

The background features a large, semi-transparent white 'X' shape. Behind the 'X', there is a technical illustration of a large industrial turbine or engine component, showing various parts like the compressor and turbine sections. The overall color palette is light blue and white, with some orange accents from the OFGEM logo.

BEESELY LECTURE
2ND OCTOBER 2008

**"IS RPI-X STILL FIT FOR PURPOSE
AFTER 20 YEARS?"**

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1. SETTING THE SCENE

SETTING THE SCENE FOR OUR REVIEW

- Tapping into a lot of interest in the future direction of network regulation.
- Timing works well for Ofgem in managing the regulatory cycles.
- Financing issues pushed to the fore by recent events in capital markets.
- In tune with 'Forward looking' Ofgem...transmission access reform, offshore regulatory regime, sorting out charging methodologies.

RPI@20 CATCHES THE “MOOD FOR CHANGE”

CHANGES WILL NOT BE TAKEN LIGHTLY

- Value of GB networks - £32bn.*
 - Electricity transmission £6.2bn.
 - Electricity distribution £13bn.
 - Gas transmission £2.4bn.
 - Gas distribution £10.5bn.
- Percentage share of networks in average domestic bill:
 - Electricity 24% (distribution 21%, transmission 3%)
 - Gas 21%.

(*: 2006 data shown)

JUST TOO BIG AND TOO IMPORTANT TO TREAT AS “AN EXPERIMENT”

2. RPI-X: A VERY SUCCESSFUL PRODUCT.

RPI-X: A VERY SUCCESSFUL PRODUCT

A 20 year “score card” would read:

- Major savings for consumers
- Quality – up.
- Investment – up.
- Innovation – encouraged.

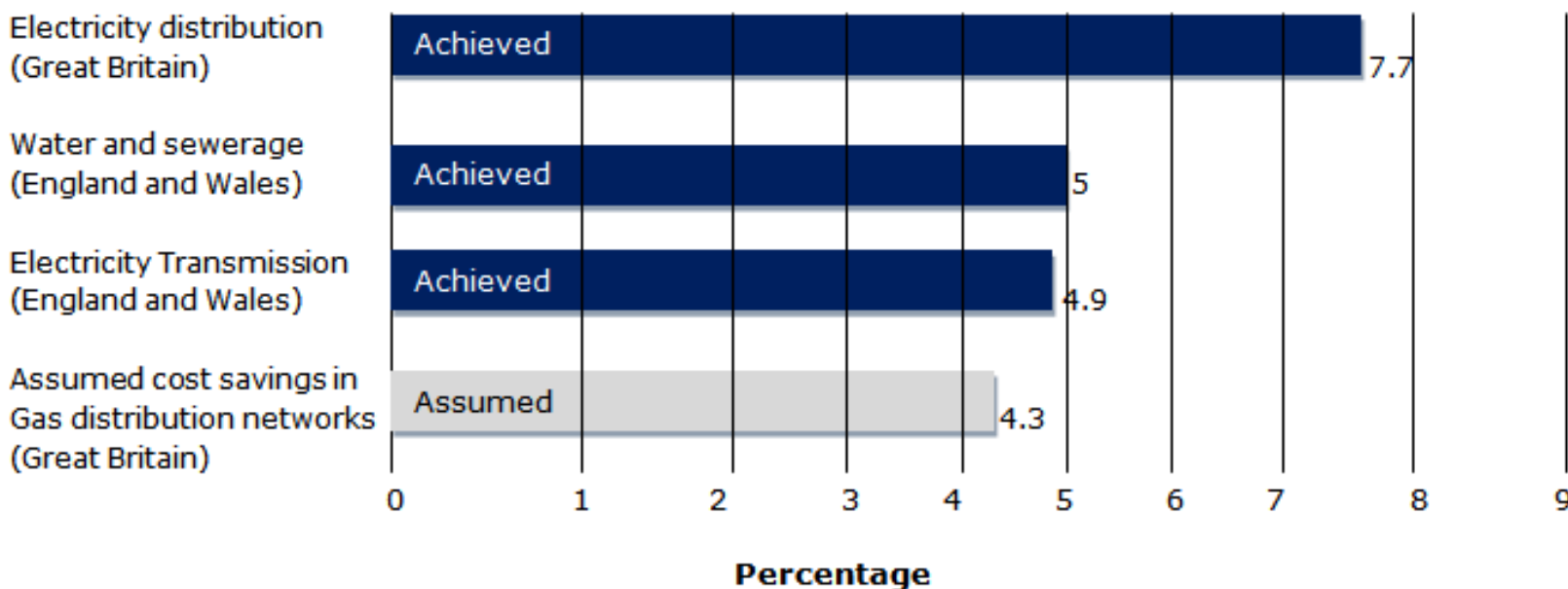
NETWORK CHARGES SINCE PRIVATISATION

The RPI-X approach has been very successful in encouraging efficiency, thereby reducing charges substantially in real terms.

