

Australian householders' interest in the distributed energy market

Key findings from a national survey

May 2013 | Lygia Romanach, Zaida Contreras and Peta Ashworth, CSIRO Science into Society Group

The Australian Photovoltaic Association (APVA) commissioned the Commonwealth Scientific and Industrial Research Organisation (CSIRO) to design and run a national survey to investigate Australian householders' perceptions of, and willingness to participate in the distributed energy market. The survey was informed by previous CSIRO research as well as from insights collected from six focus groups conducted with a total of 61 people across Brisbane, Melbourne and Sydney in October 2012.

About the national survey

The survey was designed by CSIRO and delivered in March 2013. The aim of the survey was to understand householders' motivation for investing in distributed energy options, with a focus on solar PV technologies.

Each respondent was presented with two of the following six technology options:

1. Solar hot water systems
2. Grid connected solar PV systems
3. Grid connected solar PV systems with battery back-up
4. Battery alone systems
5. Off-grid PV solar systems, and
6. Community PV systems.

The survey also investigated householders' preferences for four financing models, including:

1. Buying upfront
2. Buying with finance
3. Leasing, and
4. Energy Service Company (ESCO) packages.

Survey data was collected on respondents' demographic and socio-economic characteristics and on respondents' values, knowledge, beliefs and attitudes towards solar distributed systems and their uptake.



A solar PV rooftop system in a Brisbane home

Survey respondents' profile

A total of 2,643 people responded to the survey. Respondents were drawn from all States and Territories.

In summary:

- 71% of respondents live in capital cities and 29% live in regional areas
- 46% of respondents are male and 54% are female
- 36% of respondents are aged 18 to 39 years, 37% are aged between 40 and 59 years and 27% are aged above 59 years
- 69% are homeowners and 25% are tenants, with 2% living in public housing and 2% living in shared accommodation, and

- 73% of respondents live in houses, 18% live in units or apartments and 9% live in townhouses or semi-detached houses.

Experience with solar distributed energy

Across the sample, 18% of respondents reported having solar PV panels in their home and 12% had solar hot water systems. Fourteen percent of the respondents randomly presented with the solar hot water option had already installed this technology in their homes, while in the group of respondents presented with the grid-connected solar PV option, 20% had already installed solar PV panels. The respondents

identified that their main motivation for the decision to install either technology was to save money on power bills. Over 70% of households that already have these systems 'agree' that they are happy with the systems and that they perceive acceptance from family and friends. Approximately 70% of those who either have a solar hot water system or solar PV panels would be willing to further invest in their system.

Support for the distributed energy options

Over two-thirds of respondents who currently do not have such technologies at home were supportive of the distributed energy technologies presented to them in the survey, with most respondents indicating that they would consider installing solar PV systems in their homes, as shown in Figure 1 (with scores 1 for 'strongly disagree' to 5 for 'strongly agree').

Preferences for financing options

The most preferred financing options for householders was to buy these technologies upfront. This was followed by buying with finance (borrowing), leasing the systems, and signing to Energy Service Company (ESCO) packages, as shown in Figure 2.

In the survey, an ESCO has been described as a package tailored to the household needs which might include an electronic energy manager that might switch on and off selected home appliances to reduce electricity use at times of high demand and high cost.

The majority of survey respondents (59%) indicated that they would be willing to sign a contract with ESCOs to obtain savings in electricity bills, while 26% of survey respondents would not consider it at all.

When asked which home appliances respondents would be willing to let ESCOs manage, most respondents selected clothes dryers, pool pumps and dishwashers, while a third of respondents selected washing machines, electric heaters, air-conditioners and hot water systems.

ACKNOWLEDGEMENTS

This research work was funded by the Australian Solar Institute (ASI), now part of the Australian Renewable Energy Agency (ARENA), through the Australian Photovoltaic Association of Australia (APVA).

The researchers would also like to thank the members of the public who participated in the research.

