



Network Investment assessment for RIIO-ED1

Cost Assessment Working Group

26 June 2012



- Network Investment comprises different programmes with disparate drivers
- Most building blocks break down into:
 - Driver
 - Activity
 - Cost
- Which of these is most important varies between area
- The extent to which data is comparable varies too
- Some activities (eg Smart metering, Metal Theft) span a number of areas
- A number of approaches will therefore be required to assess the appropriateness and efficiency of DNO submissions

- Volume analysis – how appropriate are the volumes being forecast and what is their justification?
- Outputs analysis – how appropriate are the outputs being forecast, and how appropriate are the volumes and costs to the achievement of those outputs?
- Unit cost analysis – what is the level of unit cost for a given activity compared to 1) history and 2) other DNO forecasts?
- Trend analysis – in overall terms, how do future projections fit with historic investment patterns?
- Expert review – where a level of bespoke knowledge is required and comparable data doesn't exist
- Project review – where the forecast is embodied in individual projects which can be assessed for appropriateness and cost
- Bilateral discussion – where the assessment is aided by a bespoke discussion on the driver for activity and DNO response
- Uncertainty mechanism – where there is sufficient uncertainty caused by external factors to render an ex-ante allowance inappropriate

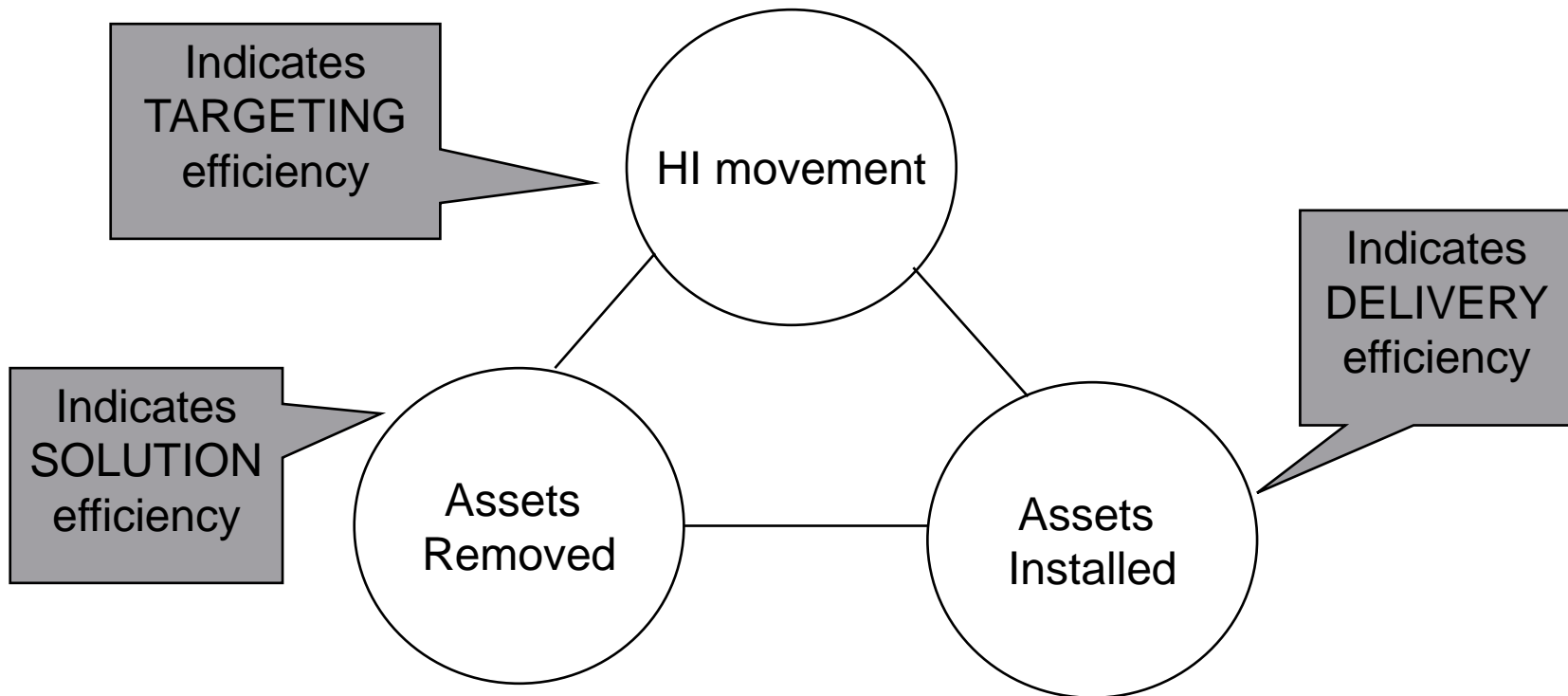
Assessment options

Initial view on appropriate approach by building block

DPCR5 RIG V3 category	Volume modelling	Outputs assessment	Unit cost analysis	Trend analysis	Expert review	Project review	Bilateral discussion	Uncertainty mechanism
DIVER SIONS								
