SP TRANSMISSION

SP Transmission RIIO-T1 Business Plan

July 2011

Contents

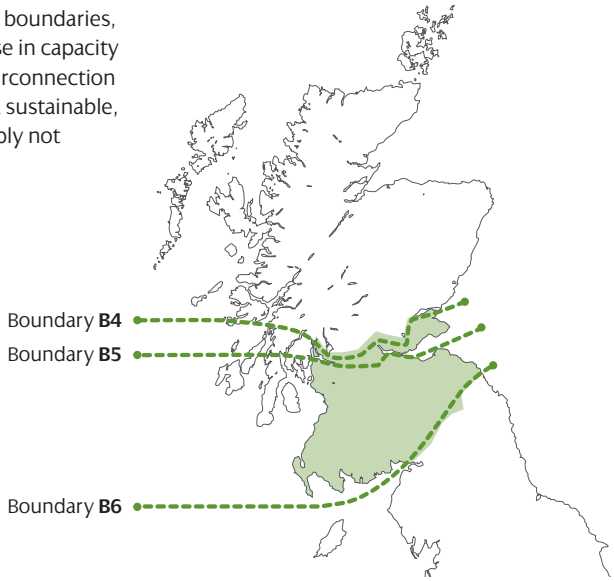
Context

The world faces two key energy policy challenges: to **tackle climate change** and **ensure security of energy supply**. The UK Government committed to a binding target, that 20% of the EU's energy consumption must come from renewable sources by 2020. The European Commission has proposed that the UK's contribution to this should be to increase the share of renewables in our energy mix from around 1.5% in 2006 to 15% by 2020. This target is equivalent to a seven-fold increase in UK renewable energy consumption from 2008 levels: the most challenging of any EU Member State. The Department of Energy and Climate Change, DECC, estimate achieving these targets could provide £100 billion worth of investment opportunities and up to half a million jobs in the renewable energy sector by 2020. SP Transmission Ltd has an absolutely essential role to play if these goals are to be achieved.

The future of electricity generation and transmission has to be radically transformed to deliver a low carbon society. Centralised generation by large nuclear and coal stations will be replaced by smaller diversified sources of renewable generation. The grid system built to connect the large power stations will no longer facilitate the transmission of power from multiple onshore and offshore sources. In our area new transmission connections for 5000MW of renewable generation require to be built, and the capacity of the interconnecting systems has to be vastly increased from the current level of 2800MW (Scotland) to a minimum of 6600MW (England).

The SP Transmission Licence area lies directly in-between the proposed new sources of generation in the North and the highest areas of demand in the South. This map shows the three key boundaries, B4, 5 & 6 that we must increase in capacity from the current levels of interconnection capacity or the new world of a sustainable, low-carbon economy will simply not happen.

Three key boundaries



We recognise the key role we have to play in delivering the sustainable, low carbon economy of the future and are determined to rise to the considerable challenges ahead.

Our industry regulator, Ofgem, has also recognised the challenges facing the electricity and gas sectors over the next ten years:

"Significant investment is required over the coming years and the incumbent transmission companies need to deliver a substantial build programme in a relatively short time. This programme is materially greater and more complex than experienced in the recent past and there is a risk that the companies will experience resource constraints."

Ofgem has developed the new Price Control model **RIIO** (**R**evenue from **I**ncentives **I**nnovation and **O**utputs) to support the necessary investment over the next Transmission Price control period which runs from 2013-2021. Under RIIO network companies will be set a baseline revenue stream, with incentives linked to defined outputs, and encouraged to be innovative. Together this produces a regulatory framework to encourage network companies to meet today's challenges: including the transformation to a sustainable energy sector; maintenance of reliable and secure supply; and the achievement of the above at affordable prices for consumers.

We at SP Transmission Ltd are undertaking this once in a lifetime opportunity to shape the transmission network for the future. We have developed an investment plan worth **£2500m - £3000m** covering the Price Review Period, 2013 to 2021. We believe this investment is essential to ensure the transmission grid can provide sustainable, low carbon electricity for the UK for the foreseeable future.

Why do we need to up to

Firstly, the evolving generation mix requires new connection or Load Related Expenditure (LRE), this is where the largest area of spend is required.

Secondly, the transmission network in south central Scotland was largely constructed over 50 years ago and is reaching its end of life. The category of spend to refurbish and rebuild our existing assets is called Non Load Related Expenditure (NLRE).

Load Related Expenditure (LRE)

Load-related expenditure comprises all spend in relation to reinforcement of the transmission system, to accommodate new generation and demand connections or changes to existing customer requirements. Our plans are based on the industry, 'Gone Green' demand and generation scenarios that reflect the latest generation developments. Our scenario planning includes the following factors:

- High demand for wind farm development in the south of Scotland with many proposed generation sites located in remote, unpopulated areas where there is little network infrastructure to support their connection.
- The majority of load related expenditure, approximately 84%, is driven by 11GW of new generation projects throughout Scotland (up to 6GW onshore and offshore in SPTLs area). We require to establish a series of 'collector' stations to facilitate the connection of this generation.

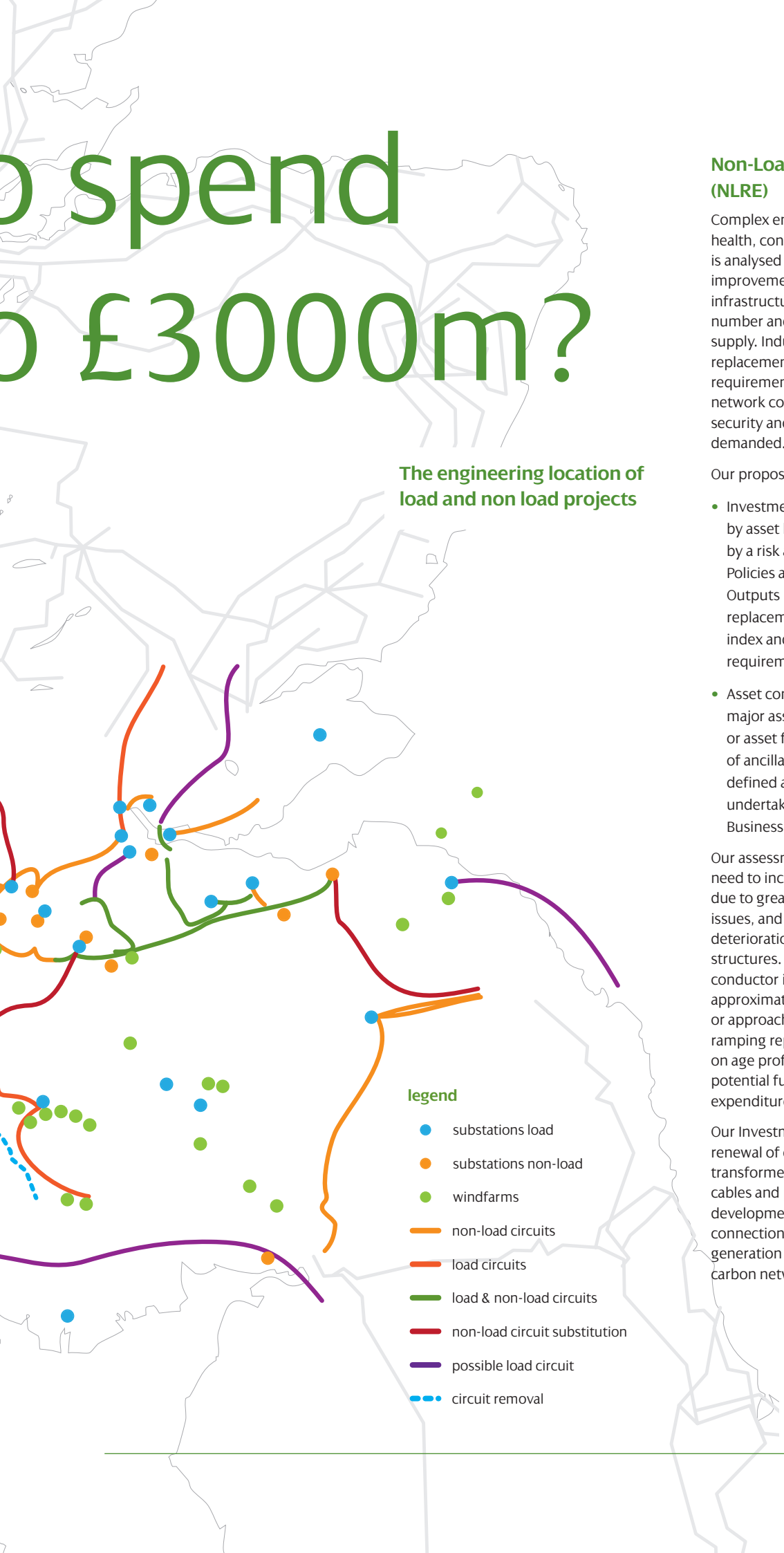
Wider Reinforcement Works

As the geographic location of renewable generation is primarily in the north of the UK, we need to increase the capability of our interconnected network to deliver energy to the centres of load in the south of the country.

This involves maximising the capacity of the existing interconnection circuits between Scotland and England and constructing new circuits to cope with the large increase in powerflow required. Substantial research has identified offshore DC (Direct Current) links as the most suitable way to achieve this. Avoiding visual impact and the challenges of planning onshore routes, this is the result of successful engineering innovation.

o spend
o £3000m?

The engineering location of load and non load projects



Non-Load Related Expenditure (NLRE)

Complex engineering information; asset health, condition and circuit performance is analysed to determine necessary improvements to our existing infrastructure to avoid increasing the number and severity of faults and loss of supply. Industry NLRE is driven by asset replacement and refurbishment requirements to ensure the transmission network continues to deliver the reliability, security and performance levels demanded.

Our proposed NLRE is based on:

- Investment requirements determined by asset health with schemes prioritised by a risk assessment driven by our Risk Policies and utilising a full Network Outputs Methodology (NOM) to refine replacement priorities based on health index and criticality in-line with Ofgem requirements.
- Asset condition information for the major asset categories based on generic or asset family type data. The condition of ancillary components is less well defined at this stage, and we have undertaken further work to inform this Business Plan submission.

Our assessments have highlighted the need to increase switchgear replacement due to greater awareness of condition issues, and specifically anticipated deterioration in the supporting civil structures. The age of overhead line conductor is also an issue; with approximately 80% of 275kV conductor at or approaching 50 years old. A controlled ramping replacement programme based on age profile is proposed to avoid a potential future step change in expenditure.

Our Investment Plan therefore covers renewal of existing Transmission assets; transformers, overhead lines, switchgear, cables and protection systems, and the development of networks to facilitate new connections, including renewable generation and progression towards a low carbon network.

challenges

As operators the key challenges we face are:

1

to build an optimal delivery strategy

In terms of delivery strategy, the international organisation and our sister company Iberdrola Engineering & Construction (IEC) will be utilised to bring experience and capacity into effect to grow our capability to the level required to meet the planned transmission investment activity. Detailed stage-by-stage scheme delivery plans are being developed that address the significant challenge of renewing our aging transmission overhead line assets with delivery of the load driven investment schemes.

2

to manage the outage impact on existing customers

Key to success is the control and management of changes in outage plans. These plans allow us to identify long term planning activities and outage requirements to develop a view of how outages can be packaged and work phased to meet the best achievable outcome for the system stakeholders in the preparation of our investment programme. The likelihood of outages becoming a real constraint on delivery if not addressed and the need to agree Main Interconnected Transmission System (MITS) constraint outages earlier has meant discussions are already underway with National Grid on our requirements up to 2021.

3

to manage the capability of the supply chain

The procurement capability to meet our investment plan and our strategy to engage with the supplier markets to enable efficient investment purchasing is evolving. It will require a global purchasing strategy focused on driving value through all related purchasing activities. Our strategy is based on using the experience of the IEC model and involves establishing long term contracts and competitive tenders for larger value works. In 2011 alone we will be issuing up to 40 tenders totalling £340M and this scale of investment will broadly continue year on year.

4

to meet planning requirements

Obtaining all necessary consents is dependent on other agencies, providing consent approval to competent planning applications in realistic timescales. Historically securing planning consents for major development work can take years and constitutes a significant risk to achieving our plans. The scope and extent of environmental planning activities for this investment plan and the requirement for land access and wayleaves negotiation is enormous, and we will require to secure additional resources and support to achieve them.

5

to secure investment

We are working hard to ensure we can continue to attract investment against a background where the regulatory regime is tending to increase the risk borne by the network operators. Our Investment plans, produced by the Engineering team, have converted that into the common language of the investor and highlight:

- The value of investment,
- The absolute level of base-line returns required,
- The financial assessment of the cash-flows in terms of risk and sensitivities.

Our negotiations in this Price Control with the Regulator must lead to a regulatory settlement that gives us the right level of funding.

Executive summary

Our Business Plan

In accordance with Ofgem's process for the RIIOT1 Transmission price control review, SP Transmission Limited ("SPT") is submitting our investment plan outlining a requirement for our shareholders and consumers to fund between £2-3 Billion pounds sterling (2009/10 prices) in investment, creating up to 1,500 new directly associated jobs in the SPT licence area in this period. We estimate that the impact of our business plan on customers' bills is an increase of thirteen pence in the annual charge per customer in each year of RIIO-T1.