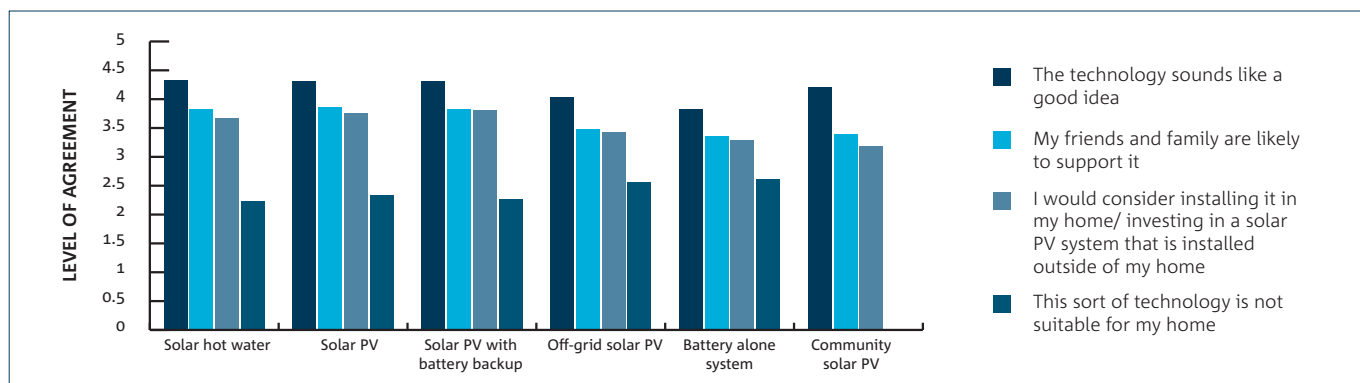


Figure 1. Support towards distributed energy technologies

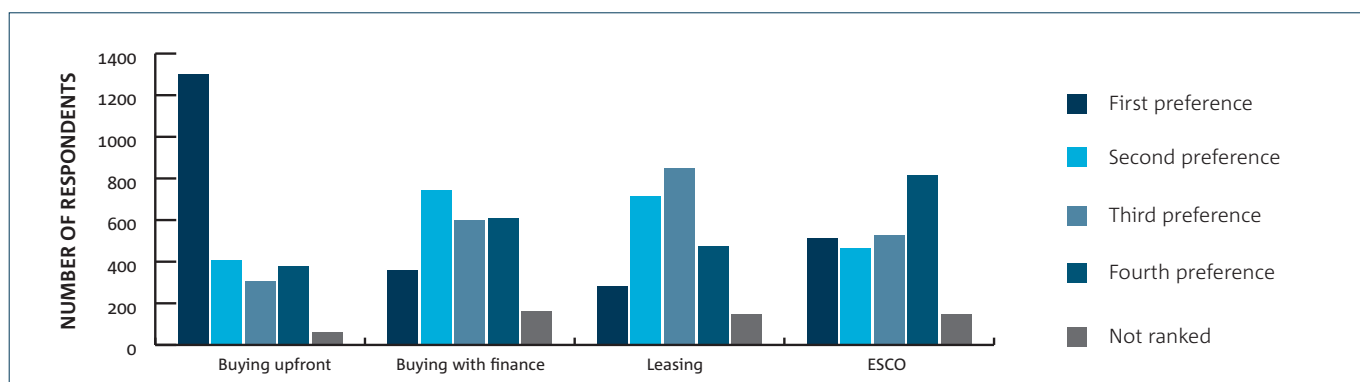


Figure 2. Ranking of finance options to install or replace a solar device at home

CONTACT US

t 1300 363 400
+61 3 9545 2176
e enquiries@csiro.au
w www.csiro.au

YOUR CSIRO

Australia is founding its future on science and innovation. Its national science agency, CSIRO, is a powerhouse of ideas, technologies and skills for building prosperity, growth, health and sustainability. It serves governments, industries, business and communities across the nation.

FOR FURTHER INFORMATION

Earth Science and Resource Engineering
CSIRO Science into Society Group
Peta Ashworth
Project Leader
t +61 7 3327 4145
e peta.ashworth@csiro.au