AEMC Review: Power of choice

Stakeholder Reference Group
4th Meeting – 28 May 2012
SYDNEY

DSP TEAM

AUSTRALIAN ENERGY MARKET COMMISSION

Meeting objectives

- Purpose is to present a number of solutions or options for change
- SRG members to discuss and provide input
- Provide high level overview of what stakeholders said in submissions
- Topics for discussion:
  - Session 1: Network regulation and incentives
  - Session 2: Wholesale and ancillary services market issues
  - Session 3: Supply chain interactions

Summary of submissions

Christiaan Zuur

Introduction

- Overview of submissions received
- 4 key topic areas as defined in Directions Paper, each topic addressed by reference to key stakeholder classes.

Topic areas:

- Role of pricing: cost reflective charging, vulnerable customers, retail price regulation
- Consumer participation: Access to DSP products, engagement, information, technology (eg, metering)
- Networks: Profit incentives, managing DSP uncertainty, facilitating distributed generation
- Supply chain: alignment of incentives across industry participants, valuing of DSP impacts

Overview of submissions

- Thankyou for your submissions!
- 43 submissions received
- Wide variety of stakeholders, including:
  - Government of South Australia
  - AER, AEMO
  - Consumer advocacy groups
  - Network businesses
  - Retailers / generators / gentailers
  - Industry and end user peak bodies
  - Renewables / energy efficiency / environmental advocacy groups
  - Technology / service providers
- All key topics were addressed
- The following is a high level, not exhaustive, summary of key points

Role of pricing: NSPs, generators and retailers

- Most NSPs and retailers supported cost reflective pricing:
  - TOU pricing
  - capacity based network charging.
- However, the effectiveness of cost reflective pricing is related to other factors:
  - deployment of metering and related technology
  - provision of adequate information to ensure active and informed consumers
  - complexity of tariff structures
- DNSPs should have responsibility for developing new tariff structures, within the constraints of the Rules.
- Retailers should be able to design their tariffs to reflect all costs and to manage risks accordingly.
- Vulnerable customers must also be considered, however protection measures should be external to the market

Role of pricing: Government of South Australia and Small consumer advocates

- Generally supportive but also some specific opposition to TOU pricing.
- Support for various options:
  - unwinding of cross subsidies between customer classes (peak users)
  - use of load profiling to segment the residential sector by load factor
  - use of inclining block tariffs combined with two part tariffs
- However, pricing alone is not a “silver bullet” – consumers have differing capacity to respond to price changes.
- Consider options such as non-AMI DLC, public info campaigns.
- Pricing changes must be combined with vulnerable customer protections – price regulation may provide protections without impeding cost reflectivity.

Role of pricing: Commercial and industrial consumers

- Unbundle the network and retail (energy) components for residential as per larger consumers to provide price signals.
- Positive incentives necessary when designing price signals
- Generally supportive of cost reflective tariffs/pricing
- Need for simplicity in tariff structures
- Metering necessary to ensure consumers get maximum value from DSP

Consumer participation: Generators and retailers

- Retailers are appropriate conduit for information provision to consumers.
- Metering service provision should be opened to competition.
- Concern over moving to a market where non regulated and regulated businesses are competing to provide the same services.
- All parties must be subject to same regulatory obligations and clear ring fencing provisions are necessary.
- Consumer education important: understanding of rationale and benefits of cost reflective pricing. Need to create consumer interest and involvement.

Consumer participation: NSPs

- Scope for NSPs and third parties to provide information and services direct to customers.
- May be merit in changes to the Rules to allow third party access to information, considering privacy issues.
- DNSPs are best placed to rollout smart meter technology and manage metering infrastructure.
- DNSPs best equipped to manage the impacts of increased DSP on networks – third parties may provide such services but should be subject to regulation to minimise impact on networks.
- Informed consumers are essential to DSP. Information campaigns are important, and technology solutions may also be useful.

Consumer participation: Small consumer advocates, environmental groups

- Support for unbundling of retail and demand response services:
  - introduce competition in the procurement of DR from customers
  - creation of new market participant: demand response provider
  - consumers to sell DR in wholesale market (Enernoc model) or to NSPs
- Unbundled model may require changes to metering arrangements.
- Support for consumer & 3rd party access to information, some support for central hub.
- Need for community consultation and education to achieve buy in.
- Some support for a national consumer advocacy body.

