



OVERVIEW OF GB RIIO FRAMEWORK

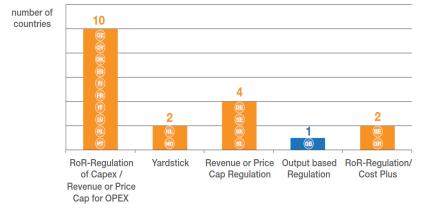
Approccio totex nel settore elettrico

Milan, 15 November 2017



ONLY ONE EXAMPLE OF A TOTEX APPROACH EXISTS IN EUROPE

Comparison of EU Regulatory Systems



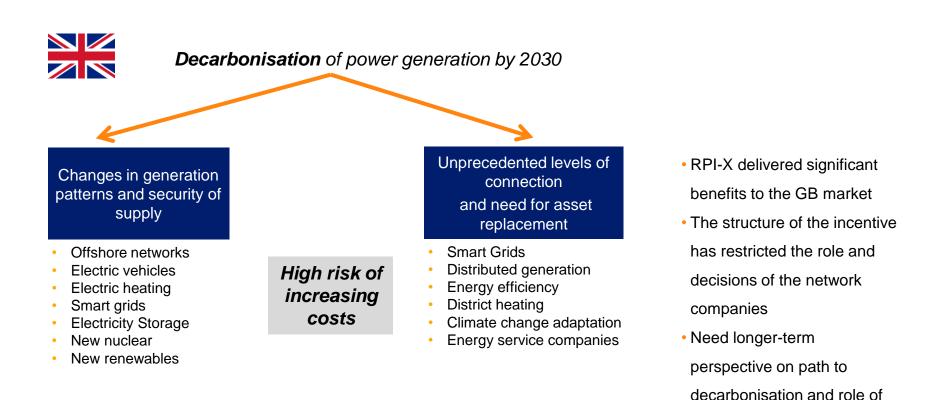
general system has changed since 2010 general system did not change since 2010

Comments

- Ex ante incentive schemes are commonplace across
 Europe but there are limited examples of a TOTEX type approach
 - Most comprehensive regime is Ofgem's RIIO pricecontrol
- The implementation of a TOTEX-based incentive regime represents a major change for the companies and the regulator
 - Some experience through the second generation smart metering regulatory settlement
 - Challenge of current business planning and regulatory reporting

Source: Eurelectric (2016)

IN GB, FUTURE CHALLENGES FOR NETWORKS WERE EXPECTED TO HIGHLIGHT THE WEAKNESSES IN THE RPI-X FRAMEWORK



Consultation Future Electricity Networks - 'RPI-X@20 review' in 2008

networks

AGENDA

- 1. The RIIO framework
- 2. The process and the building blocks



THE RIIO FRAMEWORK – REVENUE, INCENTIVES, INNOVATION AND OUTPUTS

Revenue	=	Incentives	÷	Innovation	÷	Outputs
 Constraint on revenue upfront to ensure: Timely and efficient delivery Network companies remain financeable Transparency and predictability Balance costs paid by current and future consumers 		 Deliver outputs efficiently over time with: Focus on longer term, including with eight year control periods Rewards and penalties for output delivery performance Symmetric upfront efficiency incentive rate for all costs Use uncertainty mechanisms where add value for consumers 		 Technical and commercial innovation encouraged through: Core incentives in price control package Option of giving responsibility for delivery to third parties Innovation stimulus gives support and 'prizes' for innovation, building on Low Carbon Networks Fund (LCN) fund 		 Outputs set out in licence Consumers know what they are paying for Incentives on network companies to deliver Outputs reflect enhanced engagement with stakeholders

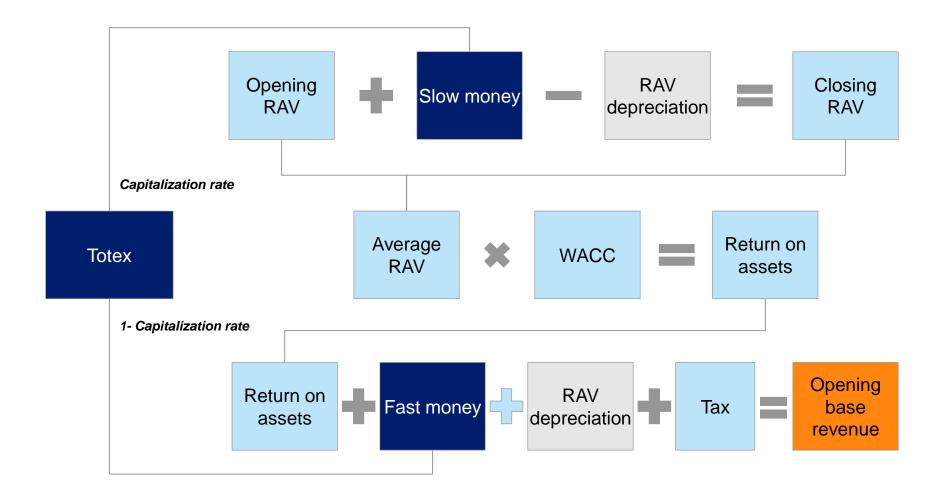
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THE ALLOWED REVENUE IS COMPOSED OF FOUR ELEMENTS: BASE REVENUE, OUTPUTS, UNCERTAINTY MECHANISM AND INNOVATION

