nationalgrid
THE POWER OF ACTION

Electricity SO Incentives Review

Part 2 – Modelling challenges

Guilherme Susteras

Phase 2 - Modelling cost components

nationalgrid
THE POWER OF ACTION

Developed internally

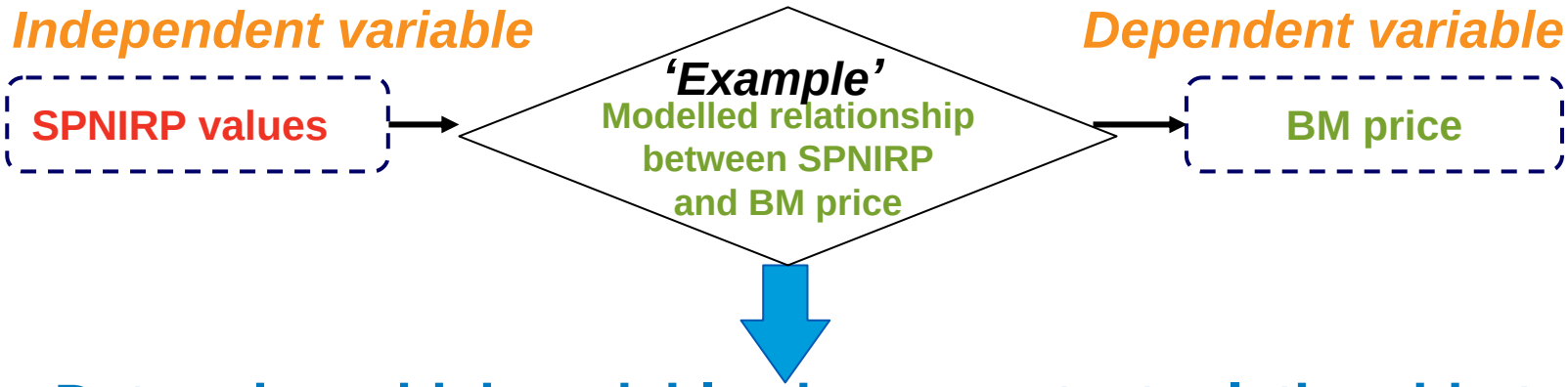
Improved energy models

Procured via tender:

External 'generation fundamentals' model for constraints

- Tender awarded to Energy Exemplar
- Redpoint implementation of model including dataset for fundamentals model

Determining modelled relationships



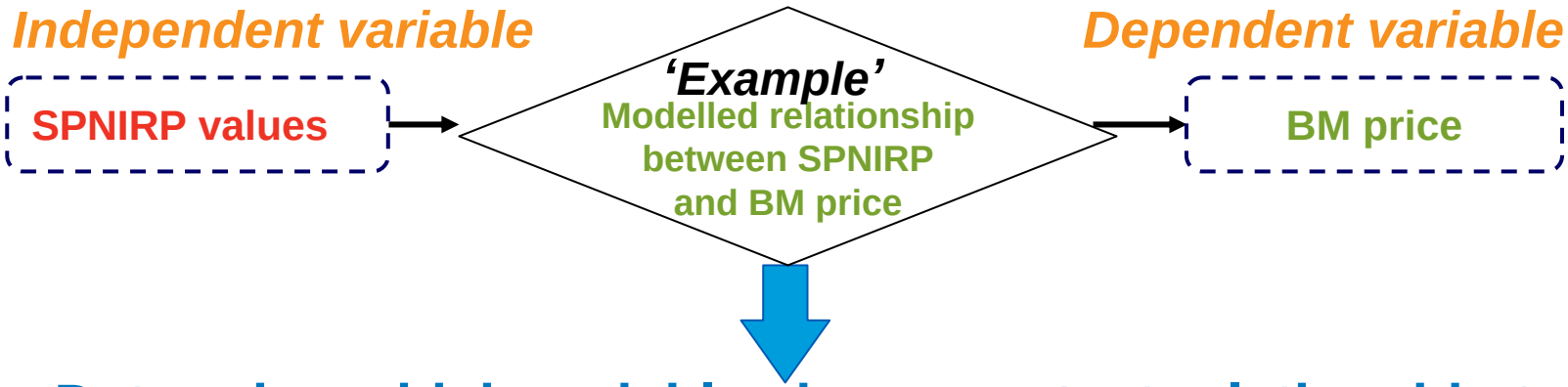
Determine which variables bear greatest relationship to 'dependent variable'

