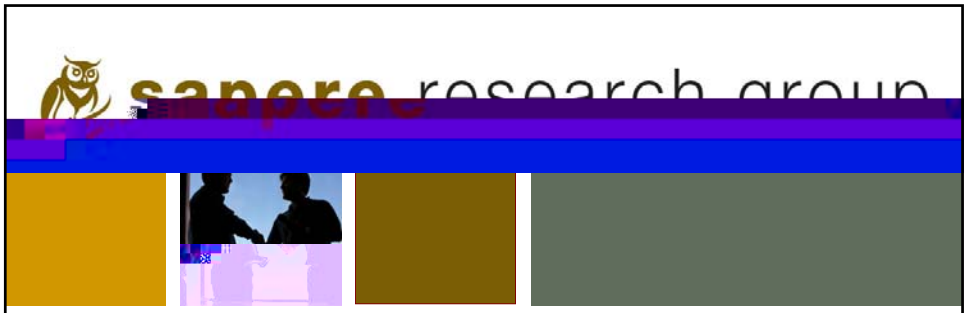

# Harmonisation of Demand Side and Supply Side Capacity Resources

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## Agenda

- Introduction & scope
- Background
- DSM
- Fuel requirements
- Options & Next Steps

## Scope: Harmonisation of demand and supply side capacity

- One of a number of projects examining RCM
- In scope
  - Performance requirements for demand and supply side resources
  - Other factors affecting harmonisation of value
  - Role of demand side management
- Out of scope
  - Other issues not directly related to availability and performance requirements





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## Harmonisation

- Need for harmonisation
  - All capacity resources provide same basic function
  - Capacity credit is a common unit
    (1 MW of DSM = 1 Capacity Credit = 1 MW of generation)

## Need for capacity

- Current dominant criterion is peak demand
- Based on historical data
  - Top 5 percent of capacity used < 24 hours per year
  -

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## Features of DSM

- ƒ Performs same core function as other capacity resources
- ƒ ...however some special characteristics

- ƒ Expensive to dispatch.
  - Costs include opportunity costs to the loads dispatched
  - In general, would choose (and be efficient) to be dispatched last

## Capacity by class

| | Capacity credits by year | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2006 /07 | 2007 /08 | 2008 /09 | 2009 /10 | 2010 /11 | 2011 /12 | 2012 /13 | 2013 /14 |
| Class1, Generators | 3,633 | 3,984 | 4,481 | 5,055 | 5,125 | 5,233 | 5,586 | 5,587 |
| Class2, 72-96 hrs | - | - | 8 | - | 17 | - | - | - |
| Class3, 48-72 hrs | 111 | 131 | 81 | - | - | 108 | 20 | 43 |
| | | | | | | | | |
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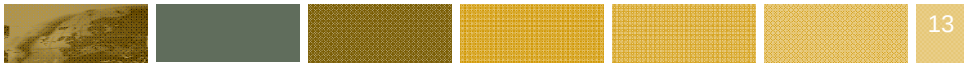
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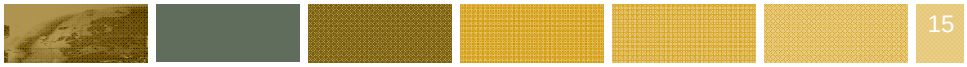
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## Fuel requirements

*Demonstrate fuel storage, supply and transport arrangements are sufficient to allow 14 hours of continuous operation.*

- Gas supplies
  - Available on 'take' or pay basis - not practical in many cases to get a firm arrangement
  - Relatively expensive to store
  - Subject to supply disruption risk
- Liquid fuel
  - Storage possible but more expensive fuel
  - Risk of supply chain issues during a crisis

## What fuel availability is required?

- Need depends on other generation
  - Not all generators required to run continuously during peak
- Prior analysis (MMA 2010) recommended a lowering of requirement
  - Determined 12 hour continuous fuel supply sufficient
  - Included some conservative assumptions – more limited maybe appropriate
  - But also other considerations





## Other considerations

- Other risks than fuel supply over a single day
  - Fuel use over consecutive days
  - Fuel disruption
  - Generator specific risks
- Commercial incentives to be available
  - Energy payments
  - Capacity refund payments
- Unserved energy requirement (USE) analysis

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## Preliminary options - DSM

D1 Increase minimum availability requirements

- Increase in value if there is saturation of low-availability DSM
- Risk of reduction in DSM offered
- Most easily achieved by retiring some classes
- Short-term and long-term impacts

D2 Refine other DSM performance requirements

- The 12 to 8pm period, minimum duration, minimum notification period
- More likely to have a significant impact on DSM in short term

## Preliminary options - Supply

S1 No change / minimal change

- Retain current system

S2 Adjust the minimum availability requirement

- Reduce continuous supply requirement
- Potentially combine with other options which enable sharing of requirement

S3 Modify the commercial incentives to be available

- Refine penalties for not being available when called

## Next Steps

- Assessment of need
- Undertake analysis of impacts of limitations vs need
- Further analysis of options
- Other