



Australia's National
Science Agency

Understanding Australian attitudes toward the renewable energy transition

Snapshot



Australia is transitioning to a low carbon energy system. This energy transition is transforming the way energy is generated, transmitted, stored, exported and used. Part of the extensive changes to our energy system is the roll out of large-scale infrastructure, which presents potential opportunities, as well as challenges for communities and the wider public.

It is important to understand Australian attitudes and perceptions of the energy transition and large-scale renewable energy infrastructure to inform and improve policies, planning, practices and outcomes for the nation during this change.

CSIRO has more than a decade of experience in measuring and researching social licence across a range of industries that will assist with understanding public attitudes and expectations of our energy system as it undergoes transformation.

In 2023, CSIRO undertook a large national survey in collaboration with the Department of Climate Change, Energy, the Environment and Water (DCCEEW) to better understand:

- 1 Australian perceptions of the energy transition more broadly**
- 2 Public perspectives towards large-scale renewable energy infrastructure projects (solar farms, onshore and offshore windfarms, and associated transmission infrastructure)**

Aim

Results from this survey will inform planning, programs and other initiatives undertaken by government, industry, and communities as part of the energy transition. The survey also forms a basis for monitoring and understanding Australian attitudes toward the renewable energy transition as it rolls out over time.

The survey

This survey of *Australian attitudes toward the renewable energy transition* is the largest, most comprehensive, and representative national survey in Australia focusing on the renewable energy transition and different types of renewable energy infrastructure.

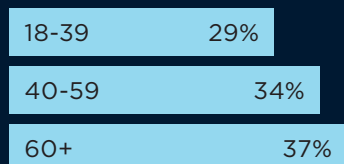
More than 6,700 people across all states and territories were surveyed between August and September 2023 to capture representative views of Australians 18 years and over.

The survey collected data from people aged 18 and over living in metropolitan and regional areas, and from people already living near renewable energy infrastructure.

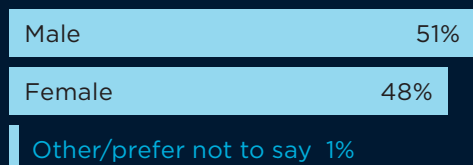
Who we surveyed

6,700 people participated

Age



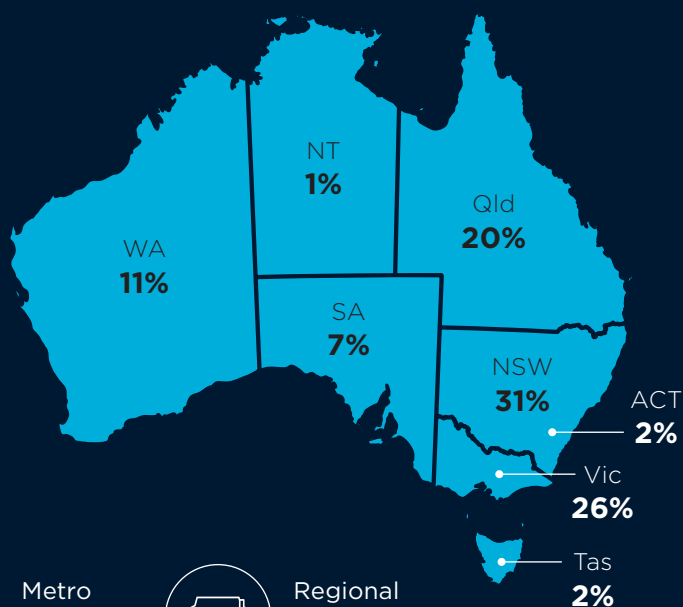
Gender



Metro
67%



Regional
34%



Note: Statistics weighted to better reflect Australian population. In some instances, percentages may not add to 100% due to rounding.