- Electricity distribution – 50% since 1990.
- Electricity transmission – 41% since 1990.
- Gas transportation – 41% since 1994

ANNUAL COST CUTTING BEHIND SAVINGS

Yearly reductions in operating expenditure as a result of comparative regulation: existing examples compared to the sale of gas distribution networks.

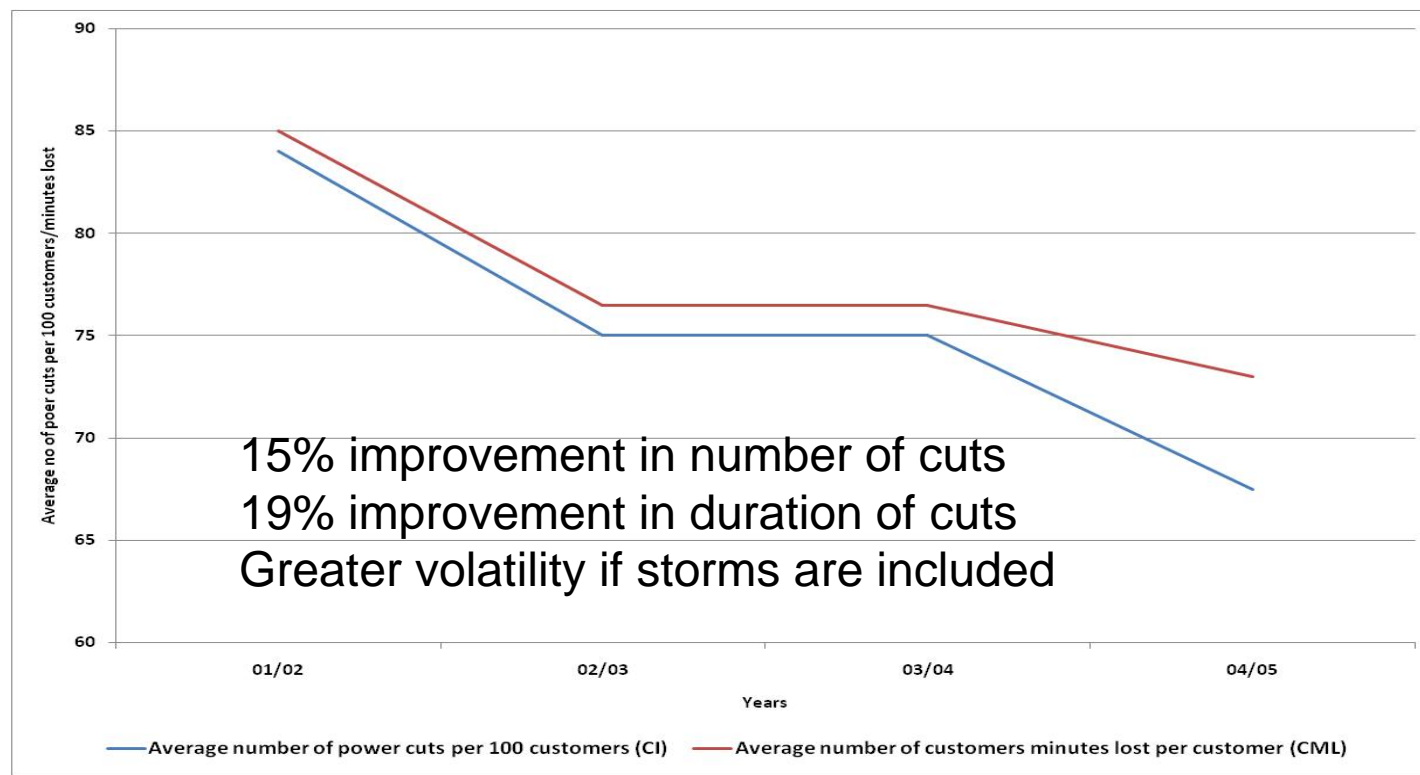


Source for achieved reductions in operating expenditure: CEPA's Final Report on productivity improvements in electricity distribution networks (November 2003) – covers periods of up to 11 years.

SQUEEZING THE FAT LEMON

QUALITY UP

Number and duration of power cuts (2001/2 to 2004/5) – excluding exceptional events.