Consumer participation: Commercial and industrial consumers

- Benefits of DSR must be seen by the end user / DSR provider.
- NSPs and retailers must provide useful information to customers. Energy Efficiencies Opportunities program is a positive.
- AEMC could also play a role in rationalising and focusing the array of information currently available to consumers.
- An issue for ESCos is how to create relationships with potential DSP customers.
- Cross subsidy issues between large and small customers – contributions to peak demand growth and related investment.

Consumer participation: Government of SA, AEMO and AER

- Consumers should have access to information, permit 3rd party access.
- Support for new models of service provider. Customer DSR in the wholesale market, noting potential need for new consumer protection measures for demand aggregation services.
- Examine whether existing arrangements for metering are efficient - whether and how to introduce contestability in metering provision
- Regulatory framework for subtractive metering should be clarified and formalised.

Networks: Retailers and Generators

- Need for a clear distinction between regulated and non-regulated providers who are competing to provide DSP.
- Varying perspectives on DG:
  - No need for additional incentives for NSPs to accommodate DG
  - Nationally consistent feed in tariff for DG is required, to ensure DG receives value of its energy.
  - Standardised connection process for DG is necessary.

Networks: NSPs (1)

- NSPs may not capture the broader / longer term market benefits of DSP. No business case for such projects.
- Little incentive to invest in risky DSP projects rather than understood network infrastructure investment.
- If they do undertake DSP, NSPs likely to focus on shorter term projects.
- DSP projects may reduce revenue under some regulatory regimes
- Some options available through changes to the Rules:
  - Equalisation of treatment of DSP opex and capex
  - Certainty regarding AER calculation and evaluation of DSP benefits
  - Certainty regarding ongoing DSP expenditure across regulatory periods

Networks: NSPs (2)

- A stronger incentive mechanism is also necessary to promote investment in relatively risky, uncertain DSP:
  - recognise broader market benefits
  - positive incentive vs cost recovery
  - allows for better co-ordination across the supply chain
- Service target incentive schemes should be adjusted to allow for the relative reliability of DSP services
- Ring fencing: networks conduct DSP as part of regulated services and do not earn direct revenue from offering DSP. No need for such services to be provided by a separate, ring fenced entity.
- Approaches to distributed generation:
  - FiTs for DG generally not supported
  - Higher power incentives, subject to consultation, including a $/kW incentive rate for connection of DG

Networks: AER

- Clarify scope of DSP market benefits considered in regulatory processes and how these benefits are valued.
- **Capex/opex:** Some bias in favour of capex exists.
- Resubmitting previously deferred capex is not an issue – resubmitted capex considered on its own merit.
- **DMIS**:
  - Risk associated with ex-post assessment of DSP is overstated.
  - DMIS allows for consideration of broader market benefits – not a disincentive to innovation and development of DSP options with broader benefits.
  - Disincentive effect of DSP under price cap control accounted for in part B.
- **STPIS exemption**: a general exemption of DSP projects is not warranted, however limited exemption for DSP pilots and trials.

Networks: Small consumer advocates and environmental groups

Consumer groups:

- Caution necessary before introducing network incentive mechanisms

Environmental groups:

- Consider decoupling NSP revenue from throughput
- Allow NSPs to earn equal return on DSP as network expenditure
- Some support for obligatory DSP investment targets
- Support improved outcomes for DG. Potentially need for DG ombudsman or specific network support payment scheme for DG.

Networks: Commercial and industrial consumers

- Need to address the fact that DSP is more risky than traditional network investment.
- Networks must engage actively with consumers
- Existing processes to facilitate DG are positive...
- …however there is a requirement for new tariff structure that permits DG to access the network at times of low network utilisation

Supply chain: NSPs, generators and retailers (1)

Retailers/Generators

- Interactions across the supply chain to capture the value of DSP will be resolved by the market, given sufficient time.
- No need for a single agent model for DSP procurement.
- Need for a standardised method to forecast the value of DSP.

NSPs

- Diverse commercial interests of participants prevents supply chain coordination.
- Differing opinions regarding need for single actor procurer of DSP – may provide efficiency benefits, however….
- …also support for commercial arrangements to develop organically.