Key findings

Australians are open to change, but unsure about the degree of change

Most Australians supported change towards an energy system that relies more on renewables. Out of three potential scenarios for the future, 87% of people chose a moderate to high change future. Views differed on the speed and extent of the transition, with almost half (47%) preferring a moderate paced transition scenario compared to faster and more extensive change (40%). A low change scenario was preferred by 13%.

Affordable energy a priority for many, reducing emissions a priority for some

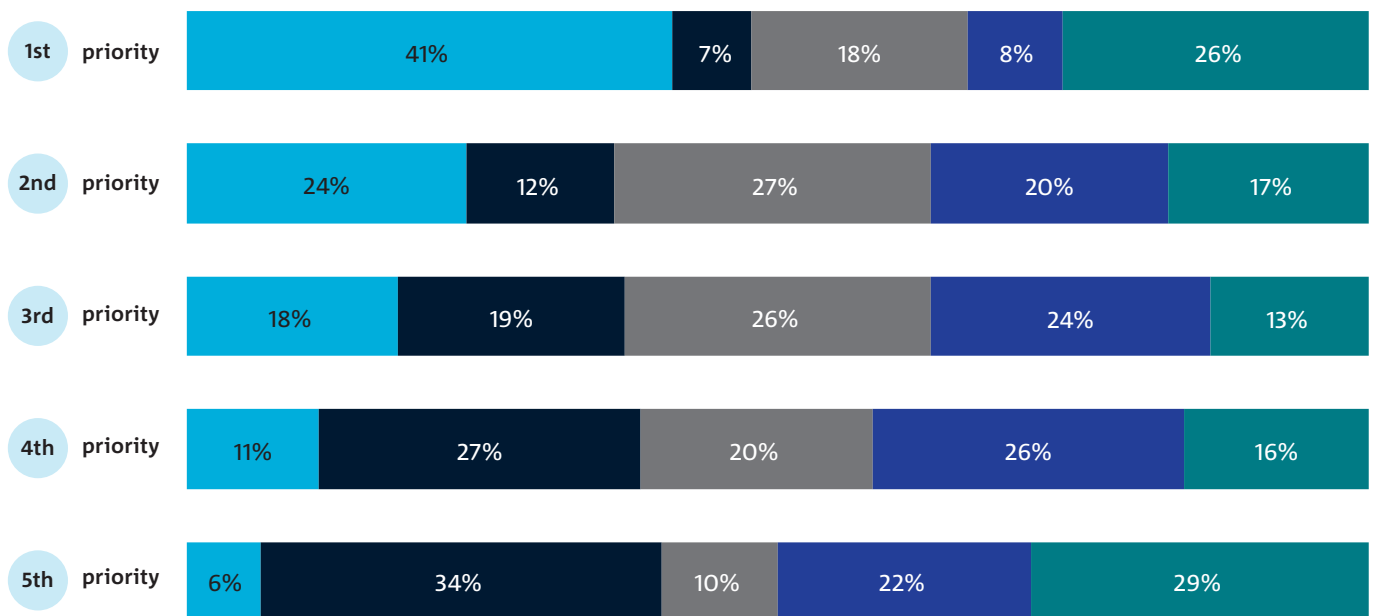
Rolling out this transition in an affordable way was the top priority for four in ten Australians, with most of them (82%) ranking it in their top three priorities. Other priorities in people’s top three were: increasing energy self-reliance (71%); reducing carbon emissions (56%); minimising power outages (52%).

Most people are unwilling to pay more or risk blackouts for a faster transition

To achieve this transition, most Australians strongly disagreed or disagreed with the idea of paying more for electricity (64%), gas (62%), or risking more electricity blackouts (58%). People were a little more receptive to shifting their household electricity use to non-peak times of the day.

Australians are interested in the energy transition, but reported limited knowledge about energy technologies

Most Australians reported being interested in the energy transition. The belief in human-caused climate change appears to be one factor associated with a greater level of interest. However, despite high levels of expressed interest, many Australians reported little or limited levels of knowledge about large-scale renewable infrastructure such as solar farms, onshore and offshore windfarms, and associated transmission lines.