1990-2005 POWERCUTS -11% DURATION – 30%

QUALITY OF SERVICE INCENTIVES 2005-10

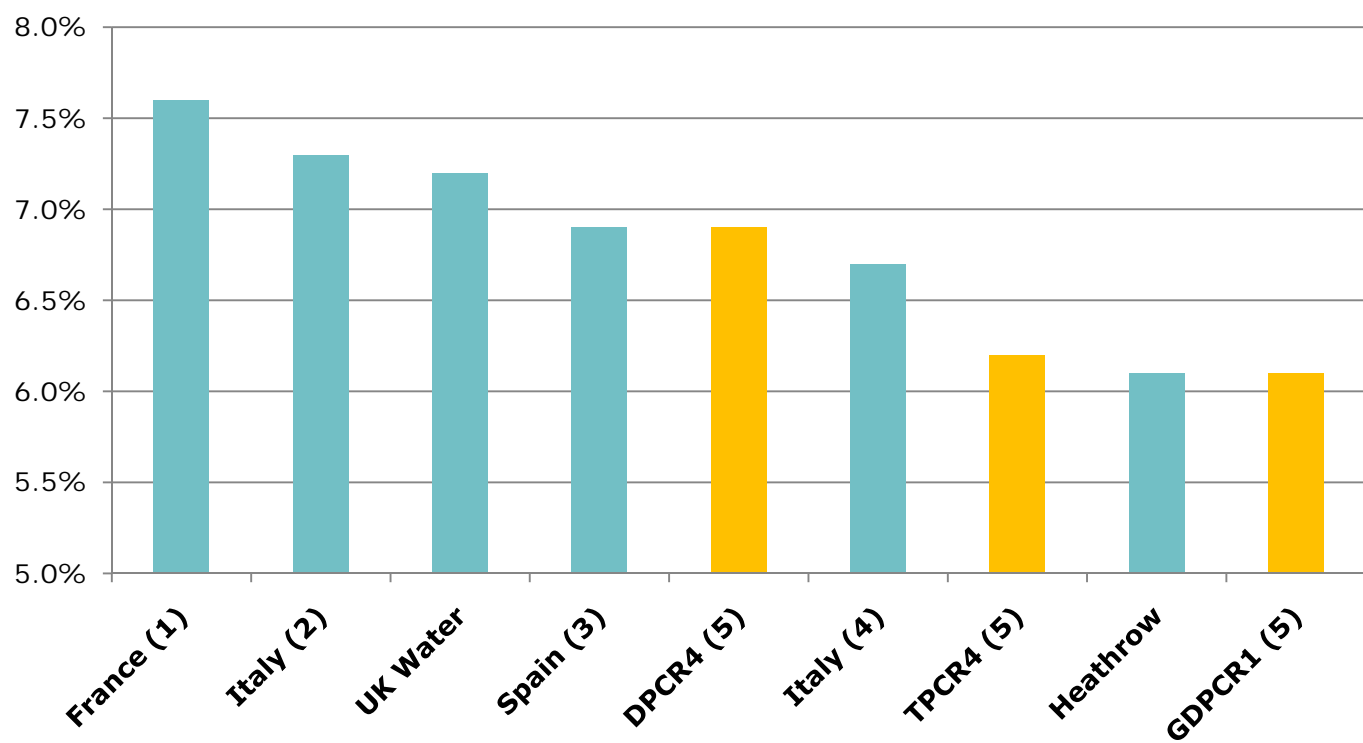
- Tighter interruptions targets:
 - 4% average improvement in CIs.
 - 13% average improvement in CMLs.
- Stronger incentives to improve:
 - +/- 3% revenue exposure.
- Separate arrangements for storm events:
 - “Gates” defined in terms of number of faults.
 - Payment to customers for failure to re-connect within specified deadlines
- New package introduction for GDN’s in GDPCR1

INVESTMENT UP

- Investment under CEEB.
 - Transmission networks £1.3bn in 1984 – 1989 (£0.25bn/year).
 - Distribution networks £3.8bn 1986-1990 (£0.75bn/year).
- Investment under price controls.
 - Electricity transmission networks £6bn 1991-2005. (£0.4bn/year).
 - Electricity distribution networks £15.5bn 1991-2005 (£1bn/year).
 - Projected electricity investment under DPCR4 £7.4bn (£1.5bn/year)
 - Projected transmission networks under TPCR4 at £5.7bn. (£1.14bn/year).
 - Capex overspend on GDN partially funded in 2006 and capex up £260m pa to £345m pa and repex increases from £492m pa to £772m pa under GDPCR1

