ofgem Promoting choice and value for all gas and electricity customers

TransmiT

Project TransmiT

Hannah Nixon

Stakeholder Event, London

6th February 2012

Project TransmiT

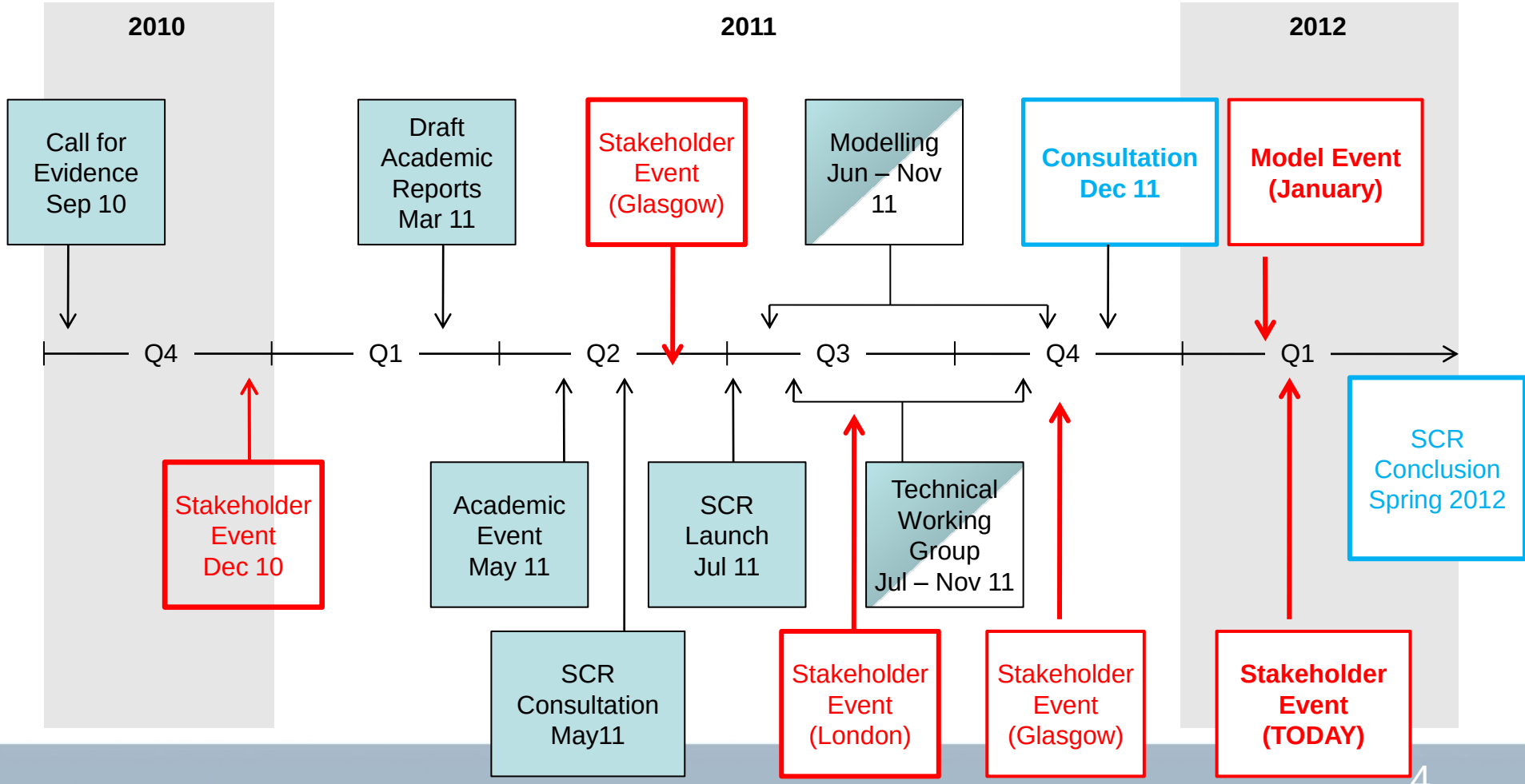
Welcome!

