



Buying Power Episode 7: PPAs for Better Health Outcomes

Health and Climate Change

Awareness of the health impacts of
climate change

A survey of Victorians
and health care professionals





Statistical Measures

- Awareness of link between health and climate change
- Health conditions associated with climate change
- Health conditions healthcare professionals are seeing
- Emotional responses connected to climate change
- Thermal quality of housing
- Expectations of action
- Desire to know more about health and climate change



Victorians, n=3,060

- Representative of Victorian population
- Respondents aged 15+ years
- Minimum 100 interviews in each region



Healthcare professionals, n=700

- 700
- GPs (100+)
- Nurses (300+)
- Allied health professionals (75+)
- Medical specialists (50)



Climate change impacts – health link

When prompted, the connection is readily accepted

58%

recognise health as one of the main ways they are likely to be affected by climate change.

Impacts	All Victorians	15-24	25-34	35-44	45-64	65+
Cost of living	67%	66%	70%	68%	68%	63%
Healthy environment	63%	66%	59%	60%	62%	60%
Human health	58%	73%	56%	50%	57%	57%

“I have never thought there is direct influence between climate change and health

– but after reading those statements (from WHO), we need to stop and think.”

Focus group participant, 2019

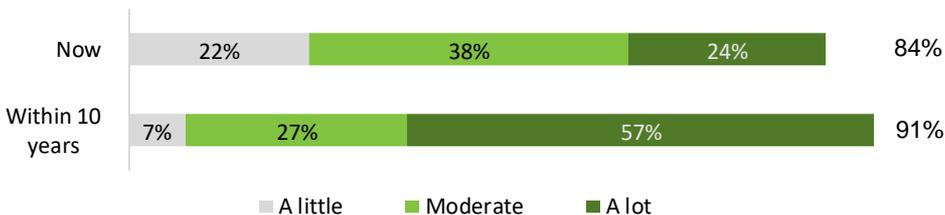


Healthcare professionals are already seeing impacts

84%

Healthcare professionals say climate change is already harming public health

Climate change - Impact on public health

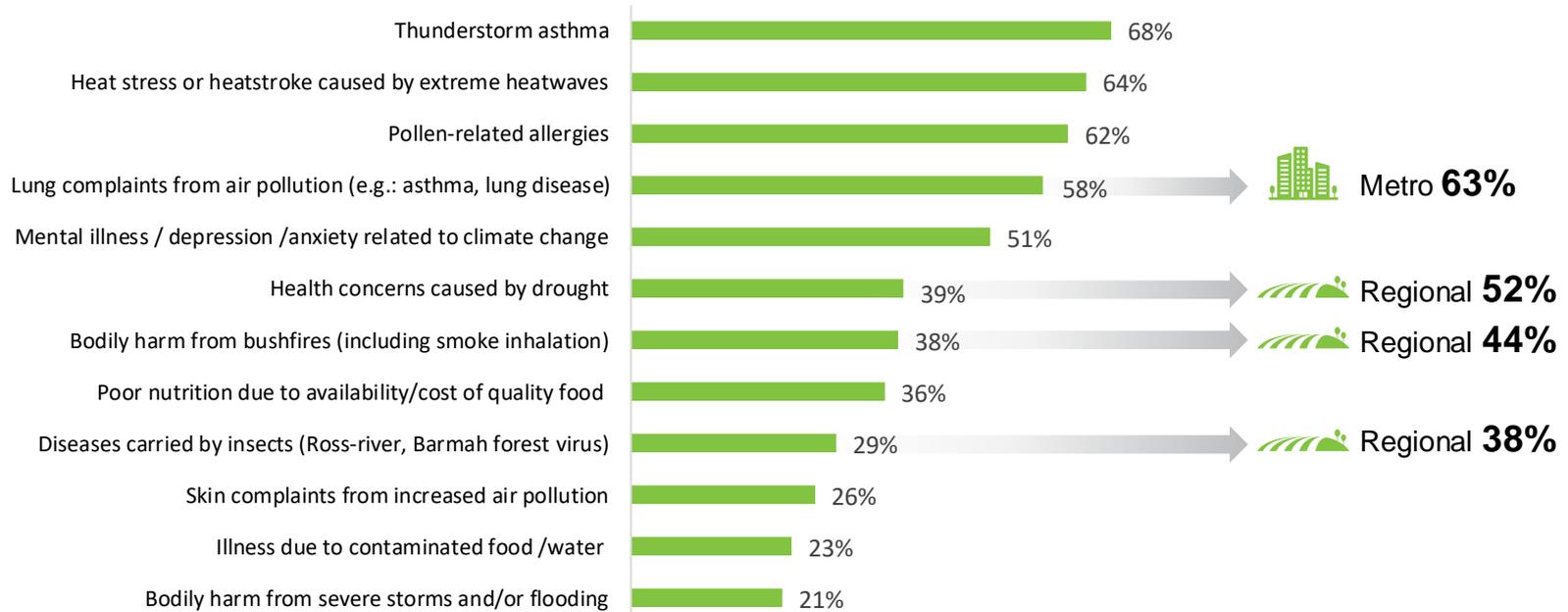


57%

say within 10 years the impact of climate change on public health will be significant

Health conditions linked to climate change

Many healthcare professionals are **already seeing climate change related health conditions** in their community





What health conditions will become more common?

Most healthcare professionals believe the following **health conditions will become more common:**





Emotions felt when thinking about climate change

75%

Feel **frustration**
to some extent



72%
Sadness



67%
Outrage



70%
Despair



67%
Fear

Climate change – emotional response

“ Young people report feeling emotionally overwhelmed ”

All Respondents

41%

of **Victorians** feel overwhelmed when thinking about the future impacts of climate change

79%

of **healthcare professionals** feel overwhelmed when thinking about the future impacts of climate change

Young People



59%

15-24 yrs



84%

Healthcare Professionals
18-39 yrs



Healthcare professionals support health sector leadership on climate change action

92%

Healthcare professionals

Agree it's a serious issue and needs **immediate action**.
Over half say it's on their mind a **lot of the time**

46%

Healthcare professionals

Say taking action to help tackle climate change **is already happening / is on the agenda** in my organisation.

83%

Healthcare professionals

Agree (55% strongly) that health organisations should be **leading the way on climate change action**

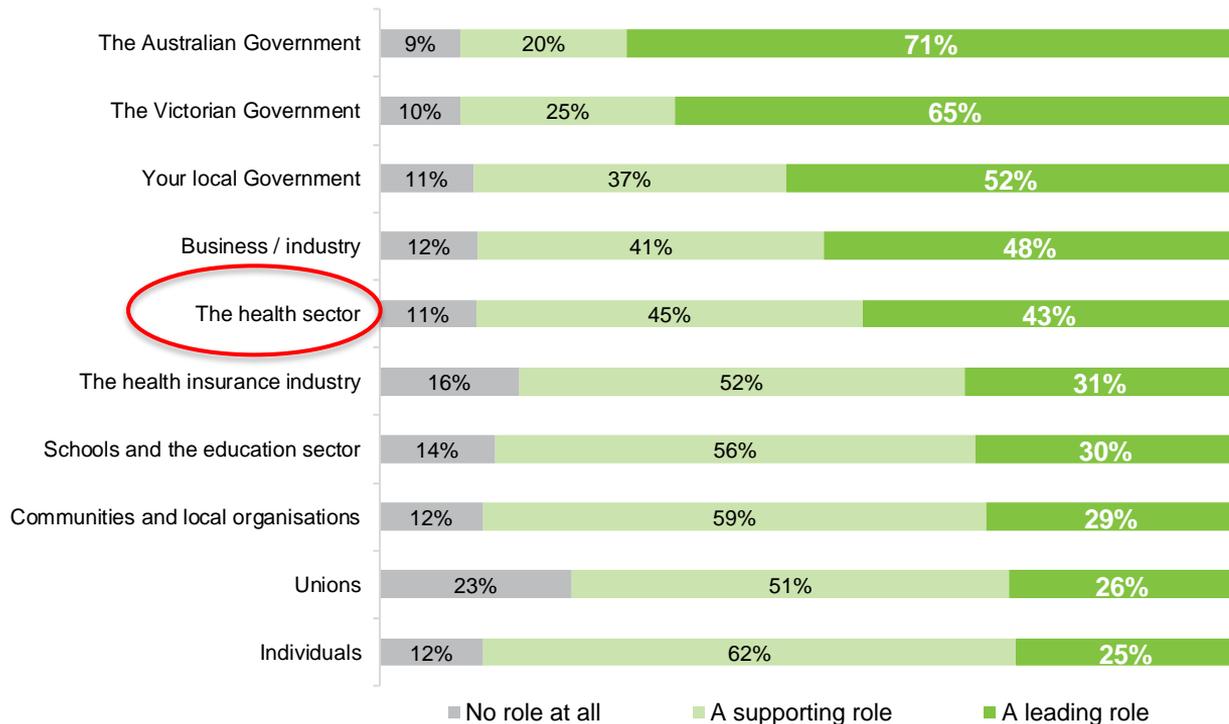
88%

Healthcare professionals

Agree that if no significant changes are made, **health services and infrastructure will face significant challenges** due to increasing demand for services and increased risks to infrastructure

The Victorian public support action and leadership

Community holds strong expectation of action from the health sector – it was second to government

