

Drawing lessons from the past

“Forecasting is very difficult, especially if it's about the future”

UNSW CEEM Conference
December 2011

Tristan Edis
Research

Fellow, Energy

Grattan Institute

About the research project

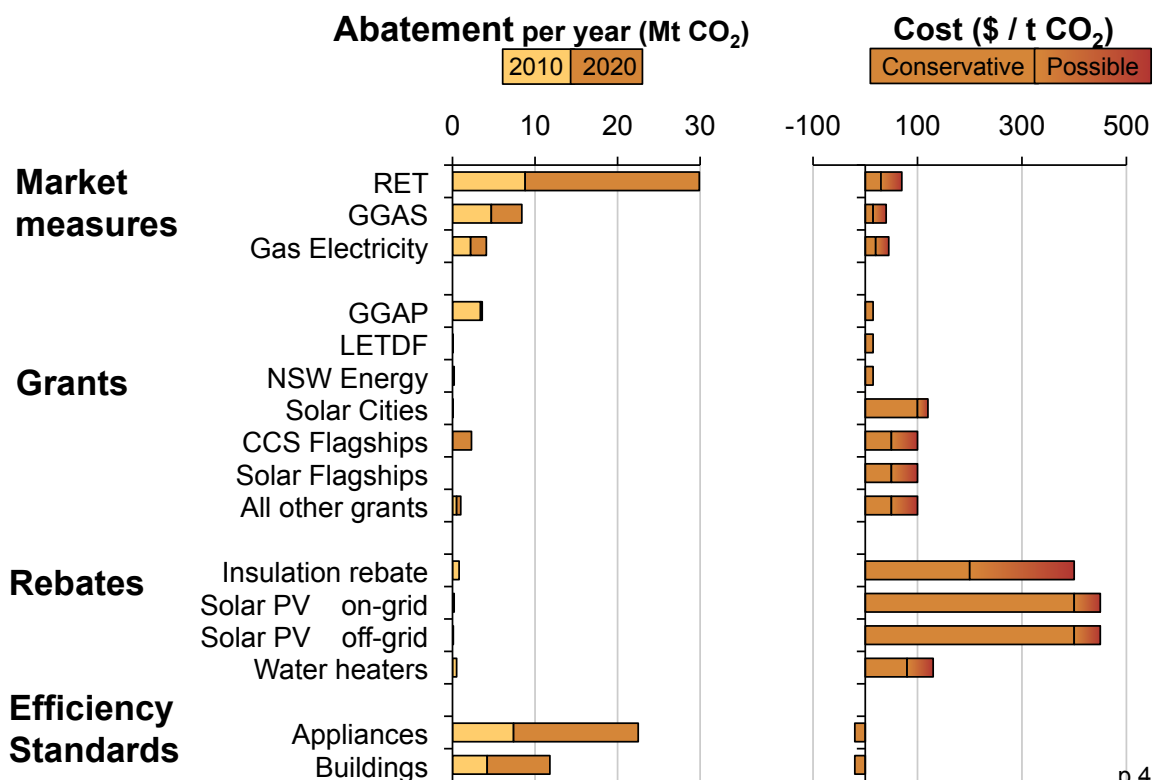
- Reviewed over 300 government policies since 1997
- Analysed 4 policy frameworks driving 80% of abatement (except land-use change)
 - **Market-based** measures (carrot or stick per tonne for delivered reductions)
 - **Grant tendering** (government payment to successful tenderer of project expected to reduce emissions)
 - **Rebates** (government payment to anyone undertaking specific action (eg home insulation))
 - **Energy efficiency** regulatory standards

