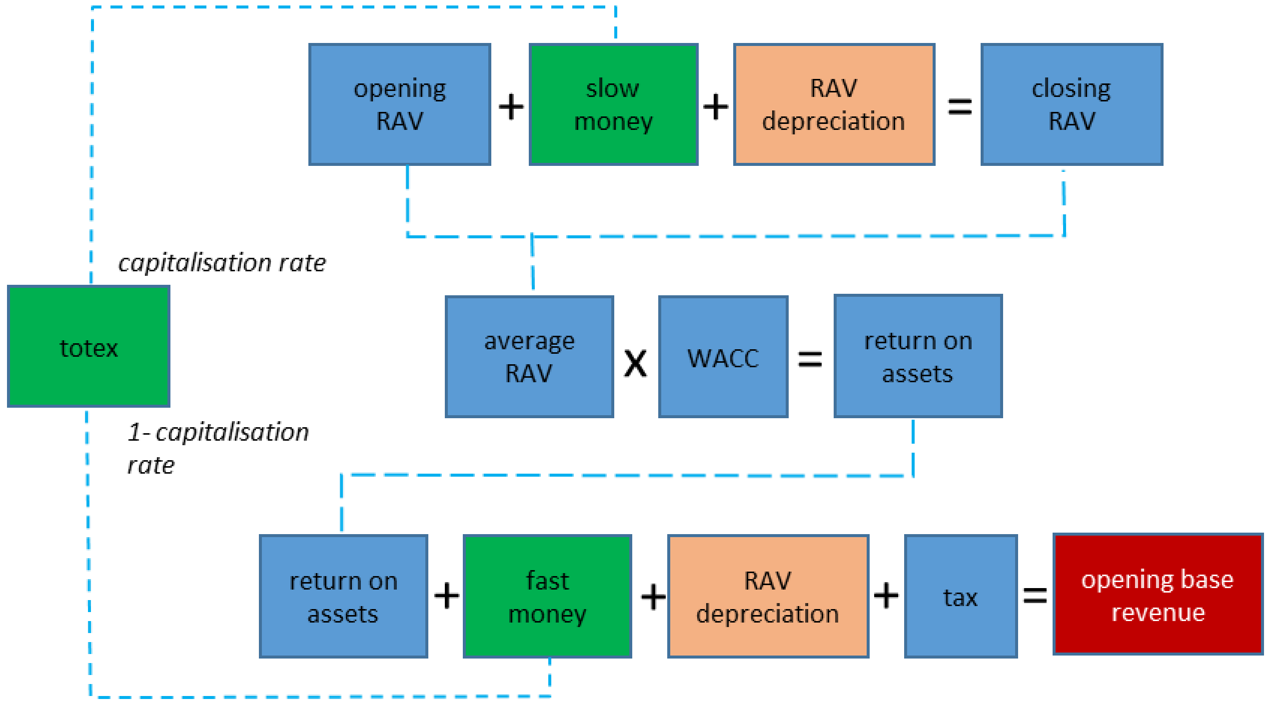
Western Power Distribution

Serving the Midlands, South West and Wales

RIIO2 and Flexibility

- Flexibility is a BAU pathway now for deferring or avoiding load related expenditure
- There is expectation that DNOs will use flexibility to deliver RIIO2 outputs
- Treatment of costs within RIIO2 should take into account the different levels of Totex, Capex and Opex to ensure there is a level playing field across the ability to invest, reward for taking on risk and incentives for out performance





