Introducing the SIRCA Experimental Economics Lab
- Electricity, Water, Mergers Policy, Renewable Energy

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What am I talking about today?
- Who is SIRCA and the SEE Lab?
- What are some of the projects we’re now working on?
- Reviewing two recent papers
  - MRET information rule change
  - Impact of method of value induction in regulatory market

About SIRCA
- Not for profit company established by consortium of 28 universities, founded in 1994.
- SIRCA’s principal activity - sharing of infrastructure across industry and academia. Super computing power; skilled research and programming personnel; creation and maintenance of market databases
- Operates AC3 super computer facility - part funded from $5M infrastructure grant in 2001.
  - Exchange Data (inc NEMMCO)
  - Reuters Data
  - Services to Academics, Finance sector participants & Consultants
    - AFMA Product (a substantial cross subsidy) across market
  - $1.6M grant in August 2005 to continue Infrastructure Development
- Approx 30 full time staff
  - Plus associated post-grad students / academic visitors

SIRCA Experimental Economics Lab
- Taking the “sharing the infrastructure” into experimental economics and behavioural finance
  - Exist to support researchers – be it consultants, academics or government to undertake experimental research.
- SEE Lab has dedicated core team (9 people), and draws on the SIRCA IT team as required.
  - Dr Brian Scott - assists with experimental design and specification work
  - Software development team
- Provides lab management systems and control software for labs with CSIRO/ANU, University of Canberra, and the Q2074 Lab at UNSW. Negotiations proceeding at a number of other campuses.

About us
- Karel Nolles
  - Director, SIRCA SEE Lab (2006 - )
  - Senior Research Fellow, UNSW FCE / CEEM (2004-5)
    - AFMA is the peak industry body representing the OTC markets
    - Dealer accreditation and training, Standardised documentation, market data
  - EPA Primary Issuance, Basslink Southward IRR
- SIRCA

ICES GMU
- Research Partner Lab
  - Steve Rassenti
  - Dave Porter
  - Vernon Smith
Brian Scott

- Professor (Senior Lecturer) at Uni of Alabama Birmingham
- Visit scientist with CSIRO SE
- Experimental economics, applied to:
  - Nitrogen removal from managed wetlands
  - Experimental testbeding of appropriate market designs

Some things we are working on

- Policy maker education
  - With Dr Andy Reeson – CSIRO SE
- CSIRO Landscape Auctions
- Electricity Markets
  - Education tools
  - Capacity Markets Investigation
- Merger Policy
  - AGL/Alinta with Allen Consulting
- Water
- Enviro Markets

Policy workshops

- With Andy Reeson, Dave Porter and Stephen Rassenti
- Workshops aimed at giving govt policy makers a “hands on” feel of different markets.
- Set of teaching tools developed with funding by ASX and AFMA

Posted Offer (posting)

“Over the counter” - bilateral
Other experiment results

- Project with Andy Reeson & Stuart Whitten (CSIRO SE)
- Building on work previously done by Andy & Stuart with team at Griffith University

LandScape Auctions

Electricity Market Projects

- Two projects: “Simple” and “Capacity”
  - Stephen Rassenti, Hugh Outhred, Vernon Smith, Karel Nolles.
- Simple is to develop a demonstration electricity market for teaching / demonstration purposes. ($20k)
- Capacity is a consulting project for MISO ($500k)
Merger and Competition Policy

- Project funded by the Allen Consulting Group
- Context based on the AGL/Alinta merger

Renewable Experiments... (let's see some details....)

- Considerable series of experiments examining the Renewable Energy Markets
The Mandatory Renewable Energy Target Market

- Small of scale but interesting of nature
- Recently encountered significant market reversal.
- Still by volume the largest environmental market in Australia.
- Gross Turnover grows to around 4% of the physical electricity market.
- 4% of 0.35% is around 0.01% total (cash).
  - Mostly not yet implemented, although agreed.

MRET Market Design

- Similar to UK ROC and the Texas REC schemes.
- Electricity retailers are held liable to secure RECs
- Renewable generators can produce RECs
- Banking
- Bilateral OTC trading, with some brokers
- RECs can be created from electricity at any time before the end of the scheme…
  - Only become visible in registry after creation
  - Information problem exists

MRET Market - Retailer

- [Diagram showing retailer interaction]
- [Table showing retailer details and transactions]

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Data from Market Turnover 2000-2001 (AUD Billion):

- SFE Turnover $10,900.00 25%
- ASX Turnover $900.00 1%
- OTC Turnover $51,111.00 74%
Cost minimising market??

Penalty or Resale??

- Both approaches used for Regulatory Markets
- Does it matter?
- In straight financial incentive terms, no.
- But in behavioural terms??

Impact of Resale or Penalty

Normal, Penalty, Penalty with Banking