- What is Project TransmiT?
- Overview of the process
- Activity since our last stakeholder event
- Objectives and agenda for today

Project TransmiT

- An independent and open review of transmission charging and associated connection arrangements
- Aiming to facilitate timely transition to low carbon energy sector while continuing to provide safe, secure, high quality network services at value for money to existing and future consumers
- A direct response to the challenge of efficiently delivering the low carbon economy and continued security of supply
- For transmission, scope limited to TNUoS charges

Process to deliver recommendations



Objectives for today

- Communicate our assessment of the impacts of each of the charging options and our initial views of the way forward
- For us and others to hear your views on the outcomes of the modelling work and our initial views on which we are consulting
- Encourage response to the consultation
- Summarise the next steps

Outline of the afternoon

1:00 – 1:20	**Tea and Coffee**	
1:20 – 1:30	Welcome and overview	Ofgem
1:30 – 2:00	Ofgem presentation: assessment and initial views	Ofgem
2:00 – 2:30	Q&A	All
2:30 – 2:45	**Break**	
2:45 – 3:50	Open discussion	All
3:50 – 4:00	Closing remarks	
4:00	**Close**	

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TransmiT

Project TransmiT - overview and progress update

Project TransmiT

Part 1

- Background and overview of the process

Part 2

- Summary of December consultation on charging
- Summarise key findings
- Next steps

Electricity sector faces major challenges

- Renewable generation targets – 15% of energy and 30% of electricity from renewable sources by 2020
- Security of supply – 60GW of new capacity to be connected by 2030
- Affordability – target to end fuel poverty by 2016

TransmiT must be part of the solution, but it is only one part

Project TransmiT

- Widely held view in responses to the Call for Evidence that the immediate focus of review should be on two issues:

Electricity connections: industry views

- User commitment (pre commissioning) the second biggest hurdle for users (after charging)
- Risk profile wrong, and level too high
- Need to incentivise TOs to deliver connections in timely way

Electricity transmission charging (limited to TNUoS): industry views

- Current regime charges low load factor plant in same way as other generation
- Regime does not consider the treatment of transmission links to island users
- Arrangements do not facilitate delivery of renewable policy targets
- Regime leads to prohibitively high charges in peripheral areas

Feedback through the Call for Evidence was that both issues are of equal importance to generation projects.

Connections: What has been done so far?

- **Timely connections**
  - we sought views on the scope and drafting of the reporting requirement we propose to include in the standard licence conditions of the electricity transmission licence.
- **CMP192 (Arrangements for Enduring Generation User Commitment)**
  - This issue has been progressed by industry
  - We received a modification report in December 2011
  - Impact would be a significant reduction in the level of security required:
    - Drop to **42%** of their liability pre-consents
    - Drop to **10%** of their liability once consents have been obtained
  - We intend to publish our impact assessment consultation of the proposals later this month.

Charging: Range of emerging options

- From the work carried out by our academic advisors, stakeholder input and developments in Europe, a spectrum of options has emerged . . .
- … ranging from socialised charging models to potential improvements to the GB trading arrangements

Postalisation
- uniform TO charges
- uniform SO charges
- uniform energy price

Status quo (ICRP)
- locational TO charges
- uniform SO charges
- uniform energy price

Improved ICRP
- improved locational TO charges
- uniform SO charges
- uniform energy price

Market splitting
- uniform TO charges / deep connection
- uniform SO charges
- locational energy price

Charging alone

Wider changes

Scale of change from status quo (NB not necessarily the magnitude of locational differentials)

The focus of our SCR under TransmiT

Industry techical working group

Options for Change

Postalisation
- uniform TO charges
- uniform SO charges
- uniform energy price

Improved ICRP
- improved locational TO charges
- uniform SO charges
- uniform energy price

Themes

1. Reflecting characteristics of users
2. Geographical differentiation of costs
3. Treatment of security provision
4. Reflecting new transmission technology
5. Unit cost of transmission capacity
6. G:D split

- Define postalised and improved ICRP charging models – **the Technical Working Group**
- Model impact on generation despatch, transmission investment, renewable generation and achievement of environmental targets – **Redpoint Energy**

Stakeholders have provided significant input through this open process.

Post publication activity

- Since publication, we have been engaging with stakeholders to answer queries on Redpoint's modelling and our consultation.

This has included:

- The SCDI and Scottish Government to discuss our consultation with representatives of the Highlands and Islands.
- The Welsh Government
- Consumer Focus
- An open session to provide interested stakeholders the opportunity to receive a demonstration on the operation of Redpoint's model.