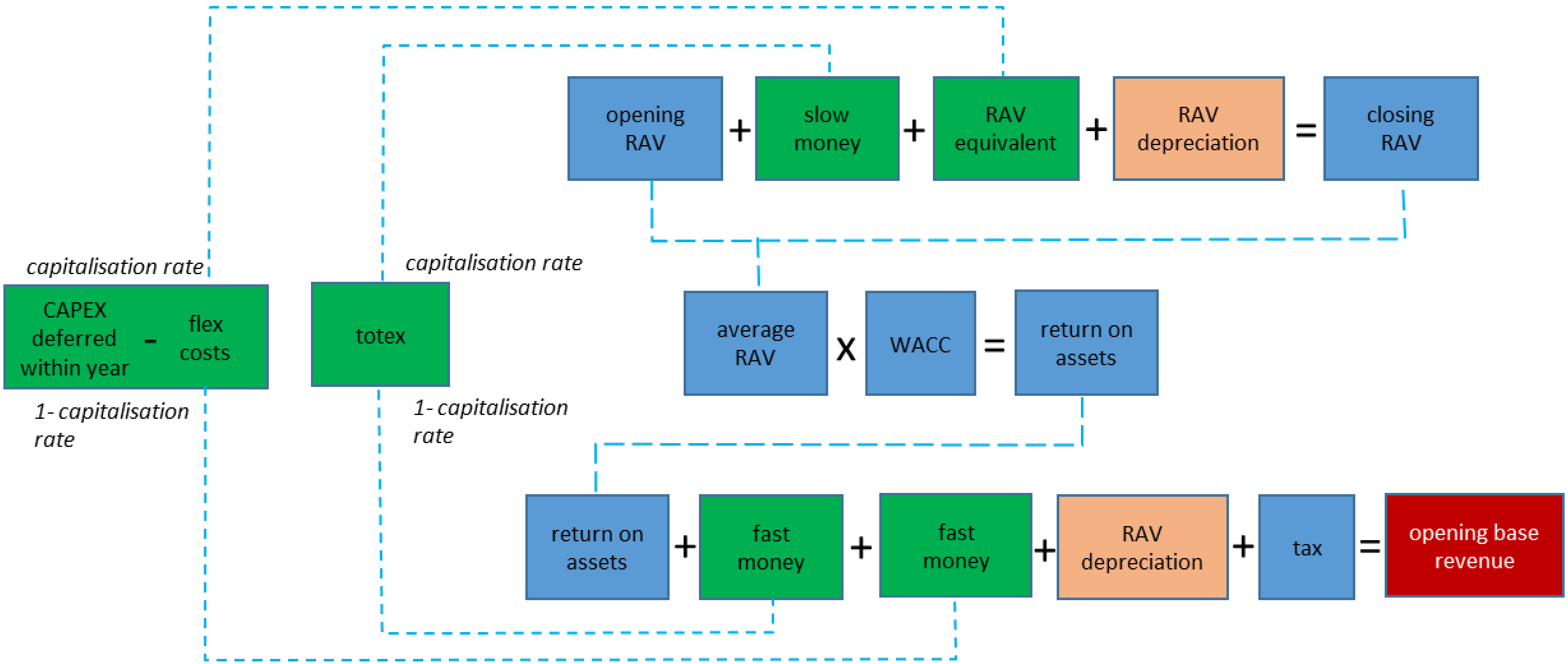
Current ED1 – components of base revenue

RIIO2 and Flexibility

Option costed within ex-ante allowance:	Reinforcement only	Flexibility then reinforcement within PC	Flexibility only
Ability to invest in other methods	- Reinforcement OR - Flexibility or other Economic Innovative Solution	- Reinforcement AND - Flexibility or other Economic Innovative Solution	- Flexibility
Risk	LOW	LOWER	HIGHER
Gain potential through TIM	HIGH	HIGH	LOW
Pain potential through TIM	LOW	LOWER	HIGH
TOTEX	HIGH	HIGHER	LOW
CAPEX	HIGH	HIGH	LOW
OPEX	LOW	HIGH	HIGH
RAV Impact	HIGH	HIGHER	LOW

>25x higher

RIIO2 and Flexibility



RIIO2 and Flexibility

- RAV equivalent will provide a mechanism for the TIM to be used to incentivise DNOs to outperform, without providing ex-ante allowances for CAPEX that will be delivered through flexibility.
- It does not solve any issues related to assumed-flexibility schemes instead being delivered by traditional reinforcement due to insufficient participation from the market
- RAV equivalent would remove issues around deferring reinforcement using flexibility across price control periods which otherwise might lead to double funding