Supply chain: NSPs, generators and retailers (2)

NSPs (cont)

- Cost reflective prices are useful but are not a “silver bullet”
- Incentive mechanisms are required.
- Need to develop methods to value and forecast DSP value across the supply chain and plan accordingly. Some disagreement on degree of prescription.
- Forecasting and valuation of DSP may rely on learnings acquired through DSP trial programs.

Supply chain: Small consumer advocates, industrial and commercial consumers

Small consumer groups:

- Some support for overarching policy structures or regulatory intervention to align commercial incentives for DSP.

Industrial consumer groups:

- Energy efficiency measures, in combination with short term demand side activities have the potential to deliver real benefits to the market.
- The decision to implement DSP must come from consumers.

Supply chain: South Australian Government, AEMO and AER

South Australian Government

- Need to investigation incentives to capture the value of DSP throughout the supply chain

AER and AEMO

- Important to be able to accurately forecast DSP throughout the supply chain…
- …however AEMO may face some difficulty in sourcing this information from third party decision makers (aggregators, retailers, SME loads)
- Formal data conduit for collection of this info is needed
- Single agent model may not be effective.
- Need to clarify how market benefits of DSP can be considered and valued in the various regulatory assessment processes

Session 1:
Network regulation and incentives

Eamonn Corrigan, AEMC
Tanya Barden, ENA

Network regulation and incentives

- Directions Paper identified a number of issues with the current network regulation arrangements for DNSPs that could dis-incentivise the network business from pursuing efficient DSP projects.
- Focus is now on assessing options which could address those issues

Face with two key questions:

1. How to remove the profit disincentives for networks businesses to do DSP project relative to capital asset projects?

Network regulation and incentives

2. Even if the incentives are equal, and the network business is profit neutral between either DSP project or capital asset project, do you need to give the business ability to achieve extra reward for investing in DSP projects? Two possible reasons:
   - DSP, by its nature, is more riskier, than traditional capital investment, and the business needs extra reward to compensate taking on those risks, or
   - DSP, will deliver system wide benefits to the market, and a share of those benefits could be paid to the network if they initiated the DSP project

- Focus on distribution businesses but some issues may apply to transmission
- Interaction with the Rule changes on network regulation

Network regulation and incentives

- How does the current arrangements provide a profit opportunity for DSP projects for networks?
- This depends upon the method in which the project expenditure is approved

Method	Profit potential
Capex DSP project approved at start of regulatory period	To underspend the approved forecast level of project during the regulatory period
Opex DSP project approved at start of regulatory period	To underspend the approved forecast level of project during the regulatory period
To fund DSP project via deferred approved network capex expenditure	Difference between the annual capex allowance minus the annual cost of DSP project during the regulatory period
Demand Management Incentive Scheme	Allows for recovery of costs and foregone revenue component

Network regulation and incentives

Issue 1: What should be the profit signal for DNSPs to do DSP?

- Is cost recovery sufficient?
- Under current arrangements, profit potential is focus on short term **productive efficiency**. However DSP projects may be more expensive in the short term but deliver long term **dynamic efficiency** savings
- Is there extra risks with DSP relative to capital network investment?

Issue 2: Will DSP impact on the network profits through other avenues?

- Impact on revenue if volumes decrease. This depends upon tariff structure
- Opportunity to finance investment at a rate of return lower than WACC

Network regulation and incentives

Our initial thoughts:

- Options addressing the opex-capex bias are complicated and represent a substantial change to current arrangements – there is no easy answer
- Need to consider options which offer the prospect of a higher reward for networks to do DSP as an alternative to capital investment
  - EBSS ?
  - Uplift on WACC allowance?
- Potential range of rule amendments which clarifies the treatment of DSP expenditure
- Likewise, amendments to provide more flexibility in the annual pricing arrangements to cope with extra volatility associated with DSP projects
- Need to think about the role and purpose of the DMIS
- Merit in separating out innovation allowance from any incentive scheme

Network regulation and incentives

- Presentation: Tanya Barden, ENA
  - Options for improving the Demand Management Incentive Scheme

Session 2:
Wholesale and ancillary services market issues

Electra Papas, AEMC
Dr Paul Troughton, EnerNOC

Wholesale and ancillary services market issues

- Today's session on wholesale and ancillary services will cover:
  - A recap of what we said in the directions paper
  - Creating a new category of Market Participant for ancillary services
  - Implications for Market Participant categorisation if demand side bidding is introduced
  - Dr. Paul Troughton will present on EnerNOC's demand side bidding model
  - Discussion from the floor

Directions paper

What did we say in the directions paper?