About the research project

- Key issue – need to deliver on 2020 abatement target
- Assessment criteria:
 - **Scalability:** target: extra 160m t CO₂ by 2020
 - **Speed:** Can deliver by 2020
 - **Cost:** Under \$50 / t CO₂ (preferably under \$30/t)
Need to look at both government budget cost and consumer cost
 - **Certainty:** High confidence the policy will deliver

p 3

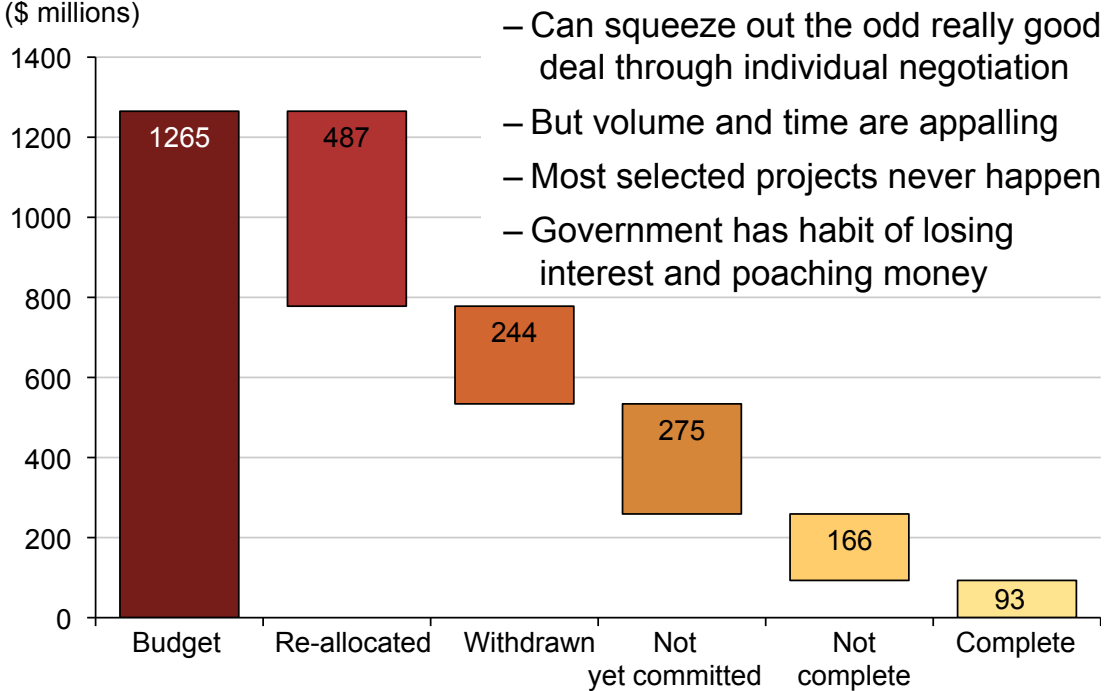
Findings



p 4

Grants schemes – short on delivery

GGAP, LETDF and others
(\$ millions)

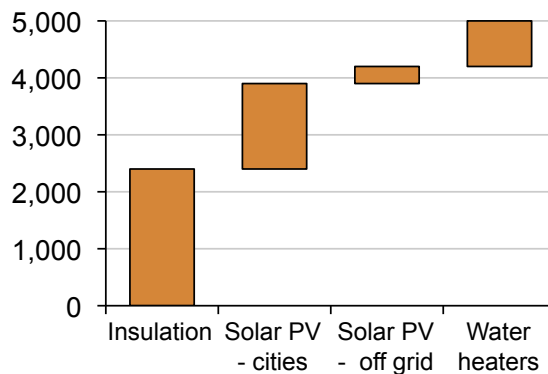


- Can squeeze out the odd really good deal through individual negotiation
- But volume and time are appalling
- Most selected projects never happen
- Government has habit of losing interest and poaching money

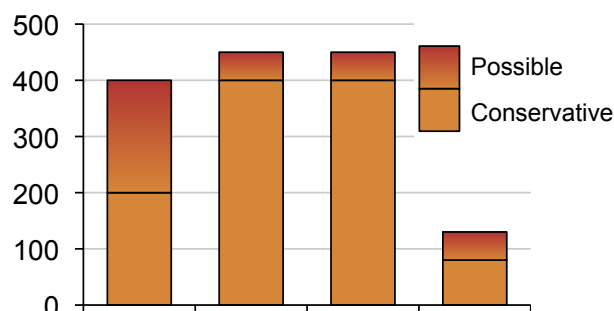
p 5

Rebates: Fast but expensive

Budget cost to 2015 (\$ m)



Cost (\$ / t CO₂ abatement)