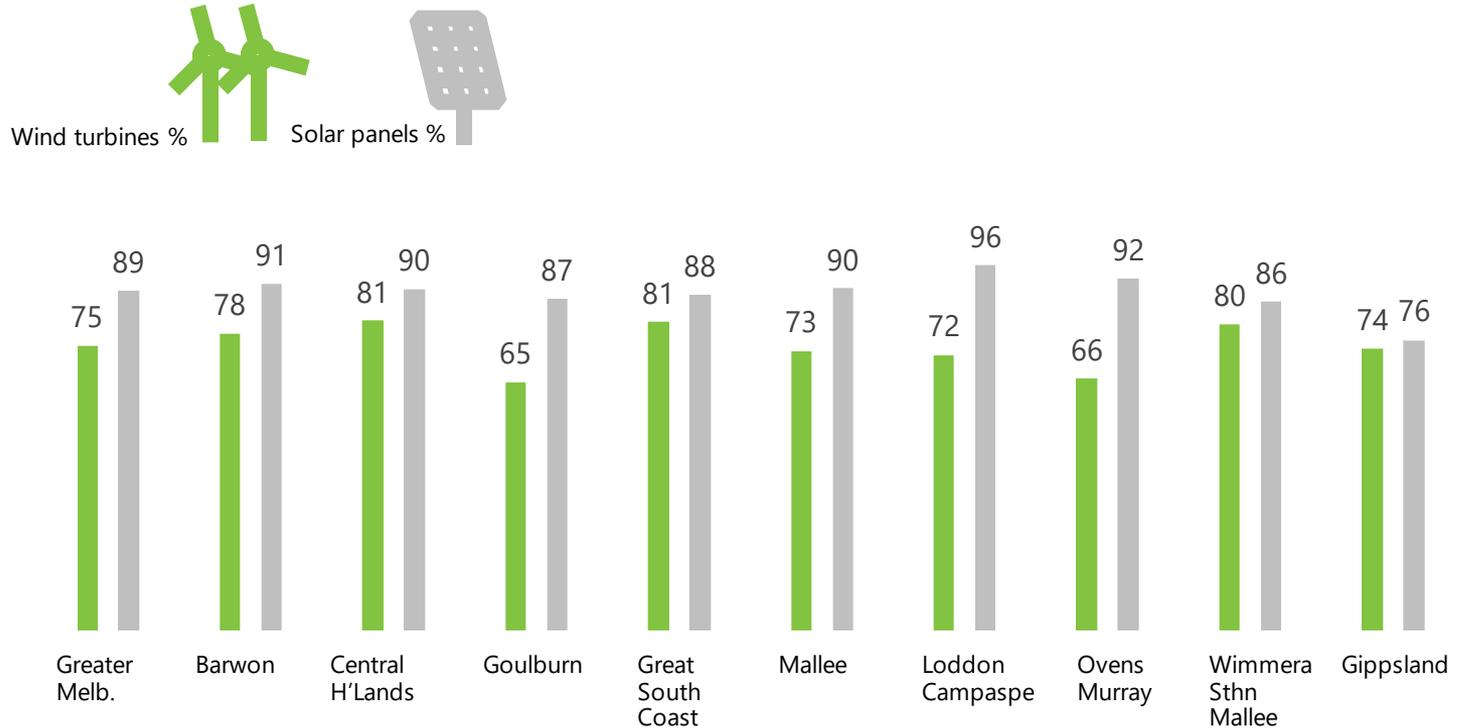


67%

Think that its
**cheaper to act
on climate
change now**
than to pay the
price later

Regional findings

Support for renewable energy
infrastructure consistent across the state



Thank you

It's up to all of us
to help shape the
State of the Future



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Sustainability Victoria



Ambulance
Victoria



NOVEMBER 2020

Moving towards renewables

SOCIAL & ENVIRONMENTAL RESPONSIBILITY
AMBULANCE VICTORIA
(BRC-A webinar)

[ambulance.vic.gov.au](https://www.ambulance.vic.gov.au)



A SUSTAINABLE AMBULANCE VICTORIA @ 2050

NET ZERO AMBULANCE SERVICE

ZERO EMISSION FLEET

ZERO EMISSION PROPERTIES WITH RENEWABLE ENERGY



LOW EMISSION HEALTHCARE
(LOW CARBON MODEL OF CARE)

CLIMATE ADAPTED & READY

LOW WASTE PRODUCTION & ZERO WASTE TO LANDFILL

RESPONSIBLY SOURCING

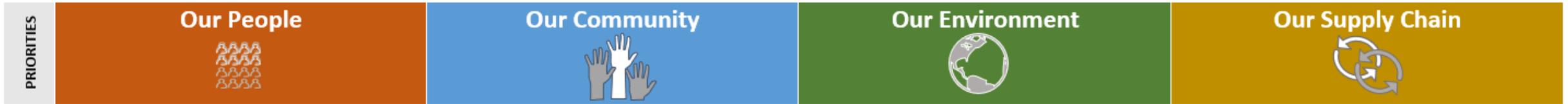
Being socially and environmentally responsible will enhance delivery of Best Care

Action Plan



Social and Environmental Responsibility Action Plan

We are committed to investing in a socially and environmentally sustainable future. Here's how we are doing it ...



- ▶ Action Plan for a five year period
- ▶ Developed across each of the priorities
- ▶ Linked to the Sustainable Development Goals
- ▶ Commenced implementation in 2019



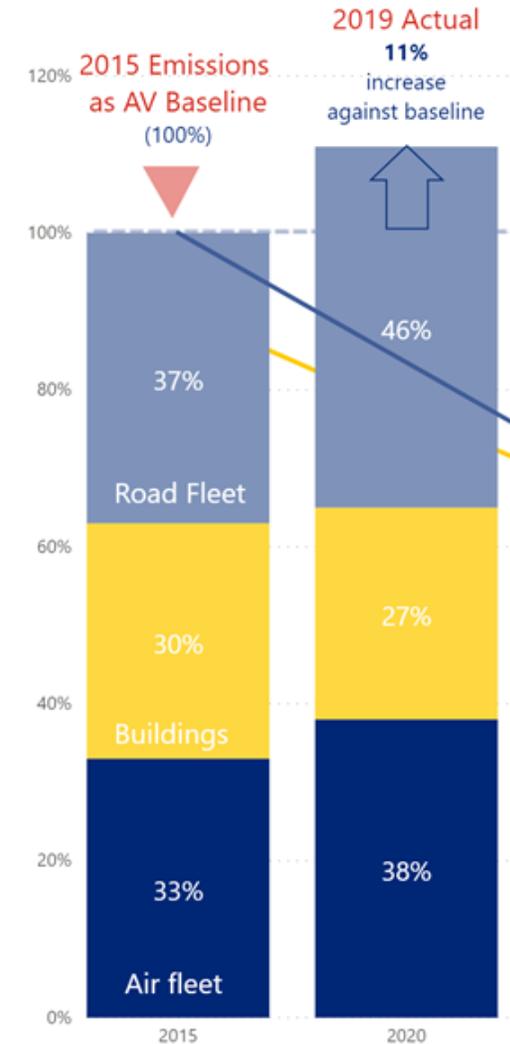
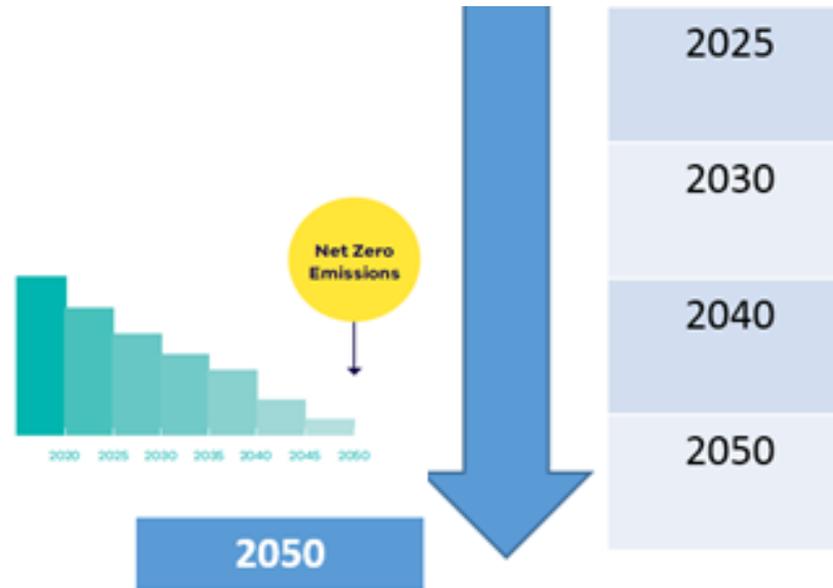
Case Study: Climate Approach

Emissions Reduction Commitment (Climate Mitigation)

Emissions reduction pathway to net zero by 2050

Phased transition across AV's key emissions categories

2025 and 2030: Emissions reduction targets



IMPACT: Lower carbon model of care
Emissions pledges to be communicated soon



Case Study: Climate Approach



Emissions Reduction Commitment (Climate Mitigation)