67% of this investment is aimed at accommodating a large increase in offshore and onshore wind generation in Scotland (around 11 GW by 2020) in accordance with the UK's legally binding targets for Renewable Generation and decarbonisation of the economy. This target requires associated increases in the export capacity from the SPT transmission network from 3.3 GW at April 2013 to close to 7GW by March 2021. Progression against these targets is highlighted as becoming critical both in terms of delivering the targets but also in light of thermal generation closures scheduled to take place in this period in Scotland.

33% of this investment is required to modernise the network to ensure that the excellent security of supply and reliability enjoyed in the SPT area is maintained. This investment is being targeted at an ageing asset base where the majority of the 275kV network is over 40 years old and significant sections of the 132kV network are over 60 years old. This ageing asset base is also impacted by higher levels of utilisation arising from the Connect and Manage arrangements introduced through Transmission Access Reform, and by our future network requirements.

By 2021 this Business Plan provides the following high level outputs for the network user and customer:

- 6.6 GW of export capacity and 2.5GW of import capacity between Scotland and England,
- Connect an additional 2.5GW of Renewable Generation in our licence area and facilitate 6GW in Scottish Hydro-Electric Transmission Limited's (SHETL) licence area, delivering the target of 11GW for all Scotland,
- Ensure that the UK meets its Renewable targets under the industry agreed Gone Green scenario
- Renew and replace over 15% of our existing substation assets and replace around 800 km of overhead line to ensure we continue to deliver excellent reliability and security of supply.

For an investment plan of between £2 to 3billion pounds, recovery of which is amortised over 20-45 years, these outputs will deliver value to the United Kingdom consumer as a whole of around £1.7billion cumulative by 2021 in reduced constraint costs and will support the delivery of over £2billion in reduced carbon emissions (equivalent to over 45 million tonnes of CO_2) from the Renewable Generation sector over this period.

Without this investment the cumulative constraint costs to customers would rise to £16billion by 2030.

We are acutely aware of the impact of funding this investment on UK customers, and whilst we do not run the GB transmission charging model, since that is the role of National Grid as the NETSO, it is clear to us that the cost to the consumer and to the UK from not undertaking this investment far outweighs the investment costs.

In our planning process we have applied Iberdrola's (among the 5 biggest utilities in the world) global procurement expertise to ensure that the costs that underpin our programme are the most efficient in the UK for the solutions we have proposed. To further minimise costs to customers our submission has also been built up from a baseline ex-ante view, involving a minimum investment case, with the flexibility to scale up through the use of volume drivers and trigger mechanisms to provide both our "Best View" of our likely investment plans, and the capability to deliver our upper case view as required. This has the advantage of ensuring that the customer only pays for investment and outputs we undertake but also provides the company with the necessary cash-flow required to maintain this progress in delivering against a business plan that must be viewed as being critical against the Government's recently restated policy objectives and roadmaps.

As we look at the RIIO-T1 years more generally, we expect to find that actual WACCs will be higher, and probably more volatile, than during any other five-year period since privatisation, some two decades ago. This is because throughout the next period, but particularly from 2013, the energy projects required to meet the UK's 2020 targets will enter the large-scale construction phase.

Unlike previous Price Control Reviews, Companies have been invited to submit a full, holistic financing package with Ofgem providing guidance only in a few key areas. As such we are submitting a business plan that includes a financing plan which complies with Ofgem's policy recommendations and which also provides a fair deal for customers and shareholders alike. Our main financial metrics are set out in Appendix 1.

As a consequence of the significant increase in capital expenditure during the RIIOT1 it is inevitable that prices will rise during the period. We will work with Ofgem to ensure that these are smoothed as far as possible as we move from the roll over year of 2012/13 into the RIIO-T1 period to avoid unnecessary price shocks. We estimate that the impact of our business plan on customers' bills is an increase of thirteen pence in the annual charge per customer in each year of RIIO-T1.

Shareholders will be expected to play their part. Our business plans require equity injection of £375m supplementing an increase in debt of £825m during the period. As a consequence we have included within our plans a minimum allowed cost of equity of 7.2% (post tax real) which we believe will be the minimum necessary to attract the investment necessary to fund our capital expenditure commitments.

We include within our plans a notional gearing of 50%, lower than previous price control reviews but at a level that is appropriate for a company of SPT's size facing such a dramatic increase in capital expenditure relative to our current RAV. We also see this as key to facilitate access finance at reasonable rates at a time when financial markets remain extremely uncertain.

Ofgem have proposed a fast track Business Plan process to enable companies with robust plans to move more quickly through the price control review process. The key test for this "fast tracking" will be the relative richness of the Business Plan submitted by the companies. It is also acknowledged however that while companies may well submit rich plans, the relative complexity of the plans required to deliver RIIOT1 will require further due diligence meaning that this option becomes unavailable. Given the level of capex being submitted by all three companies in Electricity Transmission, the extension of the control period and future uncertainty together with the various scenarios that have to tested, it becomes difficult to see how the process will work effectively and equitably. None the less we have endeavoured to build a plan that meets all of Ofgem's stated requirements.

However, what is perhaps even more important to industry is that Ofgem ensure that as well as protecting the consumer in terms of cost, they send out a strong signal that they support the blueprint laid out by the Government in July for Renewables and the required infrastructure to support this development. We hope this support will be underpinned by the Regulatory direction provided by DECC under the proposals from the Ofgem Review that has taken place, and that Ofgem will confirm as early as possible their commitment in terms of investment allowances and the key financial parameters (for example cost of equity allowances) that will create a context in which this investment can take place.

This is critical to industry since given the timescales we face we have already begun to work with our supply chains to deliver RIIOT1. SP Transmission and its affiliate companies have actively triggered staff recruitment processes (for example our engineering and construction business has more than doubled its dedicated Transmission workforce in the last eighteen months and is continuing to aggressively recruit) and we have also set out our consenting and procurement requirements. It is vital that unlike previous controls where the Regulator's position was held back on certain key parameters until the Final Proposals (scheduled for December next year) that Ofgem set out their position on all the key parameters of our Business Plans by the end of the second quarter of the next Calendar year (i.e. June 2012). This in our view will be a key milestone at which point we will look to Ofgem to affirm their position on our requirements to allow us the proper time to complete our due diligence to accept or reject a set of Final Proposals that have perhaps never been more critical and over a period which is longer than ever before in terms of the duration of the control period.

This business plan and associated documents lay out the basis of our submission; our engineering assessments, our key risk evaluation, the detailed outputs and incentives we believe are appropriate and highlight the supportive and enabling framework that we require from Ofgem to allow our Business to deliver Government and European Energy Policy.

The United Kingdom is entering a period of unprecedented investment in electricity infrastructure at a time when financial markets are at their most volatile for some 80 years. It is vital if the UK Energy Policy is to be delivered on schedule that energy companies and Ofgem work collaboratively to achieve this ambitious agenda and attract the substantial levels of investment required. Key to this will be Transmission as by its very nature it has to lead the way and underpin energy policy by being ahead of the generation curve. SP Transmission has laid out how we can support this agenda and looks forward to working effectively with Ofgem to ensure that UK Energy Policy is delivered.

Overview

Prior to submitting the SP Transmission Forecast Business Plan for the years 1 April 2013 to 31 March 2021 there has been a very stark focus on energy policy, particularly in relation to ensuring the future security of supply for all connected customers and naturally the consequent impact on consumer prices.

Our Business Plan is presented against this context and sets out to establish how at the very heart of our strategy we have placed a very clear aim, that is:

> To ensure that SP Transmission is at the forefront of facilitating the United Kingdom's transition to a low carbon economy and that as part of the Iberdrola Group we act as a catalyst to the Government's successful achievement of its legally binding 2020 targets for decarbonisation via a transition toward renewable generation.

In the following sections, we set out some of the policy and joint industry work we have undertaken to provide a clear context to the significant levels of investment we require to undertake within our transmission licence area.

Energy Market Reform

On 12 July 2011 the Secretary of State for Energy and Climate Change Chris Huhne announced his Energy Market Reforms. At the heart of these was an even stronger commitment to laying out a supportive framework to encourage a greater balance of supply from Renewable Energy resources. This, and associated announcements, highlight that the electricity transmission businesses in Great Britain will have to accommodate over a four-fold increase in our level of renewable energy consumption by the end of the decade.

This announcement confirms a leading role for Renewables and is particularly significant for Scotland, where it is anticipated that around one third of the contribution required to enable the United Kingdom to meet its European targets for renewable generation will be delivered.

On 12 July the Secretary of State for Energy and Climate Change, Chris Huhne, whilst announcing his Energy Market Reforms stated that: "We have a Herculean task ahead of us. The scale of investment needed in our electricity system in order to keep the lights on is more than twice the rate of the last decade" and that "A new generation of power sources including renewables, new nuclear, and carbon capture and storage, along with new gas plants to provide flexibility and back-up capacity, will secure our electricity supply as well as bring new jobs and new expertise to the UK economy."

In order to stimulate and bring forward the necessary "clean" plant that is required to deliver the Governments vision Mr Huhne announced a package of measures including:

The announcement in Budget 2011 that the Government would put in place a Carbon Price Floor to reduce investor uncertainty, putting a fair price on carbon **and providing a stronger incentive to invest in low-carbon generation now;**

- The introduction of new long-term contracts (Feed-in Tariff with Contracts for Difference) to provide stable financial incentives to invest in all forms of low-carbon electricity generation.
- An Emissions Performance Standard (EPS) **to reinforce the requirement that no new coal-fired power stations are built without CCS,**
- A Capacity Mechanism, including demand response as well as generation, which is needed **to ensure future security of electricity supply.**

The necessary legislation which will underpin this package of measures for reform is aimed to reach the statute book by spring 2013 which also marks the start of the new RIIOT1 price control. In the intervening period the Government is putting in place effective transitional arrangements to ensure there is no hiatus in investment while the new system is established.

On the same day DECC also published the final report of the Ofgem Review, following publication of the Summary of Conclusions in May. This report provides further detail on how the Government will seek to strengthen the regulatory framework, bringing greater clarity and coherence to the distinct roles of government and the energy regulator.

Also at this time the UK Government and the Devolved Administrations published the Renewable Energy Roadmap setting out a comprehensive programme of targeted, practical actions to tackle the barriers to renewables deployment, enabling the level of renewable energy consumed in the UK to grow in line with our ambitions for 2020 and beyond. This work identifies eight technologies that have either the greatest potential to help the UK meet the 2020 target. Energy from wind, biomass and heat pumps are the leading contributors, including offshore wind – where the UK has abundant natural resource.

The Government underlined its intention to ensure the full economic and energy security benefits of offshore wind resources come to the UK rather than its competitors.

This series of announcements in July confirms a leading role for Renewables and is particularly significant for Scotland, where it is anticipated that around one third of the contribution required to enable the United Kingdom to meet its European targets (from contributions both from onshore and offshore wind) will be delivered. The associated documents imply that the electricity GB electricity transmission businesses will have to accommodate over a four-fold increase in our level of renewable energy consumption by the end of the decade.

Capital investment
& associated outputs

2.1 Load Related Investment

Against the policy blueprint announced by the UK and Devolved Governments SPT faces a major challenge to connect and facilitate the boundary flows associated with connecting between 10 to 15GW of renewable generation across the whole of Scotland. This level of generation has been identified through a joint industry working group referred to as the Electricity Networks Strategy Group (ENSG) which is chaired by Ofgem and DECC.

There is a requirement to provide north to south transmission export capacity for this renewable generation (above the 6GW Scottish demand) through the SHETL and SPT licence areas to the major demand centres in England and Wales. This is a key aspect of our underlying business plan; this must be met while also addressing the major technical challenge related to the significant reduction in the conventional generation portfolio in Scotland, creating issues in terms of system stability and the underlying security of supply.

The Current Generation Background

The existing transmission network in central and southern Scotland has a maximum demand of around 4GW (total Scotland 6GW). This demand has historically been provided by a generation portfolio of nuclear and coal capacity, supported by pumped storage, industrial gas CHP and small scale hydro and embedded generation, with further capacity being available through interconnection with the north of Scotland, England and Northern Ireland. Over the past 5 years this has been supplemented by a growing portfolio of directly connected wind generation planned to reach over 1.8GW by the end of 2011/12.

By the end of RIIO-T1 we anticipate the SPT area demand will not be significantly different to the existing position. However, there are various conflicting drivers at play that drive this position, for example:

- Demand and consumption may drop due to the availability of feed in tariffs encouraging the development of micro generation along with Government initiatives to improve efficiency.
- On the converse side, rising gas and oil prices will encourage further usage of electric heating, and to de-carbonise the transport sector a shift to electric vehicles could be anticipated which could lead to an increase in electricity demand.

What is also clear is that conventional generation will reduce by 2GW, due to the expected closure of Hunterston and Cockenzie power stations, thereby creating a gap in base load generation capacity in Scotland..