RIIO2 and Flexibility

- Considering a DNO with an 80% capitalisation rate, 4% WACC and 40% sharing factor, looking at two identical investment schemes with £1m conventional reinforcement costs, both triggering in the last year of the price control. In ED1, if one of those schemes has flexibility costs of £30k/annum and the other has costs of £50k/annum, then only one scheme would progress to flexibility. As both schemes would have been included in the price control as conventional reinforcement, there is an incentive to deliver them both efficiently, with any underspend (either through efficient conventional reinforcement or use of flexibility) benefiting the DNO and customers via the TIM.
- Allowed Totex = £2m ; Actual Totex = £1.03m ; post-TIM totex = £1.42m

- Under ED2, the DNO should be forecasting which schemes should be most economical to be delivered via flexibility. There may be some uncertainty mechanisms required so that the capital schemes could be funded for delivery if participation from flexibility markets was insufficient. Without any DSO incentive, the funding would be as follows:
- Allowed Totex = £1.03m ; Actual Totex = £1.03m ; post-TIM totex = £1.03m

- Under ED2 with a proposed RAVe incentive, the funding would represent use of conventional reinforcement as follows:
- Allowed Totex & RAVe = £2m ; Actual Totex = £1.03m ; post-TIM totex = £1.42m

Incremental costs

- Three options for the reporting of incremental costs:

  1. Report the core costs against the primary investment driver and report the additional incremental costs in a memo table or secondary table, together with any benefit volumes as reportable

  2. Report total costs against the primary investment driver, with a supporting memo table(s) setting out the incremental costs.

  3. Report total costs only, ignoring the requirements of incremental cost reporting.

- Oversizing of assets as regular asset replacement takes place should be an appropriate way of enabling strategic investments. The use of CBAs to identify risks and benefits should be a useful decision-making tool.
- Oversizing of replacement assets should help prepare for expected future demand increases. But any such investments should seek to mitigate the risk of stranded assets in case expected electricity growth does not emerge. Existing capacity headroom should be fully utilised as well as exploiting whole systems benefits.
- Future demand assumptions will be necessary to justify this incremental investment. In order to prioritise this investment and reduce the risk of stranded assets, incremental investment decisions should justify the future need for the capacity using common long-term demand scenarios.

- In terms of the options presented in the consultation, we suggest that 'Option 2' is the most appropriate and that it is applied in defined areas where the impact of incremental costs has the potential to distort cost assessment. This is equivalent to the current treatment of losses expenditure within the RIIO-ED1 RIGs where incremental costs are reported alongside the main cost driver and included in a memo table to give a consolidated view of total losses expenditure.
- Ofgem would need to ensure that the basis of any disaggregated cost assessment is clear on which is being used to ensure consistency.

- While we recognise the importance and benefit of splitting core and incremental costs, we are mindful of the potential perverse incentive that could arise when splitting costs associated with secondary benefits that do not have quantifiable outputs. For this reason, we believe a clear and transparent set of rules need to be established to ensure consistency in reporting across the industry.
- For the purposes of robust cost assessment, the consequences of strategic investment should not be ignored and for this reason we broadly agree with options 1 and 2. However, for the purposes of assessing incremental costs, the ability to reference incremental volumes is essential. Whilst we acknowledge that these volumes will need to be defined for each associated activity, we see value in including properly defined benefit volumes.
- Option 3 should be ruled out, as it does not provide the level of transparency required to capture the decisions behind strategic investment. Any decision to ignore the requirements of incremental cost reporting will ultimately skew unit costs within disaggregated benchmarking.

- Preference is for Option 2, where incremental costs are captured in a memo table. Option 1, whilst providing similar benefits to Option 2, is more resource-intensive to implement and, as such, would be more expensive. We do not believe Option 3 provides Ofgem with sufficient transparency. We think Option 2 strikes the right balance.