UNDER RPI-X INVESTMENT HAS BEEN HIGHER THAN IN THE PERIOD BEFORE PRIVATISATION

SECURING A LOW COST OF CAPITAL



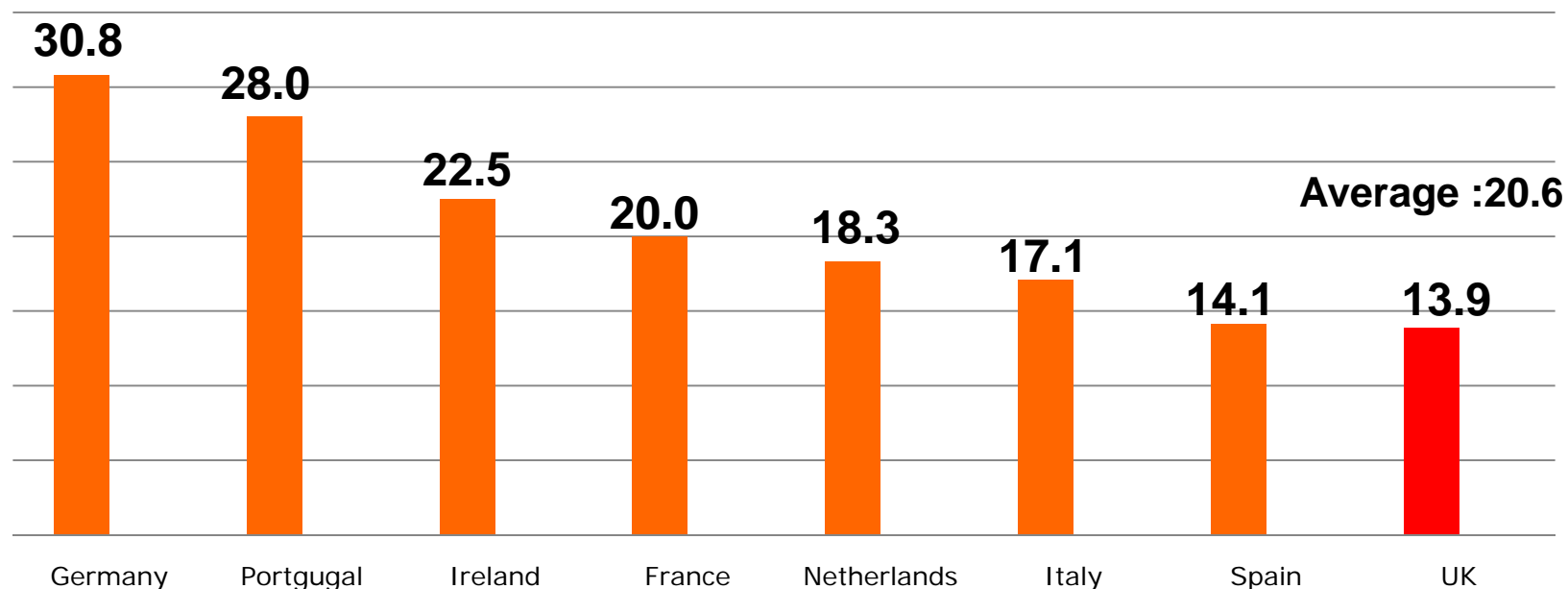
Source: Goldman Sachs/SSE

- Key;
- 1. Transmission from Jan 05
 - 2. Distribution 04-07.
 - 3. Distribution current.
 - 4. Transmission from Feb 04.
 - 5. Post tax vanilla WACC.
 - TPCR4 5.05%
 - Heathrow 5.06%
 - GDPCR1 4.94%

HUGE BENEFIT TO CONSUMERS FROM LOW WACC

ENSURING EARNINGS ARE REASONABLE

Earnings per energy unit (Eur/MWh)



Source data: Asociacion Espanola de la Industria Electrica (UNESA) Spain.
Source presentation: Iberdrola, Strategic plan regulated business – October 4 2006 Madrid.

RPI-X HAS BEEN FLEXIBLE ENOUGH TO EVOLVE

- **Sustainability challenge.**

- DNO's: Losses, green reporting, IFI, RPZ, DG incentives
- TO's: Losses, SF6 incentive, 4 projects get direct funding (called TIRG project).
- GDN: Rural connection, gas quality incentive, shrinkage incentives.
- Volume driver: Gone from GDN, TO – going from DNO.

- **Balancing “regulatory interrogation versus regulatory intrusion”.**

- Cost saving programme after DPCR4 saved £20million more on RAV for consumers.

- **Meeting the changing patterns of supply and demand.**

- Since privatisation 30GW of generation has connected and 24GW has left the system.

RPI-X = SAVE **TO** RPI-X = SPEND AND SAVE

HOW HAS THIS SUCCESS AND FLEXIBILITY BEEN ACHIEVED?