Priorities

- More affordable energy for everyone
- Creating new wealth for Australia
- Increasing Australia's energy self-reliance
- Minimising power outages
- Reducing Australia's carbon emissions

Figure 1 People’s ranking of energy transition priorities

A spread of views towards renewable energy infrastructure, but most people were in the middle

There was a spread of attitudes towards the idea of living near renewable energy infrastructure but most people were in the middle.

When considering a hypothetical scenario, more than 80% of Australians would, at least, tolerate living within 10 kms of renewable energy infrastructure. Most Australians do not have overly positive nor negative feelings associated with

their attitude towards this infrastructure, including those who would tolerate it. At this stage of the energy transition, many Australians hold generally moderate attitudes towards and moderate feelings about living near renewable energy infrastructure. This suggests a broad willingness to support, or at least tolerate, the development of solar farms, onshore and offshore windfarms, and transmission infrastructure.

Overall attitude



Figure 2 Overall attitudes toward living near renewable energy infrastructure

Overall feelings by type of attitude

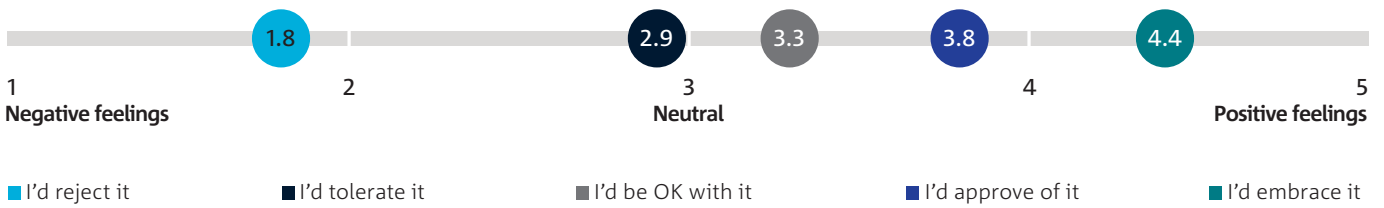
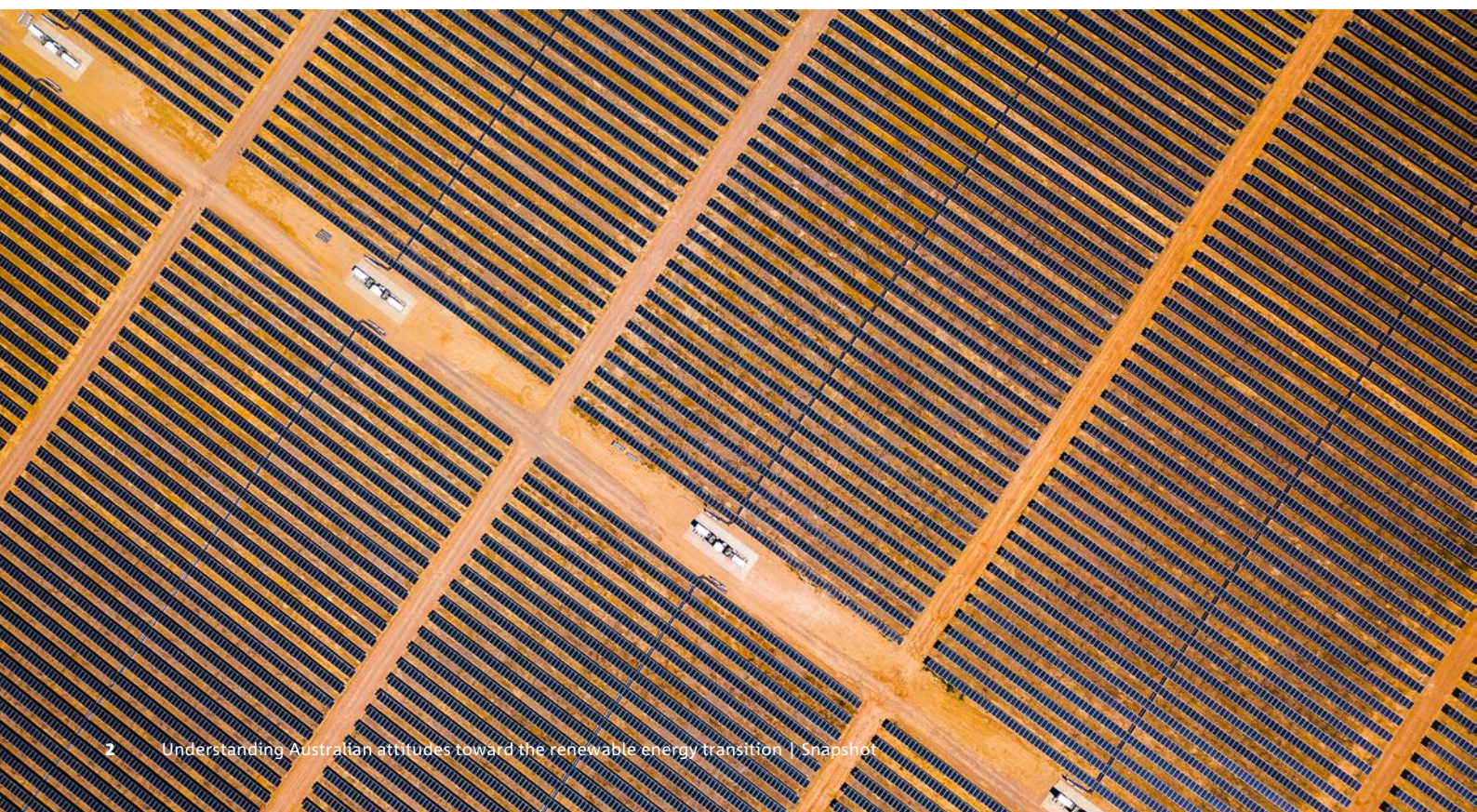