Electricity Networks Strategy Group (ENSG)

Through stakeholder engagement, and working jointly with NGET and SHETL through the ENSG chaired by DECC and Ofgem, we have developed three scenarios reflecting possible changes in the generation portfolio and associated network capacity to plug this gap. These scenarios ensure that the transmission network is developed to play its part in transporting Renewable energy from Scotland, a Renewable rich area of Great Britain, with a clear commitment to wind power, is hence play a significant role in achieving the targets set out by Europe.

Looking forward, the ENSG Group has identified that based on the central planning scenario Renewable wind generation will increase to around 5GW by 2020 and Carbon Capture and Storage (CCS) will start being applied to the remaining coal generation in SPT's licence area. Further, renewable generation will increase to around 6GW in SHETL's area in the north of Scotland. This is in addition to their existing 2GW of capacity provided through hydro, pumped storage and gas generation.

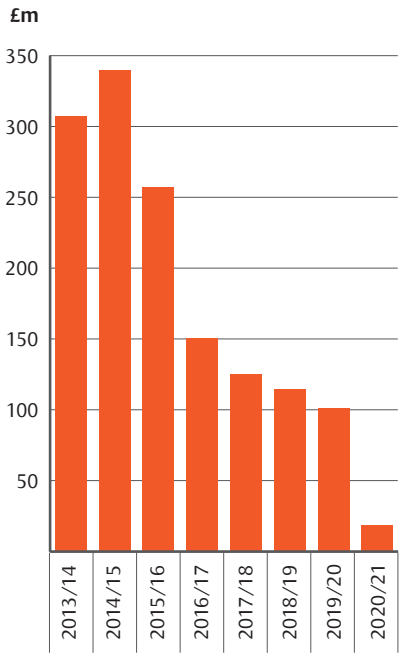
The development of our Load Investment plan has been informed by using the output of the generation planning scenario analysis conducted by NGET through consultation with SPTL, SHETL and through ongoing dialogue with industry partners, project developers and other relevant stakeholders as part of our business as usual processes. These scenarios are referenced throughout our Load Related submission. However, we have additionally considered stakeholder dialogue, other local sources of intelligence and data to develop our plans, which have developed into a lower (baseline) plan, a best view plan and an upper plan.

The planning scenarios seek to align future network requirements with recognised Government targets. Three scenarios were identified these being:

- Slow Progression
- Gone Green, and
- Accelerated Growth

These scenarios were developed to provide a robust context to plan against in a period of quite considerable uncertainty. Only slow progression fails to meet the Renewable targets (by a minimum of around 5-years) and the industry, DECC and we believe Ofgem have agreed that the blueprint we must build towards prudently is the Gone Green scenario.

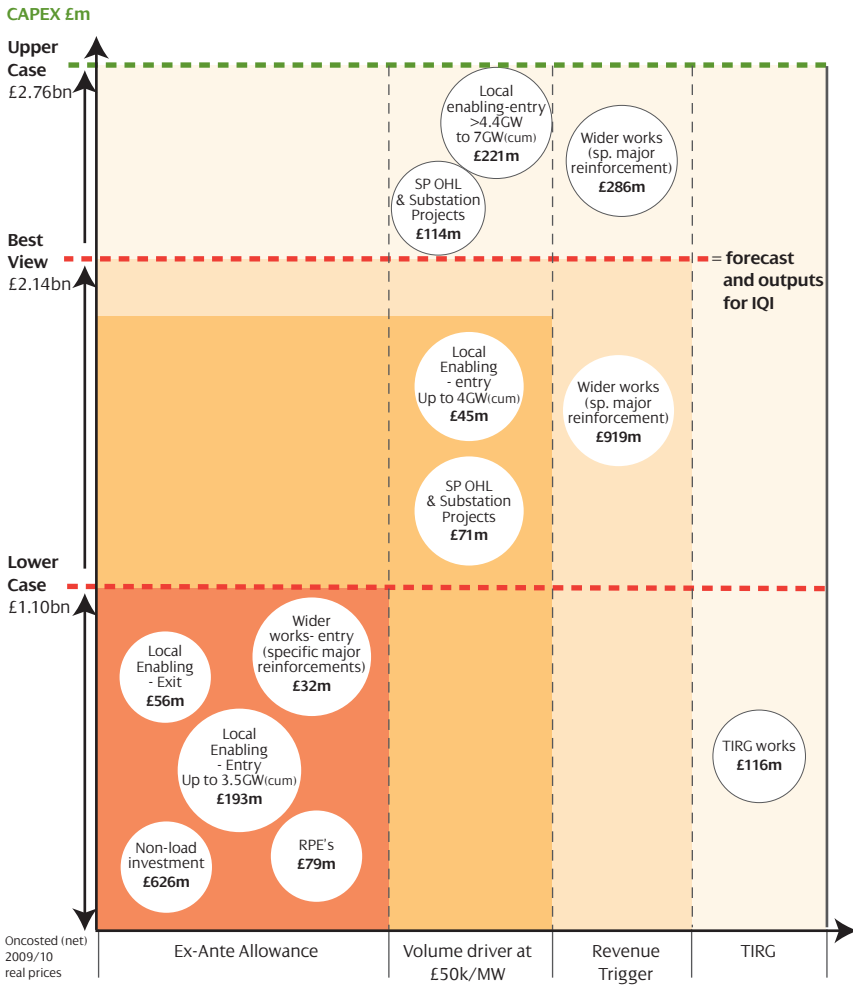
RIIO-T1 Load related expenditure (including TIRG)



It would be imprudent not to recognise that many industry commentators and observers, and possibly even Regulators may well question the UK's ability to meet the targets in aggregate. However accurate or otherwise those thoughts may be industry does not have the luxury of being able to continuously debate these scenarios. We have been challenged to deliver a blueprint for Renewable Generation that sees the UK succeed in meeting its targets and we therefore would be unable to accept a lower scenario which we believe would emphatically contribute to us missing the targets.

However, much uncertainty does still surround the plans, particularly as Ofgem have moved price controls to cover 8-year periods. Therefore in order to minimise costs to customers our submission has been built up from a baseline ex-ante view, involving a minimum investment case built on solid engineering and planning progress, with the flexibility to scale up through the use of volume drivers and trigger mechanisms to provide both our "Best View" of our likely investment plans, and the capability to deliver our upper cases as required. The levels of investment falling into these categories is summarised in the diagram shown below.

Funding Mechanism



In summary our Load Related Generation Investment plans deliver:

- An additional 3GW of renewable generation, in our Best View, connecting by 2021 giving a total of circa 5 GW of directly connected renewable generation in our area for £239m.
- In addition, our upper case scenario, established by the active dialogue and commitment shown by developers, reflects a further 6.9GW of predominantly wind connecting by 2021 for a further £221m that would be funded via a revenue driver mechanism.

To fund our planned 'Best View' investment we will require:

- A minimum baseline ex-ante allowance of £43m to fund H1 Sole Use infrastructure to connect 1.62GW generation capacity.
- Development of a revenue driver mechanism based upon £50k/MW to fund construction of those projects to have the capability to meet both our "Best View position" and to be scalable to meet the upper case scenario
- Capital investment in electricity infrastructure, for collectors, of £117m
- In addition we expect, as an excluded service, to invest in £58m of sole use customer work, either directly funded by the customer £25m, or paid through annual charges.

A summary of our load investment is set out below with a map detailing specific load schemes in Appendix 2. More information is provided in our business plan in Appendix 1.

2.2 Non Load Related Investment

(The refurbishment and replacement of existing assets)

The investment strategy for the 132kV, 275kV and 400kV transmission network aims to ensure an optimum level of investment by adopting a level of prioritised, targeted project specific, investment necessary to effectively manage the business risk and ensure long term sustainability of this key UK asset, utilising appropriate engineering interventions and risk management.

Our investment plan for RIIO-T1 involves £696.5m for non load related investment associated with the replacement of assets which are at their end of life. The investment plan has been developed utilising our Asset Risk Management policies and procedures, which reflect the nationally agreed Network Output Measures methodology. It has been developed using extensive current asset condition information, contextualised with our asset replacement age based modelling. Utilising condition and modelling data, along with site criticality, has ensured our plans reflect the key investment priorities. Our prioritised detailed work programmes are developed, at a circuit or substation site specific level. To minimise costs to customers, we have built our non load related investment in RIIO-T1 in the following manner:

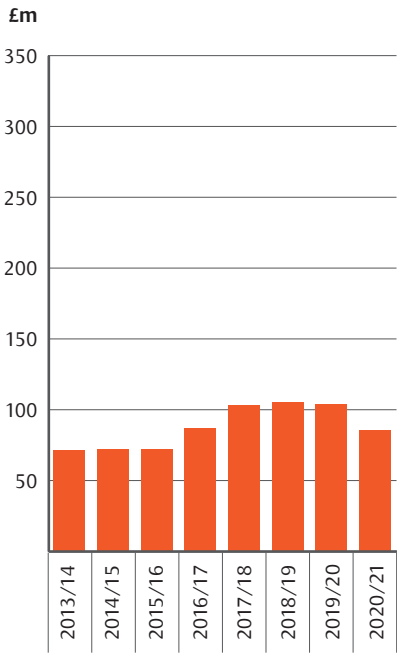
- Lower plan (baseline ex ante) totalling £626m
- Best View plan totalling £697m (including baseline)
- An Upper Case plan totalling £811m

In our Best view Plan the two key investment areas involving £427m (61% of the non load investment programme) are:

- **Overhead Lines**
  £309m (44% of non load programme). To minimise end of life risk, we plan to replace 519km (44%) of the large population of 1960s ACSR conductor on the 275kV and 400kV network, with a further 671km (56%) in RIIO-T2. In addition, a further 359km (44%) of the 132kV network will be reconductored
- **Switchgear**
  £118m (14%). We will replace 81 circuit breakers (50%) of the large population of 1950s and 1960s Air Blast and Bulk Oil circuit breakers which have become less reliable and difficult to maintain due to a lack spares and manufacturer support, plus the significant cost and outage time associated with maintenance. A further 62 circuit breakers will be replaced (39%) in RIIO-T2 to manage end of life risk with this equipment.
- Other Areas:
  Protection Control & Telecoms
  £80m (11%).
  Transformers
  £54m (8%) - we will continue to address end of life Bulk Supply Point transformers, and our strategy of replacing unreliable Bruce Peebles transformers.
  Cables
  £16m (2%) - this is a small programme as we have completed the replacement of the unreliable gas compression cables.

A summary of our non-load investment is set out below with a map detailing specific non-load schemes in Appendix 3. More information is provided in our business plan in Appendix 1.

RIIO-T1 Non-load related expenditure



2.3 Outputs and Associated Incentives

SP Transmission fully supports the need for output measures. We recognise that this provides the consumer and the company alike with a transparent regulatory contract, enabling a clear statement of the value that we are creating in a business that can often be taken for granted because of its historical success in delivering security of supply and sound engineering progress and delivery.

However, we do believe these must be meaningful and value adding and take full account of the physical engineering attributes of the networks and circumstance across the UK.

Outputs are at the core of the RIIO regulatory framework, and are intended to support the transition to a sustainable energy sector. Clearly at the heart of that must be an output related to the connection of Renewables itself since this is perhaps the single most valuable and material output that the Network businesses can help facilitate. Contrast that in our estimation that the outcome from the package of incentives associated with outputs proposed by Ofgem will lie in a range of plus 100, minus 150 basis points of Return on Regulated Equity (RoRE) (100 basis points equals £12M per annum) and yet the cumulative savings in constraint costs we highlighted in the opening paragraph run to over £1.7 billion, and before any credit for reductions in carbon are included. It is therefore surprising that no explicit recognition of this has been included in output measures, especially given strong stakeholder feedback from some participants to this effect.

Another important principle should be to ensure that outputs be within the control of the transmission company.
It is also important we have full access to information on which any incentive is based, and there must not be conflicting incentives.

In our full report we have conducted a detailed analysis of the output and incentive proposals based on the incomplete information that remains to be developed beyond the Business Plan submission (for example targets and other similar parameters alongside other inherent risks). Our initial analysis leads us to believe that the overall skew towards penalties means that on average the package tends towards -80 to -90 basis points of downside risk in RoRE. This is a factor we will return to in the Financial Strategy section.

For planning purposes our base case submission is assumed to be neutral in terms of outputs, given we expect ultimately Ofgem will set stringent targets as previous experience would suggest.

We also strongly hold the view that the base Business Plan must be adequate for the investor to undertake the critical investment, and that incentive rewards and penalties are additional factors which differentiate companies from that base case. That is, they reward excellent or exceptional performance, i.e. above good or expected performance, or alternatively penalise below average performance. These mechanisms do not provide an additional means of achieving the expected returns for investors for a given investment programme as was proposed to be the case at DPCR5.

Our high level assessment of these is contained in the table overleaf and our impact analysis is referred to in the Finance Strategy section.