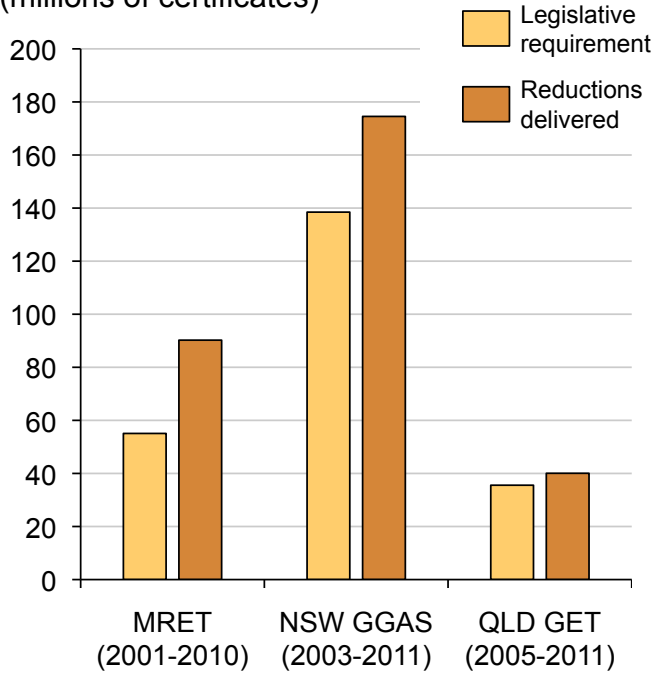


- Fast to roll-out
- Activities chosen for political popularity rather than cost-effectiveness
- Prone to boom then bust as government struggles to set level of rebate to match allocated budget

p 6

Market-based measures: more effective than predicted

Market based scheme requirements and achievements
(millions of certificates)

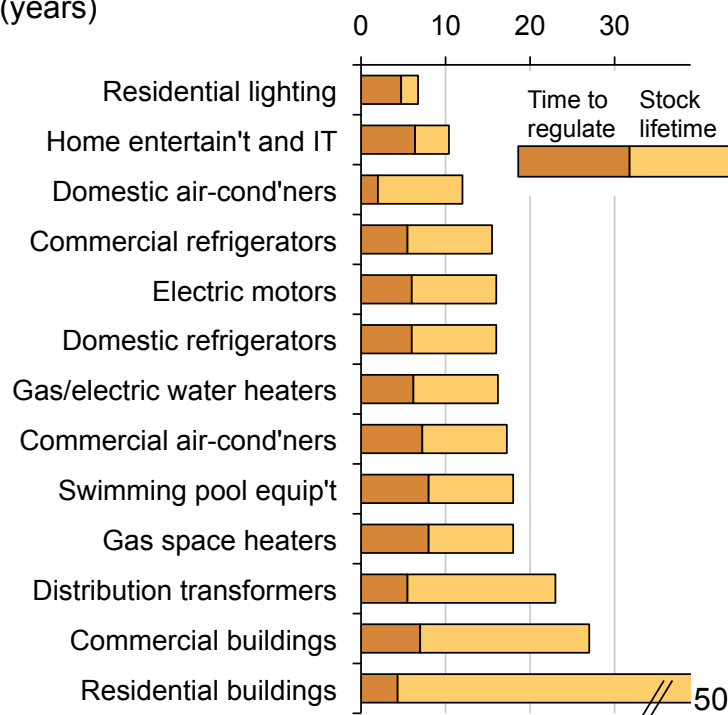


- Not the cheapest option
- But delivers volume on good time frame at reasonable cost
- Some issues with targets being unexpectedly exceeded faster than expected leading to busts
- Gaming also common