- A well functioning electricity markets should have dynamic supply and demand forces:
  - By engaging and enabling demand responses/supply side responses, economic efficiency and reliability can improve
- As a first step, are there any improvements that can be made to improve clarity and accuracy of demand forecasts? This can alone can improve efficient DSP
- Secondly, are there issues with the current arrangements impeding demand side consumers from participating in the wholesale market:
  - Framework for participating in the market
  - Level of compensation paid to demand side

Directions paper

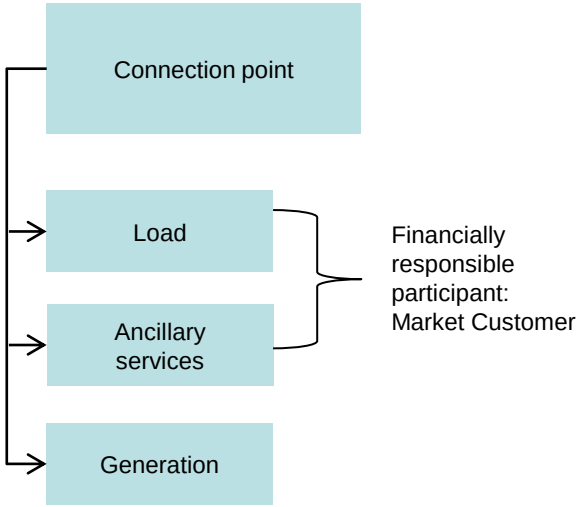
- Under current arrangements:
  - Participation could include offering energy services and non-energy services (FCAS)
  - To “participate” in the wholesale markets, consumers can either:
    a) become a scheduled load
    b) Enter into a spot price pass through contract with retailer
    c) Engage an aggregator
- Issues:
  - For an aggregator to access the wholesale market it needs to effectively become a retailer (Market Customer) and also be responsible for supply of electricity at a connection point. The demand side response cannot be unbundled from the energy purchase
  - Likewise, the ability of the consumer to offer non-energy services cannot be unbundled from the energy services
- Question:
  - Do we need to create a new category of market participant?

Ancillary services

- April 27 workshop on aggregation of ancillary services loads
  - 2010 rule change on aggregation of ancillary services loads
  - Power of choice directions paper
- What are the barriers to aggregators providing ancillary services?
- Broad market- based issues:
  - Potential disincentive for Market Customers (i.e. retailers) to arrange for market load to provide ancillary services if appropriate systems to participate are not in place
  - Associated demand response may have negative financial implications for the retailer

Ancillary services

- Rules-based issues:
  - Aggregator must register as Market Customer (i.e. retailer)
  - Rules require single provider of supply and ancillary services at a single connection point thus preventing different parties providing different services at a connection point



- A Market Customer must register Market Load before classifying it as ancillary services load
- Only Market Customers can register Market Load
- Market Customer takes on financial responsibilities at a connection point including provision of supply and ancillary services

New category of market participant for ancillary services (1)

- Proposal:
  - Create a new category of Market Participant specifically designed for the provision of non-energy related services
- What are non-energy related services?
  - Any transaction that does not either pay or receive the energy spot price would be covered by the new category of Market Participant

New category of market participant for ancillary services (2)

- Objective:
  - To enable entities specialised in the provision of non-energy related services to purchase individual load/generating units for the purpose of selling to the ancillary services market
- How will it work:
  - Entities registered in this category would have the option to present to market on an aggregated basis
  - Market Generators currently classified as ancillary services don't need to apply for classification under this category
  - Will only apply to non-scheduled load and non-scheduled generation

New category of market participant for ancillary services (3)

- Key considerations and interactions:
  - Should aggregators be able to register generating units? Recognise that non-scheduled generation units may not have suitable technical requirements for each contingency FSCAS market
  - Registration fees, obligations and prudentials should be left to AEMO?
  - Does participation in the FCAS market represent a commercial opportunity for aggregators? Is it worth it?
  - Will the new category of Market Participant also be financially responsible for the connection point?