Emissions reduction vision

Committing to source 100% of our electricity from renewable sources by 2025

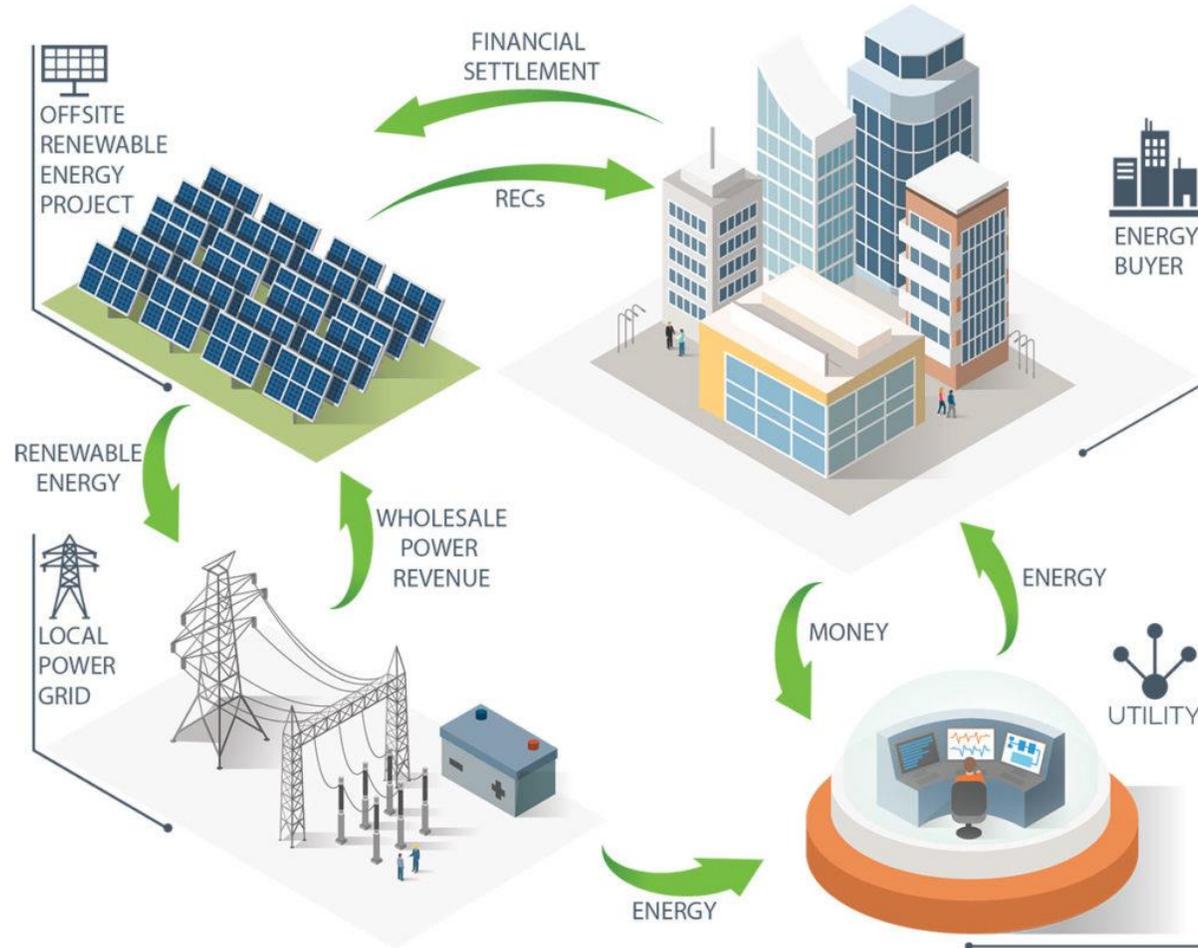


IMPACT: 27% reduction in emissions by 2025
7% reduction achieved in 2020



Case Study: Climate Approach

Emissions Reduction Commitment (Climate Mitigation)



Case Study: Climate Approach

Key stakeholders

- Executive Team
- Board
- Property Services
- Finance
- Procurement
- Communications



Case study: Renewables experience

Emissions Reduction Commitment (Climate Mitigation)

In pursuing a renewable PPA, AV's energy solution was aiming to find:

- Renewable energy; preferably 100% or a fast trajectory towards this
- Reasonable costs; ideally less than parity with coal based electricity
- Energy security over the longer term
- Victorian option for renewable energy farmer



Case study: Renewables experience

Emissions Reduction Commitment (Climate Mitigation)

Key benefits of the renewable PPA:

- Reduce negative impact of our footprint and contribute to organisational action around climate change
- Reduce its greenhouse impact by approximately 7% per annum from 2020
- Support our ability to realise commitments in its Social and Environmental Responsibility Framework & Plan
- Support managing our climate change risk in implementing climate action.

The agreement was approved and the project went live on 1st July 2020.

Late 2019 - 'Go Live' date in July 2020, the project took ~8 months to deliver.

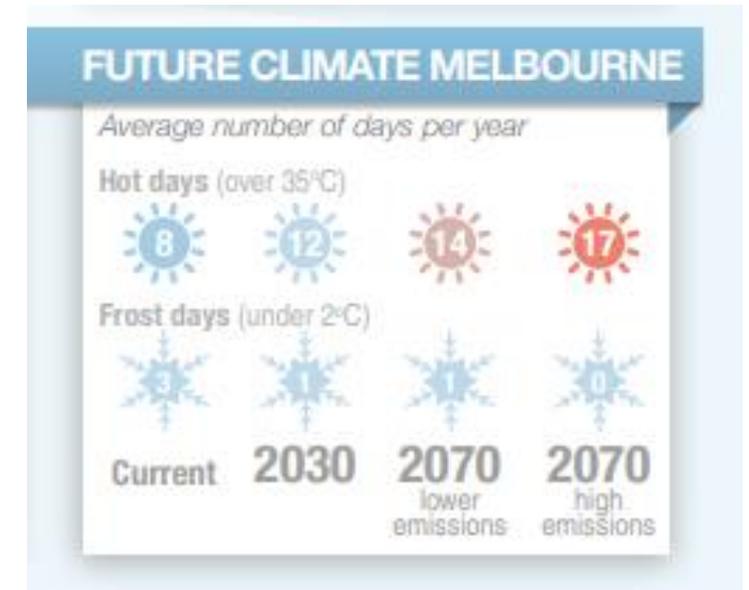


Learnings to date

- ▶ Many ways of getting there and options
- ▶ Change management and senior engagement is key
- ▶ Working together cross organisations and health
- ▶ Sustainability business cases realise co-benefits

Challenges remain

- ▶ Broad portfolio
- ▶ Establish priorities
- ▶ Vehicles and future technologies



Department of Environment, Land, Water & Planning, Climate Ready Victoria 2015

In the future we can expect



Temperatures to continue to increase year round



Harsher fire weather/ longer fire seasons



More frequent and more intense downpours



Less rainfall in autumn, winter and spring



More hot days and warm spells and fewer frosts



Rising sea level



Q & A



E: sustainability@ambulance.vic.gov.au





PPA's for better health outcomes

State of play in the PPA marketplace and opportunities for the healthcare sector

BRC-A, Healthy Futures and Sustainability Victoria

Anita Stadler | 30 November 2020

energetics^o

A wide-angle photograph of a solar farm. The image shows multiple rows of solar panels mounted on metal racks, extending into the distance. Below the panels, several white inverter units are visible. The ground is a mix of gravel and dry, brownish soil. The sky is a clear, vibrant blue with some light, wispy clouds. A semi-transparent dark grey horizontal band is overlaid across the middle of the image, containing the text "State of the market" in white.

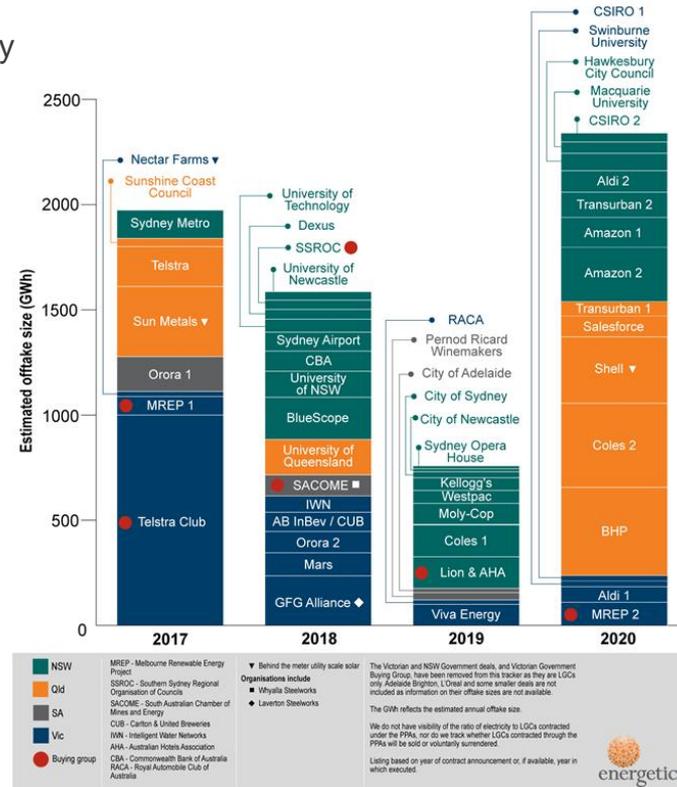
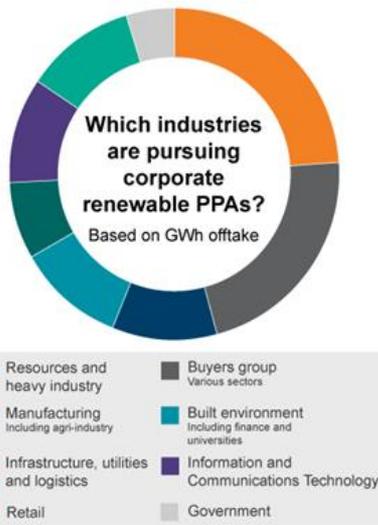
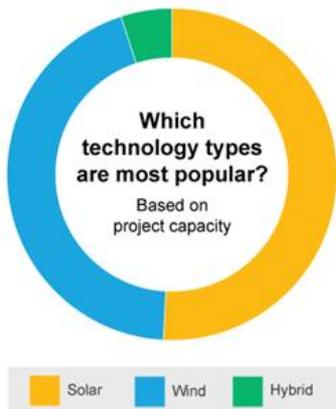
State of the market



