

The background features a large, stylized white arrow pointing right, overlaid on a blurred image of a modern building with a glass facade and a large, glowing, multi-tiered light fixture. The overall color palette is dominated by blues, whites, and oranges.

# **Cost Assessment Working Group (CAWG)**

Meeting 3  
29 May 2012

# Today's agenda

## Approach to today

- DPCR5 Approach
- DPCR5 Yr 1 actuals
- GD1 Approach (and T1)
- Potential ED1 approaches and discussion/debate

## Morning session

- Update on actions – Sara (Ofgem)
- Network Operating Costs (NOCs) – Karl (Ofgem) and Sarah (ENWL)
- Closely Associated Indirects (CAIs) – Mark (Ofgem)

## Afternoon session

- Non-Op Capex – Mark (Ofgem) and Julian (UKPN)
- Regional Factors – Sara (Ofgem) and Julian (UKPN)
- Workforce Renewal – Sara (Ofgem) and Sarah (ENWL/ENA)

## Purpose of Today

- Develop further thinking in five areas:
  1. NOCs
  2. CAIs
  3. Non-Op Capex
  4. Regional Factors
  5. Workforce Renewal
- What is fit for purpose? What requires tweaks/better way of doing it? What needs wholesale change?
- Actions given to answer these questions
- Licensees to make full use of the group and bring own propositions at and between meetings to inform all of the above

The background features a composite image. On the left, there are rows of solar panels under a bright sky. On the right, there is a glowing, incandescent lightbulb. A large, white, stylized arrow points from the left towards the center of the slide.

# Update on Actions

Handout

## NOCs: DPCR5

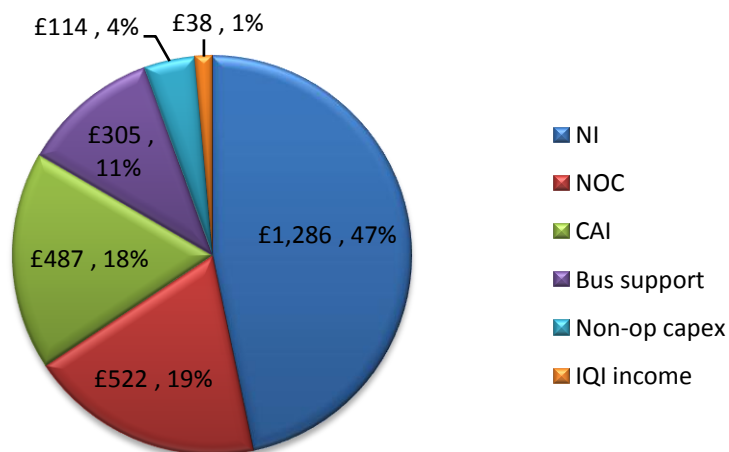
- 4 years data from 2005/06 to 2008/09
- A number of single models were developed and investigated
  - LV & HV overhead faults
  - LV & HV underground faults
  - Inspections and Maintenance
  - Tree Cutting
- Benchmarking was used to determine efficient costs
  - Analysed historical costs and forecast submissions (FBPQ)
  - Excluded costs not suitable for benchmarking
  - Normalised costs to account for factors outside of DNO control
  - Used comparable data from each DNO
  - Used cost drivers (or composite cost drivers) and ran regressions using panel data
  - Compared model output costs with DNO's own costs to determine overall efficiency scores
- Applied the efficiency scores to DNOs own costs to determine efficient costs for DR5