- While we recognise the importance and benefit of splitting core and incremental costs, we are mindful of the potential perverse incentive that could arise when splitting costs associated with secondary benefits that do not have quantifiable outputs. For this reason, we believe a clear and transparent set of rules need to be established to ensure consistency in reporting across the industry.
- For the purposes of robust cost assessment, the consequences of strategic investment should not be ignored and for this reason we broadly agree with options 1 and 2. However, for the purposes of assessing incremental costs, the ability to reference incremental volumes is essential. Whilst we acknowledge that these volumes will need to be defined for each associated activity, we see value in including properly defined benefit volumes.
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Summary of key responses

- Support option 1, in which DNOs would report both the incremental costs and benefits delivered for reasons unrelated to the primary investment driver. However, Ofgem will need to issue careful guidance to DNOs on how such benefits should be computed by DNOs, and how DNOs should isolate which costs and benefits are incremental, as compared to a scenario in which DNOs incur the minimum levels of expenditure required to deliver the primary investment driver.
- This reporting of both incremental costs and benefits is important for companies, to ensure such incremental costs are properly remunerated, and for customers, to ensure that companies are delivering value for money when DNOs incur incremental costs.
- Consider that Option 3 (ignoring the effect of incremental costs) would prevent Ofgem from adequately controlling for this impact on DNOs' efficient costs.We recommend that Ofgem does not pursue this option.
- Options 1 and 2 would both report the incremental costs associated with works that deliver secondary benefits, in addition to the costs reported alongside the primary investment driver. Ofgem could remove incremental costs from totex regressions, and evaluate them using separate analytical approaches, so the modelled allowances predicted by the model represent a "baseline" level of expenditure required on the assumption that DNOs incur only the costs required to meet their required minimum levels of service.

- Proposals for the treatment of incremental costs have the potential to drive inappropriate cost assessment outcomes. Any approach that does not retain the full cost of the activity undertaken within the reporting against the primary investment driver, leads to cost assessment based upon notional costs, which may be unrealistic and cannot be demonstrated as being reliable.
- EJPs and CBAs already provide a suitable mechanism for a company to demonstrate that any incremental costs that are occurred are proportionate to the additional benefits that they deliver, as well as a mechanism for demonstrating the maturity of the submitted cost assumptions.

Business Plan Incentive

Northern Powergrid thinks the business plan incentive should be adjusted – but this would have to happen soon

1. We think it would be better if Ofgem was to introduce:
   a. clearer prospects of material rewards for companies that submit plans based on challenging cost levels;
   b. less focus on "discretionary" assessment by Ofgem of what constitutes a good plan, or the need to submit "value propositions" before seeing Ofgem's assessment of the plans;
   c. less emphasis on the distinction between high- or low-confidence costs, since this will distort incentives for companies to challenge themselves on costs across all of totex; and
   d. sharing factors set based on the efficiency of company costs, rather than the proportions of the plan that fall in different pots.
2. Ofgem would need to revise its proposals promptly, in time for the ED2 methodology decision, if the incentive is to have the desired effect on company business plans.

As covered in the discussion at CAWG 11, we also think requests for regional adjustments should be included in the business plan incentive

1. **Regional adjustments should not be a one way bet:** at present there is a strong incentive towards unnecessary or exaggerated requests, including because there is no incentive for companies to identify counter-veiling factors. Ofgem should therefore:

    a. require companies to request and quantify any regional cost adjustment they think is necessary in their business plans, based on the additional costs that they actually experience, and including all counter-veiling factors (including evaluating potential correlations with common cost drivers); and

    b. include these requests in the business plan incentive, e.g. by treating them as low-confidence costs; so that if Ofgem finds the adjustment to be unnecessary, or excessive, a low confidence cost disallowance penalty would be applied.

2. There are limited circumstances where it would not be appropriate to apply a penalty, e.g. if a licensee could not have anticipated a disallowance because it is due to correlation of the factor with a cost driver Ofgem has not previously used.