p 7

Energy efficiency: worth doing, but slow

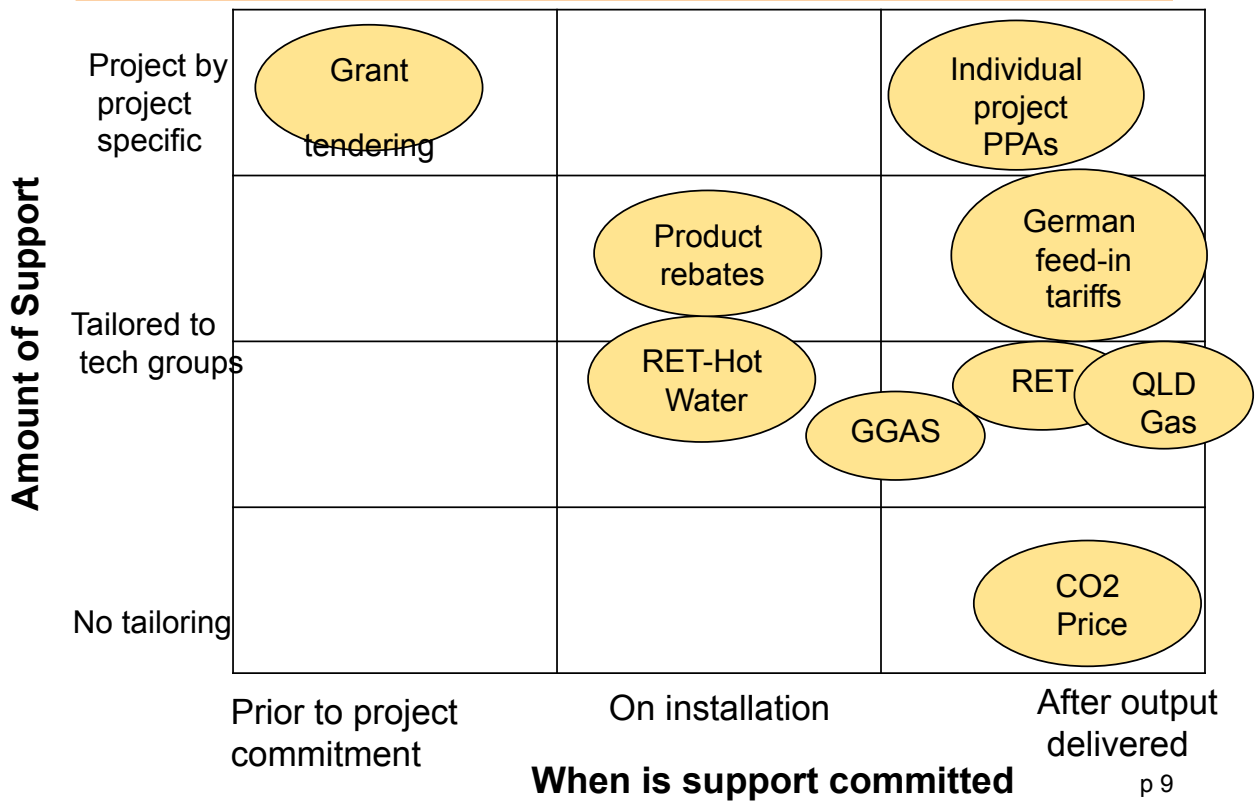
Efficiency regulation implementation time
(years)



- Significant abatement and saved the community money
- Slow to implement

p 8

Fitting it all together



p 9

Fitting it all together – difficulty of prediction

- **It is always tempting to try and deliver support in as targeted a manner as possible:**
 - Politicians love it – they get to pick and choose!
 - It could mean getting a better deal – pay marginal price for each increment of abatement supply.
 - Don't pay for things that you think would happen anyway
- **But you increase the level of prediction difficulty:**
 - The more tailored you wish to make the level of the support the more prone to error. You get too little abatement in the case of grant tendering or you get too much in the case of rebates.
 - The earlier you commit the money before output is delivered the greater the probability of getting less than you expect.
 - The longer it takes to make a decision

p 10

Fitting it all together – trying to mimic markets

- The virtue of normal physical markets is that demand, supply and price operate in dynamic, automatic manner to moderate overshooting (but don't avoid it all together – Keynes).
- The problem with current approaches to greenhouse mitigation policy is that they either:
 - fix price (rebates and feed-in tariffs) or
 - fix demand (renewable energy targets) or
 - fix supply (cap and trade) or
 - adopt something akin to central command approach (Solar Flagships, CCS Flagships).
- Hybrids could help mitigate extent of overshooting:
 - Mandated targets with not just price ceilings but also price floors
 - Feed-in tariffs with automatic step-downs based on amount of capacity installed