Figure 3 Overall feelings toward living near renewable energy infrastructure



Location and demography play a role in attitudes towards renewable energy infrastructure

Views towards energy infrastructure were largely consistent between capital cities, regional cities and towns. People living out-of-town held more negative opinions in comparison.

Compared to other energy infrastructure types, more people indicated they would reject living near transmission lines (23% in Figure 5), especially those living out-of-town.

Attitudes varied with demographics, with younger and First Nations people having more favourable attitudes. In line with previous research, females had more environmental and wellbeing concerns compared to males.

Beliefs in human-caused climate change and Australia’s collective ability to mitigate climate change were associated with more favourable attitudes toward living near renewable energy infrastructure, highlighting the importance of individual beliefs.

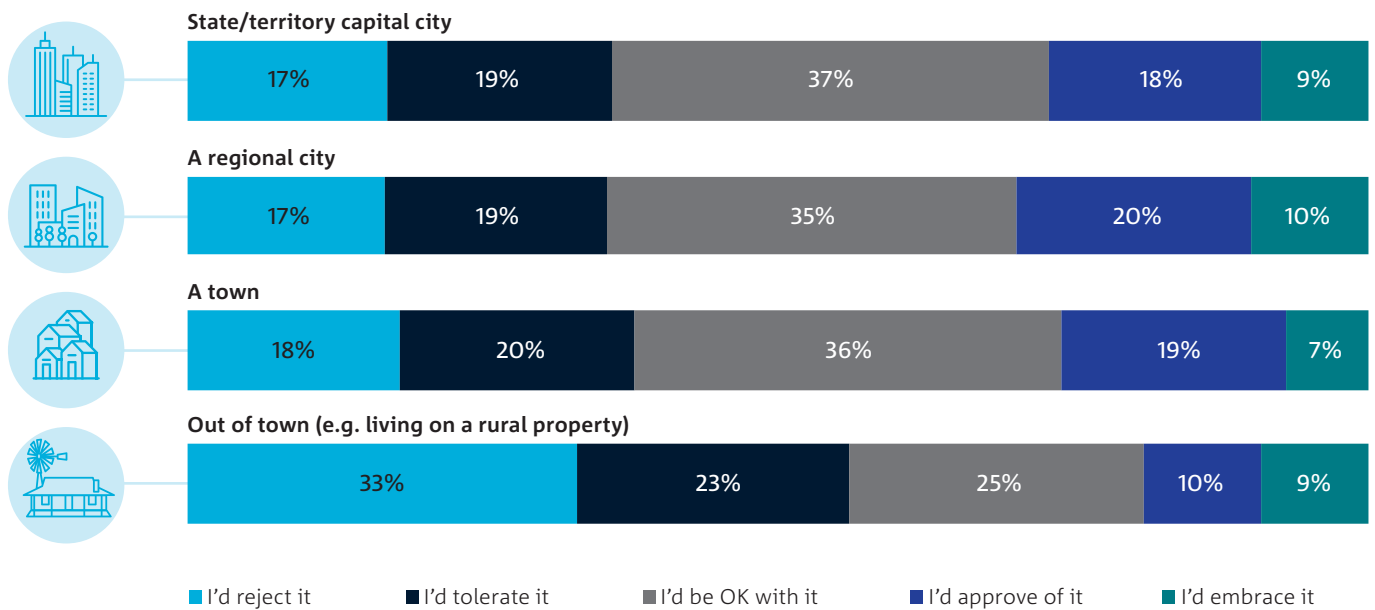


Figure 4 Overall attitude to living near renewable energy infrastructure by location

