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Making Markets Work for the Environment

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When are water markets good for the environment?

- Protecting and managing lightly used rivers
  - Free-flowing, low-levels of diversion, near natural eg Northern Australia
- Planning is the best water allocation tool
  - Cheap, non-contentious, no ‘prior-rights’

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- Planning is the best water allocation tool
  - Cheap, non-contentious, no 'prior-rights'
- National Water Initiative (2004) – '*market, regulatory and planning based system'* for allocating and managing water resources

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When are water markets good for the environment?

- Protecting and restoring heavily used rivers
  - Highly regulated ‘working rivers’, suffering from severe over-extraction – eg the Murray-Darling Basin
- Planning doesn’t work!
  - Prior ‘property rights’ exist → re-allocation to the environment is contentious and political
- Envt has no recognised ‘property right’, when the going gets tough – plans get dropped!

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When are water markets good for the environment?

- Reallocating water in over-extracted systems
  - when there isn't enough to go around and entrenched rights exist – planning doesn't work!
- 'Efficiency' savings - $5.8 bn for MDB
  - Improving infrastructure - slow, expensive, uncertain, gold-plated stranded assets…
- If you want secure property right to water for the environment – you have to buy it!

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Are water markets good for everyone?

- Good for the environment
  - Portfolio of water ‘products’ tailored to the local / specific needs of the environment
- Good for existing entitlement holders
  - Pay off debts, invest in improved infrastructure, transition to dry-land production or leave
- Good for taxpayers
  - Value for money
- Efficiently meet policy / regulatory targets
  - Bridge the gap between current extraction and lower Sustainable Diversion Limits (SDLs)

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Using markets to recover water for the Murray-Darling Basin

- Restoring the Balance': $3.1 bn to buy back water entitlements in the MDB
  - 920 GL entitlements → ann average yield of 642 GL 'real water' for the environment
  - Strategy in the absence of the 'Basin Plan'? 'No regrets' – high value assets in highly stressed catchments, ability to deliver, value for money
- Guide to the Basin Plan: ann average 3,000 – 4,000 GL / yr 'real water'…

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What are the biggest impediments?

- Caps on trade
  - 4% rule in Victoria is *clearly* a barrier to trade!
    - Trading limits reached within days - willing sellers prevented from selling to willing buyers incl Cwth
    - Delay and uncertainty finalising contracts
    - Cost Vic irrigators $19 mill, Vic $8 mill, 40 jobs…
    - Impediment to bridging the SDL gap: eg Goulburn River 'very poor condition':
      - require additional 411 GL / yr under 3,500 GL scenario
      - available 107 GL / yr…long way to go…

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What are the biggest impediments?

- Caps on trade
  - The NSW 890 GL cap on trade
    - Impediment to bridging the SDL gap: eg Murrumbidgee River 'very poor condition'
      - require additional 716 GL / yr under 3,500 GL scenario
      - available 64 GL / yr…*very* long way to go…
    - Mid-2010: high security water selling $2,200 / ML
    - Excluded due to the cap! Lots of grumpy sellers and lost opportunity to ease the transition to SDLs

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    - Mid-2010: high security water selling $2,200 / ML
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  - Bad for the environment, bad for irrigators…

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Integrate buyback with infrastructure efficiency

- Risks:
  - buyback – Swiss cheese effect
  - infrastructure – gold plated stranded assets
- District level approach to L&W planning:
  - What is the optimum future for an area?
  - Funnel appropriate investment
  - Locally driven so popular – Torrumbarry, Vic
    - Never get 100% support
    - Paying a premium is worth it

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Seasonal Allocations

- Risk: One-off expenditure
- Benefit: Avoid irreversible loss situations
- Narran Lakes – March 2008
  - MDBC bought 11,000 ML @ $180 / ML
  - 50,000 ibis chicks fledged and multiple ecological benefits
  - Broad community support, Indigenous community day
- SDLs won't take effect until 2019
  - Should keep this option open for emergencies

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Partnerships and community support

- ACF 'Just Add Water'
  - Vic Dept of Sustainability and Environment
  - Mallee Catchment Management Authority
  - Parks Victoria
  - Corporates
    - mecu; Observant technology; and VicSuper
- Planned: $15 donations to buy 200 ML to add to 11 GL Cwth and Living Murray
- Actual: 3x expected $ donations 400 ML!!!

