The Impact of Renewable Energy Policies and Emission Prices

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Outline

Australian Government Policies

- Large Scale Renewable Energy Target (LRET)
  - Obligation on electricity retailers
  - Required to purchase Large Scale Renewable Energy Certificates (LRECs)
  - Shortfall penalty $65
  - Required LRECs, 2011 – 10.4m, 2020 – 41m
- Small Scale Renewable Energy Scheme (SRES)
  - Number of Small Scale Technology Certificates (STCs) set annually
  - No fixed annual target, volume is based on expected STCs in a year
  - STC price fixed $40 if traded through STC clearing house
  - Estimated STCs, 2011 – 28.1m, 2012 – 38.5m, 2013 – 12.5m
- Solar Flagship
  - Grants for large scale solar projects
  - Approved project in Qld and NSW
- Feed-In-Tariff

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State Government Policies

- Large Scale Renewable Electricity
  - Some states willing to provide solar grants
  - Planning policies – wind farms and residential location
- Feed In Tariff for roof top solar
  - Differences between states
  - Level of tariff
  - Gross vs Net
  - Tariffs being reduced
- Current status
  - NSW closed
  - VIC 60c net tariff, under review
  - QLD 40c net
  - WA 20c net
  - SA 44c net tariff, reducing to 16c October 1, 2011
  - ACT 31.6c Gross
  - TAS & NT under consideration

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Impact of Renewable Policies

- State of LREC Market
  - 2011 massive over supply
  - REC surplus at end of 2010 estimated 35 million
  - Regulatory uncertainty
  - REC prices around $40
- Explanation of over supply
  - Driven by growth in solar pv RECs
    - Caused by REC multiplier and feed in tariffs
- State of SREC Market
  - Solar pv installations well beyond expectations
  - More than 20m SRECs than expected in 2011
  - Reason for changing estimated SRECs in 2012

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Renewable Energy Policy Outcomes

- Summary of objectives
  - Main objective 20% renewable electricity generation 2020
  - Encourage investment in large scale renewable electricity generation
  - Certificate system designed to achieve least cost renewable energy
- Summary of outcomes
  - Doubts that 20% renewable electricity generation will be achieved
  - Investment in large scale wind grew substantially up to 2010 now in stagnation
  - Low levels of investment in other sources of large scale generation
  - Solar PV dominated REC creation in past 3 years
  - PV minimum impact on electricity generation
    - Deemed certificates
    - REC multiplier
  - PV distorted least cost renewable energy objective

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Renewable Energy Policy Lessons

- Clarify Policy Objectives
  - Confusion over 20% renewable electricity generation target
  - Budgetary considerations wiped out least cost objective
  - Political love of solar led to massive subsidies of PV
- Understanding the market impact of policy
  - Market will always respond to the most powerful financial incentive
  - Need for detailed market analysis of policy options
  - Recognise market is best at handling marginal changes not large changes
  - New policy needs to be piloted or gradually introduced
- Minimise regulatory uncertainty
  - Frequent policy changes create great uncertainty
  - Impact on future price of electricity creating greater uncertainty

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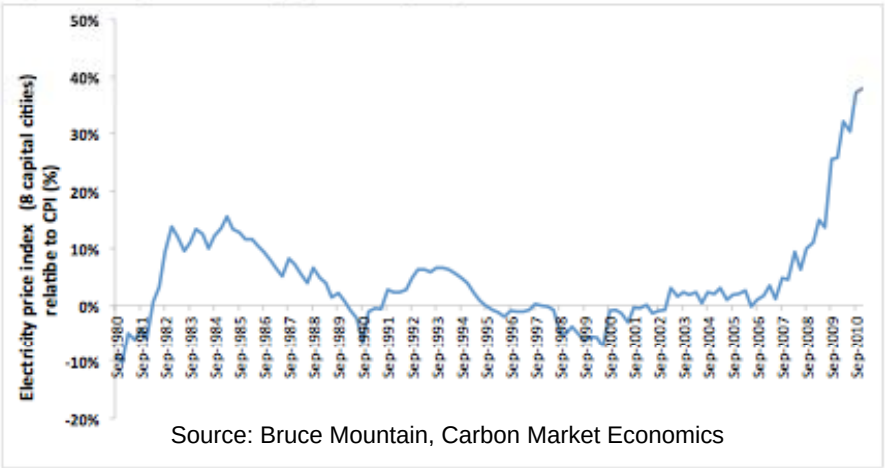
Changes In Electricity Prices Relative to CPI Capital Cities



