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SO Incentives Stakeholder Workshop

Monday 21st January

Jo Faulkner – Balancing Services Manager

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In this session

- BSUoS and incentives
- SO Incentives journey
- How we have improved the current target setting methodologies
  - Constraints
  - Energy
- Advantages of a BSIS cost target incentive arrangement
- Our concerns on Ofgem's cost disallowance/discretionary reward consultation

Contribution to BSUoS - 2011/12

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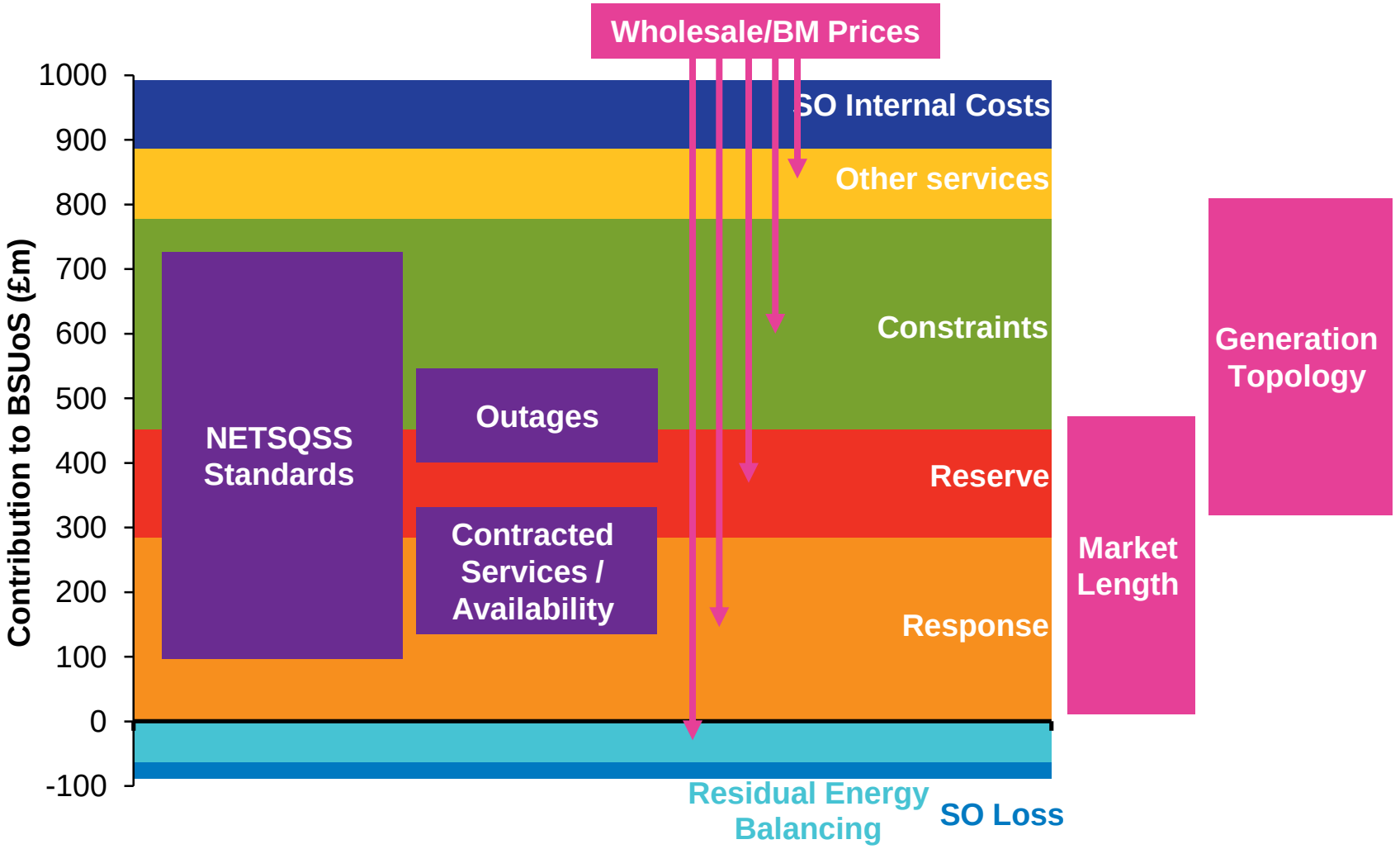