- **Regulatory framework has adapted.**

- Line based regulation (IFI, RPZ).
- Individual capex settlements (TIRG, Milford Haven).
- Generous incentives (SD issues).
- Shifted the intensity of focus on both incentive and comparative based regulation.
- Outputs and quality have gone up the agenda.
- Differential costs of capital (TIRG versus TPCR4).

- **While keeping the capital markets confidence... “hard gained but easy lost”.**

- Stability ... based on RPI-X and set financial parameters.
- Clarity ... lots of consultation and regular communications.
- Consistency ... true to incentive and comparative based regulation.

CAN THIS APPROACH CONTINUE TO DELIVER?

3. WHY CHANGE WINNING FORMULA?

SO WHY REVIEW A WINNING FORMULA?

- **Good housekeeping.**
- **Fits in the regulatory cycles.**
- **Evidence available on DPCR4 initiatives.**
- **Align with European Regulators Agenda.**
- **Paradigm shifts? Renewables, better regulation, financials.**

RIGHT TIMING IS CRITICAL

WHY REVIEW NOW – EXTERNAL INTEREST

- **“We are concerned about the direction of UK energy regulation signalled by recent PCR’s. As well as being by far the most complex price control framework we have seen since privatisation, we are concerned that the proposed approach is in our view suggesting a rapid movement towards a rate-based model ... albeit with lower returns than such regimes usually enjoy” - CEO Company A.**
- **“For network utilities the game has changed substantially over the last few years and I believe that we have come to the end of the road on the “easy” opex savings. On climate change the key question is whether network utility regulation should be used as a wider tool – through network pricing or particular access priorities – to secure the climate change agenda” – MD Company B.**
- Lots of interest externally: SDC, Parliament etc.

THE COMPANIES GENERALLY SUPPORT A REVIEW

WHY REVIEW NOW – PARADIGM SHIFTS?

- **Better Regulation.**
 - What would the **framers of RPI-X say** now to a process that after 20 years takes 2 years of consultation, taking more data, and arguably starting to lose the ability to identify big differences between companies.
 - What do the **consumers** say to such excellent but horribly complex concepts such as sliding scale IQI regulation (see Appendix for example!).
- **Financial**
 - Do the prices paid for network companies suggest a paradigm shift in valuation and/or structure ... or should we be mindful of Dot Com mania?
 - Are we valuing inflation linked networks properly. (see page 21)
 - In our concern to protect the consumer from network company failure (Ofgem's "tool kit" of cash lock down etc) have we:
 - Created a false optimism of protection for network owners whose finances are sloppy or worse fail?
 - Do we need to clarify how licence revocation would work?
- **Renewables**
 - Can we hit 33GW connected renewable power by 2020?

BIG QUESTIONS REQUIRE CONSIDERED RESPONSES

DOES INDEX-LINKED NEED SPECIAL ATTENTION?

Over the lifetime of the instruments a borrower should, in theory, be indifferent to the funding choice. Based on 20-year, £400m bonds at 2.25% and 5.25% (index – linked and non index-linked) the NPV of the relevant cash flows works out as follows (assuming 2.5% inflation):

Lifetime DCF £m	Discount Rate				
	7.0%	8.0%	9.0%	10.0%	11.0%
Index Linked	£132.8	£164.0	£189.4	£210.0	£226.6
Non Index-Linked	£121.5	£146.6	£167.3	£184.5	£198.6
Difference	£11.3	£17.4	£22.1	£25.5	£28.0

At the assumed rate of inflation (2.5%), there is a positive NPV benefit to using index-linked debt. Were out-turn inflation to reach 3.5% that benefit would be eliminated. Whilst inflation has been more or less at or below 2.5% since 1997, in the 30 years between 1967 and 1997 there were only 6 years in which inflation was under 3.5%.

IS THE LEMON SQUEEZED?