2020 has been a record year for corporate PPAs in Australia

However, no healthcare provider has signed up to a PPA as yet

• Since 2017, PPAs have supported the delivery of over 7,500MW RE capacity



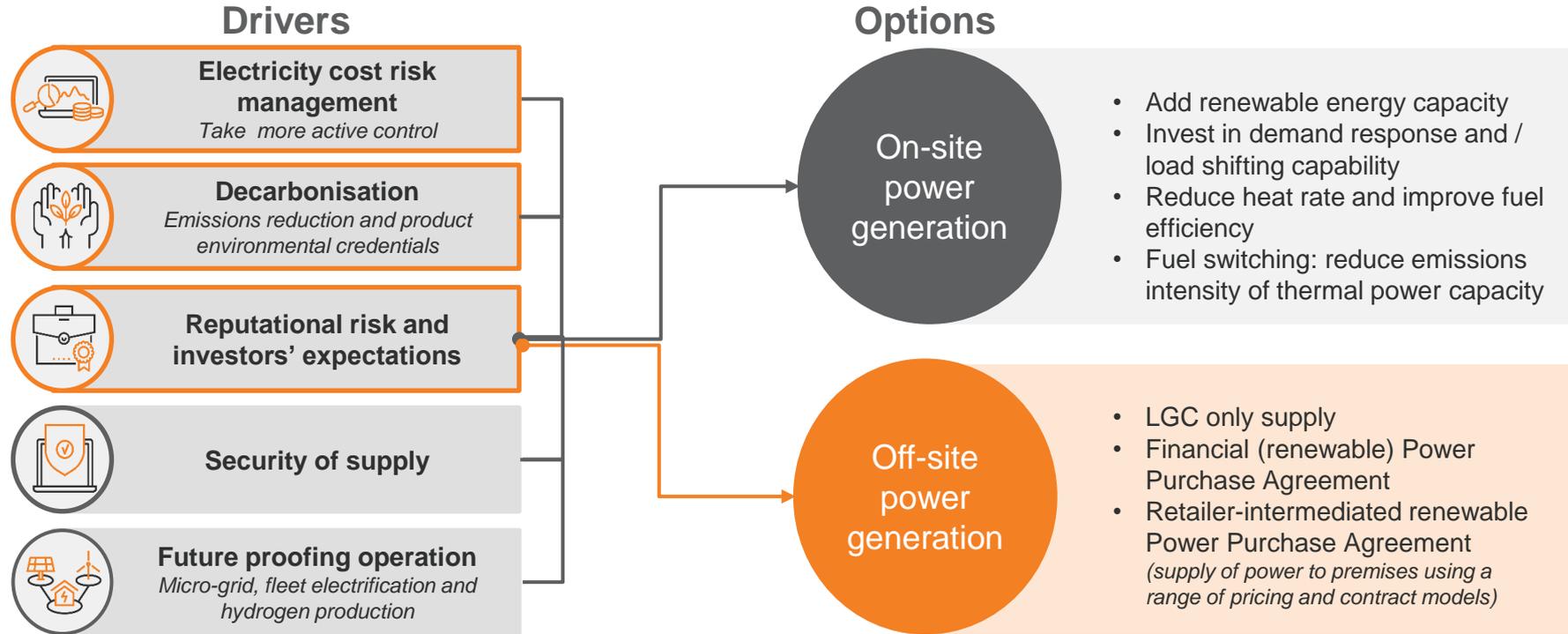
Solar has edged ahead of wind in recent years – in part due to increased availability

Source: <https://www.energetics.com.au/insights/knowledge-centres/corporate-renewable-ppa-deal-tracker>

A wide-angle photograph of a solar farm. The solar panels are arranged in long, parallel rows that recede into the distance. The sky is a clear, vibrant blue with some light, wispy clouds. The ground in the foreground is dry and sandy. A semi-transparent dark grey banner is overlaid across the middle of the image, containing the text "Benefits of a PPA" in white.

Benefits of a PPA

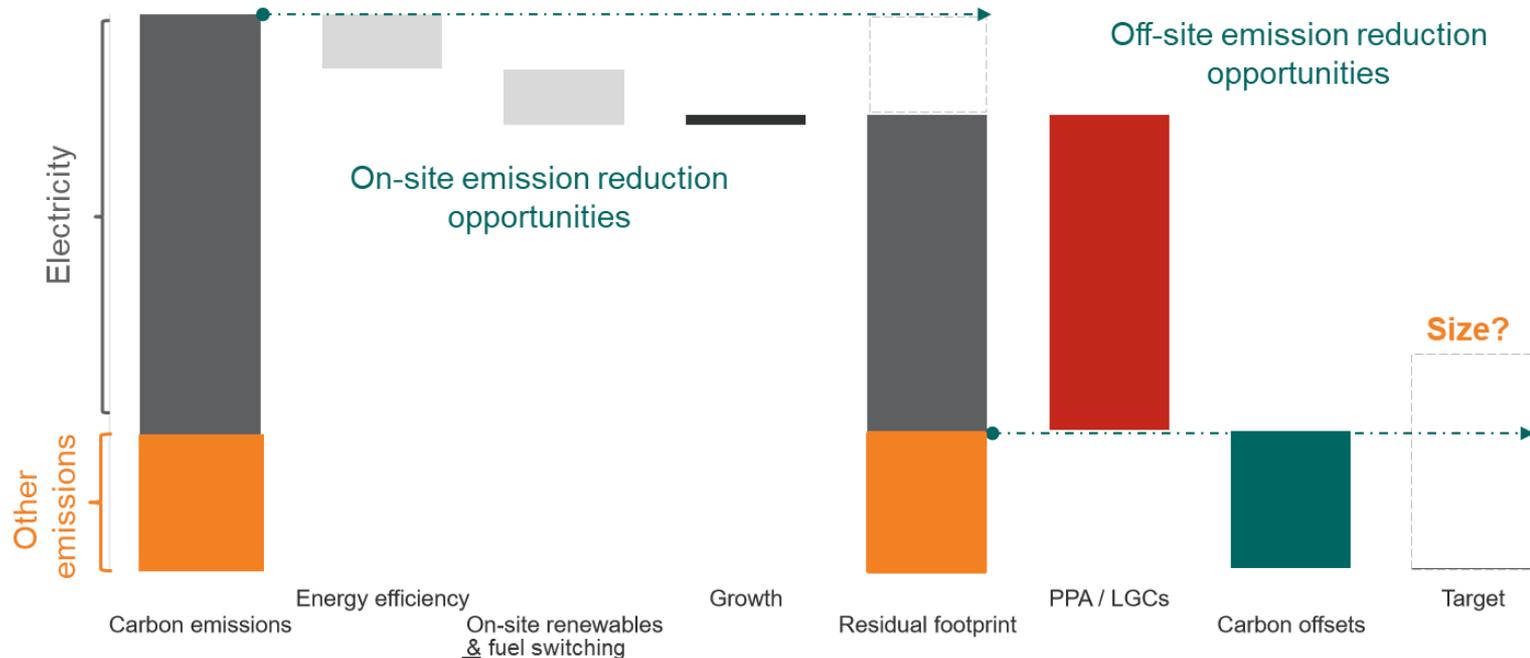
Optimising on- and offsite energy investments / risk management have become a key priority for many large energy users



See BRC-A resources discussing the contract options for PPAs



Where do offsite-PPAs fit within a carbon reduction strategy?

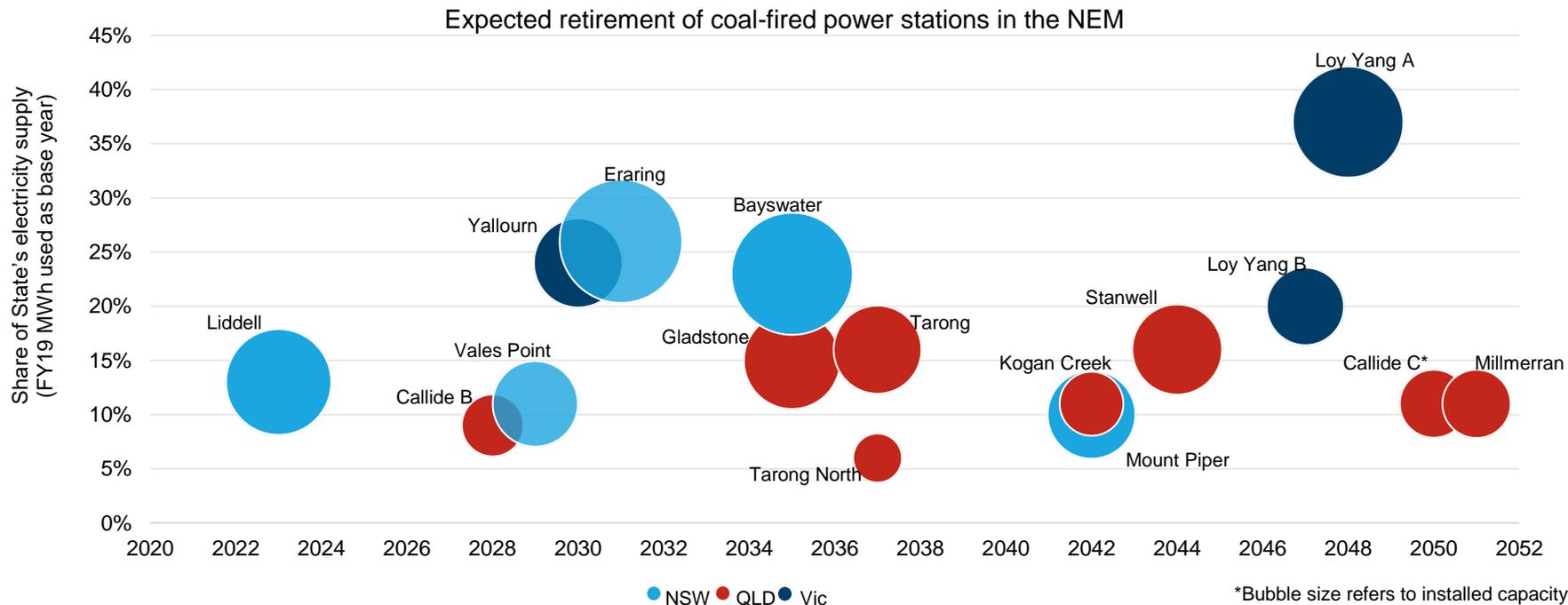


Switching from gas to electricity will ensure you also benefit from grid decarbonisation

We are entering a period of unprecedented change, with renewables the cheapest form of new firm generation* replacing an aging thermal electricity generation fleet



* including cost of fast response dispatchable capacity to firm variable renewable sources of supply