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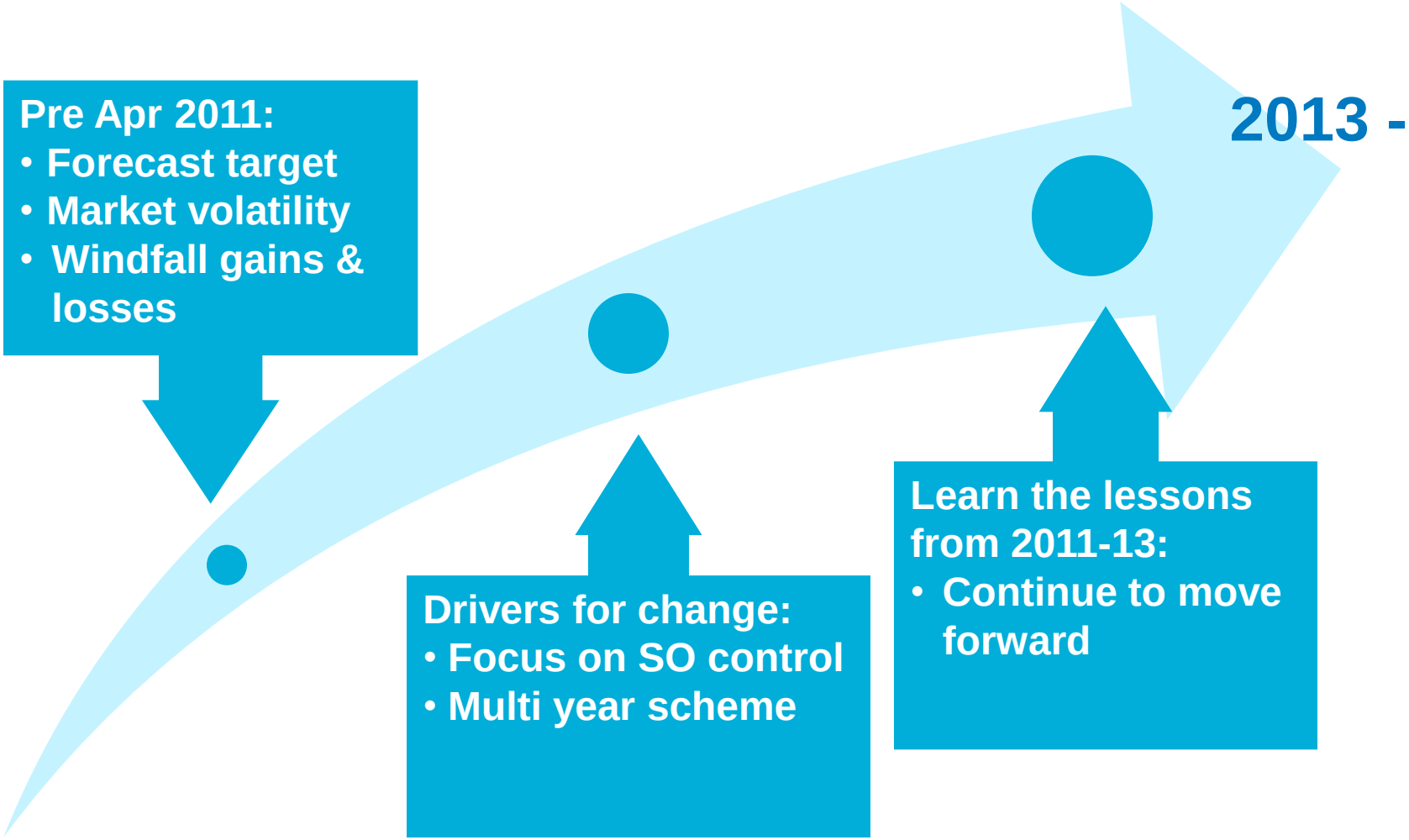
Journey to current incentive scheme