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Partnerships and community support

- ACF 'Just Add Water'
  - Massively over-performed expectations
  - People *really do* care and will pay
  - Remote cameras and web technology
  - Strong positive responses from broad range of views
  - Cited by Mallee CMA Finalist in Riverprize
- Basin Plan / SDLs need support *and* won't come into effect until 2019

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It's not *just* about water!

- Complementary land management
  - Fish-passage, riparian veg, pests, weeds etc
  - Augment and optimise e-flow benefits
  - *No policy or funding home*
- Increasing outcomes per unit e-water
  - Environmental works and measures
    - Eg Lindsay Island regulator
  - Carry-over provisions
  - Operations review
  - *All out-with the scope of the Basin Plan*

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Can't *just* rely on markets

- Basin Plan → Big changes to parts of the Basin
  - 27%... 32%... 37%...?
- A prosperous future for rural and regional communities
  - Existing funding streams only cater for those with water to sell or dependent on infrastructure
  - Basin Plan must be accompanied by a package to support the transition to sustainable economies:
    - Jobs in renewable energy, complementary management, NRM, ecosystem service payments, green carbon…
  - Politics might become untenable…

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Conclusion

- Markets & MBIs are crucial in rebalancing ‘rights’
  - Dealing with over-extraction and acquiring an appropriate *portfolio* of water products
- Get rid of barriers to trade
- Broaden the suite of MBIs, administrative methods and partnerships
- River health requires more than just water
- Communities need assistance to adjust
  - Sustainable economies
- Different suite of MBIs managing e-water
  - Channel capacity, seasonal inversion issues…

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‘Inspiring people to achieve a healthy environment’

Thank you!

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Strategic Purchase of Properties

- Toorale – Sept 2008
- Cwth & NSW Govts - $23.74 mill
- 91,000 ha mostly undeveloped floodplain
  - National estate
- Yield avg 20 GL / yr
- This year: 11.4 GL → Darling River
  - Successfully shepherded
  - Multiple waterings in Vic, NSW & SA

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Purchasing entitlements on an open market (permanent water)

Environmental manager stands in the market like any other buyer

- **Advantages**
  - Straightforward (existing product) & transparent
  - Provides water in perpetuity
  - Fixed water demands or base flow
  - Provides the environment with an asset
    - Enable self-reliance; sell it when it's not required
  - Has few on-going costs BUT it's expensive up-front

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Purchasing entitlements on an open market (permanent water)

Environmental manager stands in the market like any other buyer

- **Disadvantages**
  - Not well suited to highly variable and spiky environmental needs eg floods
  - Constrained by size and liquidity of market
  - Could result in price increases
  - Could leave stranded assets
  - Could have 3rd party impacts

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Why rush to reallocate water?

- Intention?
  - Provide adequate environmental flow
  - Prevent irreversible losses
  - Ease the transition between current and future caps
  - Avoid compulsory reduction
  - Avoid huge cut reliability
  - The $$ is there…why risk waiting?

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Water for the Future - Progress

- $3.1bn water buy-back
  - $947 mill spent → 615 GL entitlement 'on the books' → 395 GL annual average yield
  - 90% purchased in 'priority catchments'
  - 332 GL entitlement held by the CEWH
  - 10.9 GL allocated in 08/09 for the environment
- $5.8 bn efficiency & adjustment
  - Very little progress…

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Purchasing annual allocations on an open market (temporary water)

Environmental manager stands in the market like any other buyer

- **Advantages**
  - Flexible and responsive to variable and spiky environmental need – floods
  - Well suited to adaptive management
  - Only buy what you need, lower up-front costs
  - Entitlement stays with irrigator – no stranded assets issues

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Purchasing annual allocations on an open market: (temporary water)

Environmental manager stands in the market like any other buyer

- **Disadvantages**
  - Environment needs water early in the season, before temporary water becomes available
  - Large volumes would increase water prices
  - Water not available in perpetuity
  - No permanent asset
  - Costs are ongoing

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How else can you administer MBIs?