Capital investment & associated outputs

Area	Output measure	Forecast	Comments
Safety	Compliance with HSE safety legislation	n/a	No financial incentive
Reliability	Energy not supplied (ENS)	+£2m to -£9m	Penalty collar proposed at -3% of allowed revenue proposed. Given potential impact, we believe the current rate of 1% should be maintained
Reliability	Asset health & replacement priorities	n/a	Expect penalty mechanism similar to DPCR5. Penalty for non-delivery applied to RIIO-T2 revenues.
Reliability	Constraints and outage management	+£10m to -£10m	Penalty applicable if fail to comply with Network Availablity Policy. Potential rewards available if actions beyond Policy reduce constraints. Currently no clarity on how this will work
Reliability	Delivery of wider works - boundary capability	£0m to -£10m	Penalty only for late delivery of boundary increases. Penalty could be linked to associated constraint costs.
Environment	SF6 leakage	+£0.1m to -£0.1m	Assumed variation of ±80kg around target, financial strength only £1.2 per kg
Environment	Broad environment measure	+£0.5m to £0m	Reputational incentive. Ofgem also to consult on incentive measure.
Environment	Business Carbon footprint and losses	n/a	Reputational incentive based on reported data, losses based on network model output
Customer Satisfaction	Customer survey	+£3m	±1% revenue available based on performance in customer survey - likely to be no incentive in 1st year
Customer Satisfaction	Stakeholder engagement	+£1.5m to £0m	Reward only mechanism, requires various hurdles to be overcome which may prove difficult to achieve.
Connections	Pre-connections	£0m to -£1.5m	Penalty if connection offer provided later than 90 days from request. Unlikely to receive penalty

Rather than focus on every measure (which is analysed in detail in our section on Outputs), in the following commentary we consider some of the key output measures and associated incentives.

Reliability
- Energy Not Supplied

We agree that Energy Not Supplied (ENS) is an appropriate primary measure of the performance of the transmission network, and it should be recognised that this measure is not directly within the control of Scottish TOs. In Scotland, the SO has more control over this measure than the TOs. We therefore believe that the rules set a collar with a maximum penalty of 1%, rather than Ofgem's proposed 3%.

Based on our historic performance over the last 10 years, as set on in the graph below, and taking into account project improvement in performance we propose a target for SPT of 225MWh unsupplied energy per annum, with a linear incentive based on a slope of £16k/MWh. That is, we would be in penalty if we exceed 225MWh unsupplied energy in any given year, subject to the agreed ENS Framework.

It is also essential that companies are not at risk from exceptional events (as per the Distribution scheme) since it would be unfair to penalise a TO for the full extent of a severe weather occurrence for example. We believe that more work needs to be done to calibrate this incentive appropriately but that the following principles should be adopted (as discussed and justified in more detail in our full submission):

- Events lasting three minutes or less should be excluded. This would allow weather related events that are resolved by network protection to be excluded.
- The exclusion for severe weather, seven faults in 24 hours, remains appropriate.
- The proposed approach for exclusion of third party damage, and other exceptional events, where transmission companies would be required to demonstrate that they meet exceptionality requirements, is appropriate.
- Planned outages affecting demand customers should continue to be excluded. In principle interruptions to demand customers should be incentivised to reflect the inconvenience however planned outages affecting demand customers on the transmission system are only taken with the agreement of customers. The process of the SO agreeing the planned outage with customers provides them with advance notice of outages and minimises their inconvenience.

Secondary Measures

The proposed secondary deliverables related to this primary output cover a wide range of variables covering Asset Health, Criticality, Replacement Priority/Risk, Circuit Unreliability, System Unavailability, System Faults and Asset Failures. We believe that Asset Health, Criticality and Replacement Priority are the main secondary deliverables which should be considered as output measures. Our non load related investment plan has been aligned therefore to these specific outputs.

SP Transmission
Historic Energy Not Supplied

P&L	2001 /02	2002 /03	2003 /04	2004 /05	2005 /06	2006 /07	2007 /08	2008 /09	2009 /10	2010 /11
Overall ENS	179.2	159.89	202.2	102.27	20.53	19.81	97.71	478.96	162.7	885.8
Reportable ENS	178.35	158.88	200.78	102.27	19.65	19.81	96.31	478.26	103.75	885.8

Constraints and outage management

Avoiding constraints both within and from Scotland are best resolved by reinforcing the wider transmission system through undertaking reinforcements to the wider system as quickly as possible. This principle is at the heart of our plan and we hope is evident from the significant reductions in forecast congestion costs of £1.7billion by 2021 and £11billion by 2030.

We believe that Ofgem's approach to for each transmission company to prepare a Network Availability Policy is a pragmatic and sensible solution. We prepared our draft Policy and took the lead in consulting on it with the other TOs and the NETSO and it has been revised as a result of this consultation process. This is included as an appendix in our section on Deliverability. We have included a draft, rather than final, policy as we are keen to continue the consultation process with relevant stakeholders to ensure the policy is robust.

In terms of deliverability our plans are critically dependent on an efficient and certain outage plan. Cancellation carries a significant direct and indirect cost upon SPT and the customer alike. A constraint incentive has the potential to compromise the essential asset replacement and refurbishment required to maintain quality of supply, and our concern is that the operation of this incentive must not compromise or access to the system to undertake essential asset replacement and refurbishment which we believe should take precedence over constraint minimization.

We understand that what is proposed under the scheme is that a penalty would only apply if a company fails to comply with Network Availability Policy. In practice this should not happen given the existing outage planning and agreement processes.

For actions taken beyond the Policy the proposal allows for rewards where these actions reduce constraint payments. On face value this seems to be reasonable but in practice the opportunities, given ultimately the price control agreed investment plans should be efficient both in terms of cost and delivery (i.e. including outage management) we would not expect these benefits to be significant. It is positive that Ofgem acknowledge that the Transmission Owners can positively influence this area in addition to the SO.

This has not been the practice in the past. In the last couple of years SPT led an innovation to upgrade the Operational Intertrip on the Anglo-Scottish Interconnector as part of TIRG. In this case conventional devices and signalling equipment could not satisfy the very stringent operating time requirements and with such complexity. To achieve the operating time requirement and to manage the complexity, SPT have pioneered the use of IEC61850 technology which replaces conventional wiring with an optical Ethernet system. It is believed that when commissioned in 2008, it was the first installation in the UK to employ this technology in a fully operational system. The scheme bettered the operating time by a considerable margin and had a number of additional benefits. In addition to the high performance and flexibility of the scheme, it was extremely cost-effective and has proved its value in operation. The cost of the scheme was in the order of £700k. Using data from the NETSO associated with the impact of a recent outage related to the scheme identified that the benefit provided by this scheme was approximately £1 million pounds per week in constraint costs.

This ground breaking scheme is presently being extended to include the Eastern Interconnector circuits and this deployment will be commissioned in August 2011. SPT have also proposed an extension of the scheme in response to a proposal from SO for the rapid post-fault management of reactive compensation across the Anglo-Scottish Boundary.

Unfortunately SP Transmission was unable to share in any of the benefits which might accrue within the SO Incentive scheme. Going forward however given our recent focus on these areas there is less opportunity and while we think this is a positive step forward the opportunity may be much diminished.

Wider works - arrangements to encourage timely delivery

As Ofgem acknowledges in their Strategy consultation, transmission companies are already incentivised to complete wider works as early as possible. Not only is there a business driver in increasing the business RAV as quickly as possible, but there is also a reputational driver given that the wider system reinforcements are key to supporting Government energy policy. However, Ofgem intends to also introduce a penalty-based financial incentive for those projects funded through uncertainty mechanisms with target delivery date for wider works.

Given the scale of investment, and the risk associated with these projects in terms of technology, environment, consents and NETSO interactions, we question if penalties are reasonable. We agree that if penalties are to be introduced then there must be clear and transparent guidelines around their application, and which address "exclusions". For example, outage changes caused by the NETSO in order to minimise constraint costs, delays due to obtaining consents (where there is clear evidence demonstrated that the licensee has been pro-active in obtaining consents), and other exceptional circumstances should be taken into account.

Environmental - SF6 leakage

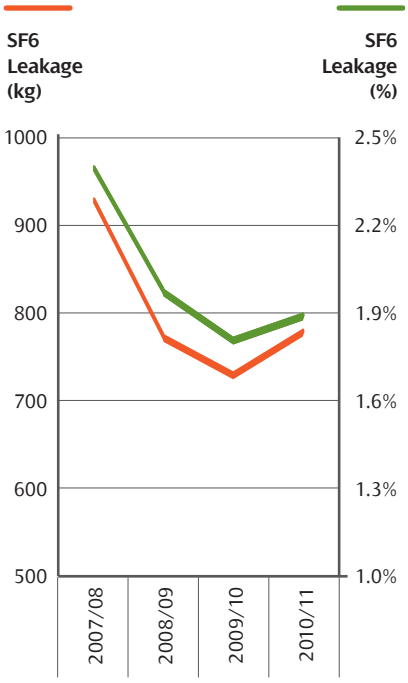
Sulphur Hexafluoride gas (SF6) is used in the electricity industry as a gaseous dielectric medium for high-voltage circuit breakers, switchgear, and other electrical equipment. However, SF6 is one of the most potent greenhouse gases, with a global warming potential of over 22,000 times that of CO_2. Transmission assets which make use of SF6 have various benefits; for example SF6 based switchgear help minimize substation footprint, and the SF6 gas insulated transformers being installed at Dewar Place are essential from a safety standpoint.

Currently we have over 40 tonnes of SF6 gas equipment installed on our transmission network and by the start of RIIO-T1 this will have increased to over 55 tonnes. Over RIIO-T1 we will install new SF6 equipment as part of our load and non-load capital expenditure programmes and in so doing significantly increase our inventory of SF6 to around 90 tonnes by 2020/21. We are therefore very aware of the essential requirement to manage our SF6 inventory in accordance with industry good practice.

The adjacent table shows the leakage of SF6 from SPTL equipment over the last four years. Through focussed operational efforts we have driven reductions in the kg of SF6 leakage from the 2007/08 levels. However, in 2010/11 the leakage increased back to 2008/09 levels and we believe that this level represents the expected background level of leakage which cannot be improved without significant investment.

Currently almost all transmission assets have been purchased and installed to IEC specifications which vary up to 3% leakage as design rating. Our current leakage rate at over 1.8% of total installed SF6 gas is on, if not below design standards. In effect, our operating regime is already performing much better than the equipment specification and we have determined that it is not possible to improve the performance further. The only effective method of reasonably operating at a significantly lower target would be a substantial capital programme of asset replacement. Therefore our plans for a flat background leakage profile are appropriate and we believe there is limited scope for further reductions.

SP Transmission
SF6 leakage programme



Out of our current inventory of 40 tonnes gas SF6 gas, around 50% is located at Torness. In order to reduce our inventory and actual loss of gas, one solution would be to replace this site with a modern equivalent with a lower designed leakage rate. However, based on the current non-traded value of carbon the cost benefit of the saving through reduced SF6 leakage does not justify a £30m asset replacement. This would not be e value for money for customers, as this site is generally in good condition.

We have forecast our leakage performance over RIIO-T1 based on our existing performance and our planned network investments. For all new assets we have applied the design rating leakage rates which are 1% for indoor equipment and 1.5% for outdoor equipment. Ofgem's intention to introduce an output to prompt transmission companies to take into account the environmental costs of SF6 equipment that have different leakage rates does not appear to take account of the physical realities of the assets.

Our strategy for SF6 emissions therefore has been aligned to Ofgem's view, although we believe that convergence towards Ofgem's proposed best practice leakage of 1% is impossible unless we undertake significant investment, such as at Torness, at sites which are in generally good condition. Ofgem would like to introduce a symmetric incentive based on carbon equivalent emissions and we have therefore assessed the impact of an incentive based on the prevailing non-traded annual carbon price recommended by DECC. We recommend that a neutral position should be based on the agreed targets by weight, as set out in our Business Plan, and we believe that this level sets the right risk balance as it maintains background performance despite an ageing asset base which has an increasing leakage rate.

In terms of Business Carbon Footprint and Losses, Ofgem appear to have reached a sensible conclusion in their final Policy document and the output of this work is factored into our plans.

Finally, at the time of submission we are awaiting the conclusion of a consultation process in respect of the Broad Environment measure and as yet this remains unclear.

Capital investment & associated outputs

Customer satisfaction - connections

SP Transmission has a good track record in delivering timely grid connections. The adjacent graph shows the growth in renewable grid connections connected during TPCR4 – a performance significantly ahead of any of the other licensees. Obviously there are many external factors which impact on project timescales but we still believe that our project delivery performance is very good reflecting our extensive transmission project delivery experience over many years.

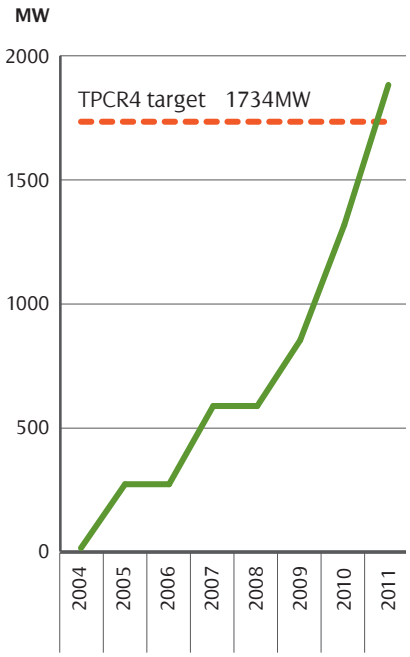
Our experience is that any changes from the originally contracted dates are due to factors out with our control; usually due to planning consent delays and changes to developer requirements.