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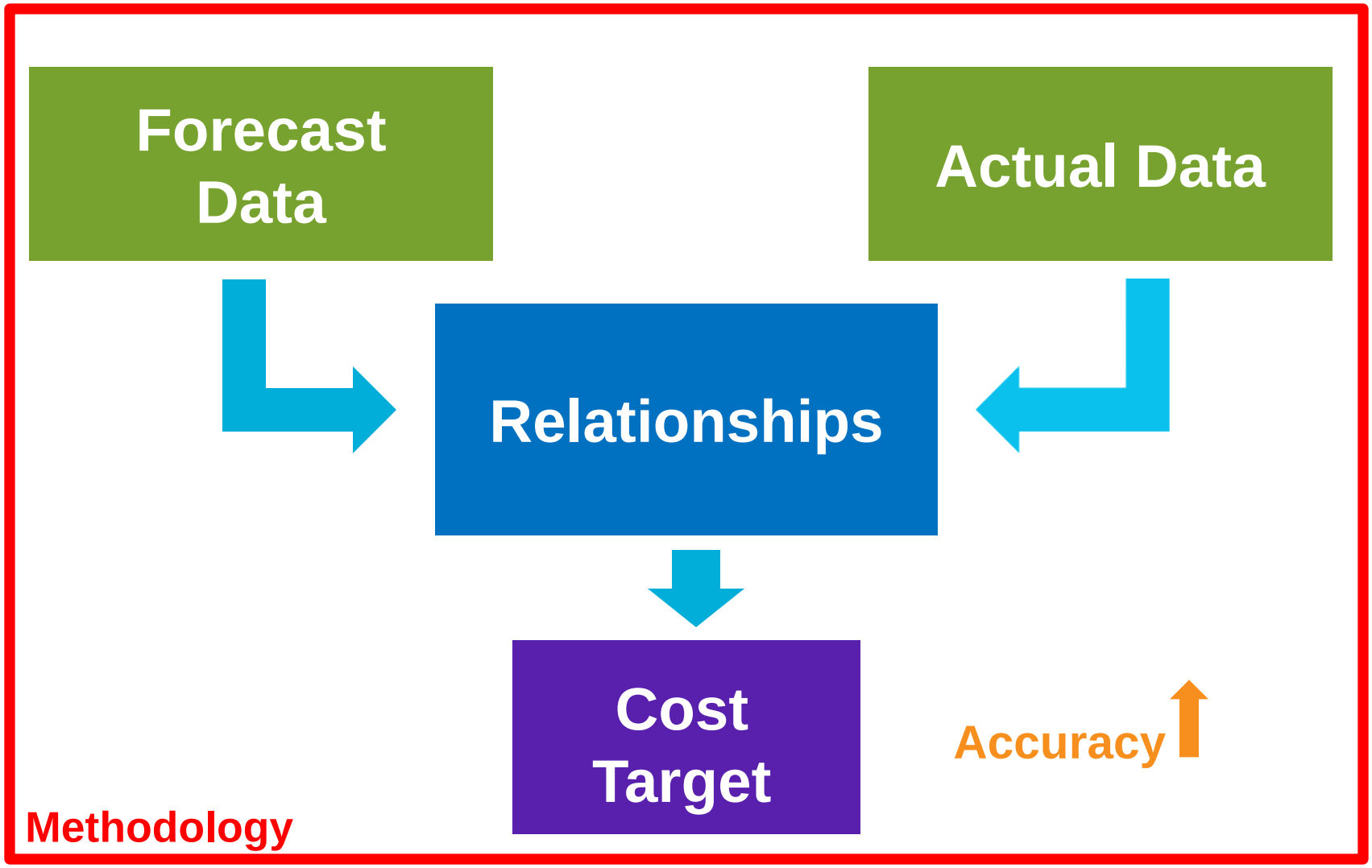
Methodologies and Relationships



Steps already taken to enhance the constraint methodology

- Consultation carried out in July 2012 based on learning from scheme to date:
  - Increased accuracy of a number of inputs
    - Use actual data where we have limited control/forecasting capability e.g. generator availability and interconnector flows
    - Allow for removal of erroneous data
  - Correct identified issues with the model itself

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Impact of the methodology amendments

Forecast

Based solely upon forecast data, including forecasts for those ex post inputs

Target

Based on a combination of forecast inputs (ex ante) and real data inputs (ex post) as we move through the scheme – known at scheme end

Outturn

Actual cost of operating the system – compared against the target to determine National Grid's performance

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Constraint Cost Methodology

Iain McIntosh – Future Requirements Manager

Further constraint methodology enhancements identified

- Better representation of GB Transmission Network
- Ability to identify and directly map any constraint boundary into the model
- Improved wind modelling – including explicit modelling of embedded wind
- Improved hydro and pumped storage modelling
- Visualisation capability