## NOCs: DPCR5 Expenditure

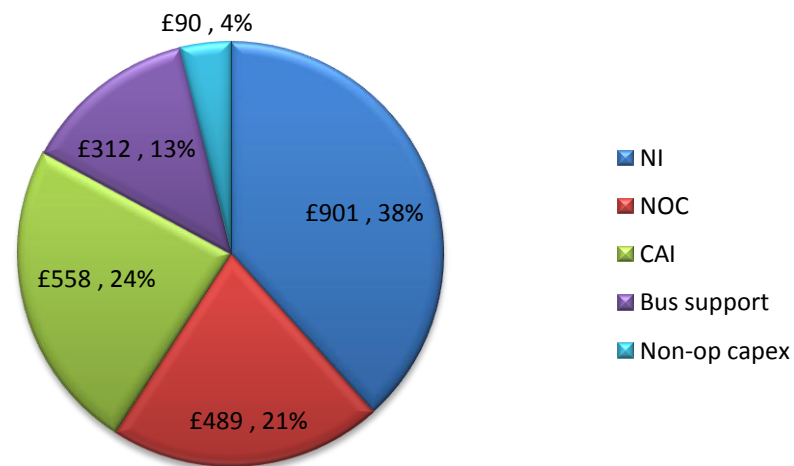
	<b>DR5 forecast</b>	<b>DR5 allowance</b>	<b>2011 forecast</b>	<b>2011 allowance</b>	<b>2011 actual</b>
<b>UK</b>	£ 2,600.6	£ 2,628.9	£ 517.6	£ 522.2	£ 487.92
<b>WMID</b>	£ 218.3	£ 218.6	£ 43.3	£ 43.3	£ 40.01
<b>EMID</b>	£ 231.0	£ 244.7	£ 45.9	£ 48.3	£ 38.47
<b>ENWL</b>	£ 174.0	£ 177.1	£ 35.5	£ 35.6	£ 27.67
<b>NEDL</b>	£ 127.7	£ 134.8	£ 25.8	£ 27.0	£ 24.77
<b>YEDL</b>	£ 198.2	£ 192.2	£ 39.8	£ 38.2	£ 37.54
<b>SWALES</b>	£ 116.7	£ 121.4	£ 23.0	£ 23.7	£ 22.20
<b>SWEST</b>	£ 184.3	£ 183.1	£ 36.2	£ 35.7	£ 27.97
<b>LPN</b>	£ 159.9	£ 151.7	£ 31.2	£ 30.0	£ 36.98
<b>SPN</b>	£ 181.7	£ 173.5	£ 36.3	£ 34.9	£ 37.18
<b>EPN</b>	£ 313.9	£ 319.2	£ 63.0	£ 63.6	£ 72.37
<b>SPD</b>	£ 176.9	£ 165.7	£ 33.5	£ 31.6	£ 30.24
<b>SPMW</b>	£ 176.5	£ 170.3	£ 32.2	£ 32.1	£ 32.14
<b>SSEH</b>	£ 98.6	£ 110.8	£ 20.8	£ 22.9	£ 19.63
<b>SSES</b>	£ 242.9	£ 265.8	£ 51.1	£ 55.3	£ 40.72

# Total Allowances and Expenditure

## Makeup of 2010/11 allowances



## Makeup of 2010/11 expenditure



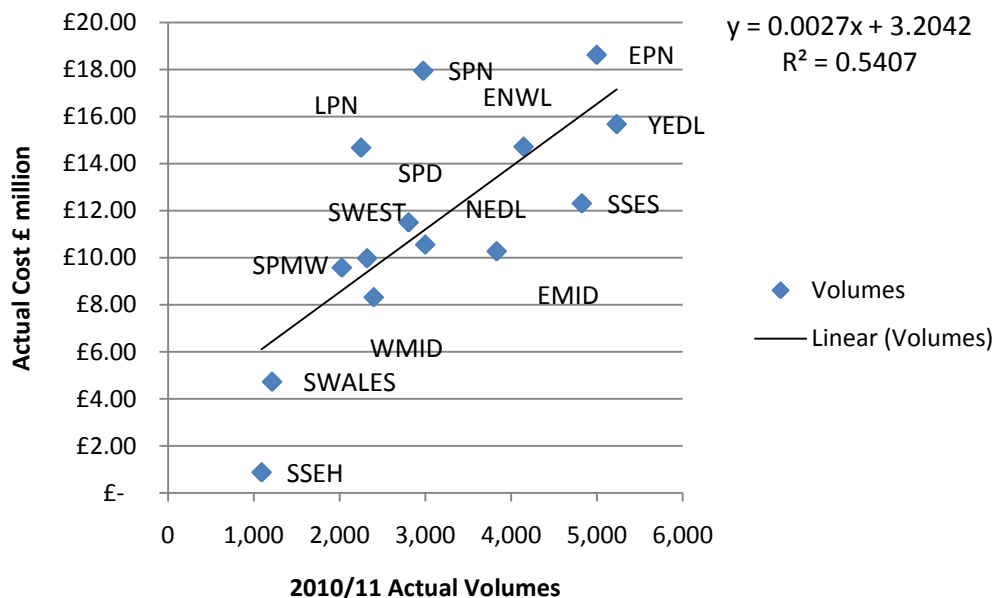
## **NOCs Forecast, Allowance, Actual 2010/11**