Part 2: Summary of consultation

We have assessed three broad charging options

Status Quo (ICRP)

- Retaining the existing methodology
- Some changes to reflect issues not previously anticipated – HVDC and security factor for island generators that over time become part of the main integrated transmission system

Improved ICRP

- Make improvements to the existing methodology
- Recognise that characteristics of users of the system are changing (i.e. more intermittent wind)
- Less onerous treatment of island generators

Postalised

- Abandon long running investment cost related approach
- Socialise some or all transmission costs and spread across users according to their level of output or demand

Industry input has been key to developing these

Assessment criteria

Primary assessment criteria

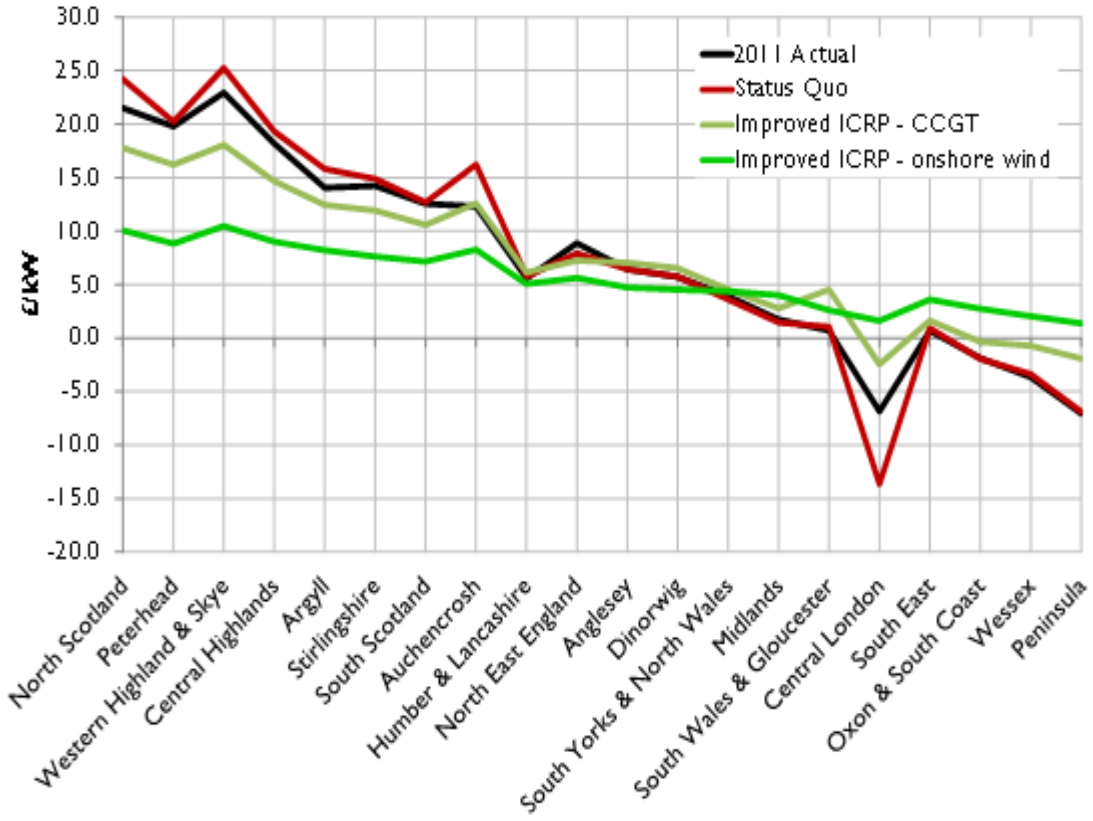
- Impact on achieving renewable energy targets
- Quality and security of supply across GB
- Overall cost and customer bill impacts

Other assessment criteria

- Distributional impacts (within and between generators and consumers)
- Strategic and sustainability assessment (including policy and regulatory lock-in)
- Practical issues: simplicity, transparency, compatibility, implementation

Redpoint tariff results: Improved ICRP reduces the "locational slope" of generation charges; socialised eliminates it

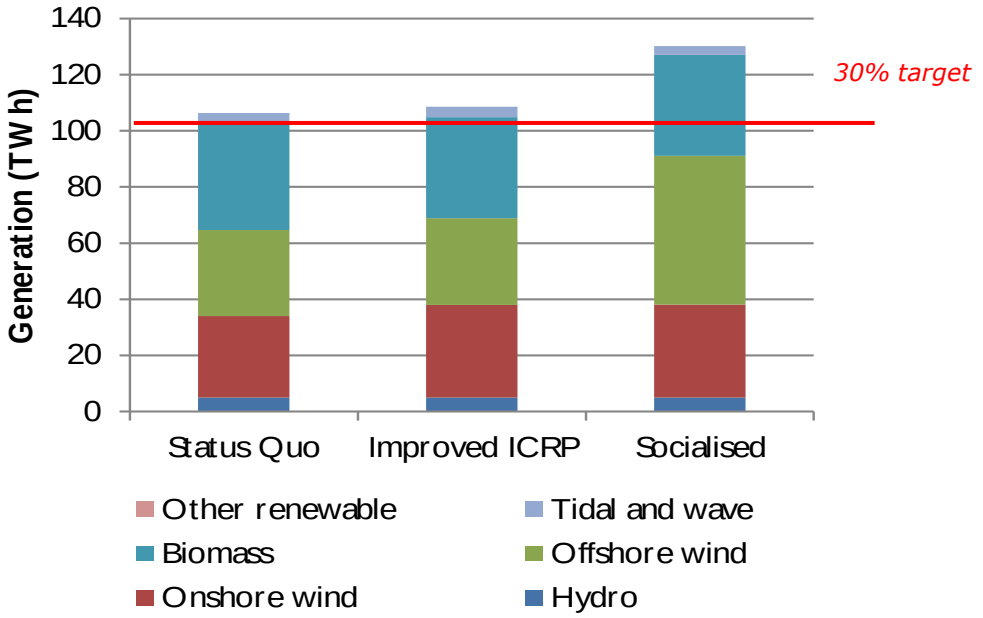
Indicative average wider TNUoS tariffs for all generation zones (2011/12)