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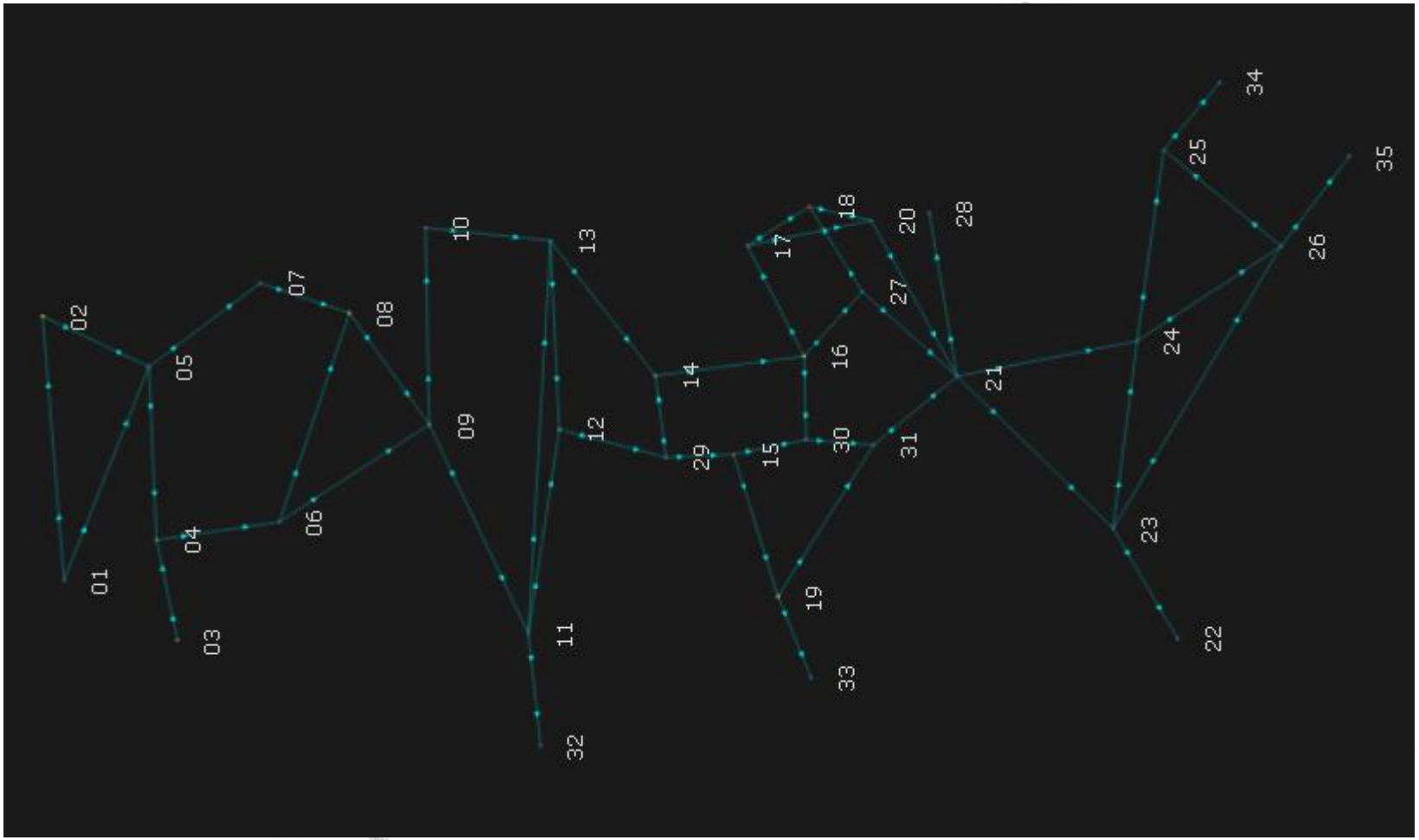
Original constraint model