- Confidential data



# Troublecall Example

## LV & HV Underground Cables

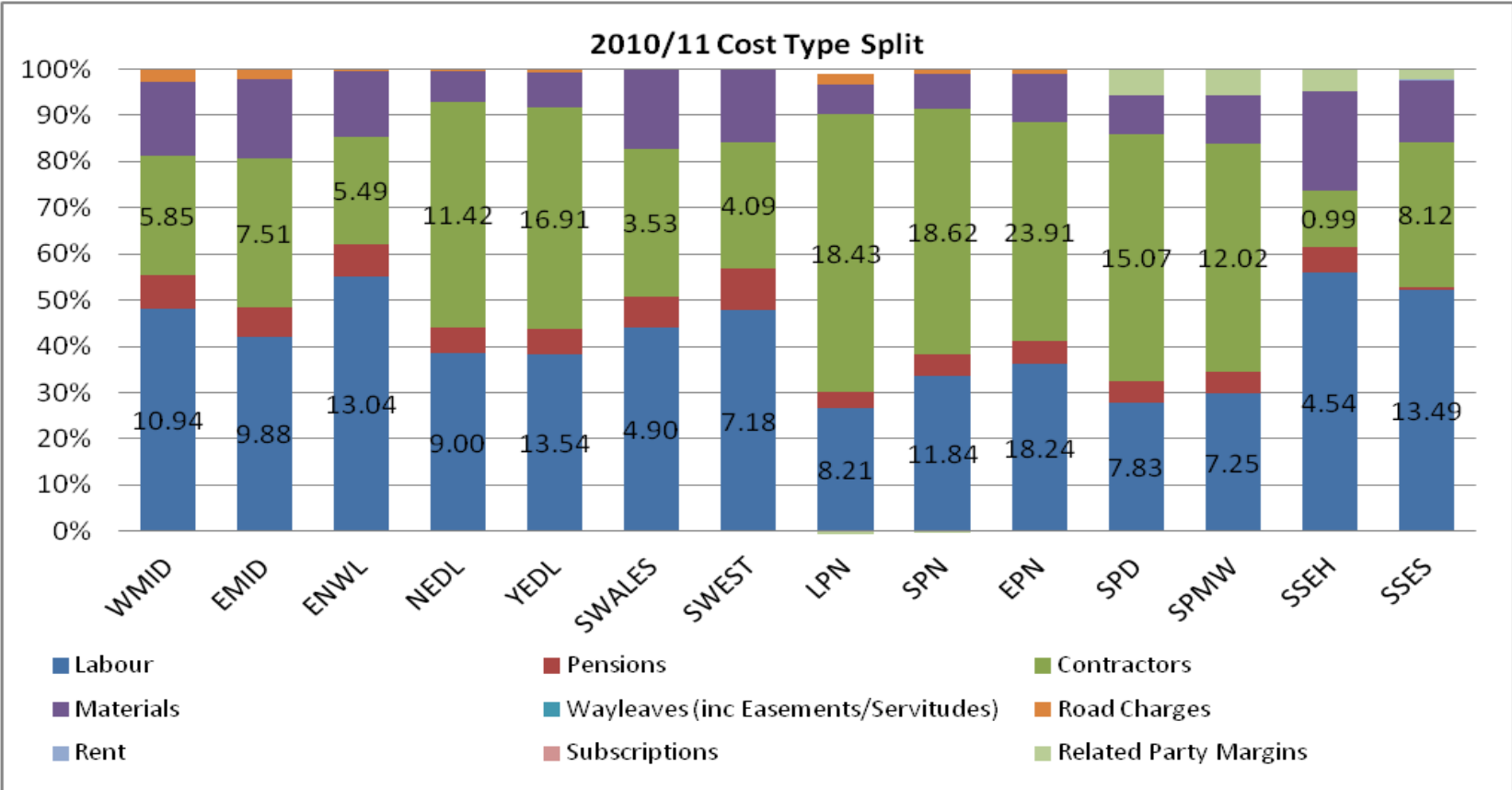


DNO	Volume	Actual Cost*	Estimated Cost	% of Actual to Estimated Cost
WMID	2,399	£ 8.32	£ 9.60	87%
EMID	3,832	£10.28	£ 13.42	77%
ENW	4,146	£14.73	£ 14.26	103%
NEDL	2,999	£10.56	£ 11.20	94%
YEDL	5,231	£15.68	£ 17.16	91%
SWALES	1,214	£ 4.73	£ 6.44	73%
SWEST	2,321	£ 9.98	£ 9.39	106%
LPN	2,251	£14.68	£ 9.21	159%
SPN	2,976	£17.95	£ 11.14	161%
EPN	4,998	£18.63	£ 16.53	113%
SPD	2,805	£11.51	£ 10.69	108%
SPM	2,027	£ 9.59	£ 8.61	111%
SSEH	1,092	£ 0.88	£ 6.12	14%
SSES	4,825	£12.32	£ 16.07	77%

- Used actual data, no adjustments were made
- LV Consac and Non Consac cables, HV cables

\* These are gross costs

# Troublecall - total cost type split



## NOCs: GD1 Approach

- In RIIO direct opex also includes closely associated indirects
- Approach very similar to DR5
  - Individual regressions for maintenance, repairs and emergency calls
  - Use of 3/4 years of actuals
- Assessment:
  - historical trend analysis
  - forecasts
  - benchmarking with other GDNs
  - costs movements in direct opex in closely related industries
  - sensitivity analysis looking at one driver versus another (or combination)
- Where expenditure above expected levels
  - must explain in well justified business plan
- Unit cost analysis:
  - apply similar trend analysis and benchmarking to unit costs
  - use of expert review in certain circumstances
- Ofgem would expect to see use of Cost Benefit Analysis in business plans
