The Climate, Energy and Water Nexus Forum:
A water perspective

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Water and Energy

- Water in energy production
  - Extractive industries (mining, coal seam gas)
  - Production (cooling, hydro, solar)
  - Water intensity of low-emission technologies
- Energy in water supply
  - Pumping, wastewater, desalination, recycling
- Energy in water efficiency
  - Irrigation efficiency, rainwater tanks
- Energy generating potential in water
  - Water treatment, hydro in networks
The policy challenge

- Water policy objective (NWI):
  - Manage surface and ground water systems to optimise economic, social and environmental outcomes
  - Secure, sustainable, efficient

- Energy policy objective (RET website):
  - Provision of adequate, reliable and affordable energy to meet future energy consumption needs and to underpin strong economic growth, consistent with the principles of environmental responsibility and sustainable development
The policy challenge

• Some defining characteristics
  • Supply constraints
  • Supply variability
  • Storage
  • Transportability
  • The environment as a consumer
  • Impact of climate change
National Water Initiative

Objective

To achieve a nationally compatible market, regulatory and planning based system of managing surface and groundwater resources for rural and urban use that optimises economic, social and environmental outcomes.

8 interrelated elements of water management

- Water access entitlements and planning
- Water resource accounting
- Best practice water pricing
- Urban water reform
- Water markets and trading
- Knowledge and capacity building
- Integrated management of environmental water
- Community partnership and adjustment
Energy, climate change and the NWI

- NWI acknowledges risks of climate change
  - Energy nexus is not explicitly addressed
- Planning and market mechanisms
  - Global ‘cap’ on consumptive water usage
  - Market and (regulated) pricing signals
- Effectiveness depends on a number of factors
  - Comprehensiveness of planning and entitlements
  - Water pricing
  - Market maturity
  - Efficiency of related markets (energy, carbon)
Is a market solution the best solution?

- Markets have key benefits
  - Allow for individual decision making and adjustment
  - Responsive to a dynamic, complex environment
  - Automaticity
- Governments do intervene where markets fail or do not fulfil legitimate public interest objectives
  - Environmental objectives, regional development, food security, health, urban amenity
  - Sometimes can be translated into a price signal
  - Interventions need to be clearly justified
Is the answer a more integrated policy?

• Managing the complexities of water, energy and climate
  • Along with food security, land use management, urban planning, health, regional development

• Where can we do better?
  • improving the operation of markets and price signals
  • policy cross-fertilisation – a broader view of the implications of policy interventions
  • research coordination