Easements, Injurious Affection payments etc.				Y			Y	
Diversions due to wayleave terminations				Y			Y	
NR SWA				Y			Y	
GENERAL REINFORCEMENT								
G&P reinforcement	Y	Y				?	Y	Y
Secondary network reinforcement		Y		Y			Y	Y
Fault levels							Y	Y
ASSET REPLACEMENT								
Asset Replacement	Y	Y	Y				Y	
Refurbishment		Y	Y	Y			Y	
Civils				Y				
OPERATIONAL IT								
Substation RTUs, marshalling kiosks, receivers	Y		Y		Y			
Communications for switching & Monitoring					Y			
Control centre hardware & software					Y	Y		
LEGAL & SAFETY								
Site Security							Y	
Asbestos				Y			Y	
Safe Climbing							Y	
HIGH VALUE PROJECTS								
HVPs						Y		
MAJOR SYSTEM RISKS								
Flooding		Y	Y				Y	
Resilience							Y	Y
CNI/Back Start						Y	Y	Y
ENVIRONMENTAL								
Fluid-filled cables							Y	
Noise				Y				
Contaminated Land				Y				

- └ Likely to be the largest component of Network Investment forecasts
- └ Three potential indicators of activity;
 - Volumes removed, ie number of asset problems solved
 - Volumes installed, ie number of new assets connected
 - Quantum of HI movement, ie the number of assets whose condition has changed, and by how much
- └ The latter is the ultimate measure of what DNOs are trying to achieve with their non-load programmes, but
 - Non-comparable across DNOs
 - Outstanding data issues
 - Significant subjectivity in assessing HI movement as a result of intervention
- └ Therefore a combination of approaches likely to be necessary

The 'efficiency triangle'



- Unit cost of assets removed shows how efficient a DNO is at resolving asset problems
- Unit cost of assets installed shows how efficient a DNO is at building new assets
- Unit cost of moving HIs shows how efficient a DNO is at targeting its investment at the worst assets



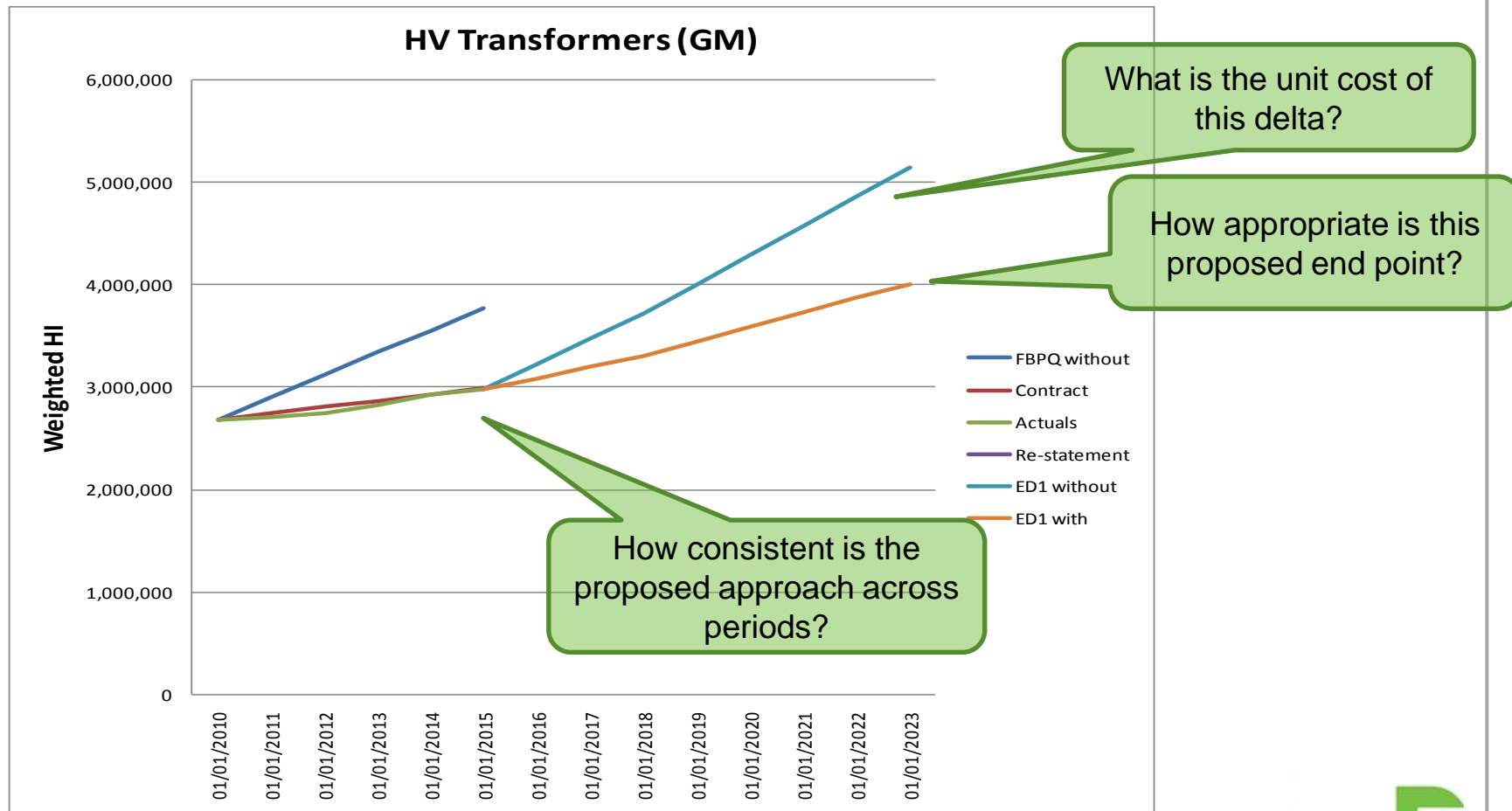
The 'efficiency triangle'