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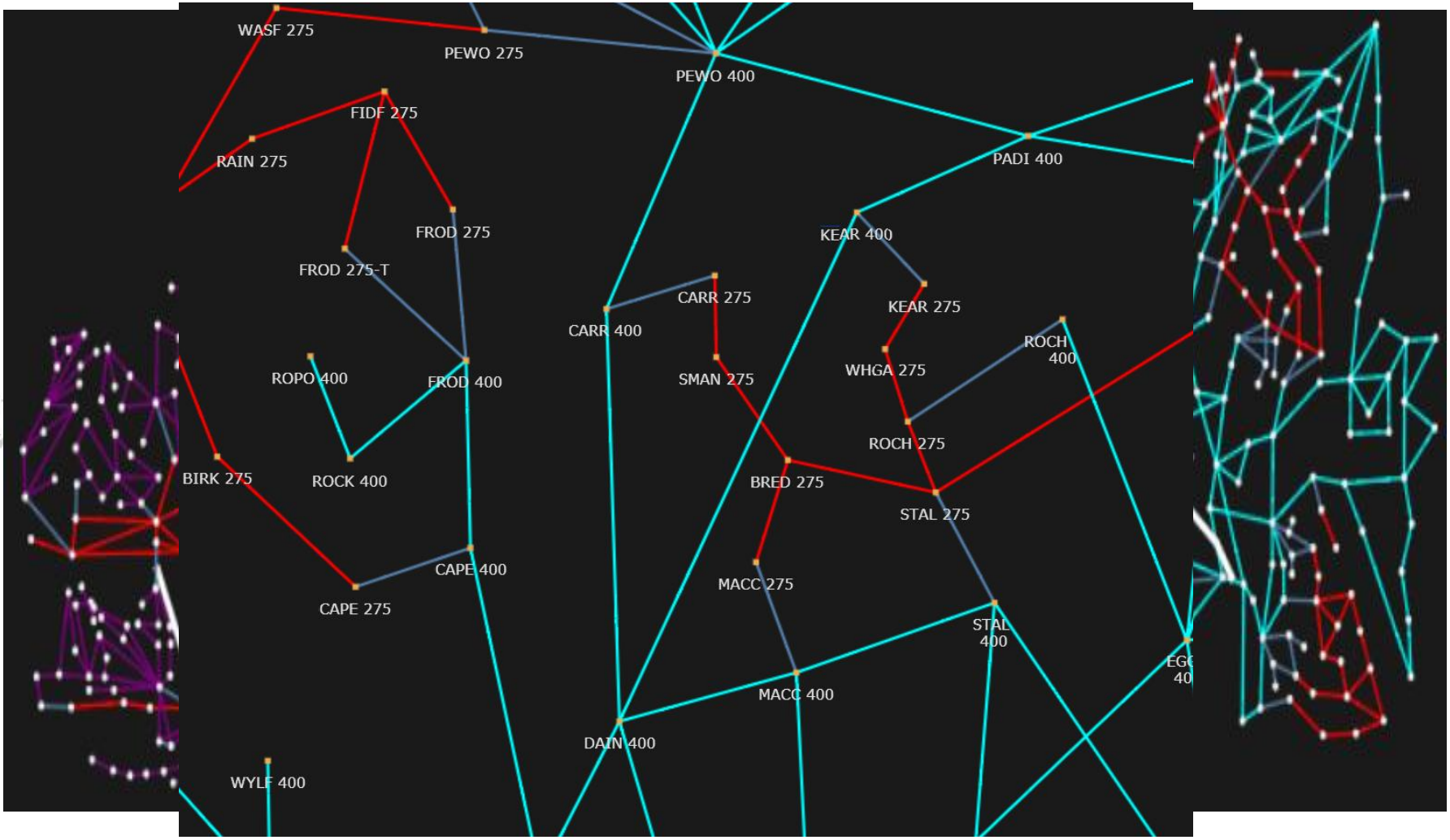
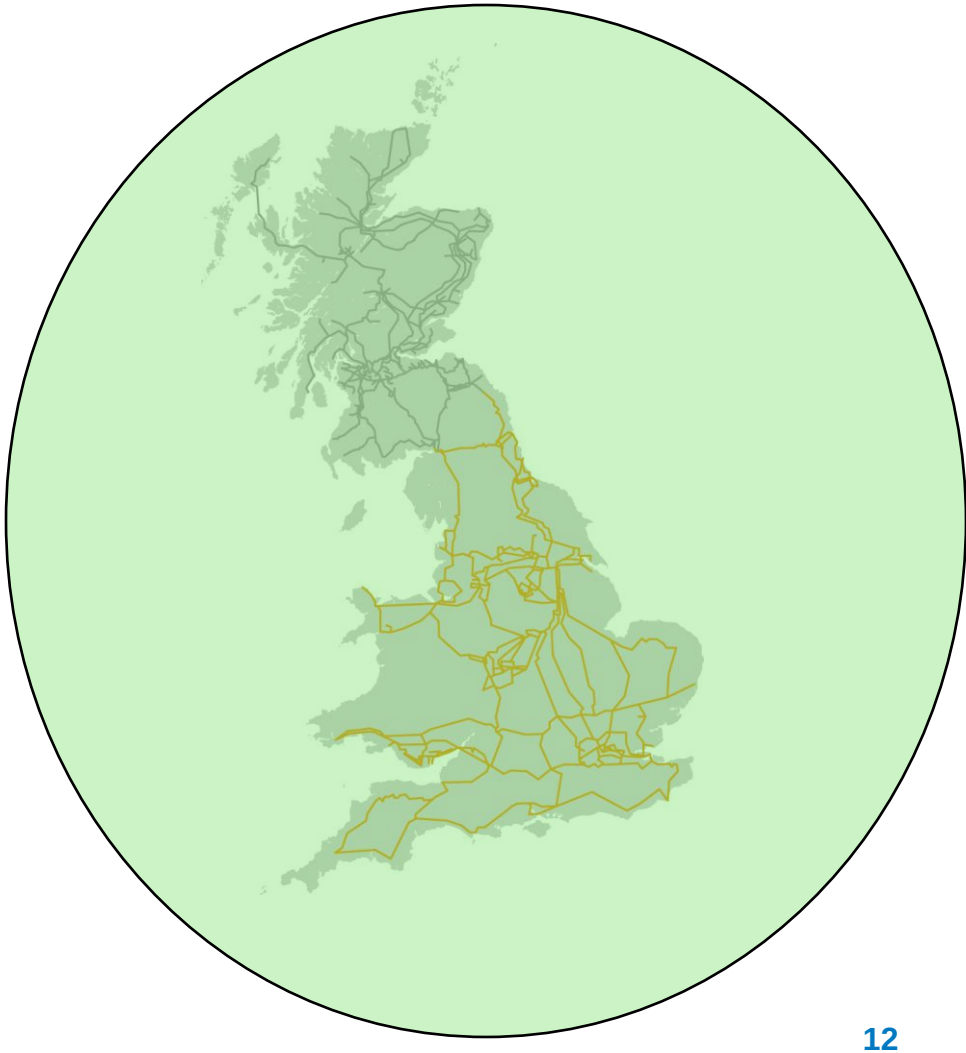
Enhanced constraint model