Ex-ante
Ex-post

Examples of candidate variables

- Market imbalance levels (NIV)
- Market self dispatched reserve (Free Headroom)
- Wholesale power price (SPNIRP)
- Inflexible generation output (Nuclear output)
- Intermittent generation output (Wind output)
- Power flow through the transmission system (Demand)
- Seasonal effect in electricity consumption (BST effects)
- Daily variances in electricity consumption (EFA blocks sensitivity)
- Consistent increase or decrease in any of the above (Time trends)

Determining modelled relationships



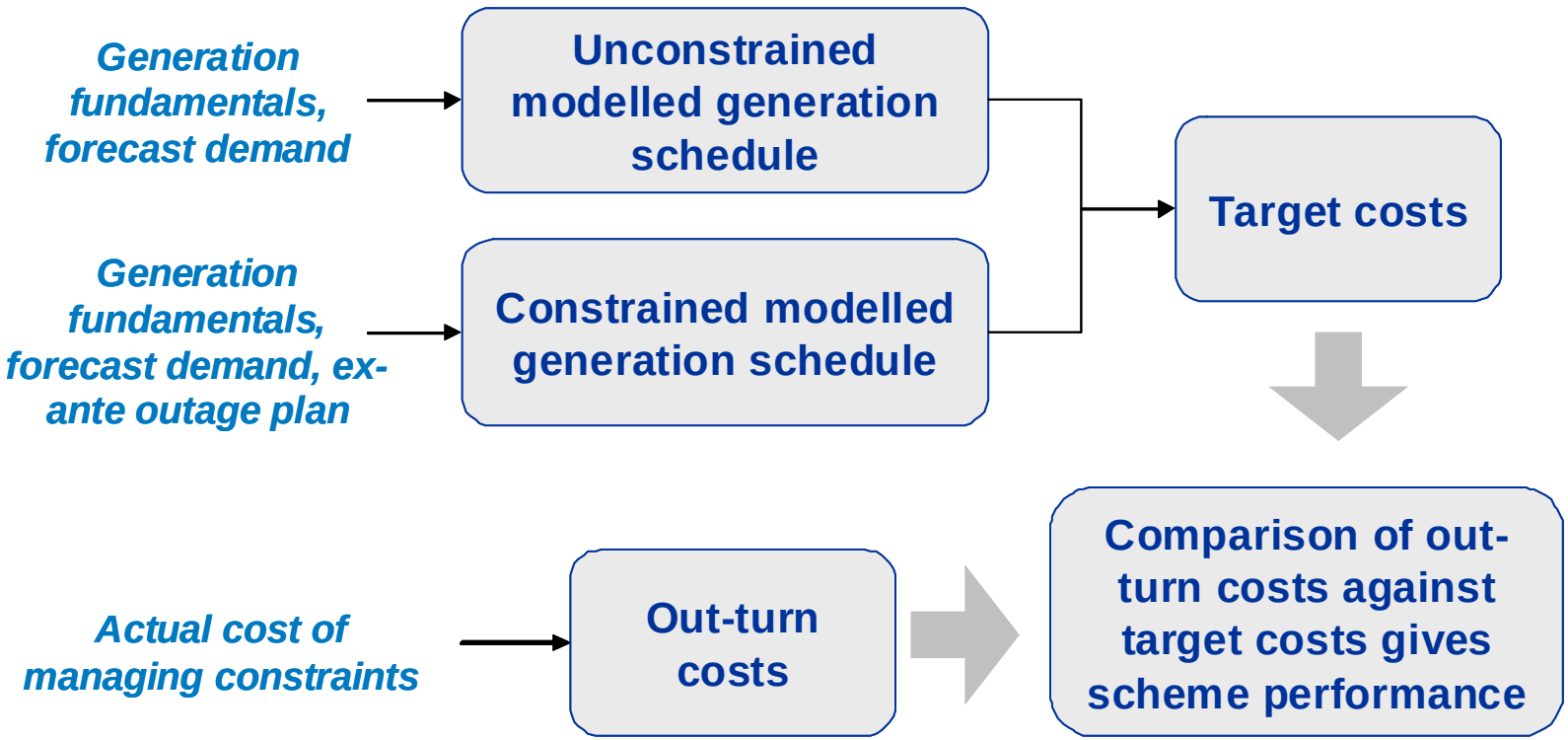
Determine which variables bear greatest relationship to 'dependent variable'

Test of fitness: most appropriate candidate variables included in regression equation

Historic outturn data used alongside modelled data to 'back test' output

Ex-ante
Ex-post

Phase 2 - Constraint modelling process



(more to come in Constraints chat after Forum)

Next steps

- Initial proposals consultation
  - Publication of Ofgem's Open Letter initial comments
  - Consultation closes 22nd December
- Frontier report on energy early January
- Frontier report on constraints late January/early February
- Ofgem issue final proposals in February
- BSUoS seminar to be arranged in late January/early February