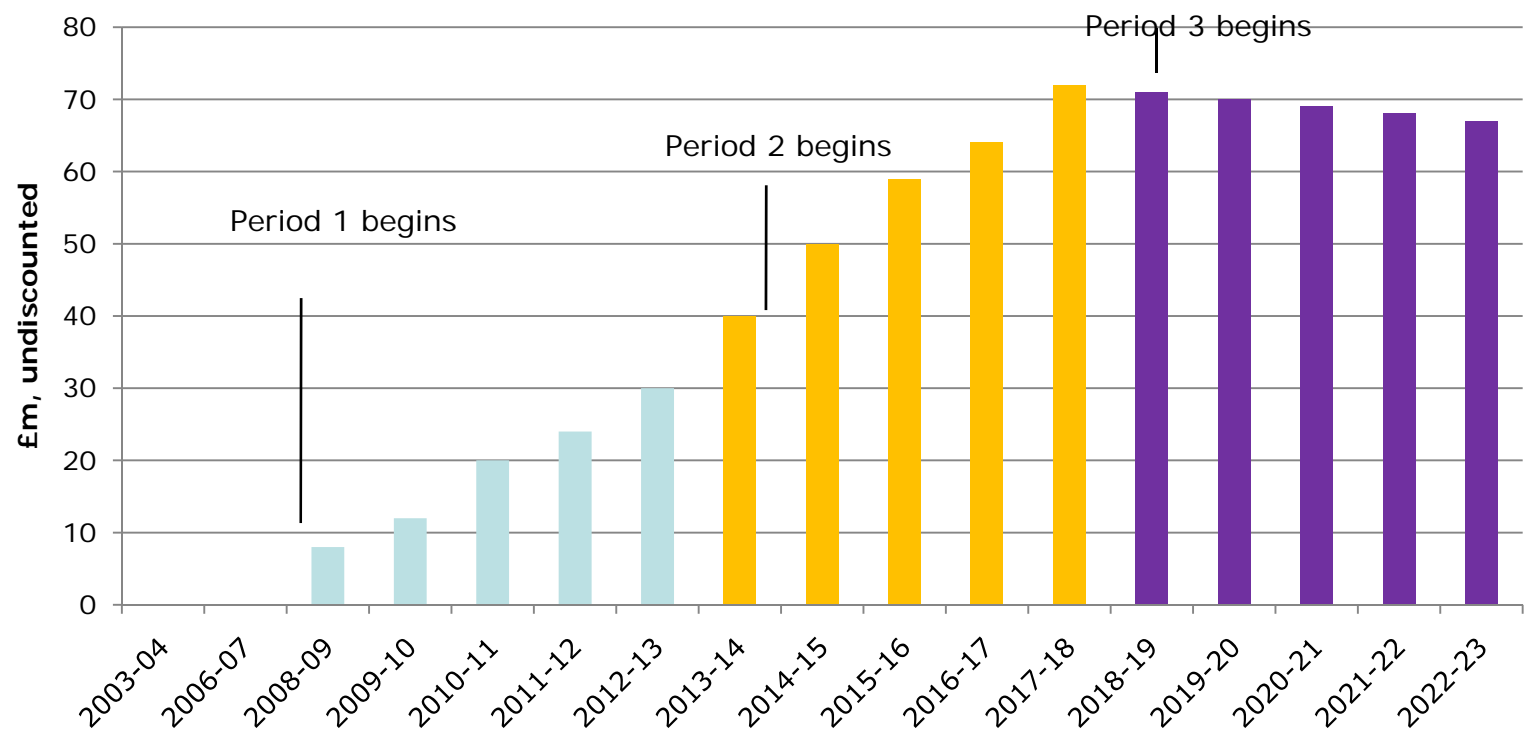
Electricity Distribution Charges

	Po Adjustment (average)	"X" Factor (p.a.)
1995 - 99	-25.5%	-3%
2000 - 05	-24.5%	-3%
2005 - 10	+1.3%	0%

MAYBE ON ELECTRICITY – NOT ON GAS

CLASSIC BENEFITS OF RPI-X STILL TO COME ON GDNS

Savings p.a.



Source: NAO

ON GAS THE BIG SAVINGS EXPECTED POST GDPCR2

4. The scope of Ofgem's review.

THE SCOPE OF THE REVIEW: BIGGER PICTURE(1)

- Helm:
 - CAA has primary duty to encourage investment – should Ofgem?
 - 10 year price cap.
 - Split cost of capital.
 - Index cost of debt to market rates.
- Pollitt and Littlechild: *
 - Look at public contest model.
- Littlechild and Doucet:
 - Look at negotiated and unique individual settlements (with or without Consumer Advocate) ... TPCR4 showed that 3 TO's were very different.
 - Settlements can stand for longer time periods.
 - Settlements in US context get rid of long regulatory litigation – could they in the UK get rid of long consultation process?
- Holt:
 - Ideas on protecting sectors from systemic default and financeability risks.

(* Dr Michael Pollit, Cambridge University is Ofgem's in-house academic advisor).