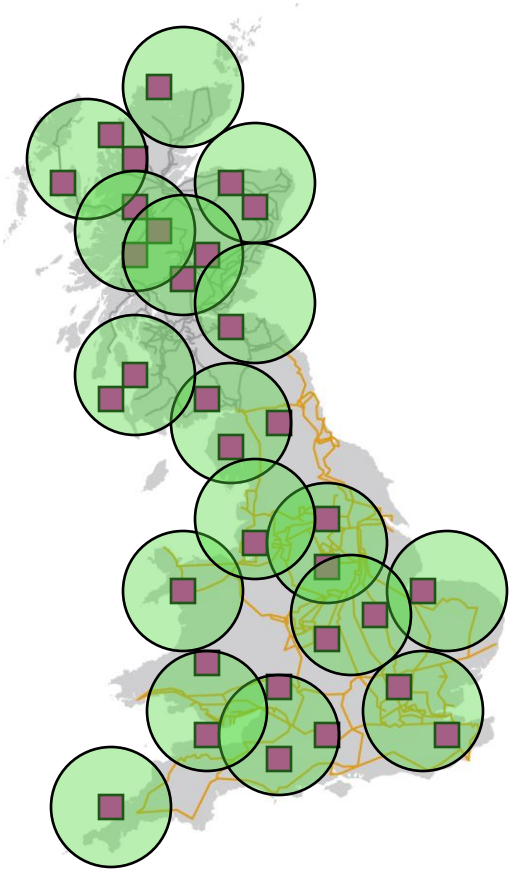
Wind representation

- Phase 1 model assumed generic load factor across GB
- Due to connection points of wind, increasingly localised constraints occur. Difficult to capture with SYS boundary definitions
- Therefore, even if wind is put into model ex-post, cost allocation is not necessarily accurate
- Forecast wind profiles reflect “typical year”



Enhanced wind representation

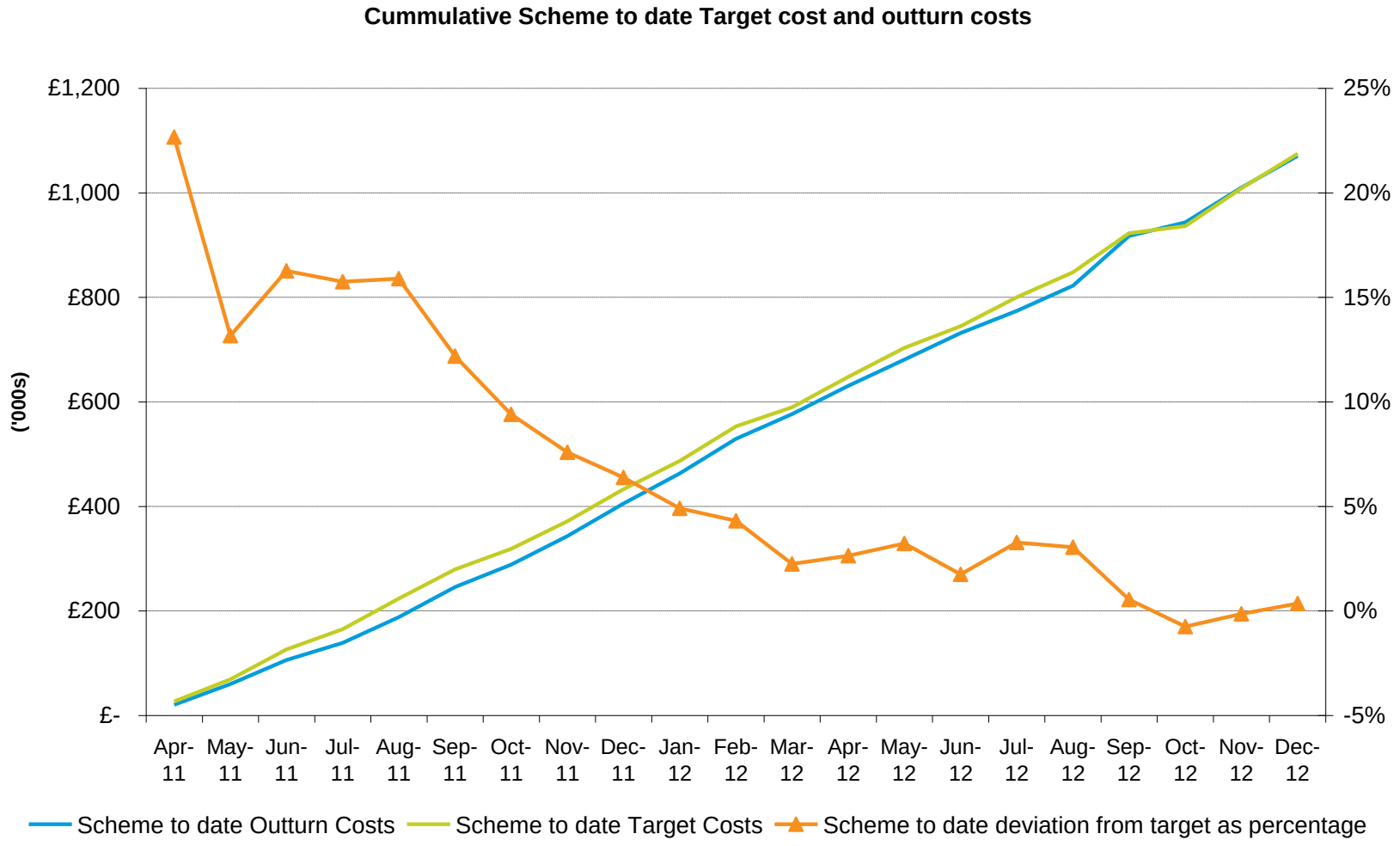
- Wind output can be modelled against actual transmission or GSP connection point
- Embedded wind modelled explicitly. Where no metered output exists, modelled with reference to most geographically proximate meteorological station
- Localised boundaries can now be modelled. High sensitivity