  - e.g. to present justification in decision to use network investment instead of opex – consac cables

## NOCs: ED1 Approach

- Similar to DPCR5
- Issues DR4 and Year 1 DR5
  - Improved consistency in reporting data through annual RIGs changes
- Minimise the number of models, where possible
  - Build on previous work for using appropriate cost drivers
  - Historic, forecast, combination of the two
  - Principle – not solely focused on chasing a high R2
- Greater emphasis on Totex as part of toolkit
- Need for scenarios for NOCs?
- Action on DNOs on DR5's applicability
  - Ofgem summarise and consider



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for all gas and electricity customers

# ENWL Presentation: NOCs

Sarah Walls

## CAIs: DPCR5 Approach

- Split into 2 groups
  - Group 1: Network Design & Engineering, Project Management, System mapping
  - Group 2: Engineering management & clerical support, control centre, call centre, stores, operational training
- Determined the most material drivers through collaboration with the ENA (there were very different views across the industry)
- Regressions undertaken with two different drivers
  - Group 1: NI (labour & contractor costs only) and MEAV
  - Group 2: Total direct costs and MEAV

## CAIs: DPCR5 Approach

- Issues:
  - Cost driver appropriateness, load & non-load are not an ideal measure of workload or scale
  - Shared groups (identify costs are shared between groups)
  - Number of model variants
  - Recognition of trade-offs between activities (modelling indirects to directs)
  - Consideration of fixed costs