3 Output Uncertainty mechanisms **Base revenue** Expected efficient costs of **Revenue adjusted for** Revenue adjusted for uncertainty performance mechanisms delivery Output rewards and penalties Well-justified business plans Mid-period review of output Proportionate assessment Upfront symmetric investment requirements Range of assessment tools Inflation indexation rate Option of involving third parties Limited number of other in delivery uncertainty mechanisms Financeability Commitment to financeability 4 principles WACC reflects cash-flow risk Innovation Depreciation reflects economic asset lives

 Capitalisation policy to equalise incentives and informed by company plans

1 BASE REVENUE - THE DIFFERENCE WITH STANDARD BUILDING BLOCK APPROACH IS IN THE RAV ADDITIONS



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Building blocks

Output categories							
Customer satisfaction	Safe network services	Environmental impact					
Reliability & availability	Connection terms	Social obligations					

Primary outputs	Secondary deliverables			
 Reflect 'service' that customers of network services experience Priorities and level informed by stakeholder engagement Limited number in each category Rewards and penalties related to delivery performance Ofgem set sectorial level, with potential variation by company Common industry metrics developed at price control review (where feasible) Companies expected to deliver over long term 	 Deliverables that companies can be 'held to account on' that relate to (a) management of network risk and hence long-term delivery of primary outputs; and (b) anticipation of future needs Company-specific levels, tied to costs in business plan Monitored on ongoing basis Ofgem consider whether and how to take action if and when concerns with delivery arise Signal in price control proposals what action might be taken and under what circumstances 			

Rewards & Penalties

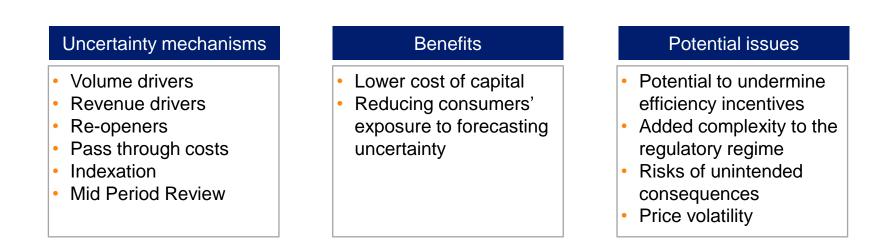
Table 6: Output incentive mechanisms – indicative cumulative revenue rewards and penalties for ${\bf 2013-16}^{29}$

Mechanism	Cumulative reward or penalty					
(£m 2015-16 prices)	NGET	SHE Transmission	SPT	Total		
Energy Not Supplied	10.3	3.0	8.5	21.9		
Customer and stakeholder satisfaction surveys	22.4	1.6	1.8	25.8		
Stakeholder engagement discretionary reward ³⁰	0.0	0.0	0.0	0.0		
Sulphur Hexafluoride, SF ₆	6.8	-0.4	0.1	6.5		
Environmental Discretionary Reward	2.02	0.0	3.95	5.97		
Timely connections	0.0	0.0	0.1	0.1		
Network Output Measures ³¹	-	-	-	0.0		
Total all mechanisms (£m)	41.5	4.2	14.5	60.2		
Amount earned in 2015-16 (£m)	10.8	1.4	2.9	15.1		

- Overview of the cumulative rewards/penalties for electricity transmission under T1 to date
- Note that some aspects (e.g. the Network Output Measures) are assessed at the end of T1 and any reward/penalty applied in T2

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3 UNDER RIIO, UNCERTAINTY MECHANISMS COVER AROUND 20-30% OF BASELINE TOTEX ALLOWANCE



The overarching principle for uncertainty mechanisms is to **allow the network companies to manage the uncertainty** they face and should be limited to instances that will deliver value for money for consumers while allowing the networks to finance efficient delivery

4 SEVERAL MEANS OF INCENTIVISING INNOVATION BY COMPANIES

No additional return for strategic/innovative investments, but ...