Source: Bruce Mountain, Carbon Market Economics

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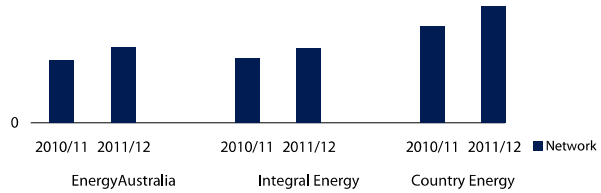
Changes In Electricity Prices Relative to CPI Capital Cities

Figure 1.2 Indicative annual bill for residential customers in each standard supply area – the components and how they will change over the next year ($ nominal)



Note: Bills include GST and climate change levy. Bills calculated using 7,000 kWh of consumption per year, of which 2,100kWh is on an Off-Peak 1 tariff. Non-off peak portion of the bill calculated using EnergyAustralia's Domestic All-time tariff, Integral Energy's Domestic tariff and Country Energy's Urban Domestic tariff (5700) respectively. Inflation is 3.3%.

Source: IPART, Changes in regulated electricity retail prices from July 2011, *Electricity*

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Explanation of Electricity Price Increases

- Past Price Increases Not Caused by Renewable Energy Policies
  - In 2009 and 2010 renewable energy obligation a small percentage of electricity sales
  - Increase in costs to retailers relatively small
  - Obligation on retailers less than 2% of sales
- Large Increase in Electricity Prices took place in Absence of Carbon Price
- Major cause of Electricity Price Increases is Rising Network Costs

"The recent electricity price increases have mainly been driven by increases in network costs. For example, in NSW from 2007-8 to 2012-13 around two thirds of the electricity price increases are driven by rising network costs."

Rod Sims, Chairman of ACCC, 2011

"The cost of distribution is by far the biggest single element of the cost of supplying electricity to the average consumer. In 2010, users were charged around 30% more for the distribution of electricity than they were charged for its production."

Bruce Mountain, Carbon Economics, 2011

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Future Price Impact of Carbon Abatement Policies

- Context of Future Electricity Increases High Political Sensitivity
  - The price impact of renewable energy policies will be closely scrutinised
  - Cost effectiveness of LRET and SRES likely to be centre of attention

- Significance of Renewable Energy Policies
  - LRET increases from 10.6m in 2011 to 16.3m in 2012
  - SRES increases from 28m in 2011 to 38.5m in 2012
  - Renewable Energy Requirements as percent of sales
    - 2011 - 20.4%
    - 2012 - 29.8%

Carbon Price and Electricity Prices

- Carbon Price will lead to increase in electricity prices
  - Smaller increase than previous years
  - Other market forces will continue to impact electricity prices
  - Still very politically sensitive
  - Place pressure on other policy initiatives
    - Renewable Energy Policies
    - Network Costs

Government Response to Increase in Electricity Prices

- Compensation to Households
  - Income tax changes
  - Separates energy price increase from compensation
  - Significant perception issues
    - Tax cut will be welcome
    - Unlikely to reduce angst associated with energy price increase
- Compensation to trade exposed sectors
  - Difficult to get right balance
- Detailed analysis of the market impact of policies critical
  - Effect on composition of electricity generation
  - Impact of compensation packages carbon price signal