OFGEM MUST LISTEN TO IDEAS

THE SCOPE OF THE REVIEW: BIGGER PICTURE (2)

- **House of Lords Science & Tech Committee:**
 - Provide indicative capex and rates of return for 5 years after formal 5 year review.
 - Index cost of debt to market rates.
- **Smithers:**
 - Revisit their Autumn 2006 report – Prepared for Ofgem.
- **CAA:**
 - “Constructive engagement” at Manchester airport etc.
- **Water Regulators in Scotland:**
 - “4plus 4 years” price control reviews
- **MOD/HMG**
 - Significant security costs put into RAV ... worth examining the appropriate cost of capital for these assets?
- **HSE**
 - Could their role change with regard to safety tolerance levels, repex programme etc.

AT LEAST WE SHOULD SATISFY OURSELVES “WHY NOT” TO OTHER IDEAS

THE MECHANICS OF THE PCR'S NEED AN MOT

A range of examples prove the point:

- **Pensions:**
 - What do we do with a surplus?
- **Cliff Edge Depreciation: (See following pages)**
 - We have finessed the underlying revenue/asset relationship.
 - Will this cause the RPI-X regime a major problem in the future?
- **Consistency between reviews:**
 - Gearing ratios (57.5%, 60%, 62.5%), and choice of credit ratios.
 - Sliding scale (yes for DNO, and GDN but not TO).
 - Merger tax : needs a review.
 - Risk and return of T versus D – do we need greater clarity?

Or should we be less consistent between sectors and companies?
- **Deferred Tax:**
 - Are we properly assessing the benefits that accrue to companies?

EVERY PCR ANORAK WILL HAVE THEIR OWN FAVORITE

THE MECHANICS OF THE PCR'S

- **Costing in Shadow Cost of Carbon etc:**
 - Are we fully capturing the value?
 - Why not a RPI-X + E?
- **Assessing the relationships of risk and reward:**
 - Are companies too easily reverting to lowest risk/lowest return approach?.
 - Does TO “lean” on SO’s access to IAE etc.
 - Does the climate change agenda demand a greater incentive for companies to be rewarded for taking risks.
- **The final CC hurdle - does it still do the job?:**
 - Not an effective challenge – 1995 SHE v Ofgem – 13 years!
- **Does voluntary regulation work:**
 - Since DPCR4 DNO pricing methodology and EHV has been very “hard going”.
 - Cost reporting not supported enough by a number of DNO’s

AN “MOT” INVOLVES MANY OTHER PARTIES.