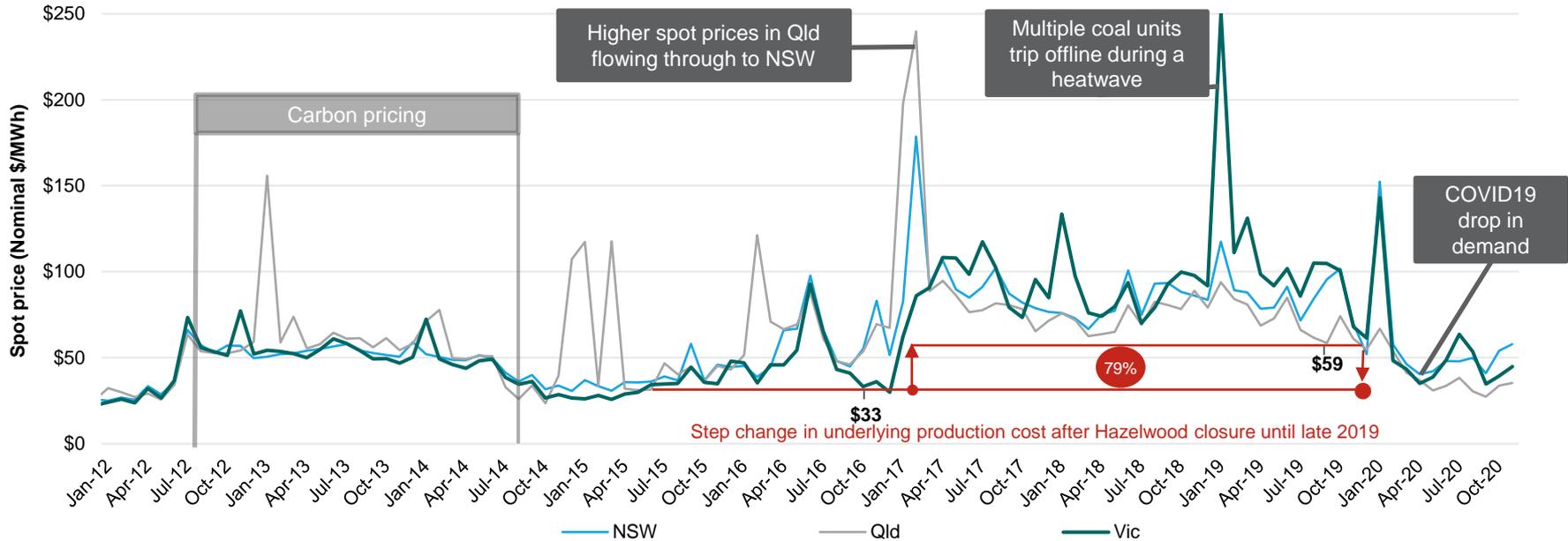


Transitions of this pace and scale are not always smooth; and as the events of the recent past clearly illustrates, the balance of supply and demand drives spot* prices



*and other contract prices

Monthly Average Spot Prices (2012 - present)

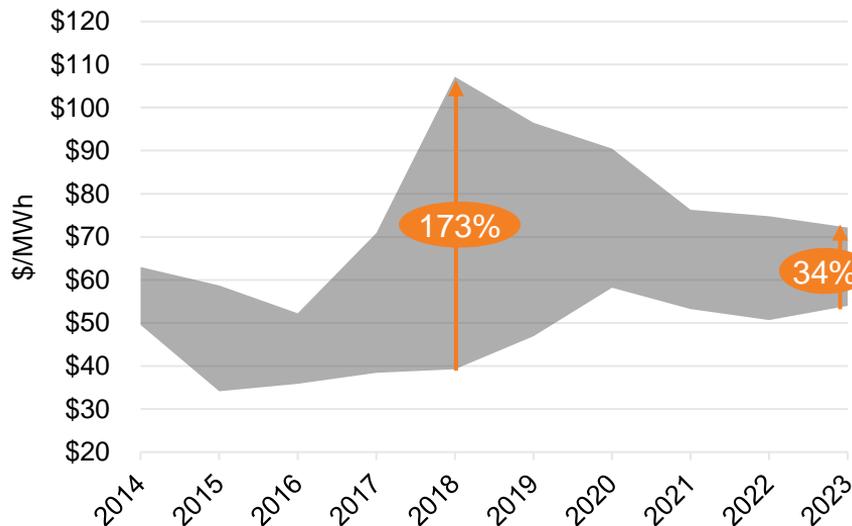




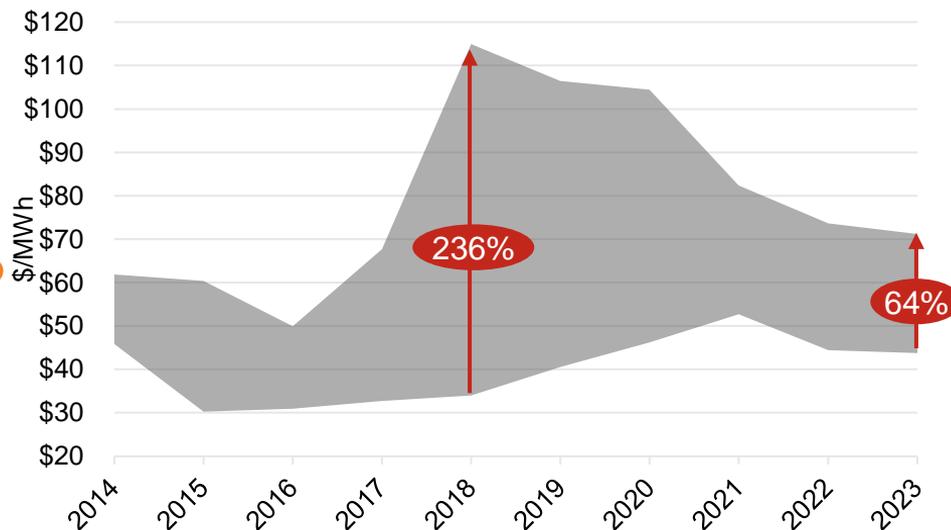
You may well ask, at a time of such uncertainty and at a time of softer market prices* is it not better to do nothing?

As illustrated below, it is impossible to time the market.

Historical NSW wholesale futures prices



Historical Victoria wholesale futures prices



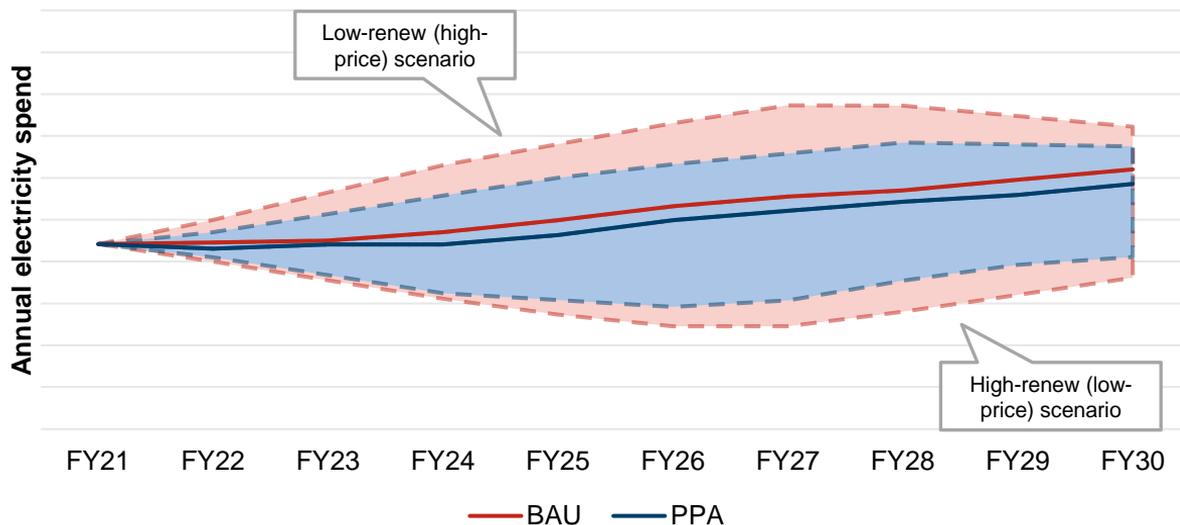
* Due to the current lower demand due to the COVID-19 pandemic and lower global gas prices resulting in more and cheaper local gas supply



With price visibility limited to CY24, no-one can guarantee you long term savings

However, as illustrated below PPAs can be designed to narrowing the range of cost outcomes in an environment where medium and long range market prices are very uncertain

**Illustrative costs: BAU vs. PPA
FY21-FY30 under 3 scenarios¹**



¹ The scenarios modelled are potential outcomes and should not be treated as confidence bounds

Assuming an indirect supply-linked PPA model, a PPA can:

- reduce the long-term and year-on-year variation in electricity spend.
- partially shield the buyer against rising electricity prices

However, under a low-price scenario, there is a risk that the PPA may be priced above the market.

The overall effect is to reduce the range of price outcomes.

Financial PPAs may result in more volatile cashflows in the short and medium term, but if appropriately matched to the load shape of the energy user and integrated into the retail electricity supply strategy it may in the medium and long term support a similar outcome



Where there is uncertainty there are risks and opportunities.

No one has a crystal ball, but there are a myriad of known supply and demand side changes that will play out over the medium and long term.

Look beyond the near term price trends when assessing a long term contract option!*

* Taking an evidence based scenario approach, backed by robust modelling tool will ensure your team takes informed decisions



Our energy markets services

Energy users



Market risk assessment



Contracting strategies and transaction support



Operationalisation of transactions



Market insights



Demand response valuation



Behind-the-meter generation and storage

Network service providers



Program impact and process evaluation



Demand response valuation and market potential

Owners of generation assets



Market-based valuation of assets



Market entry strategies



Revenue and offtake strategies



Price forecasts



Licensing and regulatory advice



Valuation and commercial support for storage



Sustainability at Energetics

Carbon neutral since 2008

Sustainability

In June 2008, Energetics became one of Australia's first consulting firms to achieve carbon neutrality through the Australian Government's Greenhouse Friendly Program.