Obtaining all necessary consents is dependent on outside agencies, such as local authorities, providing consent approval to competent planning applications in realistic timescales. Also, the advent of considerable onshore wind in Scotland has led to Scottish landowners becoming much more aware of the value of land necessary to connect wind hence agreement of landowner consents can take some time, particularly if we are to ensure that connections and associated infrastructure are delivered cost-efficiently. Consenting has been a key area of focus within our assessment of the deliverability of our plans.

In terms of RIIO-T1 outputs, we note that Ofgem believes that it is imperative that transmission companies give due priority to ensuring timely connection to their network, and Ofgem have reached the decision that the primary output for connections should be related to compliance with current obligations, and therefore on the licence requirement to make connection offers.

Since the start of BETTA we have worked work closely with both National Grid and developers during the connection application process to agree connection dates that take a realistic view of the consent, construction and commissioning processes. At this stage of the process,

SP Transmission
Connected Generation



we will advise the developer of connection options that will improve their chances of obtaining timely consent such as, for example, consideration of wood pole single circuit overhead lines or undergrounding. In our experience before and since BETTA, we are not aware of ever missing licence deadlines for connections. This business priority will not change over RIIO-T1.

We find it perplexing however that Ofgem are seeking to introduce a penalty only incentive regime around the current mandatory licence obligations. Again this has been factored into our risk assessments.

Stakeholder Feedback

SP Transmission welcomes Ofgem's focus on customer satisfaction and stakeholder engagement as integral to their RIIO-T1 strategy. The extensive stakeholder consultation we conducted in support of our RIIO-T1 submission has already resulted in real outputs. The details of the process we undertook, who we engaged with and their feedback is laid out fully in our section in the Business Plan on Stakeholder Engagement.

We have reviewed all our stakeholder interactions in respect of Transmission related activities, identified key stakeholder groupings, developed a contact database, and determined the structure of customer satisfaction and stakeholder engagement surveys on an ongoing basis and to deliver consistent improvements to our customer satisfaction levels we will develop stakeholder engagement strategies specific to each stakeholder group.

Our feedback through our RIIO stakeholder engagement is that we – working with National Grid - should deliver sustainable low carbon energy through fair, clearer and more accessible processes. Our stakeholder strategy in this area includes a commitment to review the current connection process with National Grid to look to provide more clarity on the connection process particularly for new, smaller developers.

Deliverability

It has been recognised by SP Transmission that significant investment in assets and change to normal patterns of system use is expected to increase and continue throughout the review period in order to meet government energy policy objectives. These must also take place while the need to deliver increased levels of asset modernisation is becoming a significant delivery issue.

Our delivery plans are therefore set within the context of a longer term delivery strategy which will ensure the investment requirements of asset stewardship can be integrated with new connections and capacity reinforcements.

We will deliver the significant levels of investment proposed via a high degree of programme management structure and control designed to ensure that the interactions between issues can be managed.

We have also retained a degree of flexibility within our plans to allow us to resolve conflicts arising within the programmes. Our overall approach is to develop the non load programme in such a fashion that it can be linked and co delivered alongside the projects driven by reinforcement and generation needs which are envisaged over the price review.

- To ensure that required volumes are achieved it is considered that more modernisation projects must be pre engineered and available within a delivery window than will actually be worked upon.
- The consequences of external issues, such as planning consent, outage availability etc, will then be managed by choosing which individual scheme elements can proceed within the available outage opportunities.
- Non load schemes can therefore flex around changes in the reinforcement programmes within the review period.
- Additionally a significant volume of transformer replacement and 132kV substation renewal projects need to be overlaid on the investment programme.
- A degree of smoothing has also been considered within these programmes to manage the sensitivity around supply chain and resource dependencies, for example in the area of overhead lines.

Procurement

SPT will purchase its equipment, goods and services efficiently through Iberdrola's Global Purchasing Organisation. While the level of investment proposed in RIIO-T1 is a significant increase in volume over TPC4. When considered within the Global market within which Iberdrola Group Procurement operates the relative volume increases are much less dramatic and SPT is confident that efficient investment can be procured in line with its proposed business plan.

A detailed description of the way in which Procurement will be used to secure efficient and sufficient levels of investment is set out in the Deliverability section of our Business Plan.

Iberdrola support and delivery model

SPT considers that there is an opportunity for a fundamental change in delivery which will take advantage of the improved leverage available via a global purchasing organisation, with is described more fully under the Procurement heading below.

SPT has, and intends to maintain, an established and formal relationship with Iberdrola Engineering and Construction (IEC). IEC was created in 1995 and is now one of the leading energy engineering companies in the world with a presence in over 30 countries across Europe, Middle East, America and Africa. Its current project portfolio is in excess of 2.5 billion Euros, with a turnover in excess of 1.4 billion Euros in 2009. Although the company is headquartered in Spain, 87% of its project portfolio is abroad and more than 80% of its sales are from outside the Iberdrola Group. The current worldwide workforce stands at more than 2400 people of 48 different nationalities, more than 80% of which are professionally qualified in engineering/ project delivery disciplines. This organisation is currently increasing its UK capacity to support SPT in managing the delivery of transmission investment.

The expertise available within IEC, and the associated delivery methodology means that work elements within projects can be disaggregated and supply of materials and services re-aggregated under appropriate procurement strategies. By this means it is possible to open up new delivery options and introduce fresh and competitive capacity from the supply chain incorporating local, national and global suppliers as required and where competent and cost effective. Through this approach the technical and commercial risks are managed and controlled in house by IEC engineering teams and project managers. Standardisation is more readily achievable than historically where different main contractors have to be engaged directly to Engineer Procure and Construct their individual projects. SPT believe that this new approach is more appropriate where major programmes of work have to be integrated and delivered onto a system which is heavily utilised in supporting established users and is subject to high levels of depletion when key outages are taken. A significant level of control is achieved through this approach and increased levels of activity and interactions between projects can be reliably managed.

Deliverability

Outage delivery

Key to success is the control and management of changes in outage plans. Earlier outage certainty will allow key sensitivities to be robustly monitored through project and programme level governance reports and corrective action agreed with the key parties which will ensure critical outage windows are adhered to by all parties. SPT will seek to secure a greater level of certainty both in the delivery aspects of site work and in system access.

SPT has scoped its investment plans in detail during the preparation of this business plan. By having an established view at an early stage several benefits will be realised. In addition to identifying opportunities for standardisation which will reduce the scale of the procurement task and this will also lead to higher levels of consistency and drive generic solutions to problems identified through construction and commissioning. These factors will reduce the likelihood of overruns in the medium term and improve confidence levels among stakeholders.

SPT is now therefore able to plan more carefully and accurately the outage requirements.

By bundling modernisation projects together and into outage plans necessary for other works, SPT believes it will be able to secure agreement from other stakeholders through improved forward planning and formal mechanisms to resolve issues.

SPT has engaged with the NETSO and shared its overall vision of the extent of the modernisation plans and is continuing to develop the forward programme through to a stage by stage outage plan with emphasis on key interactions between the various modernisation works and proposed load driven schemes.

Consenting

Consenting is key to the critical path for any major project and has been a major area of focus within our assessment of the deliverability of our plans.

Obtaining all necessary consents is dependent on outside agencies, such as local authorities, providing consent approval to competent planning applications in realistic timescales. Also, the advent of considerable onshore wind in Scotland has led to Scottish landowners becoming much more aware of the value of land necessary to connect wind hence agreement of landowner consents can take some time, particularly if we are to ensure that connections and associated infrastructure are delivered cost-efficiently.

The common theme is that a considerable portion of the consenting process is outwith the immediate control of SPT, e.g. Local Authorities, Landowners, Statutory Consultees and the Public. Building on our experience of the likely delays, greater certainty can only be offered by early engagement and monitoring progress against set 'timelines' that must include 'critical' and 'tactical' milestones to ensure delivery improvement. Hence, for every type of major project scenario we typically deliver, Consenting and Wayleave templates have been developed which set out the optimal process for obtaining the necessary consents across our schemes. They also lay out key metrics and milestones that will be monitored on an ongoing basis.

As part of the building of our investment plan, the consenting process has featured heavily. A resource management study has been undertaken to manage all future load and non load projects against the rolling programme for RIIOT1.

The main outcomes from this study are to:

- Increase resource levels, especially within Wayleaves, to ensure that each project can be managed efficiently,
- Introduce improved monitoring of programme 'critical path', and
- Utilise compulsory powers if and when reasonable offers are not being accepted, or when negotiation is used merely as delay tactics

In terms of implementing these changes, recruitment from within the SPEN business is our preferred option and should provide approximately 50% of the requirement. The remainder in the shorter term will be contracted, with the preferred option being additional wayleave staff from our contracted chartered surveyors.

Overall staffing

Like most established ESI organisations in the UK, SP Transmission has an ageing workforce and we recognise that to successfully meet the challenges of RIIO-T1 we must have an HR strategy that reflects the need to increase capability to deliver future growth in transmission workload and which also addresses the requirement to maintain our current workforce skills and experience taking into account current age profiles and expected attrition.

Incremental increase in resource demand

Against this Business Plan up to 1,500 new and incremental directly associated jobs will require to be created in the SPT franchise area during this period. Approximately 53 of these roles will be within SPT's business directly, approximately 160 within our principal contractor IEC and approximately 1,200 to 1,300 across our full contractor base. This excludes any clerical or business support requirements.

Workforce renewals

Also during this period because of attrition and retirement, SP Transmission will need to recruit a further 107 staff bringing our total projected recruitment requirement of 160 staff. The total cost associated with ensuring we have the required skills to deliver RIIO-T1 included in our plans is around £3m (with a significant proportion of this cost incurred prior to the start of RIIO-T1).

Recruitment plan

The table opposite sets out the projected recruitment for SP Transmission over RIIO-T1, taking account of the factors set out above.

FTE	2010 /11	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Engineering staff (start)	**133**	**132**	**143**	**166**	**176**	**186**	**188**	**189**	**186**	**183**	**184**
- less retirements	-1	-5	-7	-4	-4	-3	-3	-7	-7	-3	-3
- less attrition		-3	-4	-4	-4	-4	-4	-4	-4	-4	-4
- intake from market		9	18	18	18	9	8	8	8	8	8
- graduate intake		10	16								
Engineering staff net (close of year)	**132**	**143**	**166**	**176**	**186**	**188**	**189**	**186**	**183**	**184**	**185**

Non-engineering staff	**60**	**60**	**60**	**60**	**60**	**60**	**60**	**60**	**60**	**60**	**60**
Industrial staff (start)	32	32	32	36	41	46	45	42	40	36	33
- less retirements			-2	-1		-2	-1	-3	-2		
- less attrition		-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
- intake from market											
- apprentice programme intake		1	7	7	6						
Industrial staff (close)	**32**	**32**	**36**	**41**	**46**	**45**	**42**	**40**	**36**	**33**	**32**

FTE	2010 /11	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
TOTAL	**224**	**235**	**262**	**277**	**292**	**293**	**291**	**286**	**279**	**277**	**277**

We have built our initial manpower projection against the programme of works required during RIIO-T1 (i.e. up to 2021 and not beyond). Planning over effectively a 10-year horizon means that it is very difficult to make accurate predictions about attrition rates and manpower requirements toward the end of this period. This future workforce requirement will also be influenced by the relative success of our IEC delivery model and the future programmes we develop over this Control period. This uncertainty is also a result of moving to longer price control periods. At this stage, and the interests of prudence, we have not therefore included any manpower requirements for RIIO-T2.

In order to address this we see three potential options for Ofgem to consider:

1. **Similar to the approach taken to equity issuance costs at TPCR4,** Ofgem make an allowance available upon application under the licence for companies to fund Work Force Renewal (WFR) requirements for RIIO-T1. This allowance could be based on the level required during the early stages of RIIO-T1 (for example the [£3m] we have referred to upon our case). Companies would be required to evidence their plans and provide supporting independent corroboration before accessing this allowance through a licence condition.

2. **Provide a specific reopener clause within the Licence for WFR.** This reopener would be dealt with at the year 4 review of progress that Ofgem have highlighted they intend to take place

3. **An agreed log up mechanism could be provided which would be "trued up" at RIIO-T2**

   We require some certainty from Ofgem that they will consider the issue of future workforce renewal through either one of these mechanisms (or a similar variant) within the RIIO-T1 process. We are happy to work with Ofgem on this as we progress discussions towards agreeing the new price control but at this stage our preference would be option 2 outlined above.

Financial case & risk assessment

As we look at the RIIO-T1 years more generally, we expect to find that actual WACCs will be higher, and probably more volatile, than during any other eight-year period since privatisation, some two decades ago. This is because throughout the next period, but particularly from 2013, the energy projects required to meet the UK's 2020 targets will enter the large-scale construction phase.

As we look ahead to the period covered by RIIO-T1, we see the early stages characterised by extreme economic uncertainty, where opinion varies starkly over the predicted course of domestic and international recovery in light of the sovereign debt crisis affecting the Eurozone.