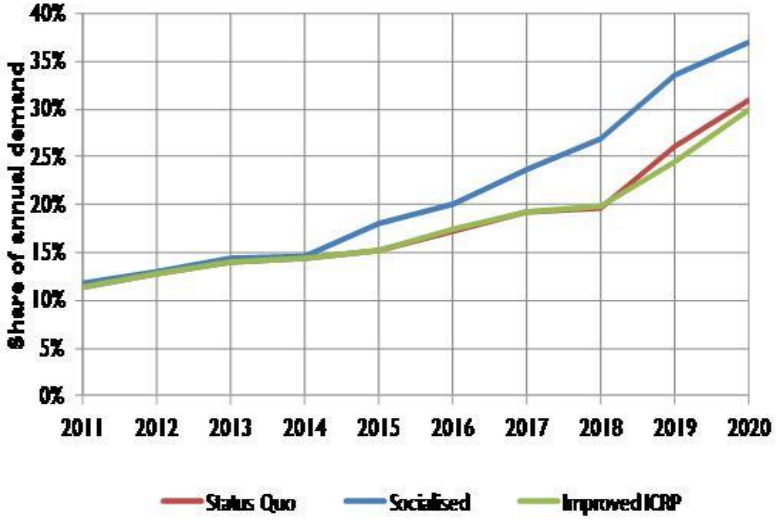
The estimated tariffs produced are purely based on the consultant's modelling and are **not** confirmation or indication of actual or indicative tariff levels – only NGET can provide these.

All options are capable of meeting the 2020 renewable target …

Breakdown of renewable generation in 2020 (assuming equivalent levels of low carbon support)



Renewable generation, 2011-2020 (assuming existing levels of low carbon support)



.. but a socialised approach produces the highest level of renewable output for a given level of low carbon support

.. with different implications on the evolution of capacity mix for a given level of support.

Status quo

- net overall increase in capacity over the next twenty years to meet increasing demand
- CCGT and nuclear capacity is higher by 2030
- Substantial increase in renewable capacity (wind) to meet renewables targets

Improved ICRP

- Similar overall pattern to status quo, but additional onshore renewable attracted north as a result of lower TNUoS.

Socialised

- More build of new renewable generation, both onshore and offshore.
- Bulk in 2020 coming from offshore wind, and from sites further offshore, due to lack of locational signal.

Network reinforcements

- **Improved ICRP and Socialised**

➔ the increase in generation capacity and wider spread of build locations brings forward the need for further transmission reinforcement to the onshore network (relative to SQ).

➔ significant increase in onshore wind deployment in North Scotland brings forward build of HVDC links and generic reinforcement.

➔ As a result, a greater number of reinforcement projects are undertaken under both Improved ICRP and Socialised charging.