Since the FY19 reporting year, our carbon neutrality has been certified under the Climate Active Carbon Neutral Standard (formerly the National Carbon Offset Standard – NCOS) for Organisations. Climate Active is a partnership between the Australian Government and Australian businesses to drive voluntary climate action. www.climateactive.org.au.

This approach aligns with Energetics' commitment to best practice calculation of our complete emissions profile and with how we have assisted some of our clients with becoming carbon neutral. We offset 100% of the greenhouse gas emissions associated with the complete lifecycle of our organisation. Our offsets are sourced from projects that are Verified Carbon Standard (VCS) or Gold Standard accredited and contribute to Sustainable Development Goals 7 (Affordable and Clean Energy), 9 (Industry, Innovation and Infrastructure) and 13 (Climate Change).

In keeping with our Sustainability Policy, we drive continuous improvement by identifying and implementing internal carbon mitigation, sustainable procurement and behavioural change projects. Being a sustainability role model is one of our core business values.

Our values

A team of passionate, committed climate change and energy management professionals, we advise some of Australia's largest companies on their role in a sustainable and prosperous future.

We believe in:

- Delivering excellence
- Acting as an environmental role model
- Providing our clients with innovative and sustainable solutions
- Holding ourselves accountable for our actions
- Respecting the experience and opinions of our clients and colleagues.

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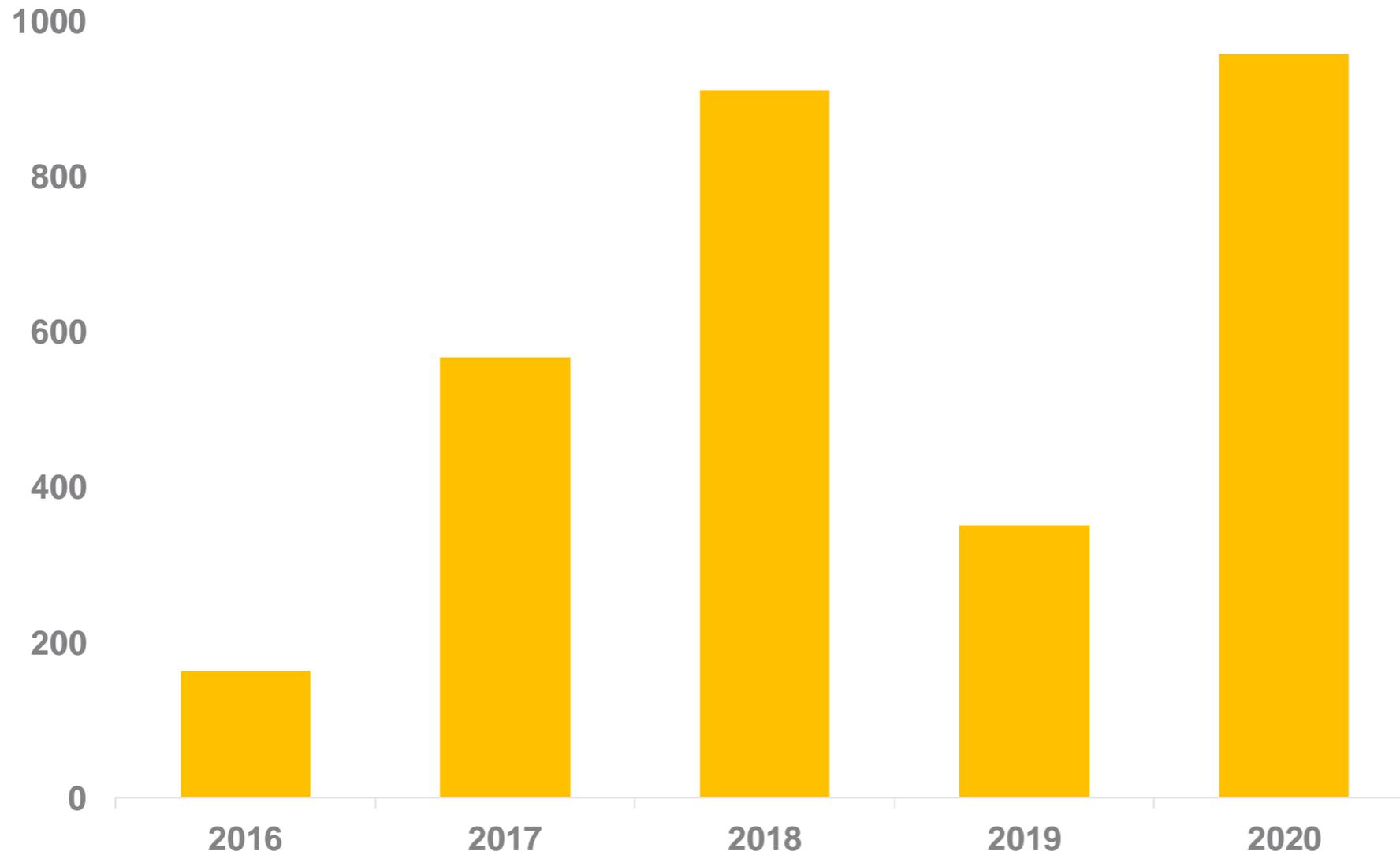


BRC-A State of the Market 2020

Corporate Renewable Power Purchase Agreements in Australia

November 2020

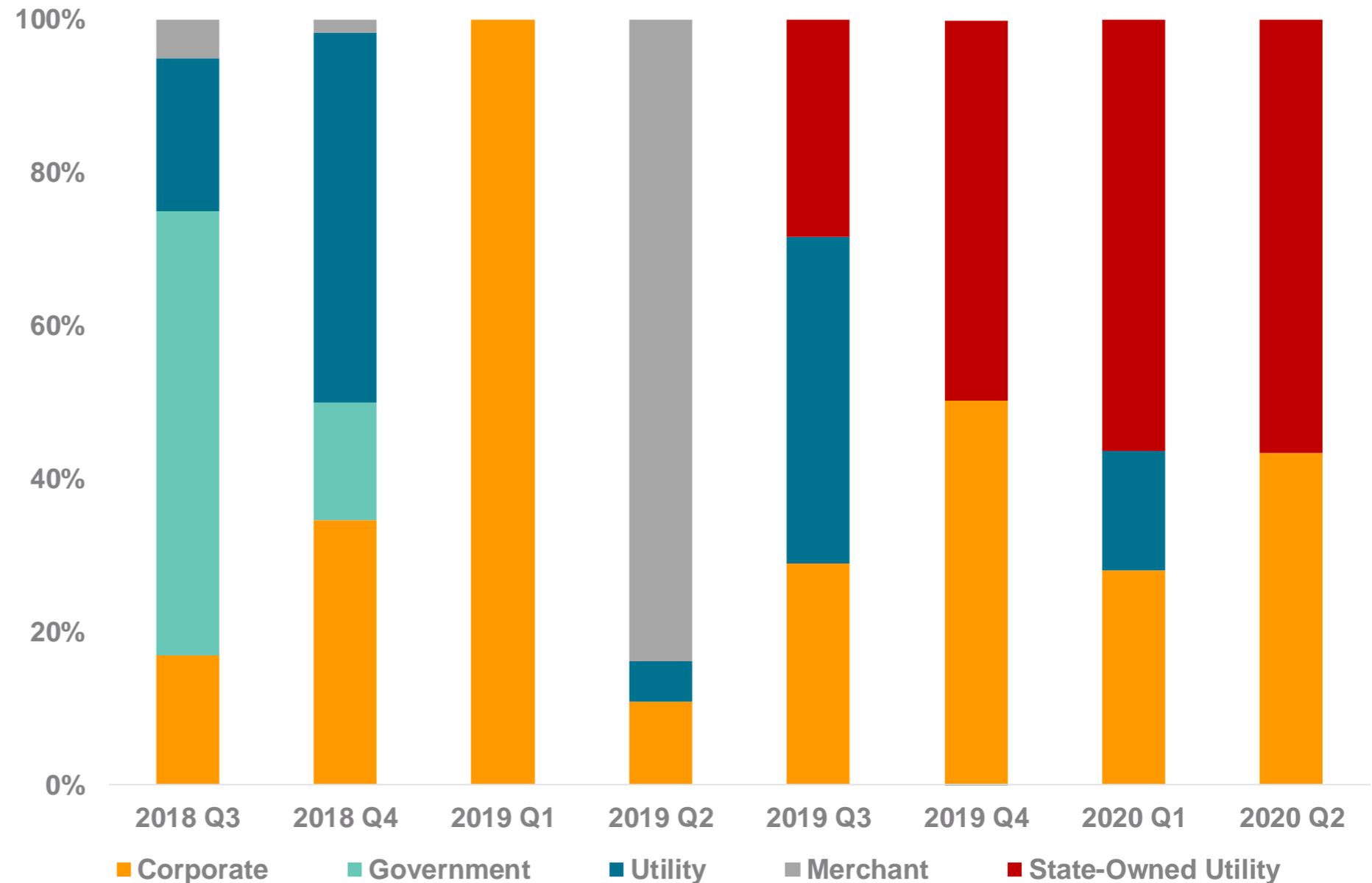
2020 will be a record year for Corporate PPAs