Companies are not simply exposed across the debt and equity markets but commodities present a significant challenge in managing our cost base. In the last couple of years a tightening balance of copper supply/demand has resulted in a rapid rise in the red metal's prices. Furthermore, there has also been a rise in interest in copper as an wealth asset similar to the impact on gold so oft quoted in the popular press, in addition to the traditional, physical demand. Copper is deemed a strategic asset in China and provides a way to diversify from the US dollar and US treasuries.

While copper demand has risen, supplies have not kept pace. This is resulting in speculation that we are on the path to peak copper prices across RIIO-T1.

Aside from these direct influences on our cost base, there is also much uncertainty about what early impact of global economic turmoil could have on the financing of our sector. For example, the current Eurozone crisis affecting Greece, Portugal, Italy, Spain and Ireland is characterized as to have the potential to be greater than the impact of the collapse of Lehmans at the height of the banking crisis.

The distortion of current market parameters is being compounded as the markets wait for a clear signal from the ECB and the most influential of Europe's politicians, but the combination of the banking collapse together with European member state failure to take action has inevitably lead to unprecedented levels of national debt. We do not know precisely when, or by how much, these factors will ultimately impact our cost base or funding costs but at this stage we can already see the impacts on more recent debt issuances that have taken place in our own company. With an increase to 8-year price control periods this risk and volatility is viewed as being significant by our investors.

Competition for investment

As we look at the RIIO-T1 years more generally, we expect to find that actual WACCs will be higher, and probably more volatile, than during any other eight-year period since privatisation, some two decades ago. This is because throughout the next period, but particularly from 2013, the energy projects required to meet the UK's 2020 targets will enter the large-scale construction phase.

Investment to support significant cash-outflows across RIIO-T1 will require companies to be accessing the markets for very large sums of money. Estimates of the spend in the UK electricity energy market, directly attributable to meeting 2020 targets, such as for on-shore and offshore transmission upgrades, smarter distribution networks, new conventional and nuclear generating plant, and renewables, is estimated to be around £200bn in the RIIO-T1 period.

Competition for funding will be stiff given £110 billion of this investment, by the government's estimates; will be in new generation plant and equipment which is likely to attracting far higher returns than the infrastructure investment upon which it depends. Combined with serious economic uncertainty all of these factors will affect the price of debt and the returns expected by equity investors faced by the Transmission businesses.

Given the experience of the past three years since the banking collapse and the emergence of the latest crisis, our own company is acutely aware of the benefits and importance of managing credit ratings and we think that this will be a sustained strategic goal in most UK boardrooms.

We believe that the high number of energy projects coming to market, combined with the practicalities of managing the operational delivery of such a major programme of critical investment must be taken account of within the key financial parameters that Ofgem ultimately decide upon.

Financial information

Unlike previous Price Control Reviews, Companies have been invited to submit a full, holistic financing package with Ofgem only providing guidance in only a few key areas. As such we are submitting a business plan that includes a financing plan which complies with Ofgem's policy recommendations and which also provides a fair deal for customers and shareholders alike.

As a consequence of the significant increase in capital expenditure during the RIIO-T1 it is inevitable that prices will rise during the period. We will work with Ofgem to ensure that these are smoothed as far as possible as we move from the roll over year of 2012/13 into the RIIO-T1 period to avoid unnecessary price shocks. **We estimate that the impact of our business plan on customers' bills is an increase of thirteen pence in the annual charge per customer in each year of RIIO-T1.**

Shareholders will be expected to play their part. Our business plans require equity injection of £375M supplementing an increase in debt of £825M during the period. As a consequence we have included within our plans a minimum allowed cost of equity of 7.2% (post tax real) which we believe will be the minimum necessary to attract the investment necessary to fund our capital expenditure commitments.

We include within our plans a notional gearing of 50%, lower than previous price control reviews but at a level that is appropriate for a company of SPT's size facing such a dramatic increase in capital expenditure relative to our current RAV. We also see this as key to facilitate access finance at attractive rates at a time when financial markets remain extremely uncertain.

The first three ratios comfortably meet or exceed the A- targets. PMICR is below the A- target for all years except 2013/14 and 2014/15. RCF/Capex is significantly below the A- target. However, Moody's believe that utilities undergoing a large capex programme that do not benefit from accelerated depreciation are expected to score this metric in the range 0.5 – 1.0.

Overall we consider this base scenario to provide A- quality ratios and therefore sufficient comfort to protect against a range of risk factors.

Financial consequences of base assumption

Based on the regulatory financial model assumptions our total modelled revenues amount to £2.5 billion (2009/10 prices) over the eight years of RIIO-T1.

	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21
RIIO-T1 revenues *(£m 2009/10 prices)*	248	277	303	319	329	339	348	355

Summary statutory financial statements (all Nominal)

The following tables show the forecast statutory financial position of SP Transmission which can be found in greater detail within the submitted model and in the Financial templates. The highlights over the eight years of RIIO-T1 are:

- Total Turnover £3,274m
- Average turnover £409m
- Capital Expenditure £2,597m **"Best Case"** (excluding Related Party margins)
- Equity Issue £375m
- Debt increase £825m

P&L	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21
Turnover	292	335	376	407	431	454	478	501
Operating profit	209	239	268	296	313	323	345	361

Cashflow	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21
Increase/ Decrease in Debt	-177	-193	-233	-119	37	-109	-85	54

Regulatory asset value

Closing RAV is shown in the following table

Regulatory Asset Value	2012 /13	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21
Closing RAV	1486	1832	2217	2502	2676	2847	3019	3174	3186

Financeability

The target financial ratios for assessing our financeability are set out in the table below. We have targeted A- in our base position before considering the impact of incentive mechanisms.

The financial ratios that result from our plan are shown in the following table.

Financeability Ratios	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21	Aver -age
FFO interest cover (x)	4.2	3.9	3.5	3.4	3.6	3.8	3.8	3.8	3.8
Net Debt / RAV (%)	50.0	50.0	53.6	54.6	50.0	50.8	51.0	49.1	51.1
FFO/ Net Debt (%)	26.0	24.2	22.0	22.4	24.9	24.0	24.2	25.4	24.1
PMICR using RAV depreciation (x)	2.1	1.8	1.6	1.6	1.7	1.7	1.7	1.7	1.7
RCF / Capex (x)	0.3	0.3	0.4	0.6	0.6	0.6	0.7	1.4	0.6
Regulated Equity /EBITDA	3.8	4.0	3.7	3.5	3.8	3.8	3.7	3.7	3.7
Regulated Equity /Earnings	3.1	3.3	3.1	3.0	3.3	3.3	3.3	3.2	3.2

Financial case and risk assessment

Risks impacting base scenario

It is our belief that the RIIO framework itself is likely to present certain risks which we have been conscious of when calibrating our overall financing bid. We believe that extending the regulatory period to eight years from five necessarily increases 'regulatory risk' despite Ofgem's best efforts to mitigate this effect. One such policy has been to introduce a mechanism to index the allowed cost of debt such that this will flex during the regulatory period. In the very long term this may well meet the objective of providing an allowed cost of debt equal to Companies' actual debt costs however in the short term there is a high risk , if not virtual certainty, that companies will be 'out of the money' against the benchmark during RIIO-T1. We have recognised this likelihood in our base financing strategy to by targeting A/ A- financial ratios.

In addition Ofgem are seeking to extend regulatory asset lives to something approximating to their useful economic asset life. The existing policy is to depreciate assets over a fixed 20 year period. We understand the attraction of moving to useful economic lives and welcome Ofgem's recognition that the resulting 'cliff face' reduction in revenues accruing from the depreciation allowance may require to be mitigated. Our plans include such a transitional arrangement which increases the lives of new assets gradually from 20 to 45 years over the period of RIIO-T1.

Separately we believe that the package of incentives currently under development present us with significant downside risk (including the interest allowance gap discussed above) of between 80-90 basis points of return on regulatory equity arising from certain penalty-only mechanisms and some where targets being discussed currently appear unachievable or are capped but have no collar.

In aggregate after taking into account all of the above risk factors and financing assumptions our modelling suggests that the package provides SPTL with A-/ BBB grade financial ratios with other financial metrics also less favourable than those quoted above under our base assumptions.

Financial consequences after risk and incentives

Summary Statutory Financial Statements

The following tables show the forecast statutory financial position of SP Transmission after reflecting the impact of the incentive mechanisms.

P&L	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21
Turnover	279	321	361	393	417	440	463	487
Operating profit	197	225	253	282	292	316	330	347

Cashflow	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21
Increase/ Decrease in Debt	-175	-190	-244	18	-121	-113	-96	45

Financeability

The financial ratios that result from our plan are shown in the following table.

Financeability Ratios	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21	Aver -age
FFO interest cover (x)	4.0	3.7	3.4	3.5	3.7	3.7	3.6	3.6	3.6
Net Debt / RAV (%)	50.0	50.0	54.2	50.0	51.3	52.2	52.7	51.1	51.4
FFO/ Net Debt (%)	24.9	23.3	21.0	23.8	23.1	23.2	22.8	23.9	23.3
PMICR using RAV depreciation (x)	1.9	1.7	1.5	1.5	1.6	1.6	1.6	1.5	1.6
RCF / Capex (x)	0.3	0.3	0.4	0.6	0.6	0.6	0.7	1.3	0.6
Regulated Equity /EBITDA	4.0	4.2	3.8	3.9	3.9	3.8	3.7	3.7	3.9
Regulated Equity /Earnings	3.3	3.4	3.2	3.4	3.3	3.3	3.2	3.2	3.3

The first three ratios comfortably meet or exceed the A- targets. PMICR is below the A- target for all years except 2013/14. RCF/Capex is significantly below the A- target.

Overall we consider that the ratios provide only borderline investment grade after all the risks and uncertainties are taken into account.

Support from our stakeholders

SPT is proud of the nature and extent of the stakeholder engagement conducted by our businesses on a daily basis.

We understand that effective stakeholder engagement is essential to ensure customer satisfaction, as well as to the delivery of our strategic objectives and operational goals. This ongoing engagement, and the specific RIIO-T1 stakeholder engagement, has significantly influenced our Business Plan which we believe balances stakeholder requirements and delivers a sustainable, efficient transmission network for our existing and future customers and significantly contributes to a low carbon society.

Historically, we have always looked to engage effectively with those direct and indirect customers that we provide a service to or are affected by our activities. For example, with respect to Ofgem and government, we actively participate and support the setting of regulatory and energy policy. In particular, we respond to regulatory and industry consultations and ensure we are represented on industry bodies and trade associations.

Under the SO-TO Code we are currently contracted with National Grid as the System Operator to construct over thirty grid connections for various developers. This involves significant stakeholder engagement in tri-partite meetings, and responding to stakeholder contact and requests directly, throughout the entire process of offer, construction and connection. In addition, as part of connection and wider system grid development we undertake continual stakeholder engagement with strategic planning authorities and a broad range of interested parties such as Historic Scotland, National Trust, SEPA, National Fisheries Scottish Natural Heritage, the Crown Estate, Forestry Commission, Scotland Scottish Water, Coal Authority, RSPB, etc.

Major construction programmes are supported by an appropriate stakeholder engagement. Key stakeholders are identified and assessed for their interest and influence in the delivery of a project. Different communication mechanisms are developed as appropriate to the stakeholder. For example in the Beauly Denny project, a database was established for tracking all contacts and managing each response through to close out.

Customers with a generation and/or demand connection to our transmission system have a connection agreement with National Grid. However, our activities in respect of operating, maintaining and extending the network impact these customers and a formal communication route exists through National Grid, but this is supplemented by informal contact with our operations centre at Kirkintilloch.

In the area of innovation and research and development, we work with suppliers and academic institutes to carry out a range of research projects. These include:

- **National Grid and SHETL** for collaboration and sharing learning;
- **Academia;** to ensure that the transmission network is taking advantage of R&D activity and steering this where necessary for the benefit of the network;
- **Other research and policy making bodies** including EPRI, ENTSOE and Eurelectric in order to inform and keep abreast of developments in transmission technology and policies;
- **Technology providers** to assist with the development of new products; and
- **Transmission customers,** to ensure the network meet their changing needs.

Support from our stakeholders

For example, ScottishPower has had a strong relationship with University of Strathclyde and other institutes through our IFI programme and distribution activity.

The extent of our stakeholder engagement and strength of relationship with our customers gives us confidence that we perform well in this area and we therefore welcome Ofgem's focus on customer satisfaction and stakeholder engagement as integral to their RIIO-T1 strategy.

However, we currently do not formally monitor or measure transmission stakeholder engagement or customer satisfaction. We recognise this presents an opportunity to improve and we are committed to developing appropriate surveys and a formal stakeholder engagement strategy for the start of the RIIO price control in 2013.

The first step to developing these outputs came with the stakeholder consultation conducted in support of our RIIO-T1 submission. This consultation prompted a review of our entire stakeholder interactions in respect of Transmission related activities, and achieved immediate benefits in three areas:

- Increased awareness of RIIO-T1 and our business plans with key stakeholders
- Clear messages from Stakeholders of their priorities and expectations for our business.
- A good foundation for developing our customer satisfaction surveys and stakeholder strategy

We have reviewed all our stakeholder interactions in respect of Transmission related activities, identified key stakeholder groupings, developed a contact database, and determined the structure of customer satisfaction and stakeholder engagement surveys on an ongoing basis and to deliver consistent improvements to our customer satisfaction levels we will develop stakeholder engagement strategies specific to each stakeholder group.