Wider framework has three core elements helping innovation

Time-limited additional innovation stimulus is also included in the first RIIO control

- TOTEX cost assessment to encourage innovative solutions that could lower the lifetime costs of the system
- Longer price-control periods to increase rewards for successful innovation
- Emphasis on output delivery means new business models can be applied
- Network Innovation Allowance (0.5% 1% of base revenue)
- Network Innovation Competition
- Innovation Rollout Mechanism (accessed through re-opener windows)

DIFFERENT CHALLENGES AND REQUIREMENTS AROUND INDIVIDUAL AREAS NEED TO BE CONSISTENTLY DESIGNED

IQI matrix

- Decision on efficient expenditure
- Allowed expenditure (linked to difference between regulator and regulated projections)
- Income adjustment (linked to incentive compatibility)
- Sharing rule (efficiency incentive)

Output/performance indicators

- Agreement on measurable outputs
- Determination of revenue at risk
- Monitoring and reporting on performance
- Link back to business plan
- Reporting vs financial incentives

TOTEX cost incentives

- Removal of distortion between opex/capex decisions
- General efficiency rate for over and underrecovery

Mechanisms to manage uncertainty

- More about 'baseline' than incentives
- Volume/revenue drivers
- Re-openers
- Logging up
- Indexation
- Cost pass-through
- Mid-term reviews

AGENDA

- 1. The RIIO framework
- 2. The process and the building blocks



THE PROCESS CAN BE DIFFERENTIATED INTO TWO MAIN PHASES: SET THE CONTROL AND APPLY THE CONTROL

	Phase 1 – Set the Control	Phase 2 – Apply the Control
Occurs	Prior to the start of the regulatory period	During the regulatory period
Delivers	 The baseline allowed revenue that a company can earn in each year of the control The ongoing efficiency incentive for the business (i.e. the sharing factor) The nature and form of any specific reward/penalty incentives linked to outputs The nature and form of any uncertainty mechanisms applied to the business plan 	Adjustments to the allowed revenues in line with agreed sharing factors and incentive structures
It is informed by	 Company Business Plan submissions Historical performance Regulatory guidance on requirements 	 Annual reporting on performance of the companies against the business plan The price-control settlement in Phase 1

PHASE 1: SET THE CONTROL - HIGH LEVEL OF STAKEHOLDER ENGAGEMENT IN EACH STAGE OF THE PROCESS

	Determine outputs & price control method.	Business plans and proportionate treatment	Revised business plans and assessment	Setting the price control		
Network Ofgem	 Set a timetable Engage with stakeholders: to identify the key issues to establish outputs to develop strategy Assess current company performances Publish the review strategy via 'Strategy for the review' consultation document Engage with stakeholders to understand priorities (may develop a high-level first cut of business plans)	 Assess business plans informed by stakeholder engagement /company data Identify the level of scrutiny for each company review on receipt of the business plans Publish view on the assessment of companies Query/comment on business plans to companies Publish final proposals for the 'fast track' companies Engage with stakeholders Develop business plans based on 'Strategy for the review' Submit business plans 	 Continued engagement with stakeholders as needed Publish final price control methodology Engage with stakeholders Submit revised business plans based on comments in stage 2 Companies that Ofgem decided to fast track in Stage 2 will skip this stage 	 Apply methodology, using revised business plans where appropriate, to determine price controls Consult on the Initial and Final Proposals Subject to agreement, implement the price control package on 1 April Consider third party modification requests in line with public guidance Respond to initial proposals Determine whether to agree to the proposed price control package 		
Ŭ		ionths 12 mo Too 2 Cost ass	ols	I months 30 months		

1 THE BUSINESS PLAN IS A CORE DELIVERABLE UNDER THE RIIO FRAMEWORK

	Exec summa BP on customers' bills, key e e request (broken down into		
Should include: overview o has considered Govt policy	f stakeholder engagement, e	<u>cess</u> ngagement of business in de	eveloping plan, how plan
<u>Outputs</u>	<u>Costs</u>	<u>Financing</u>	<u>Managing</u> uncertainty and <u>risk</u>
Innovation Strategy			