## CAIs: DPCR5 Expenditure

	<b>DR5 forecast</b>	<b>DR5 allowance</b>	<b>2011 forecast</b>	<b>2011 allowance</b>	<b>2011 actual</b>
<b>UK</b>	£ 2,903.4	£ 2,503.2	£ 562.5	£ 486.9	£ 483.13
<b>WMID</b>	£ 271.0	£ 223.4	£ 52.7	£ 42.8	£ 52.77
<b>EMID</b>	£ 235.5	£ 212.9	£ 46.6	£ 40.7	£ 52.32
<b>ENWL</b>	£ 233.4	£ 186.0	£ 44.6	£ 36.4	£ 30.52
<b>NEDL</b>	£ 134.7	£ 123.8	£ 25.3	£ 23.1	£ 20.08
<b>YEDL</b>	£ 162.6	£ 152.6	£ 30.1	£ 28.4	£ 24.87
<b>SWALES</b>	£ 132.1	£ 99.1	£ 25.5	£ 19.3	£ 20.47
<b>SWEST</b>	£ 176.0	£ 141.4	£ 33.6	£ 27.2	£ 28.86
<b>LPN</b>	£ 204.2	£ 191.5	£ 41.4	£ 39.5	£ 29.77
<b>SPN</b>	£ 190.9	£ 174.7	£ 38.5	£ 36.2	£ 40.61
<b>EPN</b>	£ 354.4	£ 276.8	£ 72.9	£ 56.5	£ 59.86
<b>SPD</b>	£ 199.9	£ 160.8	£ 35.4	£ 28.9	£ 33.07
<b>SPMW</b>	£ 205.0	£ 173.2	£ 36.2	£ 31.6	£ 34.24
<b>SSEH</b>	£ 143.1	£ 125.2	£ 28.1	£ 24.8	£ 16.39
<b>SSES</b>	£ 260.7	£ 261.9	£ 51.5	£ 51.5	£ 39.28



## CAIs: GD1 Approach

- Distinction between BSCs and CAIs (support opex or capex activity)
- Network design, engineering management, and clerical & control centre
- Most of these are treated as direct costs (under work management) and remain there
- Most of the work and issues raised concerned BSCs
- Assessment:
  - historical trend analysis
  - forecasts
  - benchmarking with other GDNs

## CAIs: Potential RII0-ED1 Approach

- Removal of lumpiness
  - Pull out the lumpy 132kV and EHV costs
  - Run LV and HV against the capex driver
  - Review the lumpy 132kV and EHV separately (solutions in the annual reporting pack)
- Uncertainty in the future

## Non-op Capex: DPCR5 Approach (1)

### Vehicles and Small Tools & Equipment

- Analysis was in line with the activities which they supported
- Costs were allocated prior to the running the regressions or other analysis. Ofgem determined the costs allocated to Network Investment and treated them as a cost excluded from the regression analysis and then added them back after the regressions taking into account efficiency adjustments from the Network Investment analysis.

## Non-op Capex: DPCR5 Approach (2)

### Other Non-operational Capital Expenditure

- Costs considered "lumpy" so therefore the average was taken for the period 2005-06 to 2014-15 from the FBPQs.
- As part of this normalisation adjustment we included the average cost of each category of Non-Operational Capex over the period 2005-06 to 2014-15 to the relevant activity cost. The costs apportioned to Network Investment activities are therefore based on average costs over that period rather than the actual 2008-09 costs.

## **Non-op Capex: DPCR5 Approach (expert review)**

### **Property Operating Costs**

- Drivers Jonas, reviewed costs incurred and forecast and provided recommendations for the cost baselines, which were taken into account when setting our baselines. We included these costs in some regressions and carried out alternative regressions with them excluded

### **IT and Telecoms Costs**

- Mouchel, reviewed costs incurred and forecast and provided recommendations for the cost baselines, which were taken into account when setting our baselines. We included these costs in some regressions and carried out alternative regressions with them excluded.