Voluntary buy-back schemes

Public offer to buy a particular type of water product at a particular price for a specified time period (entitlement or allocation)

- **Advantages**
  - Good track record
  - Allows precision targeting of water products that would meet environmental needs OR promote adjustment in specifically targeted geographical locations
  - Open and transparent process
  - Avoid price increases
- **Disadvantages**
  - Potential for stranded assets (entitlements)
  - Limits participation by sellers

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How else can you administer MBIs?

Tender or auction schemes

Competitive tendering (open or closed) determines who supplies water to the environment and at what price

- **Advantages**
  - Cost-effective, avoids price increases
  - Can target water that meets environmental needs
  - Stimulates irrigator participation
- **Disadvantages**
  - Lacks transparency
  - Too slow for temporary water
  - Potential for stranded assets (entitlements)

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Compulsory buy-back

Providing compensation for the non-voluntary acquisition of an entitlement

- **Advantages**
  - Useful if everyone in a particular area is required to surrender all or part of their entitlement
  - Multiple benefits at specific sites eg salinity
  - Free from capital gains tax and other financial incentives can sweeten the deal
  - Address the stranded assets issue
- **Disadvantages**
  - Deeply unpopular amongst most irrigators
  - Above market cost
  - Excluded by the Water Act (2007)

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Novel MBIs

- Varying stages of development
- *Partial* transfer of rights
- Sharing the property rights in an entitlement
- Qualification or attenuation of property rights in an entitlement

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License attenuation

Buy a water entitlement, introduce caveats where water flows to the environment when particular triggers are met, and then sell the (qualified) entitlement back to irrigators

- **Advantages**
  - Can match triggers to highly variable environmental needs (allocation, resource condition etc)
  - Title stays with irrigator (no stranded assets)
  - Provides water in perpetuity
  - Revolving funds; few ongoing costs
- **Disadvantages**
  - New water product (R&D)
  - Expensive to establish (legal covenants)
  - Market acceptability? Risk?

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Options contracts

Irrigators enter a contract with environmental manager to provide a pre-specified volume of water when the option is triggered

- **Advantages**
  - Can match triggers to highly variable environmental needs (allocation, resource condition etc)
  - Can provide a lot of cheap water in wet years
  - Only source water when needed (adaptive mgt)
  - Title stays with irrigator so avoids stranded assets
- **Disadvantages**
  - Requires ongoing funding
  - Could increase pricing / scarcity of water on the temporary market
  - Market acceptability? Risk?

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Water conservancy trusts

A public or private trust purchases or accepts donations of water entitlements for use by the environment

- **Advantages**
  - By-passes bureaucracy and ideological issues with governments buying water
  - Mechanism to integrate ‘one-offs’
- **Disadvantages**
  - Poor coordination
  - Substitution or cost-shifting

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Other issues

- Carry-over reduces the entitlement needed to meet environmental demand
  - 4.5x carry-over reduced by 70% the entitlement required to meet e-demand 80% of the time
- What does the e-manager look like?
  - independence, institutional arrangements, culture, skills, $$...
- MBIs for water recovery differ from those that address channel capacity problems, pollution etc

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Other issues

- Scheduling different policy elements
  - $5.8 bn for irrigation efficiency and structural adjustment
  - Risk of world-class irrigation infrastructure becoming world-class stranded assets!
  - Land and water capability assessment needed to understand future prospects
  - Let the market identify priorities for adjustment

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Conclusion

- All MBIs and administrative mechanisms have different pros and cons
  - flexibility, certainty, costs, complexity, inflationary pressure, 3rd party impacts
- Utility is influenced by non-market elements
  - Carry-over, integration with other policy elements, institutional context