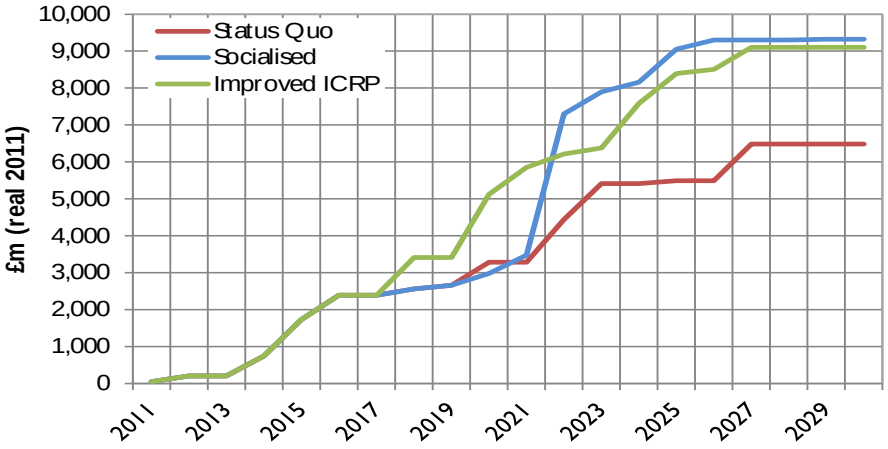


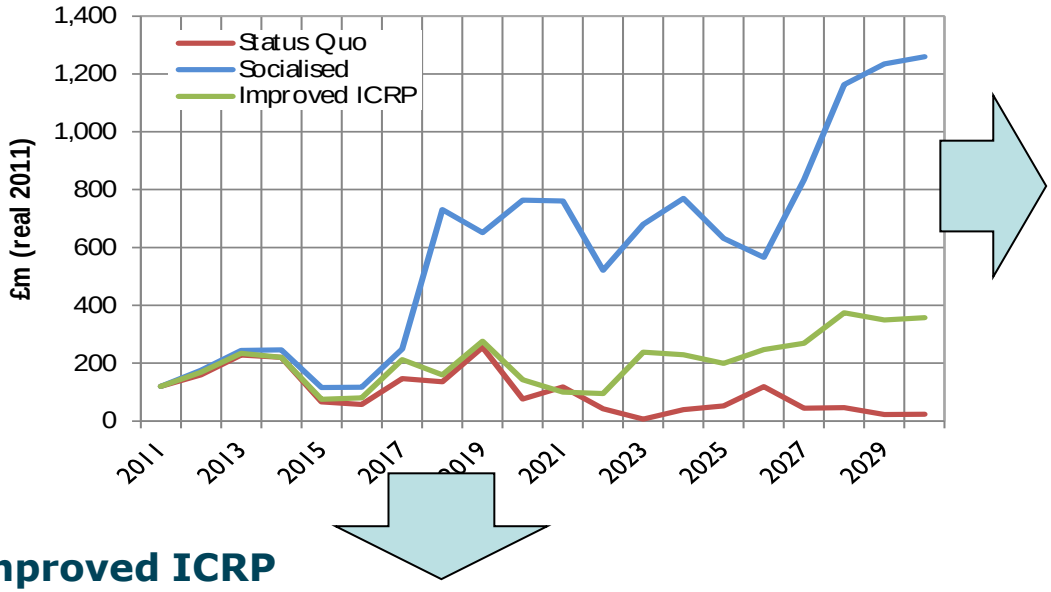
Fig 1: Modelled reinforcement to the MITS

- **Socialised**

➔ wider spread of build triggers a need for earlier build of additional reinforcement projects relative to Improved ICRP

➔ further increases in transmission costs due to an increase in offshore wind build

Constraints



Socialised

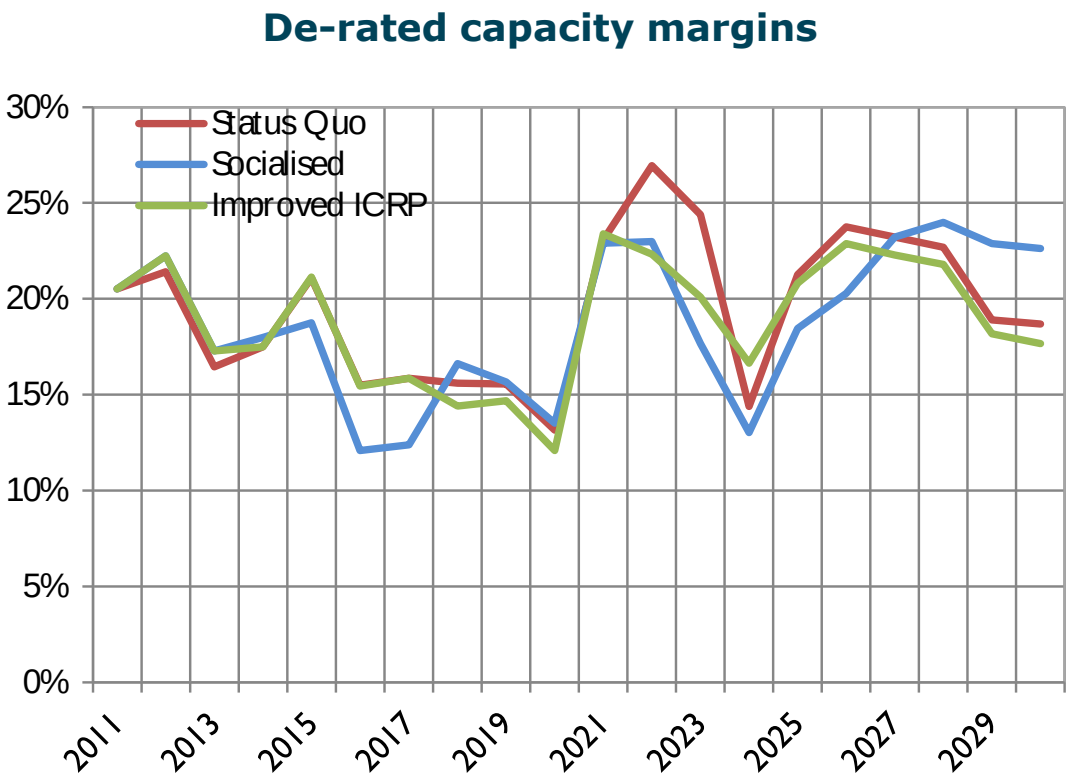
- Marked increase in constraint costs **after 2017**, caused by the different locational pattern of build, of both renewables and CCGT
- Rate of reinforcement does not keep pace with increase in constraint costs
- Constraint reduction would require further reinforcement at further cost