Source: BRC-A Database

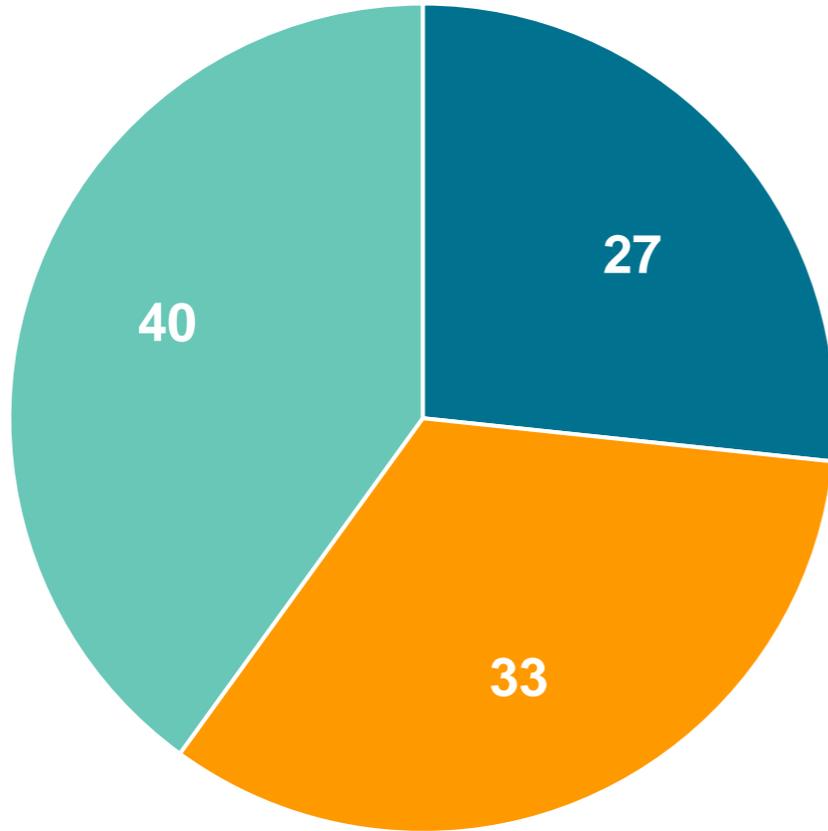
Corporate PPAs and Public Retailers are currently driving renewables market

- PPAs signed by retailers have slowed following achievement of RET 2020
- Big move of 2020 were Australia's largest wind and solar PPA signed by CleanCo
- Corporate PPAs have accounted for around 1/3 – 1/2 of market each quarter

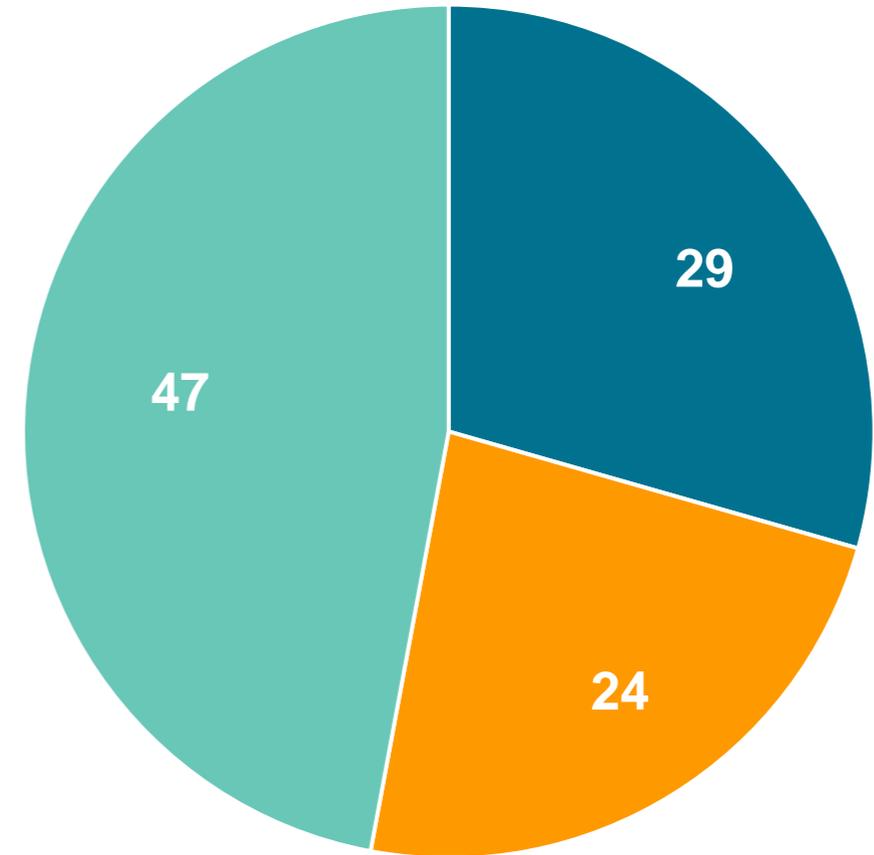


What has been the impact of Covid-19 on buyer demand for Corporate PPAs?

Developers

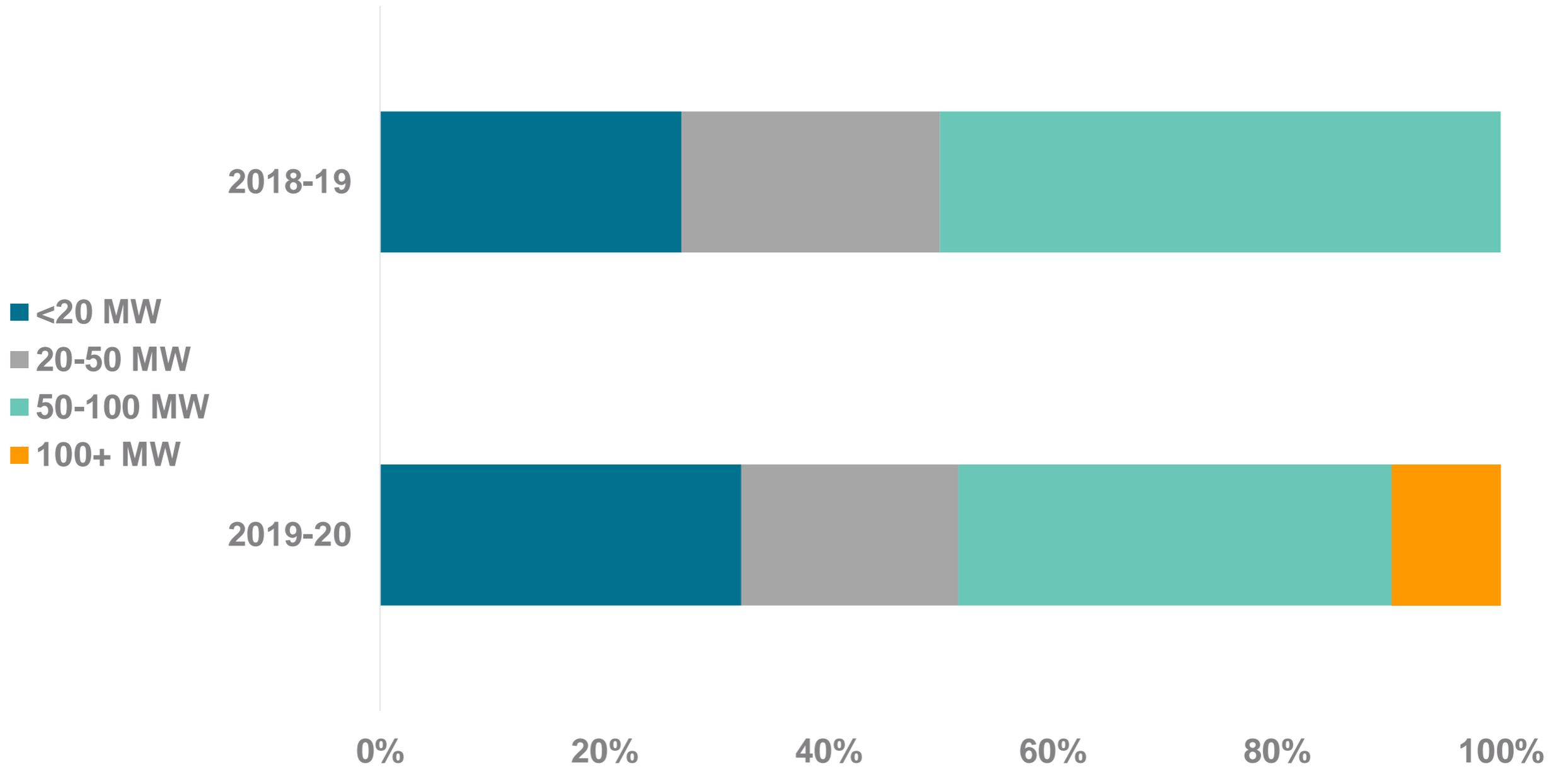


Consultants



- Negative impact – the level of demand amongst buyers has decreased
- No impact – the level of demand amongst buyers is the same
- Unsure