No demand side bidding

Which Market Participants can provide which services?

Type of activity	Energy services	Non-energy services
Scheduled load	Market Customer	Market Customer*
Non-scheduled load	Market Customer	Market Customer **New category**
Scheduled generation	Market Generator	Market Generator*
Non-scheduled generation	**Small generator aggregator**	**Small generator aggregator?** **New category**

* Must provided integrated bid as co-optimised across electricity and ancillary services market

With demand side bidding: is another new category required?

Type of activity	Energy services	Non-energy services
Scheduled load	Market Customer OR **New category (aggregator)**	Market Customer* OR **New category (aggregator)**
Non-scheduled load	Market Customer OR **New category (aggregator)**	Market Customer OR **New category (aggregator)** **New category (non-energy)**
Scheduled generation	Market Generator	Market Generator*
Non-scheduled generation	**Small generator aggregator**	**Small generator aggregator?** **New category (non-energy)**

Demand side bidding

- Dr Paul Troughton, EnerNOC
  - Principles for demand side bidding model

Demand side bidding

- Dr Paul Troughton, EnerNOC
  - Principles for demand side bidding model

Session 3:
Supply chain interactions

Lisa Nardi, AEMC

Supply chain interactions

- Purpose of today - initial discussion:
  - Materiality of supply chain coordination/interactions issue;
  - Views on effectiveness of cost reflective price signals to support coordination;
  - Other ways that that coordination could be improved – are they needed?;
  - How to assess options – framework and criteria.

Supply chain interactions

What did directions paper say:

- Opportunities to improve how supply chain collectively acts and aligns the commercial interests of participants with efficient market outcome.
- DSP will create different costs and benefits for the supply chain.
- DSP can be viewed as a transaction - differences in value of contracted versus price response DSP
- For efficient DSP, supply chain should work in a way that aligns interests of buyer and wider impacts of DSP option on the market.
- No. of reasons that could be preventing coordination to enable efficient DSP such as:
  - transaction and information costs
  - misalignment of market participant profit and benefits to supply chain
  - some parties may benefit but to required to pay share of costs (free rider)
  - differences in interests between participants and consumers (split incentives)

Supply chain interactions

Where are we at?

- Range of opportunities being considered to improve market conditions required to facilitate efficient DSP.
- Mud map is to provide SRG members with an overview of all the conditions, issues and options
- Key questions:
  - to what extent will cost reflective price signals align the interest of parties so as to package up a “product” which consumers see value in and will take up the DSP option?
  - What suite and alternative solutions may be needed in absence of fully cost reflective price signals?

Supply chain interactions

Role of cost reflective prices

If consumers received full cost reflective price signals – value of DSP transparent, however!

Prices are a necessary but not sufficient condition – other factors at work for consumer decision making

Constraints

- Changes required to meters and settlement to fully expose consumers to full cost reflective tariff
- For network charges to fully reflect marginal costs – high transaction costs and equity concerns with moving to very varying distribution charges at same voltage and within a single region
- Different drivers of market participants (i.e. networks v retailers)
- Lack of information to consumers on DSP options, access to capital and split incentives and consumer protection issues

Supply chain interactions

Role of cost reflective prices

Constraints on moving to full cost reflective prices may mean there is a need for:

- another other way that consumers can obtain the DSP value or
- that some party is incentivised to seek out highest value of DSP.