- Examples below illustrate how different options fare on each measure and hence how a focus on just one will lead to perverse incentives

Generic work type	Unit cost removed	Unit cost installed	Unit cost HI improvement
'Standard' asset replacement	Average	Average	Average
Asset retirement (eg joint out link box)	Cheap	Infinite	(Very?) Cheap
Asset refurbishment in lieu of replacement	(Very?) Cheap	High, as limited volume credit	Cheap, depending on effect of investment
Associated assets replaced	Cheap (as on site)	Cheap	Relatively high as likely to be lower HI
Upgraded installation (non like-for-like – undergrounded, moved indoor etc.)	Expensive	Expensive	Average (as credit two asset categories?)

Incorporating Outputs

- Key discussion on Non-Load will be the HI projections for asset types and unit cost of the proposed deltas, e.g.



Data comparability

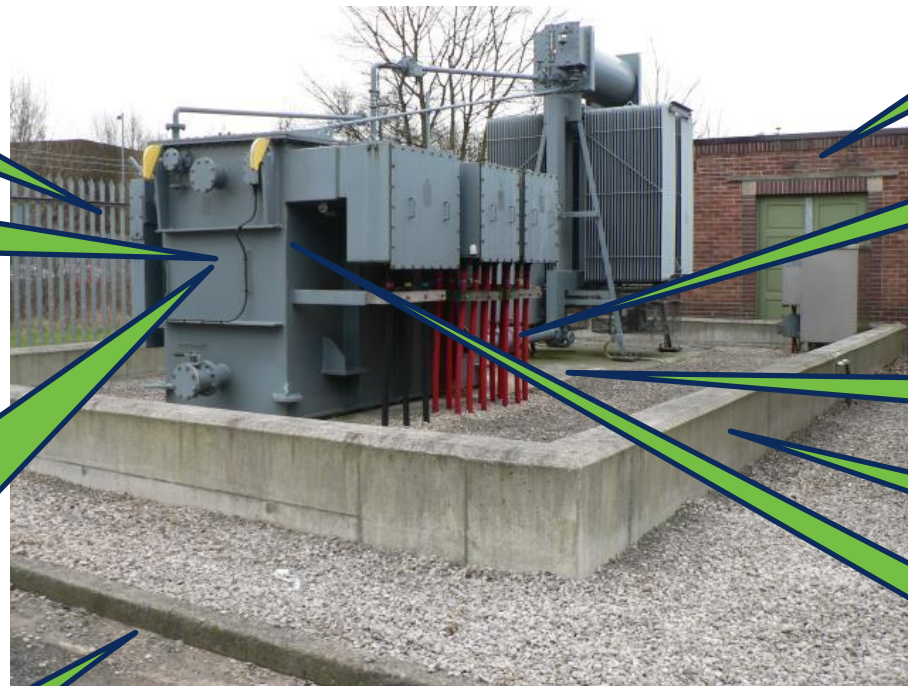
- Reporting activity is complex in DPCR5
- How do we ensure consistency of reporting?

Have I upgraded site security?

Have I installed a greater capacity?

Is this lower loss or have additional functionality? What do I do with the incremental cost?

Have I done anything to the site civils?



Have I done anything to the Protection/comms?

Have I replaced the associated cables?

Did I re-use the old plinth or is it new?

Did I install/ replace or upgrade this bund?

What is the HI and LI of the new asset?

- Common LI scale for Reinforcement assessment
- More common HI scale for asset replacement
- Is there a role for a replacement curve-type model?
- Civils effectively ignored in DPCR5 – what would a cost driver look like? Is it a function of the asset base?
- How to assess refurbishment? Likely to be an increasing proportion of the programme. HI effects often quite subtle.
- Does trend analysis cover it for Diversions?
- Most other areas are effectively specific programmes which can be assessed on their own basis