Consumer Utilities Advocacy Centre (CUAC)

Presentation to the E2WG

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CUAC
Consumer Utilities Advocacy Centre

Presentation Outline

- About CUAC
- The value of energy efficiency (EE) investment
- Enhancing Stage 2 measures - recognising EE value not currently captured
  - Energy supply infrastructure costs
  - Avoided supply infrastructure examples
  - Value of avoided supply infrastructure
- Principles for capturing avoided supply infrastructure value
- A hypothetical model
- Model benefits

CUAC

- CUAC represents Victorian consumers in policy and regulatory discussions on electricity, gas and water.
- In particular we focus on low income, rural and disadvantaged consumers

The Value of EE

- Profitable emissions abatement
- Negates rising energy bills, building capacity to manage impact of emissions pricing and drought
  - very important equity response to climate change
- For low income households, income freed up for essential goods and services (health, food, etc)
  - *Lowest income quintile spends over 5% on energy bills despite constrained consumption*
  - *Low income consumers typically shut out of appliance efficiency upgrades due to prohibitive capital costs*

EE value not currently captured

- EE avoids/delays capital investment in supply infrastructure i.e. generation and network assets

Why is this important?

- Supply infrastructure costs paid for by all consumers but not reflected in appliance purchasing decisions
- Recognising supply infrastructure savings could change appliance price signals

Supply Infrastructure Costs

- Office of Energy, WA estimates each 2kW air conditioner costs $6,000 in generation, poles, wires, ~$3M per peak MW
- QLD government estimated air-con supply infrastructure $13,000 per unit (no kW value specified)

  This means a $1,000, 2kW air conditioner has a ‘hidden subsidy’ of $6,000 at Point of Sale

Avoided supply infrastructure– some examples

- Switch 50W halogen to 11W CFL down light = $1.2 per W or $1.2M per MW
- Switch 36W twin T8 fluro to single T5 fluro with reflector = $1.5M per MW
- Switch 35W incandescent to 11W CFL = $500K per MW
- Switch refrigeration and air-conditioning – standards difficult to apply, but expect significant reduction opportunities
- *In short, many options under $3M per MW*
  - Can overcome split incentive issues

Value of avoided supply infrastructure

- EE is likely to defer capital investment, not replace, therefore the $3M per MW figure will be discounted to some degree
- Discounting depends on baseline demand growth rate, supply capacity headroom, cost of supply infrastructure, capital discount rate, scale of EE deployment etc
- With 15% headroom, 2.5% peak growth rate, $3M per MW supply infrastructure, 5% discount rate, EE is worth just over $2M per MW for material reductions
  - Note: this is a best estimate based on available data, not a definitive figure
  - Note: $2M per MW still makes many efficiency upgrades cost effective relative to building new supply infrastructure

Principles for capturing avoided supply infrastructure costs

- Funding proportional to the value of deferred supply infrastructure where the EE investment occurs
  - Note: infrastructure costs will vary significantly across States and Regions, any matched funding should recognise this
- Complementary funding mechanisms to capture individual EE purchasing decisions at household level and group EE projects
- Any EE funded needs to demonstrate ‘permanent’ demand reductions relative to existing conditions

A hypothetical model

- Federal Government makes a pool of funds available administered by an independent high level board
- Means tested grants made available to capture individual low income consumers unable to access group EE projects
  - E.g. means testing could be through a concessions framework
- Consumers within a network could make community EE proposals to Government dept for funding
  - Best projects get funding from Gov and matched funding from network business
    - Future regulation of network business's must be considered
- Funding formula adjusted to account for particulars of EE location

Model Benefits

- Simple to administer structure
- Overcomes capital cost barriers to efficiency retrofits and purchasing new efficient appliances
  - Captures consumers typically locked out of EE
- Helps overcome split incentives
  - Operating savings not essential for investment returns
- Captures potential for large scale EE investments with material impact on network planning
- Allows for funding formula adjustments to ensure equitable outcomes