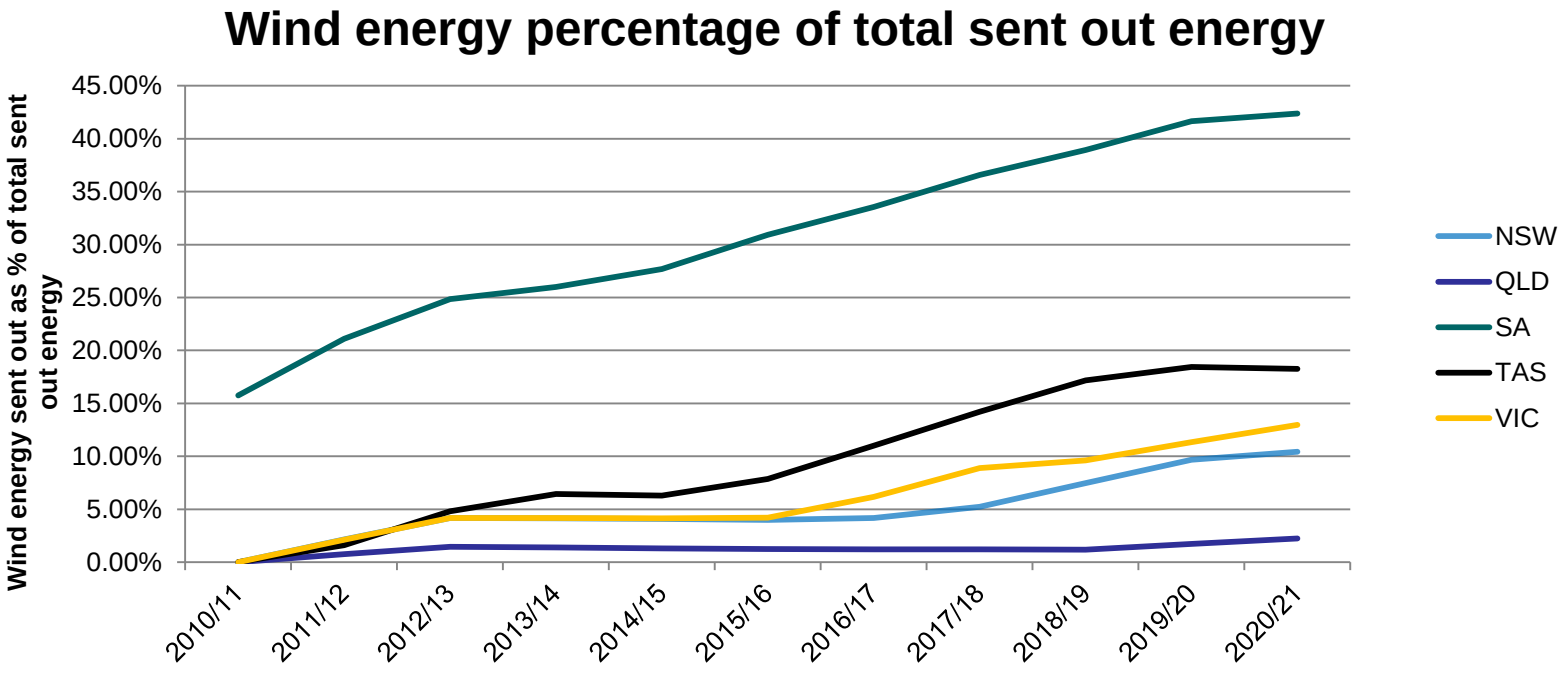
Issues

- Correlation of drivers of network v retail businesses to do DSP (value)
- Material transaction costs – organisation of energy markets, balancing markets and network regulation and charging.
- Information on value of DSP

Supply chain interactions

– For example….challenge of coordination between the two may become harder as share of intermittent generation increases:

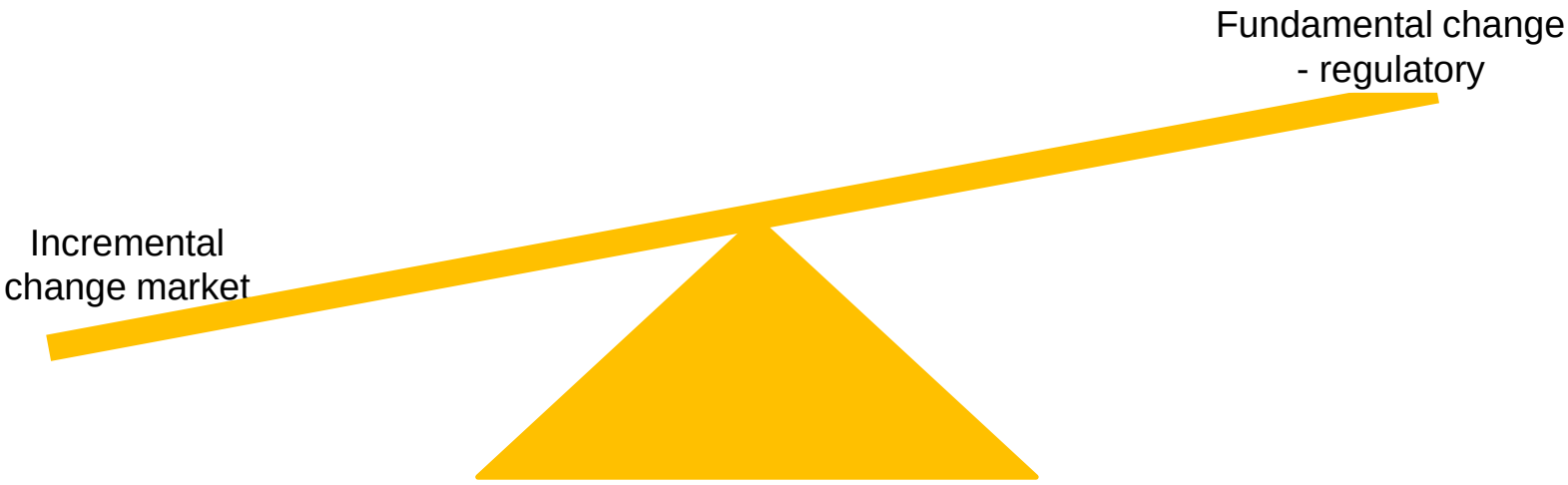
  • peak energy prices will be driven by demand net of wind, while peak energy flows will be driven by demand. For illustrative purposes only….



Supply chain interactions

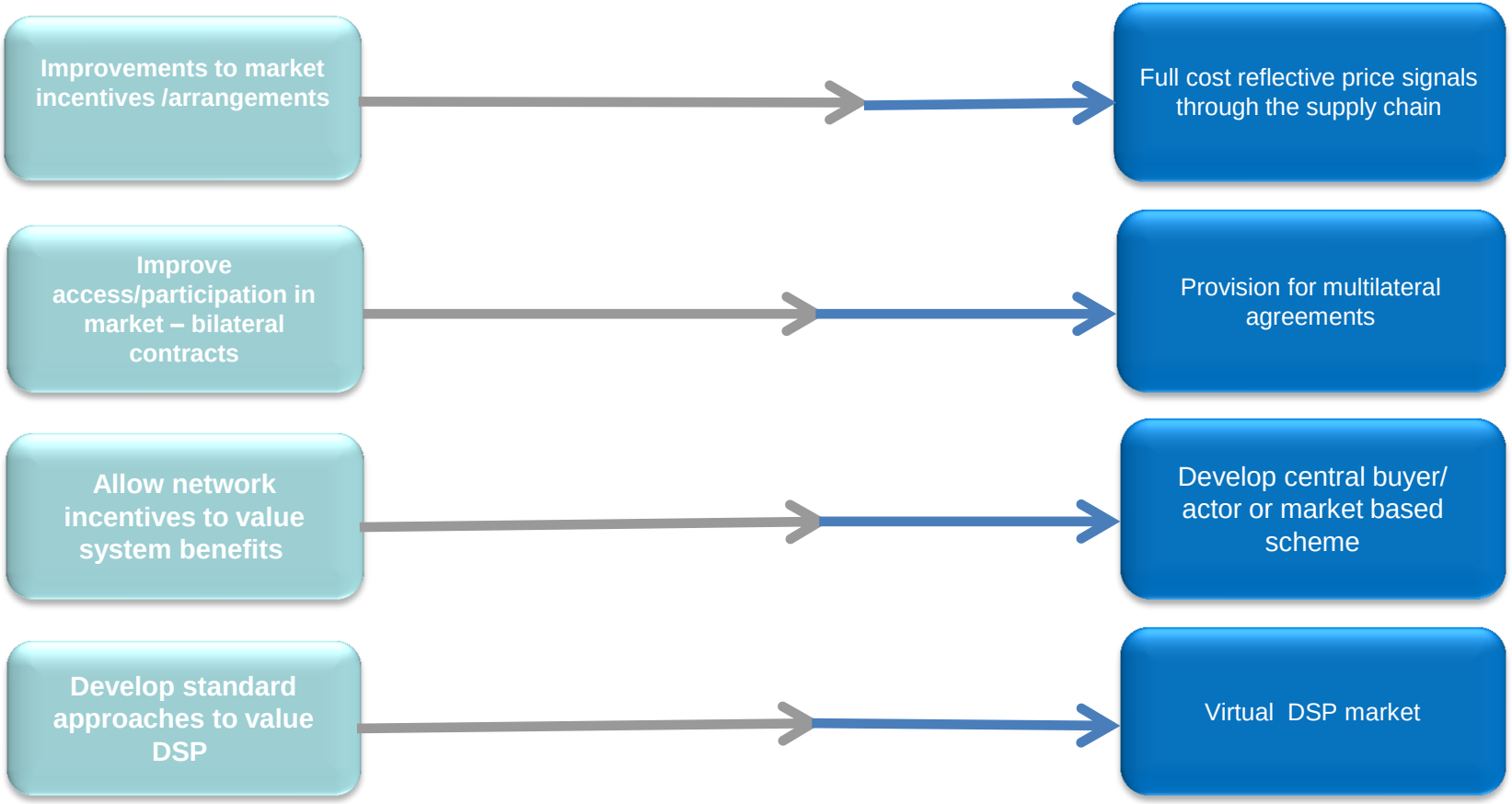
Alternative options to improve coordination