Improved ICRP

- Constraint costs are similar between Improved ICRP and Status Quo until **2020**.
- **After 2020**, the level of reinforcements does not keep pace with the greater levels of renewable deployment in Scotland and constraint costs rise as a result.
- Generic N-S reinforcement exhausted by 2025. **After 2025**, the full range of identified HVDC links built, so there is limited scope to undertake further reinforcement.

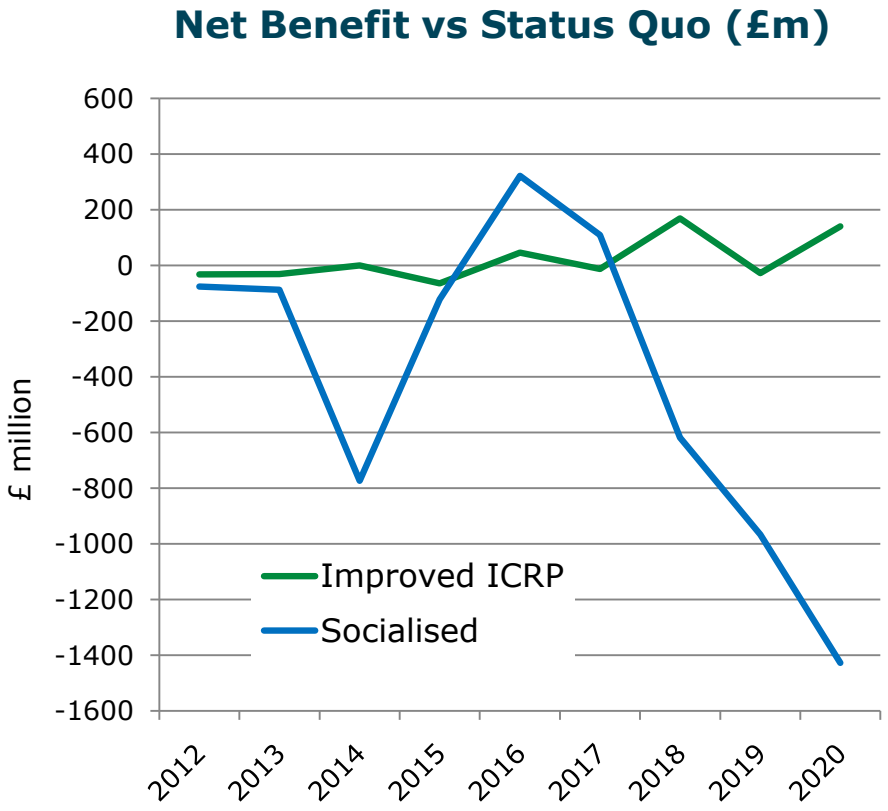
Higher total investment costs ➔ higher annual TO costs ➔ recouped through TNUoS