Energy Cost Methodology

Matt Magill – Trading and Assessment Manager

The 2011/13 Model



The 2011/13 Model

- The theory behind the model is still the most applicable for development - statistical analysis of past behaviours to determine future outcomes
- The 2011/13 model was built in excel and required large amount of resource to apply and audit any changes
- Model development was challenging and resulted in:
  - Model relationships that were not fully developed
  - Some Ex-Ante inputs were inappropriate

Changes we have made for 2013 onwards

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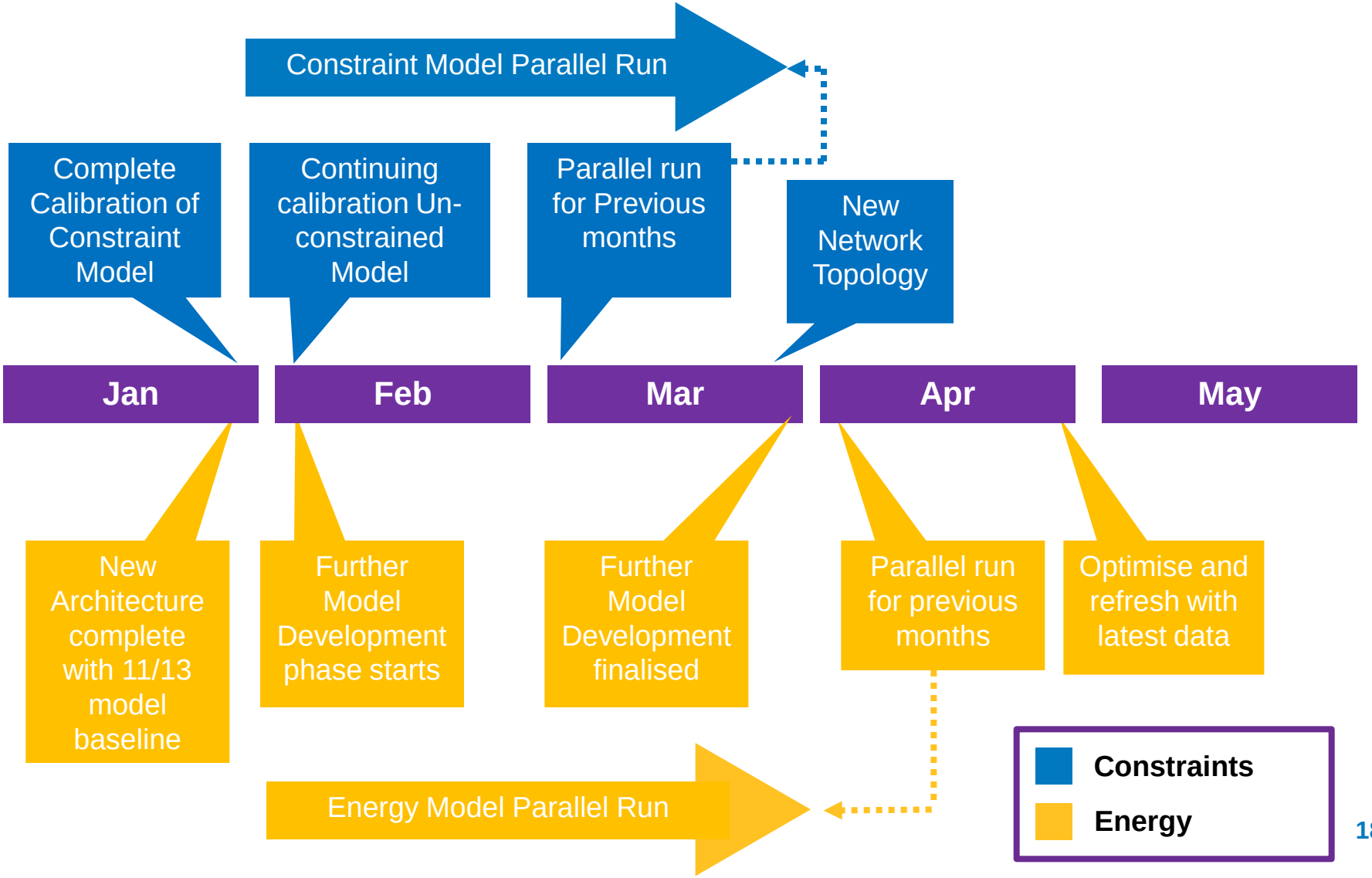
- We have developed a new modelling architecture
  - A new inputs database that sources all the input data, creates auditable files and allows multiple selection and choices to be made
  - Allows for rapid development of flexible component design including more volume, price and cost models
  - Also allows for rapid development of input selections
  - Improved, auditable and repeatable back testing
- The new modelling architecture gives us the opportunity to create more robust auditable models