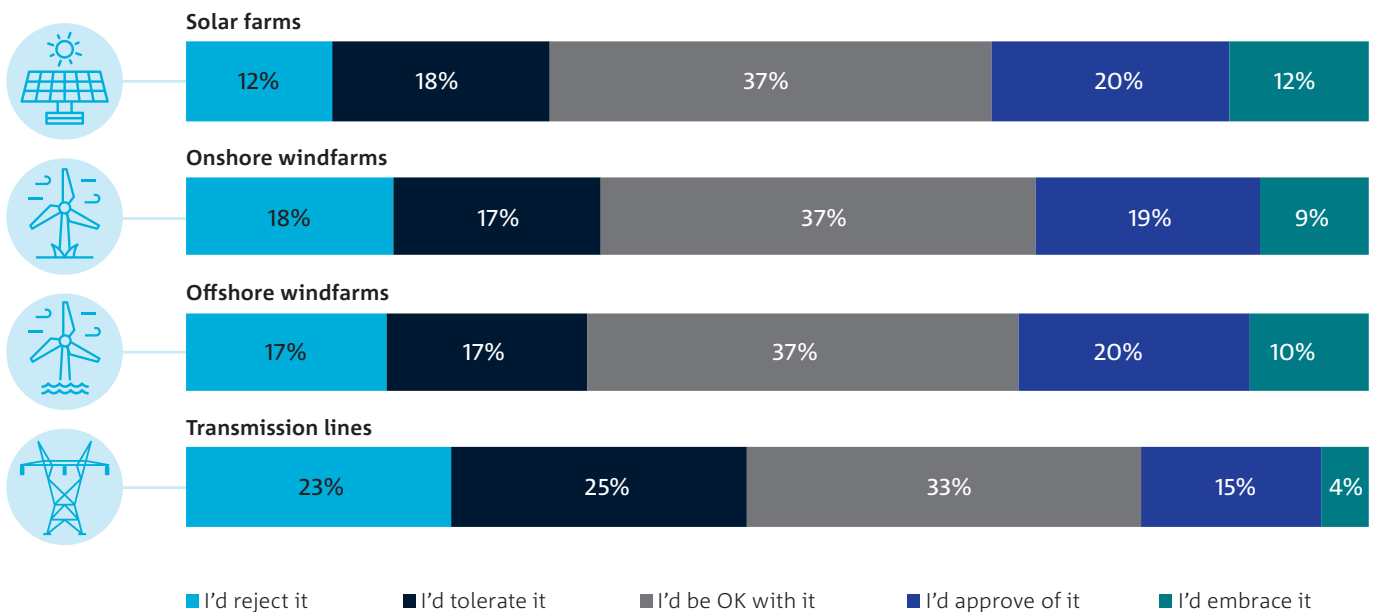


Figure 5 Overall attitude to living near renewable energy infrastructure by type

Australians generally accept or tolerate renewable energy generation technologies while expressing reservations about transmission lines

Solar farms

Solar farms had the highest level of acceptance (see Figure 5), which could reflect the familiarity Australians have with solar panels through the very high adoption of domestic rooftop solar.

However, attitudes to solar farms were less favourable in 2023 compared to 2020. The percentage of people rejecting the idea of living near a solar farm had increased from 5% in 2020 to 12% in 2023 and the percentage of people who would be okay with it declined from 47% to 37%.

Despite Australians' considerable uptake of solar panels there were still relatively low levels of reported knowledge about solar farms and concerns were raised about potential environmental impacts including waste created from end-of-life panels.

Windfarms

Australia-wide, attitudes toward onshore windfarms were similar to offshore windfarms. More than 80% of people surveyed would at least tolerate or be okay with living near a windfarm (see Figure 5).

However, those living in proposed offshore windfarm regions were more likely to reject living near them.

Transmission lines

Compared to other types of renewable energy infrastructure, acceptance of living near associated transmission lines was lower, with 23% of people rejecting it and 77% at least tolerating it. Australians saw less of a role for transmission lines in the energy transition compared to solar and windfarms.

Higher levels of concern were raised about the local impact of transmission lines compared to other technologies. Concerns about reducing visual attractiveness of local landscape and devaluing property were also higher for transmission lines compared to other infrastructure.

The perceived benefits of all technologies were quite similar, which suggests that one of the main impediments to higher levels of local acceptance for transmission lines is the concern about specific impacts, not a perceived lack of benefits. Working with local communities to better understand people's concerns and how they might be addressed will continue to be important.



Important social licence factors

The survey showed that when people understood the role of infrastructure in the energy transition, they were more likely to accept the development of infrastructure. Perceiving benefits and that they will be fairly distributed were also important for social acceptance.

Concerns about perceived negative impacts of renewable energy developments often centred on local environmental concerns. So even if people see an important role for renewable energy developments in transitioning to net zero and mitigating climate change, local environmental concerns remain important.

As with other industries, good governance, trust and procedural fairness also underpinned social acceptance of renewable energy infrastructure.

Overall, the community is looking for comprehensive, transparent information on renewable energy infrastructure developments, their benefits, and any potential drawbacks of renewable energy projects. This emphasises the importance of a holistic approach towards supporting communities during the energy transition.

This study informs a larger effort by CSIRO to understand and help manage Australia's energy transition. CSIRO's Smart Energy Mission is working on ways to help guide interactions between new energy infrastructure, new energy services and technology, and the energy needs of different people and communities.



Figure 6 Relative importance of factors underpinning overall social acceptance

More information

The survey findings are presented in more detail in two separate reports. Part 1 focuses on investigating beliefs about the energy transition, climate change and the environment, and energy transition priorities. Part 2 focusses on factors shaping social acceptance of living near renewable energy infrastructure.

To read more about the survey, download the full reports, or explore the survey data more interactively, see csiro.au/energy-transition

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1300 363 400
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