## Non-op Capex : DPCR5 Expenditure

<b>£m</b>	<b>DR5 forecast</b>	<b>DR5 allowance</b>	<b>2011 forecast</b>	<b>2011 allowance</b>	<b>2011 actual</b>
<b>UK</b>	£ 516.9	£ 481.1	£ 130.6	£ 114.2	£ 80.77
<b>WMID</b>	£ 10.1	£ 10.1	£ 2.6	£ 2.4	£ 2.17
<b>EMID</b>	£ 11.0	£ 11.4	£ 2.8	£ 2.6	£ 2.58
<b>ENWL</b>	£ 56.0	£ 47.9	£ 19.8	£ 17.2	£ 27.34
<b>NEDL</b>	£ 31.5	£ 29.6	£ 8.4	£ 7.9	£ 3.13
<b>YEDL</b>	£ 32.6	£ 29.2	£ 9.0	£ 7.6	£ 4.36
<b>SWALES</b>	£ 34.0	£ 36.6	£ 9.1	£ 8.9	£ 4.34
<b>SWEST</b>	£ 48.0	£ 45.1	£ 12.0	£ 10.5	£ 5.75
<b>LPN</b>	£ 38.9	£ 37.9	£ 8.5	£ 7.8	£ 5.24
<b>SPN</b>	£ 50.4	£ 48.5	£ 10.8	£ 9.4	£ 5.86
<b>EPN</b>	£ 78.1	£ 54.5	£ 15.8	£ 10.8	£ 6.33
<b>SPD</b>	£ 22.8	£ 21.3	£ 4.6	£ 3.9	£ 1.43
<b>SPMW</b>	£ 22.9	£ 21.3	£ 4.6	£ 3.9	£ 1.06
<b>SSEH</b>	£ 29.8	£ 32.3	£ 10.1	£ 8.4	£ 4.43
<b>SSES</b>	£ 50.7	£ 55.3	£ 12.5	£ 12.9	£ 6.75

## Non-op Capex: GD1 Approach

- Historically GD have used specialist consultants
- Expected that investments in Non-op Capex to be linked to delivery of network outputs
- Long-term historical expenditure compared with forecast levels of expenditure

## Non-operational Capital Expenditure Potential RIIO-ED1 Approaches

- Identify areas for expert review
  - Areas that are difficult to model where cost drivers are not obvious
- Bespoke assessments of lumpy data
  - Buying or leasing vehicles
  - Sharing of resources across licensees
- Further disaggregated view of Vehicles and Transport?
- Justification in the WJBP
- Uncertainty of the future
  - Impacts of smart metering on IT&T costs...



The background features a large, stylized white arrow pointing right, overlaid on a blurred image of a modern building with a glass facade and a large, glowing, multi-tiered structure resembling a fountain or a modern architectural element. The overall color palette is light and airy, with soft blues and whites.

# UKPN Presentation: Non-Op Capex

Julian Rudd

## Regional Factors: DPCR5 Approach

- Adjustment for: labour costs; contractor rates; urban specific; urban working costs; EDFE terrorism; sparsity
- Rationale - costs vary by region within the UK for reasons outside the DNOs' control
- Labour adjustment based on the ONS - Annual Survey of Hours and Earnings (ASHE)
- Contractors adjustment on based on Building Construction Information Service (BCIS) data for construction contracts
- Regression analysis was run with the regional labour and contractor adjustments only applied to the LPN area
- Several DNOs held view that regional labour and contractor rates do not differ across the country outside of the greater London area

## Regional Factors: ED1 Approach

- There will be no regional adjustment...
- ...Unless DNO can demonstrate:
  1. It is justifiable via **robust and transparent** evidence
  2. The DNO has managed those factors appropriately
- The onus is placed firmly on the licensee to justify in WJBP
- This is in line with the GD1 approach

The background features a composite image. On the left, there is a large, stylized white arrow pointing right, overlaid on a blue-tinted image of solar panels. On the right, there is a close-up, warm-toned image of a gas burner with a flame. The overall aesthetic is clean and modern, with a focus on energy and technology.