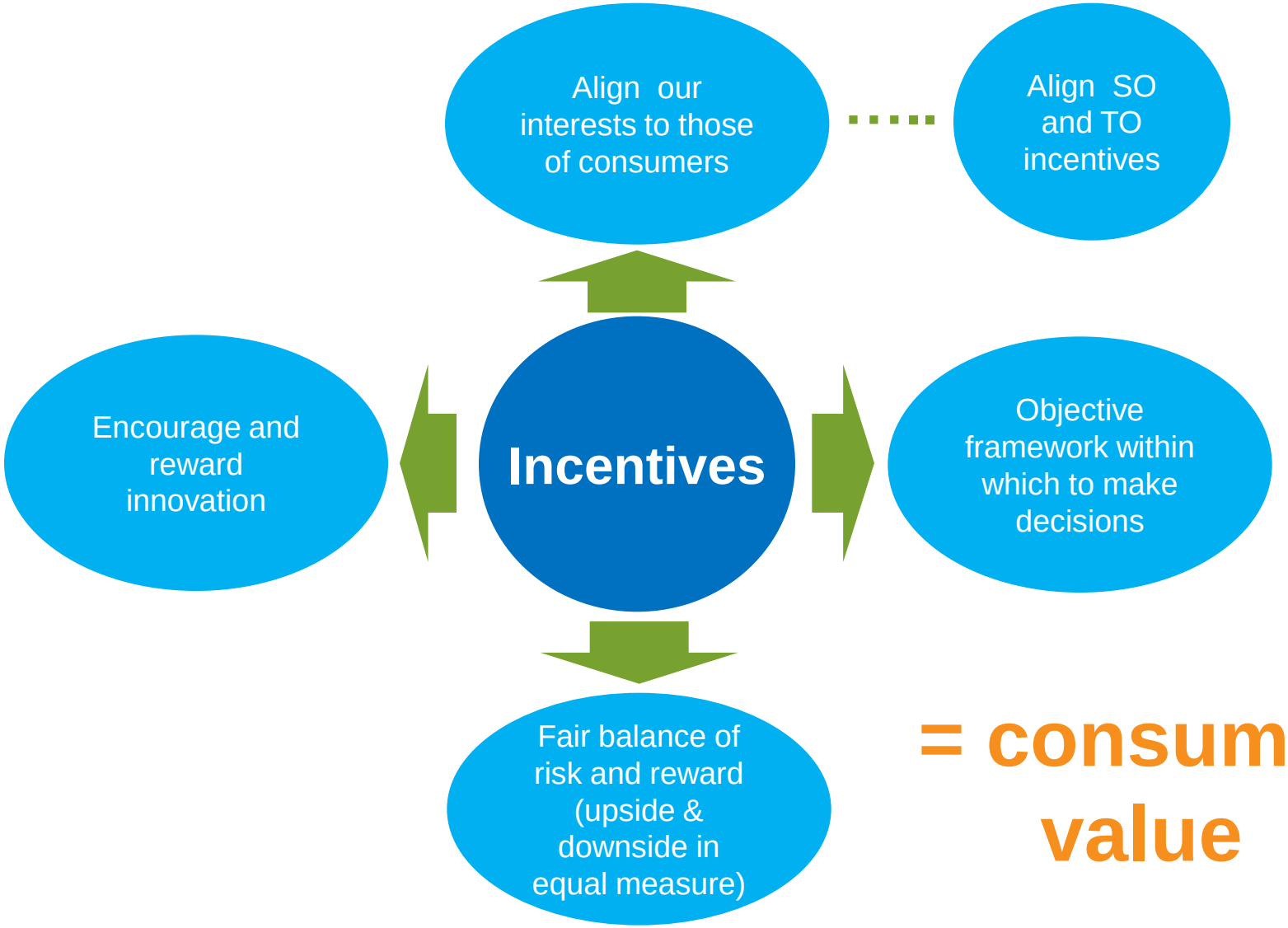
Model Development Timeline



BSIS vs Cost Disallowance

Katharine Clench – SO Incentives Development

Benefits of target based incentives



= consumer value

Our concerns with cost disallowance

Introduces risk and uncertainty to system operation

Insufficient detail and clarity as to how disallowance may occur:

- **Trigger for Ofgem investigation**
- **Issue of hindsight**

Proposed limit on disallowance is disproportionate:

- **Circa £90m cap**

➔ Create inefficiencies rather than reduce them – foster a more cautious approach to balancing

➔ More actions managed through the Balancing Mechanism rather than through contracting ahead of time

Key Messages

- A cost target approach is required to maintain our current contracting activities and encourage further innovation
- Our view is that the quality of the inputs is vital to creating an accurate and robust cost target
- The 2011-13 scheme has enabled us to understand where improvements need to be focused on inputs and methodologies
- We should maintain momentum in this area rather than turn to developing a whole new approach to incentivisation
- Incentives should be designed such that they continue to deliver benefits to consumers