Our feedback through our RIIO stakeholder engagement is that we – working with National Grid - should deliver sustainable low carbon energy through fair, clearer and more accessible processes. Our stakeholder strategy in this area includes a commitment to review the current connection process with National Grid to look to provide more clarity on the connection process particularly for new, smaller developers

The key messages from our stakeholder engagement have been considered and grouped to identify specific areas for focussed improvement as follows:

1. **Communication to Stakeholders:**
   better, targeted, relevant.
2. **New connections:**
   Deliver sustainable low carbon energy through fair, clearer, more accessible processes.
3. **Operations:**
   Maintain security of supplies and maximise long term value for end-users through improved network availability and reliability processes.
4. **Delivery:**
   minimise environmental impact and mitigate consenting and planning challenges through better stakeholder engagement

We are already considering appropriate responses in these areas and will develop these to become the basis of our stakeholder engagement strategy that will lead to our submission for the Stakeholder engagement discretionary incentive available during the RIIO-T1 period.

The stakeholder review for RIIO-T1 also provided the information to baseline the surveys that we will establish to provide effective monitoring and measurement of our customer satisfaction and stakeholder engagement. The challenges to developing effective surveys because of our small stakeholder pool and range of stakeholder engagement are significant but can be overcome. We will do this by working with National Grid and Scottish Hydro to identify stakeholders who may be benefit from a shared survey and with stakeholders themselves to develop questions and arrangements appropriate to each stakeholder group. We intend to develop, test and baseline performance of our surveys in time for the start of the RIIO price control in 2013.

Innovation

Innovation is an essential part of all our future plans for the transmission network. As the generation mix changes from coal and nuclear to renewables, this will create many pressures on the transmission network. These pressures will require to be addressed using new technology, techniques and commercial arrangements. Furthermore, the ageing asset base and the pressures of extensive asset replacement will require an inherent level of innovation to ensure that installed assets are future proof and the doors are not closed on future opportunities.

Changing load patterns through the uptake of new technology such as electric vehicles, heat pumps, micro-generation and energy efficiency will create a challenging landscape for transmission networks which will require innovation throughout.

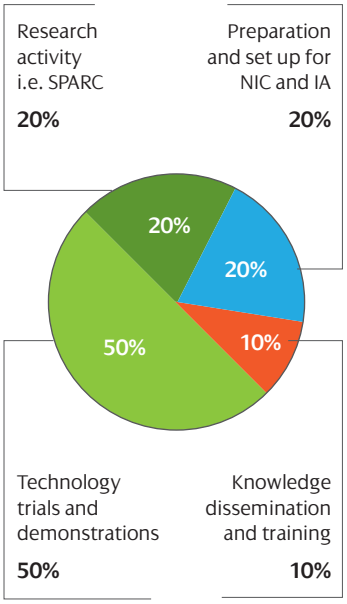
We recognise three areas for the application of the various innovation mechanisms:

- **For existing customer expectations:** to maintain security of supply through improving existing asset availability and utilisation i.e. using condition based plant monitoring, enhanced system monitoring and dynamic rating etc.
- **For future customer expectations:** to have capabilities to accommodate network users future requirements with sustainable developments that minimise the use new assets in shorter connection time-scales.
- **To deploy alternative and SMART technologies** that will change the way the network is planned and operated i.e. HVDC technology, SMART Transmission Zones and energy storage etc.

We welcome the inclusion of the Network Innovation Competition (NIC) and Innovation Allowance (IA) for funding of research, development and demonstration of new technology and techniques associated with the electricity network which will span these categories. In order to deliver SPT's innovation programme, partnership with stakeholders will be vital.

Innovation allowance

The Innovation Allowance (IA) will create an environment whereby incremental innovation, which may have a slightly higher risk than business plan activities, can be progressed. Further, it has been identified that the Innovation Allowance will allow SP Transmission the opportunity to pursue developments as and when they arise throughout the RIIO-T1 period, as many of these cannot yet be anticipated. We believe it is vital that the Innovation Allowance can be used for a range of purposes including the preparation for the Network Innovation Competition as has been permitted in Tier 1 of the Low Carbon Network Fund, as well as training and dissemination of staff for the adoption of new technology and techniques into business as usual processes. We see this approximate split as set out below.



Network innovation competition

In terms of radical innovation, SP Transmission has already held initial discussions with National Grid to discuss potential projects to progress under the NIC as well as the IA. Given the nature of the transmission system, SP Transmission believes it is key that these are undertaken collaboratively with National Grid as the system operator as well as SHETL.

Some of the key themes include:

- Energy storage: understanding the opportunities and implications of storage technologies on the network. This may lead to improved usage of renewable generation as well as creating arbitrage opportunities to help the electricity market.
- DC technology: development of technology including voltage source convertors and network configuration strategies. Developments in DC technology will greatly aid the transmission of electricity and reduce costs through research of the equipment.
- DSM and visibility of aggregated demand/embedded generation: to understand the implications on network flows and possible reverse power flows, impacting DNOs.

SP Transmission will look to develop these various themes under the Innovation stimulus, with key partners in order to improve the transmission network, aiding the transition to a low carbon economy and helping to deliver value for money to customers. We believe it is vital that network companies; both transmission and distribution companies, are at the core of any of these projects.

Conclusions

We recognise that we have an absolutely key part to play in meeting UK climate change targets, and thereby facilitating the transition to a low carbon economy. We must connect large quantities of renewable generation to our network and also ensure that we provide sufficient transmission capacity across central and southern Scotland to support the high levels of renewables connecting in northern Scotland. This challenge comes at a time when our high voltage transmission network needs significant investment to replace and refurbish key network assets in order to maintain the current high level of quality of supply that we provide to our customers.

We believe we have submitted a fully justified, financeable Business Plan which delivers investment grade credit ratings. This is in large part achieved by moving to a notional gearing level of 50% alongside a sizeable equity injection of close to £375m during the period. Our plans include an assumed cost of equity at the top of Ofgem's recommended range to recognise various risks within the overall package, some generic features of RIIO-T1 and some specific to SPT. We have also proposed a transitional arrangement to mitigate the negative short term cash flow implications of the move to an approximation of useful economic regulatory asset lives and preserve an element of regulatory consistency.

In summary, we believe that this Plan ensures that SP Transmission is at the heart of facilitating the United Kingdom's transition to a low carbon economy and that as part of the Iberdrola Group we act as a catalyst to the Government's successful achievement of its legally binding 2020 targets for decarbonisation via a transition toward renewable generation.

Appendices

Appendix 1
Business plan

This appendix sets out the key financial schedules for SP Transmission, covering both the Base Case before risks and incentives, and similarly the Base Case after risks and incentives.

We have also set out our proposed funding arrangements making use of a base line ex ante allowance and uncertainty mechanisms.

Finally our forecast operating costs are detailed.

RIIO-T1 financial schedules - SP Transmission

1. Statement of policy assumptions

Model Assumption	Value/Approach	Bespoke feature
Cost of equity	7.2%	n/a
Cost of Debt	Indexation	n/a
Gearing	50%	n/a
Asset lives	45	New assets only after RIIO-T1 period with interim 'stepped' transition from 20 years to 45

Note:
These statements are not adjusted to provide a smoother revenue profile

2. Financial Schedules - base case before risks and incentives

Income statement

P&L (£m nominal)	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21
Turnover	292	335	376	407	431	454	478	501
Operating profit	209	239	268	296	313	323	345	361
Interest	-56	-69	-84	-96	-99	-97	-103	-104
Tax	-37	-39	-42	-46	-49	-52	-55	-59
Dividend	-43	-52	-61	-64	-68	-78	-82	-85
Retained profit	73	79	81	90	97	96	105	113

Balance sheet (£m nominal)	2012 /13	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21
Fixed assets	1533	1916	2347	2682	2914	3147	3383	3603	3680
Working capital & tax	-87	-100	-105	-101	-98	-101	-103	-105	-97
Debt	-739	-916	-1109	-1342	-1461	-1424	-1533	-1618	-1564
Deferred tax	-138	-157	-180	-205	-231	-258	-287	-315	-341
Net assets	569	743	953	1034	1124	1364	1460	1565	1678

Cash flow (£m nominal)	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21
Operating cash flow	253	285	312	346	375	390	416	426
Tax paid	-15	-17	-16	-18	-21	-23	-26	-30
Captial expenditure	-417	-471	-384	-287	-293	-301	-290	-153
Interest & dividend	-99	-121	-145	-160	-167	-175	-185	-189
Cash flow before financing	-278	-324	-233	-119	-106	-109	-85	54
Equity issue	101	131	0	0	143	0	0	0
(increase)/decrease in debt	-177	-193	-233	-119	37	-109	-85	54

Financeability ratios	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21
FFO interest cover (x)	4.2	3.9	3.5	3.4	3.6	3.8	3.8	3.8
Net debt/RAV (%)	50.0	50.0	53.6	54.6	50.0	50.8	51.0	49.1
FFO/Net debt (%)	26.0	24.2	22.0	22.4	24.9	24.0	24.2	25.4
PMICR using RAV depreciation (x)	2.1	1.8	1.6	1.6	1.7	1.7	1.7	1.7
RCF/Capex (x)	0.3	0.3	0.4	0.6	0.6	0.6	0.7	1.4
Regulated equity /EBITDA	3.8	4.0	3.7	3.5	3.8	3.8	3.7	3.7
Regulated equity /Earnings	3.1	3.3	3.1	3.0	3.3	3.3	3.3	3.2

Our overall assessment is that these ratios provide an A/A- Rating

3. Statement of key risk factors

- Delivery/output risk
  - up to 90bps of downside risk
- Debt indexation gap (between allowed and actual expected rates)
  - estimated 27bps of downside
- Real price effects
  - symmetrical +/- 27bps
- Increased emphasis upon negatively skewed incentives
  - around 100bps upside, 150bps downside
- Duration of the RIIO framework
  - 50bps downside from extended asset lives, 70bps from expected increase in risk free rate

NB. Estimated values are in some cases interdependences and are not necessarily additive.

4. Financial schedules - base case after risks and incentives

Income statement

P&L (£m nominal)	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21
Turnover	279	321	361	393	417	440	463	487
Operating profit	197	225	253	282	292	316	330	347
Interest	-56	-69	-83	-92	-91	-99	-105	-107
Tax	-34	-36	-39	-44	-46	-50	-52	-55
Dividend	-42	-51	-60	-62	-73	-75	-79	-81
Retained profit	65	69	71	84	82	92	94	104

Balance sheet (£m nominal)	2012 /13	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21
Fixed assets	1533	1916	2347	2682	2914	3147	3383	3603	3680
Working capital & tax	-87	-99	-104	-99	-96	-99	-101	-103	-95
Debt	-739	-914	-1104	-1348	-1330	-1451	-1564	-1660	-1615
Deferred tax	-138	-157	-180	-205	-231	-258	-287	-315	-341
Net assets	569	746	959	1030	1257	1339	1431	1525	1629

Cash flow (£m nominal)	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21
Operating cash flow	242	271	297	332	354	382	401	412
Tax paid	-14	-14	-14	-16	-18	-20	-23	-26
Captial expenditure	-417	-471	-384	-287	-293	-301	-290	-153
Interest & dividend	-98	-120	-143	-154	-164	-174	-184	-188
Cash flow before financing	-287	-334	-244	-125	-121	-113	-96	45
Equity issue	112	144	0	143	0	0	0	0
(increase)/decrease in debt	-175	-190	-244	18	-121	-113	-96	45

Financeability ratios	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21
FFO interest cover (x)	4.0	3.7	3.4	3.5	3.7	3.7	3.6	3.6
Net debt/RAV (%)	50.0	50.0	54.2	50.0	51.3	52.2	52.7	51.1
FFO/Net debt (%)	24.9	23.3	21.0	23.8	23.1	23.2	22.8	23.9
PMICR using RAV depreciation (x)	1.9	1.7	1.5	1.5	1.6	1.6	1.6	1.5
RCF/Capex (x)	0.3	0.3	0.4	0.6	0.6	0.6	0.7	1.3
Regulated equity /EBITDA	4.0	4.2	3.8	3.9	3.9	3.8	3.7	3.7
Regulated equity /Earnings	3.3	3.4	3.2	3.4	3.3	3.3	3.2	3.2