# **UKPN Presentation: Regional Factors**

Julian Rudd

## Workforce Renewal: DPCR5 Approach

- WFR = costs of replacing staff leaving and increasing the workforce to manage the increase in workload forecast for DPCR5
- WFR costs reported in the FBPQs for both network investment and operational activities
- DNOs forecast to spend significantly more on WFR in DPCR5 period than DPCR4
- Ageing profile of the workforce was (and is) an issue that DNOs have been aware of for a long time - important that frontier DNOs were not disadvantaged compared to late movers
- “Use-it-or-lose it” basis – to ensure DNOs take steps to renew their workforce and do not gain from deferral
- WFR based on EU Skills assessment; Ofgem template informed by this

## Workforce Renewal in DPCR5

£m	DR5 forecast	DR5 allowance	2011 forecast	2011 allowance	2011 actual
<b>UK</b>	£ 233.2	£ 188.0	£ 40.0	£ 31.5	£ 36.2
<b>WMID</b>	£ 18.1	£ 12.9	£ 2.8	£ 1.8	£ 2.6
<b>EMID</b>	£ 18.1	£ 11.8	£ 2.8	£ 1.6	£ 2.3
<b>ENWL</b>	£ 26.2	£ 21.3	£ 5.4	£ 4.4	£ 2.5
<b>NEDL</b>	£ 10.0	£ 8.5	£ 0.8	£ 0.7	£ 1.2
<b>YEDL</b>	£ 16.4	£ 13.9	£ 1.4	£ 1.2	£ 1.3
<b>SWALES</b>	£ 13.2	£ 10.4	£ 3.0	£ 2.5	£ 2.9
<b>SWEST</b>	£ 19.2	£ 14.7	£ 4.4	£ 3.5	£ 5.0
<b>LPN</b>	£ 15.1	£ 14.4	£ 3.2	£ 3.1	£ 3.7
<b>SPN</b>	£ 18.3	£ 17.5	£ 4.1	£ 3.9	£ 3.8
<b>EPN</b>	£ 27.2	£ 19.3	£ 5.7	£ 4.1	£ 5.6
<b>SPD</b>	£ 13.4	£ 12.0	£ 0.9	£ 0.6	£ 0.8
<b>SPMW</b>	£ 16.0	£ 14.3	£ 1.1	£ 0.8	£ 0.8
<b>SSEH</b>	£ 7.4	£ 5.8	£ 1.5	£ 1.2	£ 1.5
<b>SSES</b>	£ 14.6	£ 11.3	£ 2.9	£ 2.3	£ 2.2

## Workforce Renewal: GD1 and T1 Approach

- Significant number of staff forecast to retire during RIIO (TOs ~ 20-40%), especially field workforce
- TOs - 75% WFR and 25% growth
- GDNs – 100% WFR
- Work with EU Skills
- Specific allowance for type of employee (graduate, field, apprentice)
- Decision yet to be made but:
  - Further detail requested beyond what was in Business Plan
  - Output driven
  - Adjustment made in performance in previous price control (and future)

## Workforce Renewal: ED1 Potential Approach

- Recognise ageing profile of the workforce remains an issue but now additional challenges:
  - Smart Grid world
  - Carbon emission targets
  - Uncertain world (scenarios)
- Principles for ED1
  - Continue on “use-it-or-lose it” basis or ex ante allowance?
  - Introduce WFR output
  - Remains important that frontier DNOs were not disadvantaged compared to late movers
  - Trajectory in DPCR5 will influence ED1
  - ED1 output performance will influence ED2 allowance
  - Evidence in WJBP is vital - skills issues (EU Skills, STEM etc), costs affected must be stipulated, scenarios
  - Single number or vary by scenario



## AOB: RIIO-ED1 Smart Grid Investment Working Group

- SGIWG is a sub-group of the Flexibility & Capacity working group (FCWG)
- In its ToR:
  - "The Group will develop the tools and methods by which DNOs will support their load related and smart grid components of the WJBP. This needs to be complete in time for DNOs to populate this part of the WJBP submission in line with the published RIIO ED1 timetable (ie May 2013)"*
- We're aware of questions over interaction between groups
  - Welcome your thoughts

The background of the slide is a composite image. On the left, there are rows of solar panels under a bright sun. On the right, a hand is shown holding a white document. In the bottom left corner, a blue gas burner is visible. The overall theme is energy and customer service.

*ofgem*

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for all gas and electricity customers