- Different options that could be considered – what lever is the right lever to pull to get efficient outcome?



Supply chain interactions

Ways to improve coordination??



Supply chain interactions

SRG break group discussion (30 mins):

i. **What is the materiality of the supply chain coordination issue?**

ii. **Likelihood and effectiveness of cost reflective price signals aligning incentives/interests of parties across the supply chain?**

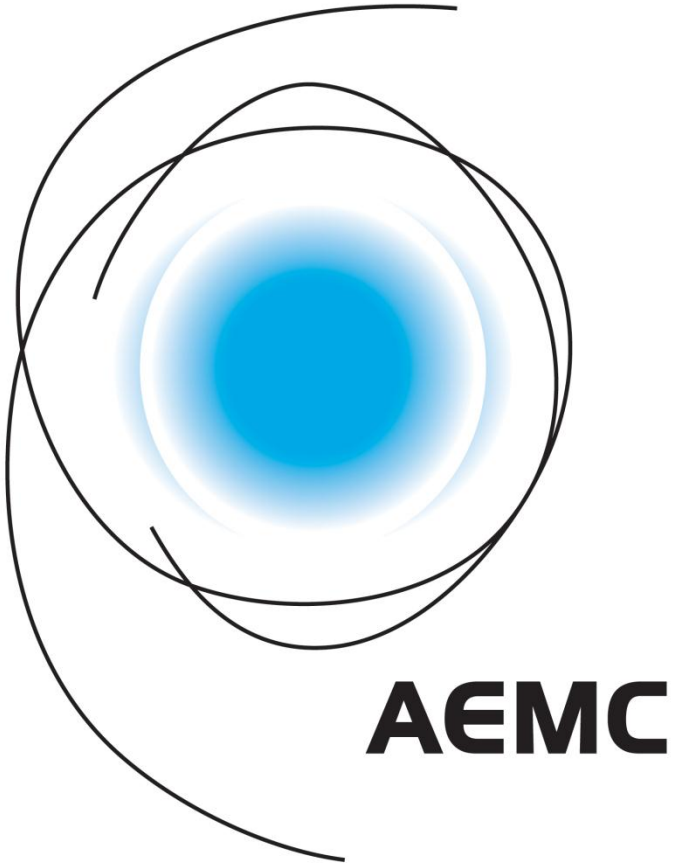
iii. **What are the pros and cons of fundamental options alternative to address existing issues and address the problems identified?**

iv. **Assessment of ways (options) to solve? – analytical framework and criteria?**

Meeting wrap up

Next steps

- We have considered many options to address the issues raised in the directions paper
  - The next step is to narrow down and consider in greater detail some of these options
- As we do this we'll be moving into drafting and preparing the next publication
- Next SRG meeting is yet to be confirmed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