Comments

- Presentation of the projections of activities, costs and outputs of the business
- Ofgem did not impose a reporting template for company business plans as it wanted the companies to provide all the information they believed was necessary to justify their plan
 - High level structure is proposed
 - Price-control financial model (PCFM) excel is published
 - Expectations are set (as to what constitutes 'welljustified')
 - Primary outputs are well-defined
- Production of a well-justified business plan has additional 'fast-tracking' incentives
 - Additional base revenue allowance
 - Higher efficiency incentive rate

2 COST ASSESSMENT STAGE OF RIIO PROCESS HAS FOUR ELEMENTS

Comparative Cost Assessment

Toolkit approach' is followed using three models (see next slide for details):

- 1. A top-down Totex model
- 2. A bottom-up Totex model
- 3. A disaggregated activity-level model

Smart grids/innovation benefits

Ofgem innovation funding mechanism called the Network Innovation Allowance (NIA), with the purpose of funding the companies for:

- The additional cost of using smart grid solutions and wider network innovation
- The preparation of submissions to the Network Innovation Competition (NIC)

Real Price Effects (RPEs)

- NC allowances are indexed by RPI, however some of the costs are expected to change at a different rate than the RPI, termed as 'RPE'
- Efficiency assumptions based on expected improvements (i.e. potential reductions in each type of input volume) are determined
- RPEs of each input are weighted to derive a single RPE assumption

Information Quality Incentive (IQI)

- Companies receive an up-front financial reward or penalty based on the deviation of their forecast from Ofgem assessment
- Companies with better forecasts receive a higher efficiency incentive rate (sharing factor)
- Allowed expenditure is based 75% on Ofgem benchmark view and 25% on the DNOs' forecasts

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3 MENU-BASED SOLUTIONS ARE USED TO ENCOURAGE REALISTIC COST PROJECTIONS

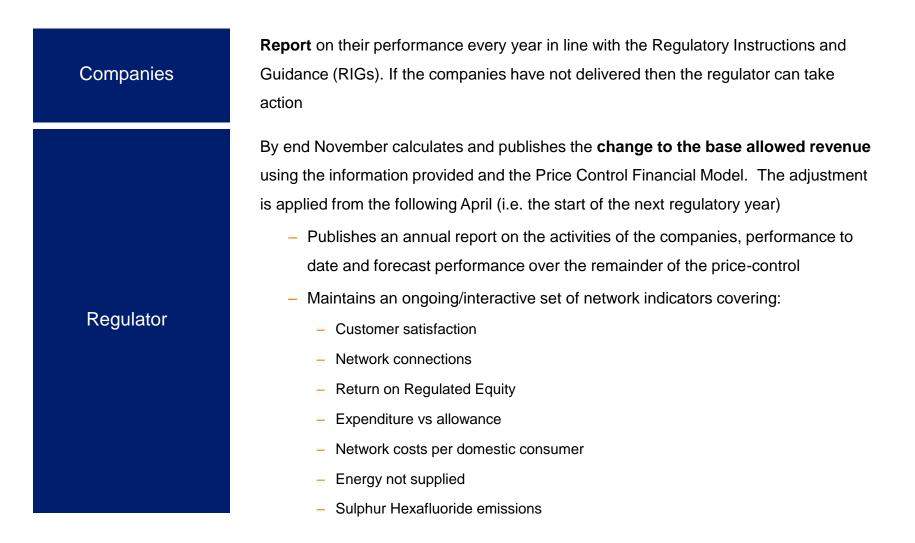
IQI Matrix example

DNO: Ofgem Ratio	90	95	100	105	110	115	120	125	130
Efficiency Incentive	65%	63%	60%	58%	55%	53%	50%	48%	45%
Additional income (£/100m)	3.1	2.4	1.7	0.9	0.1	-0.8	-1.8	-2.8	-3.9
Rewards & Penalties									
Allowed expenditure	97.50	98.75	100.00	101.25	102.50	103.75	105.00	106.25	107.50
Actual Exp									
90	7.95	7.9	7.7	7.4	7.0	6.4	5.7	4.9	4.0
95	4.7	4.76	4.7	4.5	4.2	3.8	3.2	2.5	1.7
100	1.5	1.6	1.7	1.6	1.5	1.1	0.7	0.1	-0.6
105	-1.8	-1.5	-1.3	-1.2	-1.3	-1.5	-1.8	-2.2	-2.8
110	-5.1	-4.6	-4.3	-4.1	-4.1	-4.1	-4.3	-4.6	-5.1
115	-8.3	-7.7	-7.3	-7.0	-6.8	-6.7	-6.8	-7.0	-7.3
120	-11.6	-10.9	-10.3	-9.9	-9.6	-9.4	-9.3	-9.4	-9.6
125	-14.8	-14.0	-13.3	-12.7	-12.3	-12.0	-11.8	-11.7	-11.8
130	-18.1	-17.1	-16.3	-15.6	-15.1	-14.6	-14.3	-14.1	-14.1
135	-21.3	-20.2	-19.3	-18.5	-17.8	-17.2	-16.8	-16.5	-16.3
140	-24.6	-23.4	-22.3	-21.4	-20.6	-19.9	-19.3	-18.9	-18.6
145	-27.8	-26.5	-25.3	-24.2	-23.3	-22.5	-21.8	-21.2	-20.8
150	-31.1	-29.6	-28.3	-27.1	-26.1	-25.1	-24.3	-23.6	-23.1