DNO sub group presentation on cost exclusions

Totex Model
Cost Exclusions

Totex Model Cost Exclusions - Background

- To ensure like-for-like comparisons certain costs are excluded from Totex models
- In ED1 certain costs were excluded prior to Totex benchmarking and the efficient view calculated from disaggregated modelling was added back in post modelling.
- In ED1, Ofgem excluded **13** cost categories from Totex modelling at Draft Determination; revised down to **6** categories for Final Determination
- This area was not specifically consulted on as part of the ED2 SSMC

Discussion on this area is vital for consideration and development of the ED2 Totex model

Discussions have been held with DNOs to discuss the following;

- What should the criteria be for the exclusion of costs in ED2?
- What cost categories should be excluded from the Totex models in ED2?

Totex model Exclusions: Points raised at Sub Group

- This task is difficult when we're still **unsure as to what the ED2 Totex models might look like,** or in what direction the Cost Assessment methodology is heading.

- Cost exclusions **need to be considered in the same discussion as cost drivers** – Cost Drivers may account for some of the cost exclusions.

- **Language clarification required from Ofgem** as to the distinction between:
    a. Totex Cost exclusions that are subject to separate benchmarking
    b. Totex Cost exclusions that are not subject to separate benchmarking (e.g. are treated as 'pass through')

- Should the costs excluded as part of point (b) above also be excluded from disaggregated models?

Totex Model Cost Exclusions - Criteria

Discussion Points;

- What should the criteria be for the exclusion of costs in ED2?

#	Criteria Proposed	ED1?
1	The costs cannot be explained for by cost driver used	Y
2	There is a substantial change in the nature of costs between historical periods	Y
3	There is a low risk of allocation and cost boundary issues leading to distorted modelling results	Y
4	Only a small number of DNOs incur the costs over the full historical period	Y
5	Costs which are identified to be reviewed through (established) uncertainty mechanisms	N
6	Costs that are assessed in the disaggregated modelling on a qualitative basis	N
7	Costs are not substitutable or complementary with other totex costs (e.g. there are no cost trade-offs)	N
8	The Costs which are endorsed by Stakeholders	N
9	Costs which are beyond companies control (non controllable)	N

Totex Model Cost Exclusions – Review (1)

SP ENERGY NETWORKS

Discussion Points;

- What cost categories should be excluded from the Totex models in ED2?

Agreement by **all*** that the following Costs Areas should be excluded;

Cost Area	Rationale
TCP charges	Limited number of DNOs Cost could could change from ED1 to ED2 These should be treated as ESO Costs and recharged (ENWL)
CNI	Not explained by cost driver Limited number of DNOs
Smart meter call out costs	Nature of costs could still be different Potential Uncertainty Mechanism
New Streetwork costs	Not explained by cost driver Potential Uncertainty Mechanism Cost Boundaries issue

* 5 groups (n.b SSEN did not provide a return)

Totex Model Cost Exclusions – Review (2)

Agreement by **most*** that the following Costs Areas should be excluded;

Cost Area	Rationale for Exclusion	DNO Groups in Agreement (out of 5)	Alternative View
RLMs	Not explained for by cost driver used Limited number of DNOs	4	Most DNOs now incurring costs
Quality of service (QoS)	Not explained by cost driver used DNOs' expenditure requirements differ due to factors other than their own operational decisions Costs could change from ED1 to ED2	4	Most DNOs now incurring costs. Cost trade offs with other categories and cost boundary is complex
Losses and environmental**	Each scheme relevant to single DNO Not explained for by cost driver used Substantial change in nature of costs (PCB) Costs beyond control of companies (PCB)	4	Costs related to network scale
Operational and non-op capex IT&T	Projects will differ in both timing and scope Needs to be consistent with disagg approach Not explained for by cost driver used	3	Costs related to network scale

*3 or more groups (N.B SSEN did not provide a return) **Losses and Environment should be split

Totex Model Cost Exclusions – Review (3)

Other Cost Exclusions proposed;