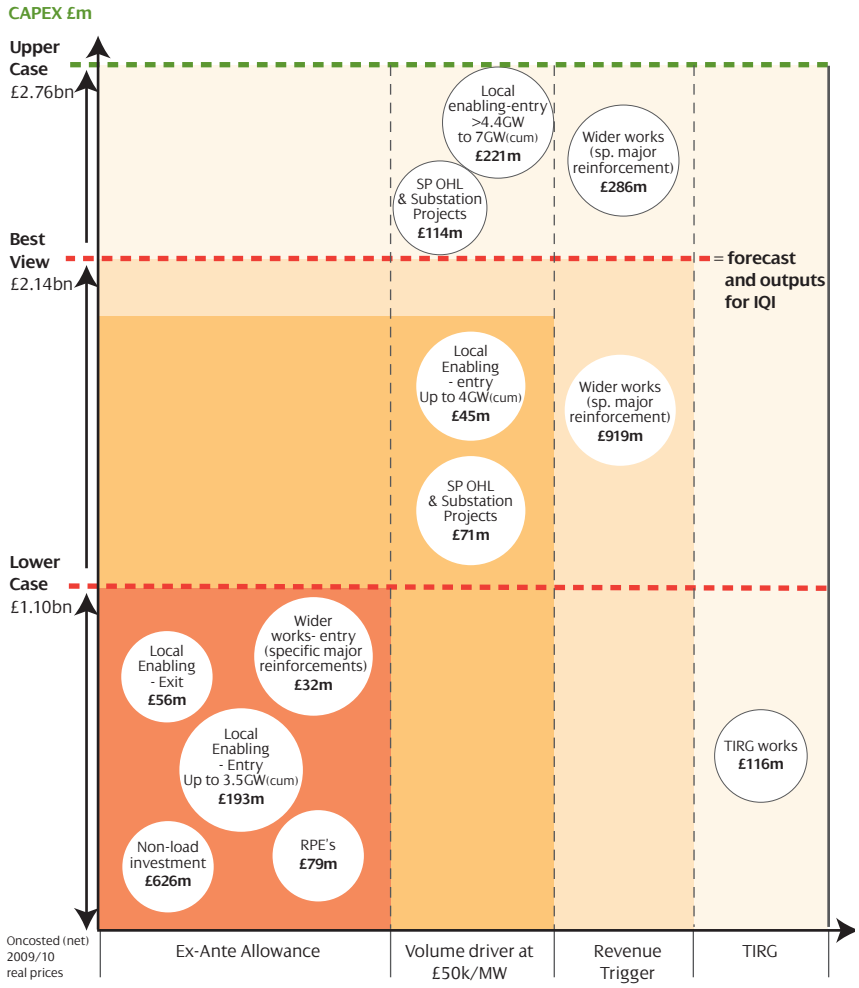
Our overall assessment is that these ratios provide an A/A- Rating

Investment and funding

Given the scale and uncertainty of investment we require funding through a baseline ex-ante allowance and uncertainty mechanisms. This approach is set out in the adjacent diagram. Four funding mechanisms are set out; ex ante allowance, volume driver, revenue trigger and TIRG. We believe that making use of these mechanisms will ensure that we have the right balance of risk while also ensuring that we have cost-efficient funding.

The key point is that this approach ensures that the customer only pays for necessary and cost-efficient investment i.e. "we deliver value for money network services for existing and future consumers".

Funding mechanism



Operating costs

Operating costs £m (2009/10 prices) year ending	2014	2015	2016	2017	2018	2019	2020	2021	Total
Direct Opex									
Fault repairs	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	7.1
Planned inspections and maintenance	5.1	5.1	5.1	5.2	5.2	5.2	5.2	5.2	41.3
Vegetation management 0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	4.3	
BT 21 CN teleprotection 0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	5.0	
Offshore Transmission Project				1.5	1.5	1.5	2.8	2.8	10.0
Total Direct Opex	7.1	7.2	7.2	8.7	8.7	8.8	10.0	10.1	67.8
Indirect Opex									
Gross costs before capitalisation	57.1	58.3	53.2	49.2	51.1	51.1	49.4	38.8	408.1
less capitalisation	-46.0	-47.2	-41.7	-37.7	-39.6	-39.2	-37.5	-27.0	-315.9
Net indirect costs after capitalisation	11.0	11.1	11.5	11.5	11.5	11.8	11.8	11.8	92.2
Non-controllable costs									
Network rates	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	192.8
	42.3	**42.4**	**42.8**	**44.3**	**44.4**	**44.7**	**46.0**	**46.0**	**352.8**

Best View : baseline's and remuneration

Funding mechanisms for 'Best View'	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21	RIIO-T1 Total
Funded via ex-ante									
Local Enabling (Entry - Sole Use)	10.9	11.5	11.0	10.4	12.3	1.4	0.3	0.0	58.0
Local Enabling (Entry - Sole Use) Contributions	-4.6	-4.2	-5.4	-5.1	-5.8	0.0	0.0	0.0	-25.1
Local Enabling (Exit - Sole Use)	0.0	1.3	5.1	3.5	1.9	1.9	1.9	1.6	17.3
Local Enabling (Exit - Sole Use) Contributions	0.0	-1.3	-5.1	-3.5	-1.9	-1.9	-1.9	-1.6	-17.3
Local Enabling (Entry)	64.3	60.7	31.1	2.1	2.1	0.0	0.0	0.0	160.3
Local Enabling (Exit)	6.7	11.1	9.5	4.4	0.1	3.2	11.4	9.9	56.
Wider Works (Entry)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wider Works (Exit)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hunterston - Kintyre Link (Preconstruction)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Preconstruction for non baseline wider works projects 5.3	11.4	5.6	0.1	0.4	0.0	0.0	0.0	22.8	
Total for Pre-construction cost of wider works projects	5.3	11.4	5.6	0.1	0.4	0.0	0.0	0.0	22.8
Wider Works (General)	20.4	11.9	5.6	0.1	2.1	6.8	6.0	1.8	54.7
Infrastructure - TSS	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Total LRE funded by ex-ante allowance	97.9	91.5	51.9	11.9	10.9	11.4	17.7	11.7	304.9
Total NLRE funded by ex-ante allowance	70.1	70.6	68.8	78.6	86.2	86.3	91.9	73.2	625.7
RPEs	0.4	5.2	7.5	9.2	12.8	15.9	18.0	10.1	79.1
Total Capex funded via ex-ante allowance	**168.4**	**167.2**	**128.2**	**99.7**	**109.9**	**113.6**	**127.6**	**95.1**	**1009.6**
Funded via Volume Driver									
Local Enabling (Entry - Sole Use)	0.7	2.0	2.2	1.4	2.2	4.8	5.2	2.5	20.9
Local Enabling (Entry - Sole Use) Contributions	-0.4	-1.6	-1.9	-1.0	0.0	0.0	0.0	0.0	-4.9
Local Enabling (Entry)	2.7	4.9	3.3	1.0	2.7	5.7	6.2	2.9	29.4
Total Load Funded via Volume Driver	**3.0**	**5.3**	**3.5**	**1.4**	**4.9**	**10.5**	**11.4**	**5.4**	**45.4**
Funded via Revenue Trigger									
Wider Works (General)	154.0	195.5	162.6	122.5	102.2	90.8	68.6	0.0	896.1
Total Load Schemes funded by Revenue Trigger	**154.0**	**195.5**	**162.6**	**122.5**	**102.2**	**90.8**	**68.6**	**0.0**	**896.1**
Non-Load table 4.20	0.0	0.8	3.5	7.0	16.9	19.0	12.1	11.5	70.8
Total Non- Load Schemes funded by Volume Driver	**0.0**	**0.8**	**3.5**	**7.0**	**16.9**	**19.0**	**12.1**	**11.5**	**70.8**
Funded via TIRG mechanism									
Total Funded via TIRG mechanism	**46.5**	**39.4**	**25.6**	**4.4**	**0.0**	**0.0**	**0.0**	**0.0**	**115.8**
Total Capex - Best View (all funding mechanisms)	**371.9**	**408.2**	**323.3**	**235.0**	**233.9**	**234.0**	**219.6**	**112.0**	**2137.9**

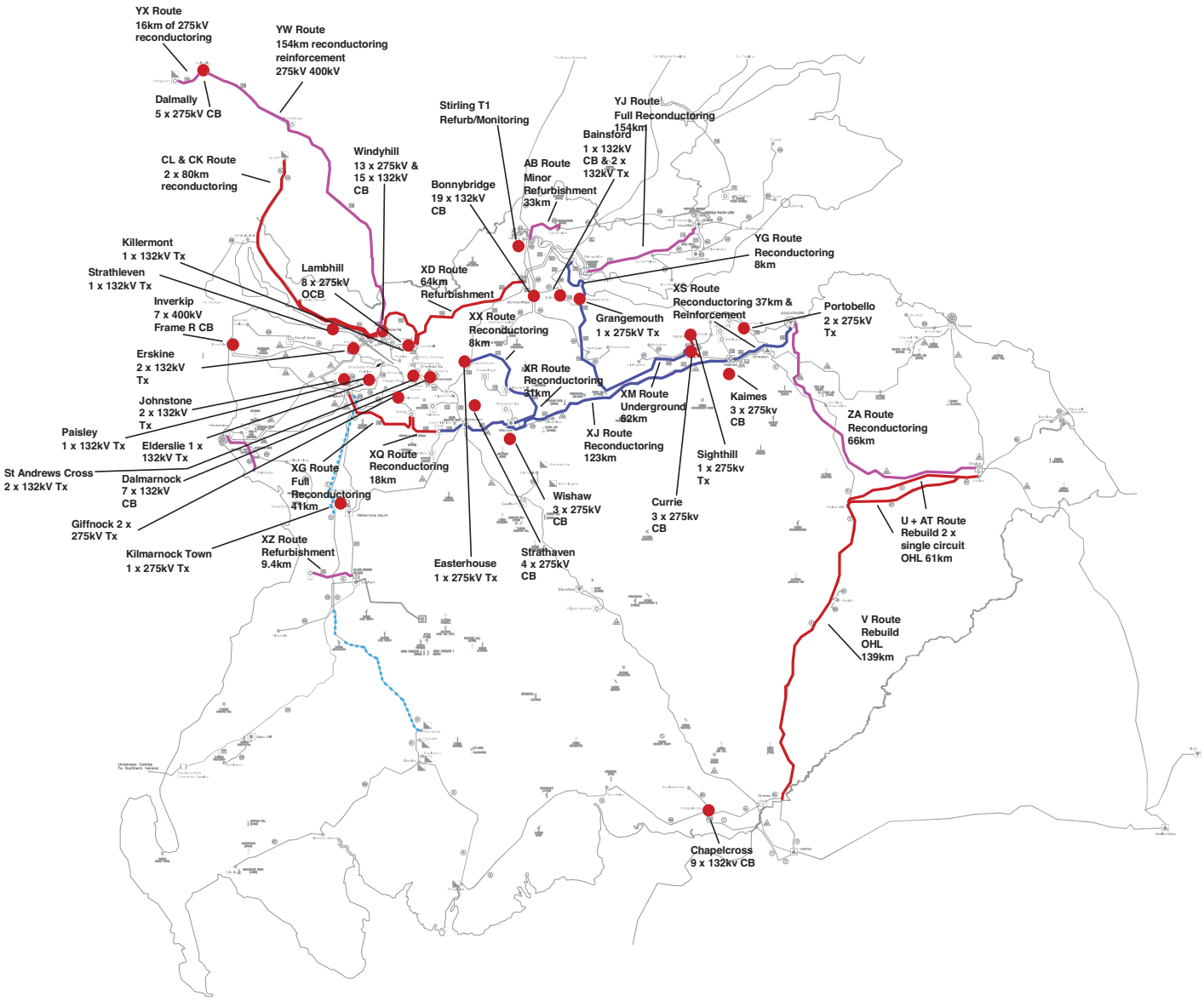
Upper Case Funding	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21	RIIO-T1 Total
Funded via Volume Driver									
Local Enabling (Entry - Sole Use)	3.6	5.9	11.8	15.6	15.3	14.8	11.7	2.7	81.5
Local Enabling (Entry - Sole Use) Contributions	-0.1	-0.3	-1.3	-1.3	-0.3	-0.3	-0.6	-0.2	-4.4
Local Enabling (Entry)	6.0	9.5	27.7	44.2	30.8	14.9	8.3	3.0	144.3
Total Load Funded via Volume Driver	**9.5**	**15.1**	**38.3**	**58.6**	**45.7**	**29.4**	**19.4**	**5.5**	**221.4**
Total NLRE subject to Volume Driver	4.2	23.6	46.2	40.2	0.0	0.0	0.0	0.0	114.2
Total NLRE Funded via Volume Driver	**4.2**	**23.6**	**46.2**	**40.2**	**0.0**	**0.0**	**0.0**	**0.0**	**114.2**
Funded via Revenue Trigger									
Eastern HVDC Link (SPT/NGET) and Onshore Collector	0.6	10.0	45.6	97.3	110.3	22.5	0.0	0.0	286.2
Total Load Schemes funded by Revenue Trigger	0.6	10.0	45.6	97.3	110.3	22.5	0.0	0.0	286.2
Total Capex - Upper case (all funding mechanisms)	**386.2**	**456.9**	**453.5**	**430.9**	**389.9**	**285.8**	**239.0**	**117.5**	**2759.7**

Appendix 2
Load investment projects

RIIO-T1 Outline Plan Load and Non Load 2013 - 2021

- Wind farms
- Substations - Non Load
- Substations - Load
- Non Load circuits
- Load circuits
- Load and Non load circuits
- Non Load circuit substitution
- Possible load circuit
- Circuit removal

Appendix 3
Non Load projects



RIIO-T1 Outline Plan NLRE 2013 - 2021 Non Load Plan

- Wind farms
- Substations - Non Load
- Substations - Load
- Non Load circuits
- Load circuits
- Load and Non load circuits
- Non Load circuit substitution
- Possible load circuit
- Circuit removal

SP TRANSMISSION