Comments

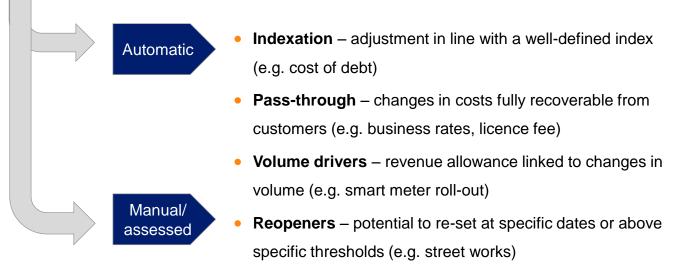
- Three components the allowed expenditure (based on weighting between regulator and company forecasts); efficiency incentive rate (how much over- or under-performance is retained by the company); additional revenue (reward/penalty)
- Realised revenue = Actual expenditure + Payoff
- Pay-off = ((Allowed expenditure Actual expenditure) x Efficiency Incentive) + Additional Income

PHASE 2: APPLYING THE CONTROL



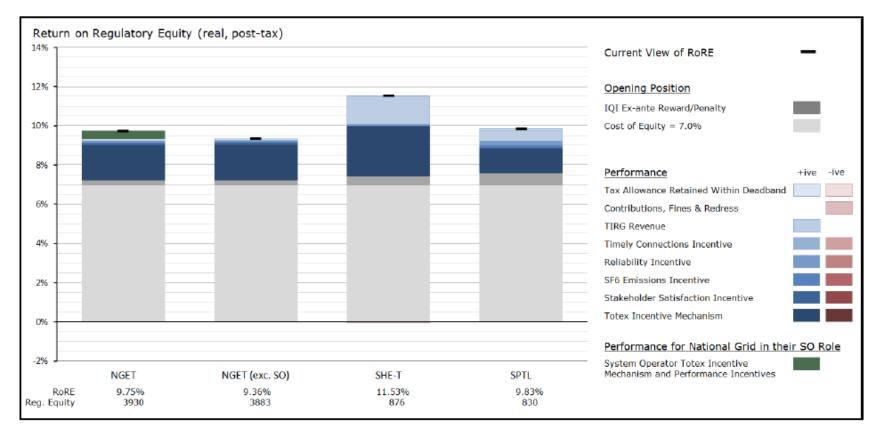
REVIEWING THE BASE ALLOWED REVENUE

- Apply where changes in cost or output/activity are (a) outside of the control of the companies; and (b) have a material impact on the cost of operation
- Window and/or threshold for review is set by the regulator through consultation
 - e.g., X% of revenue (1% of average annual revenue for NGET), time periods



• Triggers – linked to an event (e.g. a legislative change, tax)

ABILITY TO EARN A HIGHER RETURN CAN BE A CONSEQUENCE OF INCENTIVE MECHANISMS



- Companies have tended to outperform on RoRE
- Incentive mechanisms manage this outperformance through sharing factors (adjusted for timing impacts), ratchet effects across
 price-control periods and focus on value for money in rewards

THERE ARE SEVERAL LESSONS FROM THE GB EXPERIENCE

Set the Control

- Long lead times for developing framework and business plans
- Quality and quantity of information become key to success
- Robust business plans and engagement with stakeholders/consumers reduce level of scrutiny and timescale of engagement
- Innovation is seen as a key deliverable from the incentive framework so there is an expectation of removal of specific incentives

Apply the Control

- Consistent enforcement of rules set up ex ante
- **Continuous maintenance** of the system
 - Ofgem is still refining the framework
 - Presentation of business plans
 - Effective stakeholder engagement
 - Managing complexity
 - Definition of outputs
 - Proportionate regulatory burden







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