Cost Area	Rationale for Exclusion	DNO(s)
Flood mitigation	Costs associated with flood mitigation are dependent on flood plain development outside of DNOs' control and can vary significantly between DNOs.	WPD
BT21CN	There is a significant break in the time series for the costs, meaning costs may be significantly lower, or higher than predicted by the selected driver - history should not be used to determine allowances given that this programme is work has finished, or will be finishing, for most DNOs	UKPN
ETR 132 tree cutting activity	The costs associated with establishment of resilience is not only related to network length, but also requires consideration of the tree density in areas. Areas with more forestation will require more extensive cutting and therefore higher cost to achieve resilient networks	WPD
Third party connections	Economic activity is a more direct driver, which is not currently accounted for in the ED1 models. "Uncommon" costs may be incurred where a customer connection drives DNO-funded "opportunistic betterment" of the load capacity of the network.	WPD, UKPN
Net Zero	Level of activity driven by factors outside DNO control, ie local authority speed of adoption to their own net zero	WPD
Unbundling LV Loop Services	Significant change in costs between periods Work will be a consequence of LCT related work Differences in level of work required to facilitate between DNOs	SPEN
DSO Related Costs	There is a significant change in the level of these costs between ED1 and ED2. DNOs may be at different stages in their adoption (ie level of expenditure in ED1 vs ED2). Many of the costs will be IT related, which historically have been qualitative review based.	WPD, SPEN, UKPN

Totex Model Cost Exclusions – Review (4)

Other Cost Exclusions proposed cont'd;

Cost Area	Rationale for Exclusion	DNO(s)
Stakeholder Endorsed Costs	Stakeholders influence the investment that drive company decisions taken to determine the level of Totex in our business plan.	SPEN, WPD
CVP Related Costs	Could differ by scale and area depending on DNO stakeholder engagement. Should be limited to incremental cost of CVP activity.	ENWL
PCD's Related Costs	By their nature bespoke PCDs and costs are not incurred by all DNOs should be excluded on this basis	ENWL
Incremental Costs	The expenditure cannot be explained for by the cost driver used or another adjustment such as a regional/special factor and DNOs' expenditure requirements differ due to factors other than their own operational decisions on how to efficiently deliver outcomes required of all DNOs	UKPN
Uncertainty Mechanisms	Where companies are forecasting a baseline level of expenditure for uncertainty mechanisms in ED2 that isn't incurred by other DNOs this should be excluded	ENWL
Strategic Investment	The expenditure cannot be explained for by the cost driver used or another adjustment such as a regional/special factor and DNOs' expenditure requirements differ due to factors other than their own operational decisions on how to efficiently deliver outcomes required of all DNOs	UKPN
Vulnerability	The expenditure cannot be explained for by the cost driver used or another adjustment such as a regional/special factor and DNOs' expenditure requirements differ due to factors other than their own operational decisions on how to efficiently deliver outcomes required of all DNOs	UKPN
Decarbonisation of own activities	There is a significant break in the time series for the costs, meaning costs may be significantly lower, or higher than predicted by the selected driver.	UKPN

Next Steps

- Agreement of criteria to be used in ED2
- Comments on DNO exclusions and mapping to criteria(s) agreed
- DNOs to provide more detail on specific cost exclusions if required
- **Ofgem to provide thoughts and view**

Actions, next steps, AOB

Actions, Next Steps, AOB

- The next meeting date for the CAWG is Thursday 19th November.
- The focus of that session will be:

CAWG-14 19th November	Real Price Effects (RPEs) & Ongoing Efficiency	- Development of criteria for determining the efficiency benchmark. - Alignment to how this will influence determination of high and low confidence costs and assessment of the BPI.
	Regional and Company Specific Factors	- Develop clarity on detail of level of information needed for Ofgem to consider regional and company specific factors adjustments.
	Disaggregated modelling	- DNOs to share any views, analysis, proposals.
	Model estimation techniques	- Discuss model estimation options, functional form, and model selection criteria.

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