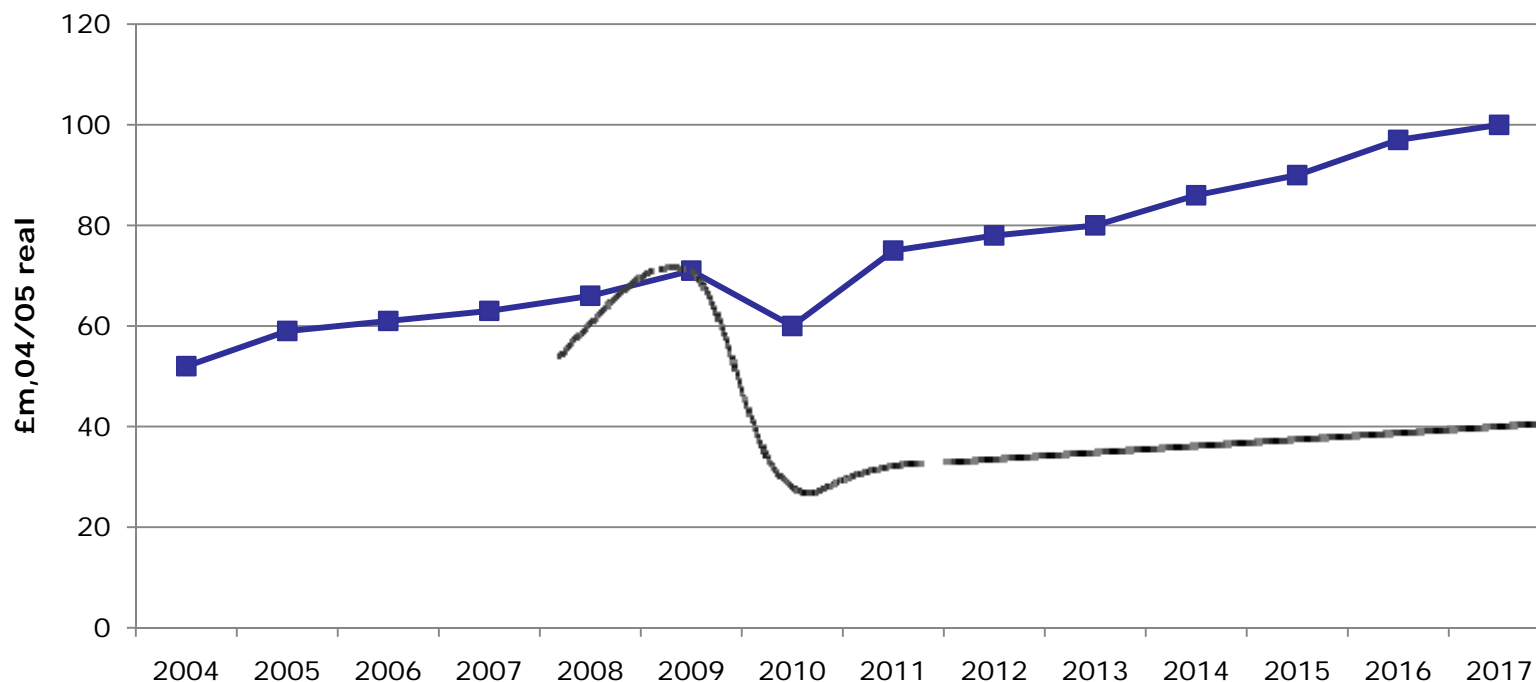
CLIFF EDGE DEPRECIATION

- **DPCR3 and DPCR4 set precedent to protect licensees revenues and financial ratios by reducing the regulatory life of post vesting assets ... that protects the company from the “shock” when pre-vesting fully depreciated ... so post vesting assets lives were dropped from 33 years to 20 years, and the difference smoothed over 15 years.**
- TPCR4 followed this precedent, but with “bespoke solution”.
- **Questions**
 - Can we keep using this accelerated depreciation policy?
 - Should England/Scotland inter connector be included (currently not as it is subject to revenue driver).
 - Cliff edge helps tax position (allowances) – so differential treatment on accelerated depreciation could count twice.

MY ANORAK MOMENT!

THE IMPACT OF OF CLIFF EDGE DEPRECIATION

Revenues



Source: Ofgem
Key: A network company's revenues with/without adjustment for "cliff edge"

ARE WE BUILDING UP A FUTURE PROBLEM?

5. THE RISKS TO THE REVIEW.

INTERNATIONAL INPUT?

- Specific Models are very important and greatly welcome...especially Littlechild's work on Argentina, Florida, Ohio and Ontario.
- The RPI@20 must put network regulation in broadest context:
 - the push back from markets in USA (see A Buchanan speech to British Economic Association, 25/9/08)
 - the potential to treat network charges as "cushion" for tough times.
 - leads to questions over regulatory independence and cross subsidy.

THERE MUST BE "BEDROCK" PRINCIPLES FOR OFGEM

THE RISKS OF THIS REVIEW

- Capital markets will fear
 - Retrospective action.
 - Sudden announcements – new directions.
 - Rumour mill.
 - We fully understand this and it is “business as usual” unless changes (consulted upon) announced AND if in doubt call our City Liaison Unit (Charles Gallagher/Alex Lyon).
- Some comfort.
 - Insulating DPCR5
 - Capital markets will be represented on Ofgem’s advisory panel.
 - CC always a route for action.
 - Consultation is in our DNA.

COGNISANT OF RISKS

OFGEM COMMITTED TO A CAREFUL APPROACH

- Guiding principles

(1) "I recognise the importance of stability in the regime and would require a convincing case to be made before proposing radical change" Stephen Littlechild 1990.

(2) "Capital market trust is hard won and easily lost" Alistair Buchanan – today.

CAPITAL MARKETS LIKE EARLY WARNINGS.

ADVISORY PANEL – RPI@20 PROJECT

CURRENT PANEL MAKE-UP	INSTITUTION/INDIVIDUAL
Steve Holliday	CEO, National Grid
Gina Miscovitch	Fund Manager, Capital Fund Managers
Jim Long	Fund Manager, Ecofin
Alan Brown	MD, Deutsche Bank
Miriam Greenwood	Ofgem NED
Sir Keith Stuart	Consultant (Ex Chair, Seeboard/CEO-ABP)
Dr Simon Taylor	Cambridge University
Ed Mayo	CEO, New NCC (Consumer Focus)
Ed Hosker	Director: Energy, BERR
Ed Humpherson	Assistant Auditor General, NAO
John Davies	Competition Commission*
Phil Bentley	MD, British Gas
Phil Jones	Past President ENA and CEO – CE
Fiona Woolf	Past President Law Society
Dr Michael Pollitt	Ofgem's External Consultant and Cambridge University
Gordon Edge	Director, BWEA
Alistair Buchanan	CE, Ofgem
Steve Smith	MD Networks, Ofgem
Hannah Nixon	Director of Regulatory Review, Ofgem

*John has joined panel on a personal basis.