Capacity margins are similar in all cases



No concerns about security of supply with any of the options

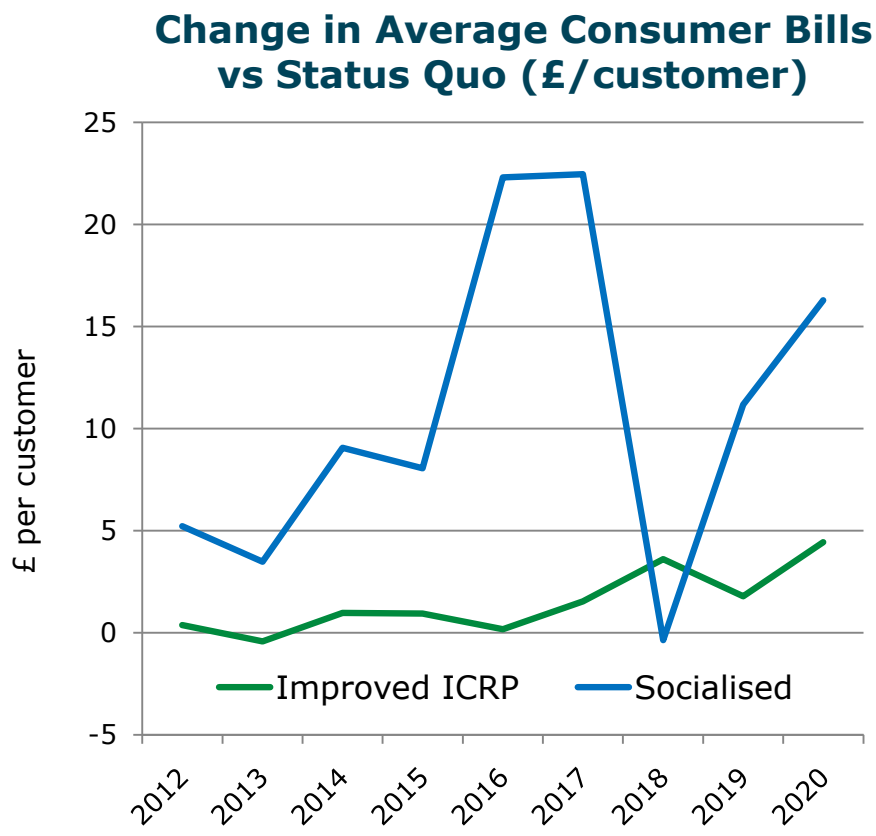
Cost benefit analysis: Power sector



- Improved ICRP shows a net benefit. £122m reduction in power sector costs to 2020.
- Large cost increase (£2.7bn) under a socialised approach to 2020.

NPV 2012 to 2020 (at 3.5%) - £mn real		
	Improved ICRP	Socialised
Generation costs	-313	-453
Transmission costs	8	1,569
Constraint costs	171	1,452
Carbon costs	11	201
Total impact on power sector costs	**-122**	**2,769**

