

# IMPROVING THE AVAILABILITY OF ENERGY USE DATA

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# AUSTRALIAN RESIDENTIAL ENERGY USE DATA INVENTORY

# ENERGY USE DATA

- Consumption data (system, average, accumulated, interval)
- Building stock, construction and performance data
- Appliance stock, sales, behaviour and performance data
- Energy cost and tariff data
- Program assessment and evaluation data

In pairs:

Why do you (personally) need energy use data?

What specific datasets do you use?

What are the key data gaps in your work?

# FINDINGS

- over 300 datasets reviewed by over 120 organisations
- many valuable datasets are being forgotten, poor institutional memory
- lots of duplication of effort, intermittent and inconsistent data collection
- new opportunities emerging in linked interval meter data, procedural data collections
- specific findings focussed on 5 areas:
  - consumption data
  - building data
  - appliance data
  - cost data
  - program data

# CONSUMPTION DATA

## Aggregate consumption data

available via DIIS Office of the Chief Economist (nee BREE), some concerns raised re accuracy

## Average household consumption data

DNSPs now publishing annual consumption by postcode, needs integration

## Interval meter consumption data

one large dataset recently published (Smart Grid, Smart City), another large unpublished dataset (Victorian Energy Compare)

more expected to become available over time in line with interval meter rollout, key constraint around streamlined yet secure publishing

# BUILDING DATA

## Building survey data

Poor coverage, still relying on very old data, key dataset identified were ABS Environmental Issues, National Exposure Information System (NEXIS)

## Building construction data

Poor coverage but expected to improve considerably with new NatHERS rating data

# APPLIANCE DATA

## Appliance survey data

poor coverage

ABS Environmental Issues recently discontinued

large number of data collection programs at state level, intermittent and inconsistent

## Appliance sales data

good coverage, GFK point of sale tracking data

## Appliance performance data

good coverage, [energyrating.gov.au](http://energyrating.gov.au)

## Appliance load data

poor coverage, pilot Residential End Use Monitoring Program discontinued owing to resourcing issues



# COST DATA

## Accumulated bill data

no public datasets identified, several surveys undertaken by State government agencies

## Tariff offer data

AER holds data from NSW, SA, QLD, ACT, Tas

Victorian Government holds data in Victorian Energy Compare

# PROGRAM DATA

## Program assessment

internal government capability significantly advanced through Residential Baseline Study model developed by Energy Consult

## Program impact evaluation

intermittently applied, mixed levels of rigour, often unpublished

Did we miss any critical data categories?

Any suggested revisions / clarifications on the findings?

# RECOMMENDATIONS

## Maintain an inventory

- data register survey

- searchable data inventory

- data custodian network, updated contact list

# RECOMMENDATIONS

## Invest in targeted data collection programs

### Consumption data

need improved collaboration between DIIS, AEMO, and NSPs on system consumption and load data

### Building and appliance survey data / interval meter data

need for national building and appliance survey, linked to interval meter data, possibly leveraging audit / disclosure programs

### Appliance load data

re-investigate ongoing end use monitoring study leveraging recent developments in submetering, non-intrusive load monitoring

# RECOMMENDATIONS

## Integrate existing datasets

- Publish in machine readable, non-proprietary formats

  - CSV for simple tabular data

  - JSON / XML for complex branched data

  - GeoJSON / WMS / WFS for geospatial data

- Apply data standards

  - HPXML for residential audit data

  - Green Button for interval meter data

  - BEDES for program data dictionary

- Publish on central data services where possible

  - [data.gov.au](http://data.gov.au), [nsw.data.gov.au](http://nsw.data.gov.au) etc

  - Leverage open source data platform technology (e.g. SEED, OpenEI Tariff database etc)

  - EUDM (segue)

Do you think the proposed data collection programs will be valuable?

Are there any data collection programs that you think are missing here?



# ENERGY USE DATA MODEL



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