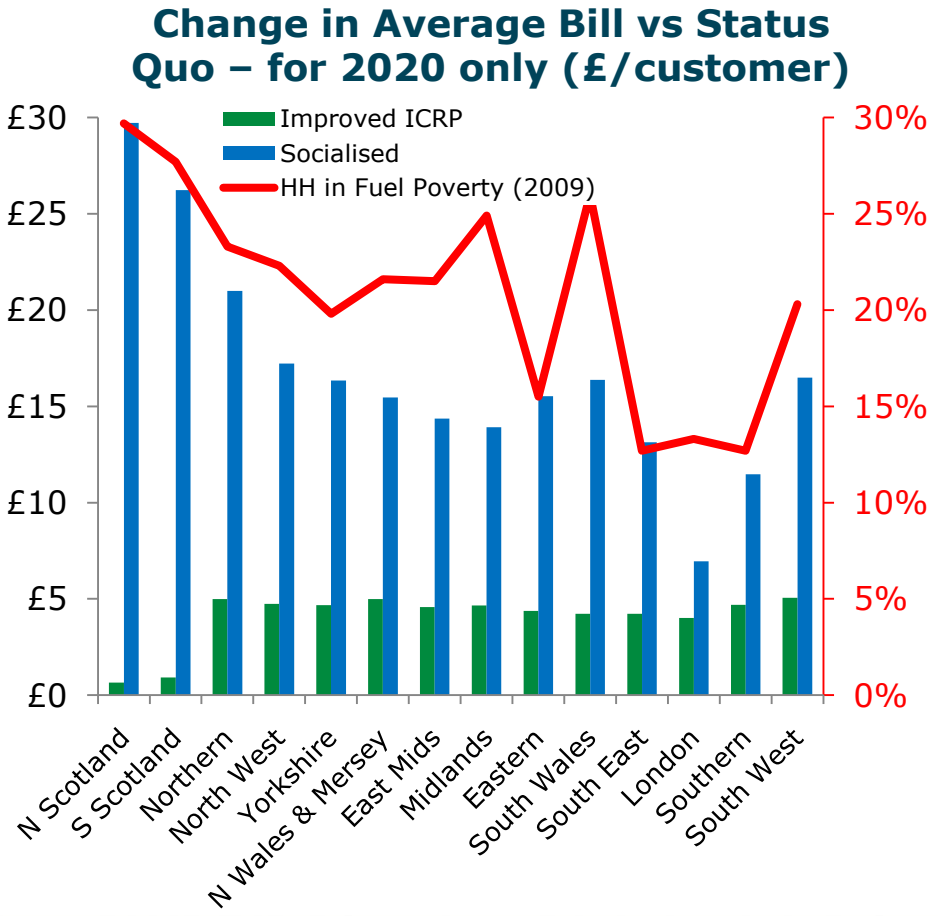
Cost benefit analysis: Customer bills



- Customer bills rise because of higher wholesale costs (both) and demand TNUoS charges (socialised only)
- Socialised approach pushes up consumer bills by around £7bn, or an £11 increase in the average annual household electricity bill per annum)

NPV 2012 to 2020 (at 3.5%) - £mn real		
	Improved ICRP	Socialised
Wholesale costs (inc BSUoS, losses & capacity payments)	1,436	7,433
Demand TNUoS charges	-98	849
Low carbon support	-441	-1,406
Total impact on consumer bills	**897**	**6,876**

The impact on fuel poverty



- Under socialised charging customer bill increases will be highest in Scotland and the north, areas with the highest incidence of fuel poverty currently
- Bill increases under improved ICRP are smaller and more consistent, except in Scotland where they are lower once the HVDC "bootstraps" have been commissioned

Note: Regional definitions not exactly comparable for bills (TNUoS zones) and fuel poverty data (Local Authorities). Scotland fuel poverty is 2008-10,10. Wales fuel poverty is 2008

We are consulting on….

Ruling out a socialised charging approach

- Delivers at disproportionate cost to consumers (around £7bn relative to status quo)
- Increases in customer bills highest in Scotland and the north - exacerbating fuel poverty
- Socialising variant still has significantly higher cost impacts than for status quo and improved ICRP

Forming a direction to initiate a industry process based on Improved ICRP

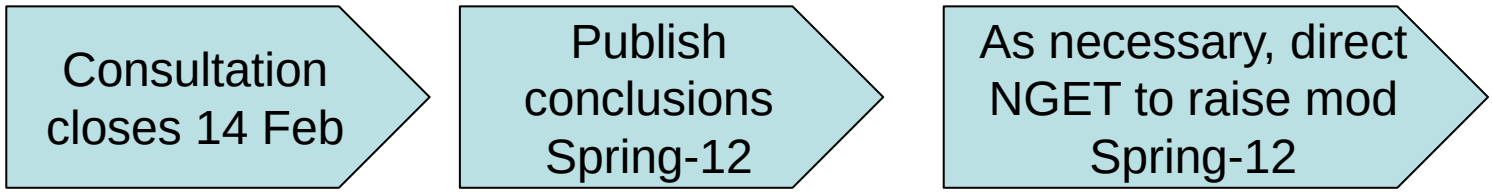
- Delivers at marginally lower power sector cost (£122m) than status quo
- Better reflects the costs that variable generators impose on the need for transmission investment
- Customer bills largely unaffected pre-2017
- Allows better informed decisions and assist in the development of the most efficient outcome for GB consumers in terms of economic and environmental cost.

In summary

- **Key charging messages**
  - Improved ICRP is an approach that better reflects the incremental impact that users of the network at different locations and of different characteristics would have on the costs of transmission investment (i.e. TOs costs) relative to the status quo
  - Improved ICRP better reflects how National Grid plans its investment activity and the costs that 'new' types of generators/technology impose on the network
  - Improved ICRP would assist in creating a more level playing field for generators
  - Customer bills would be largely unaffected pre-2017 under ICRP; socialised would exacerbate existing regional patterns of fuel poverty

Next steps

- **Our initial view, for consultation, is that improved ICRP is the right direction for transmission charges**.
- However, we have modelled only one form of improved ICRP. It is a starting point and does not preclude the industry from developing the arrangements.
- Others are possible and may result in more benefits and lower bills for consumers. Further work by NGET and industry partners is necessary to refine the form of improved ICRP.
- We welcome responses to our initial views



Responses

- Responses should be received by midday Tuesday, 14 February 2012 and should be emailed to Project.TransmiT@ofgem.gov.uk or sent to:

  Anthony Mungall
  Electricity Transmission Team
  Ofgem
  3rd Floor
  Cornerstone
  107 West Regent Street
  Glasgow
  G2 2BA

- Any questions? Call Anthony on 0141 331 6010.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Q&A session

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1:30 – 2:00	Ofgem presentation: assessment and initial views	Ofgem
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