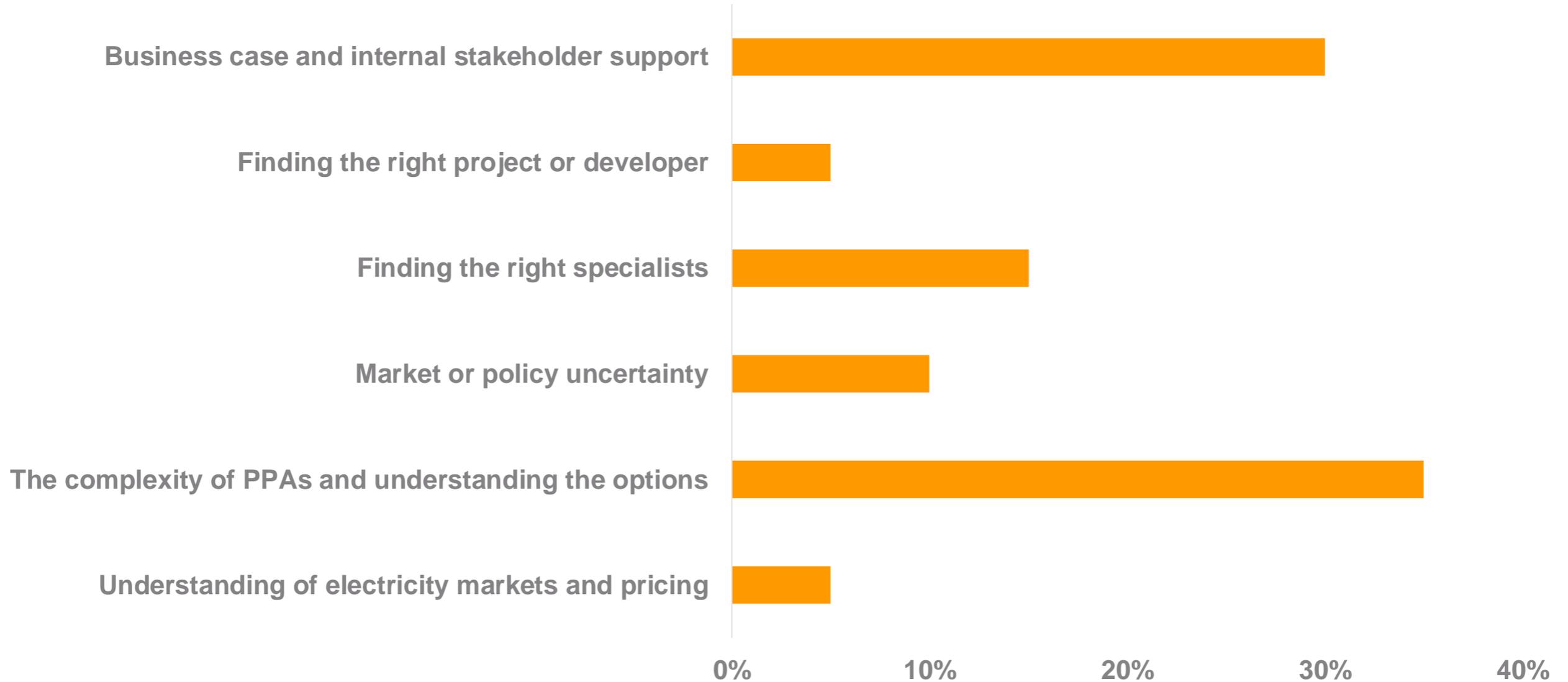
Corporate PPA Market evolving to cater to diversity of buyers



Wholesale PPAs contract more capacity (MW) – but the gap has narrowed



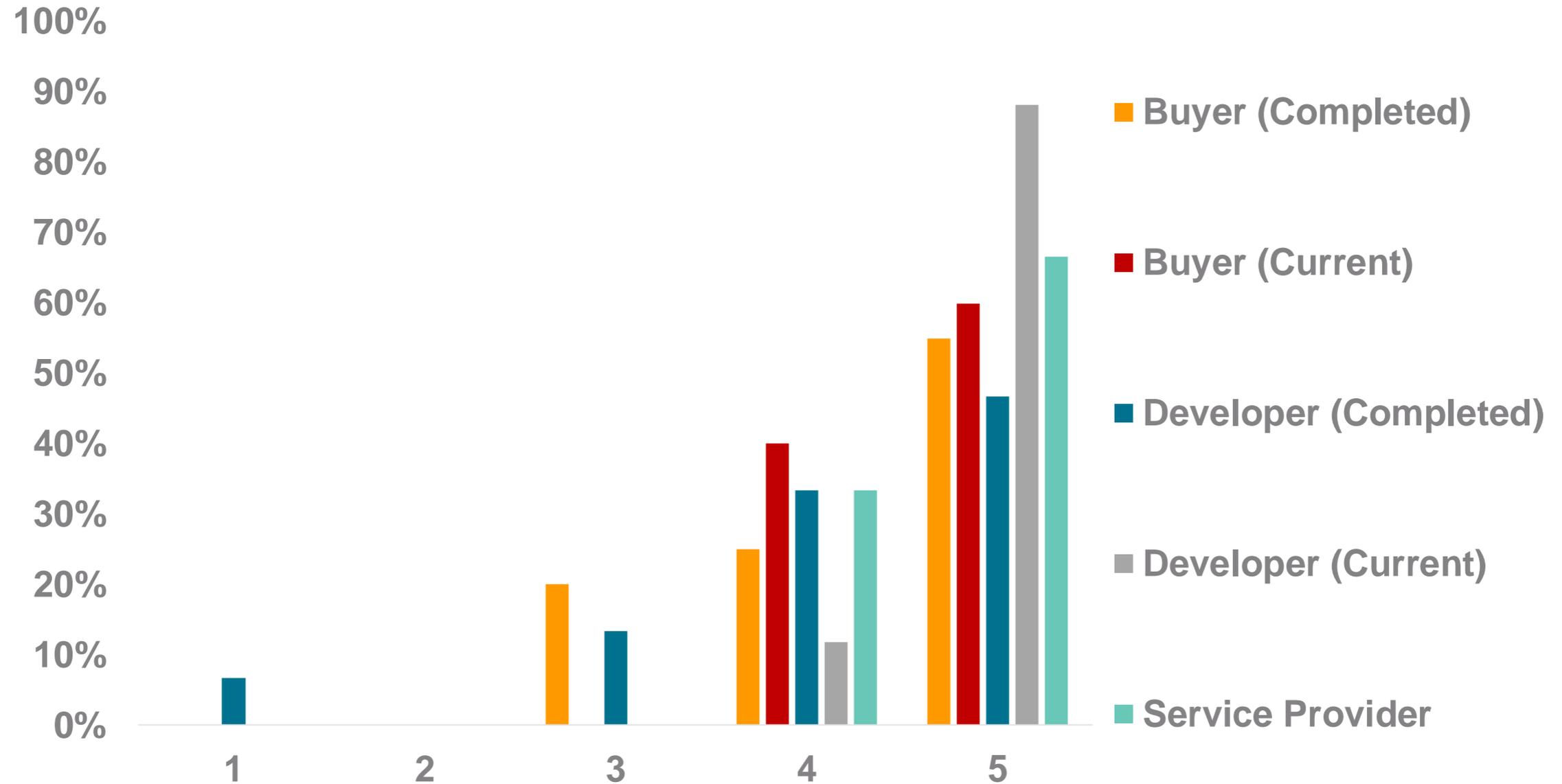
What is the major barrier to a PPA (current buyers)?



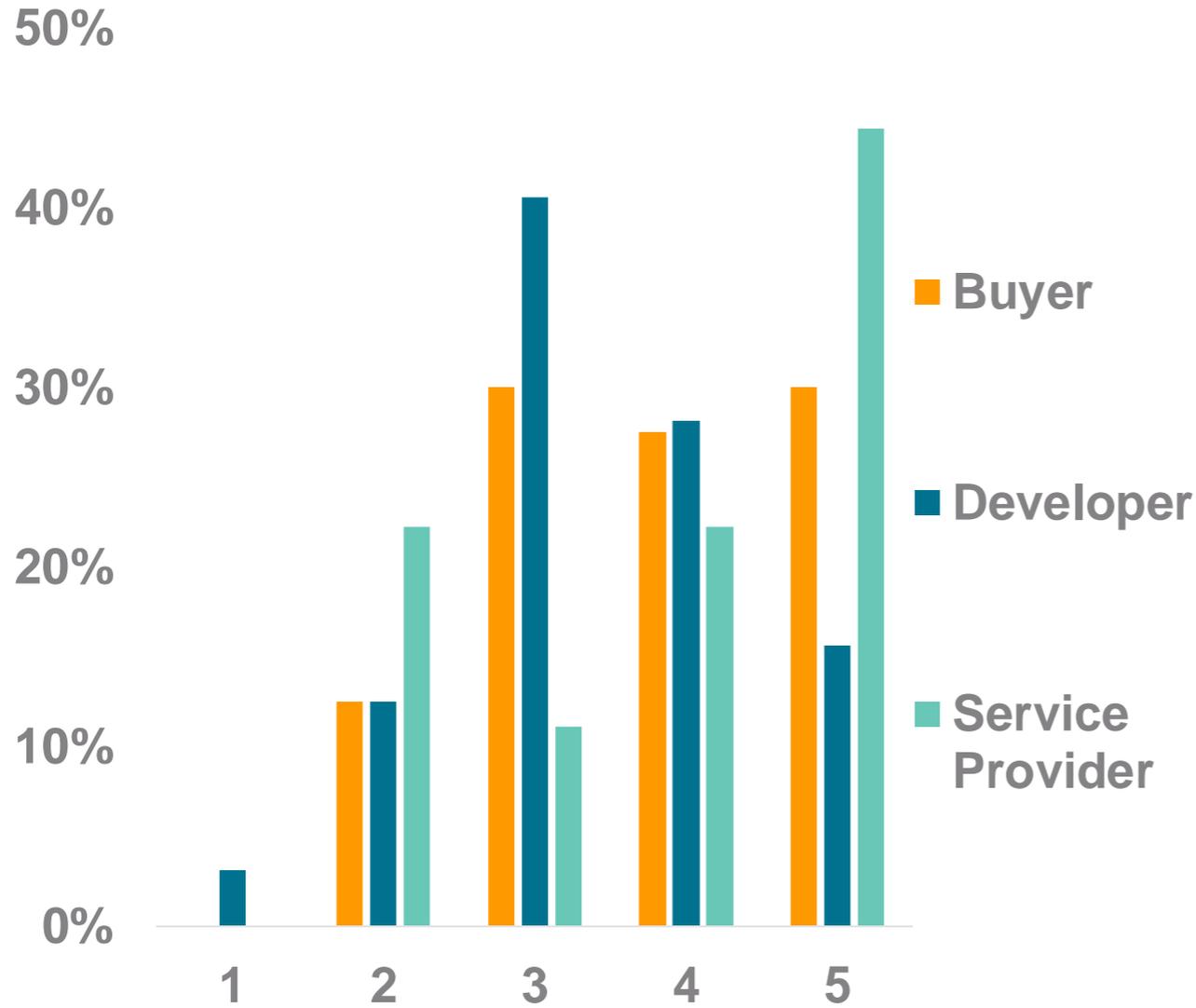
Key Factors for Buyers – Average Rating



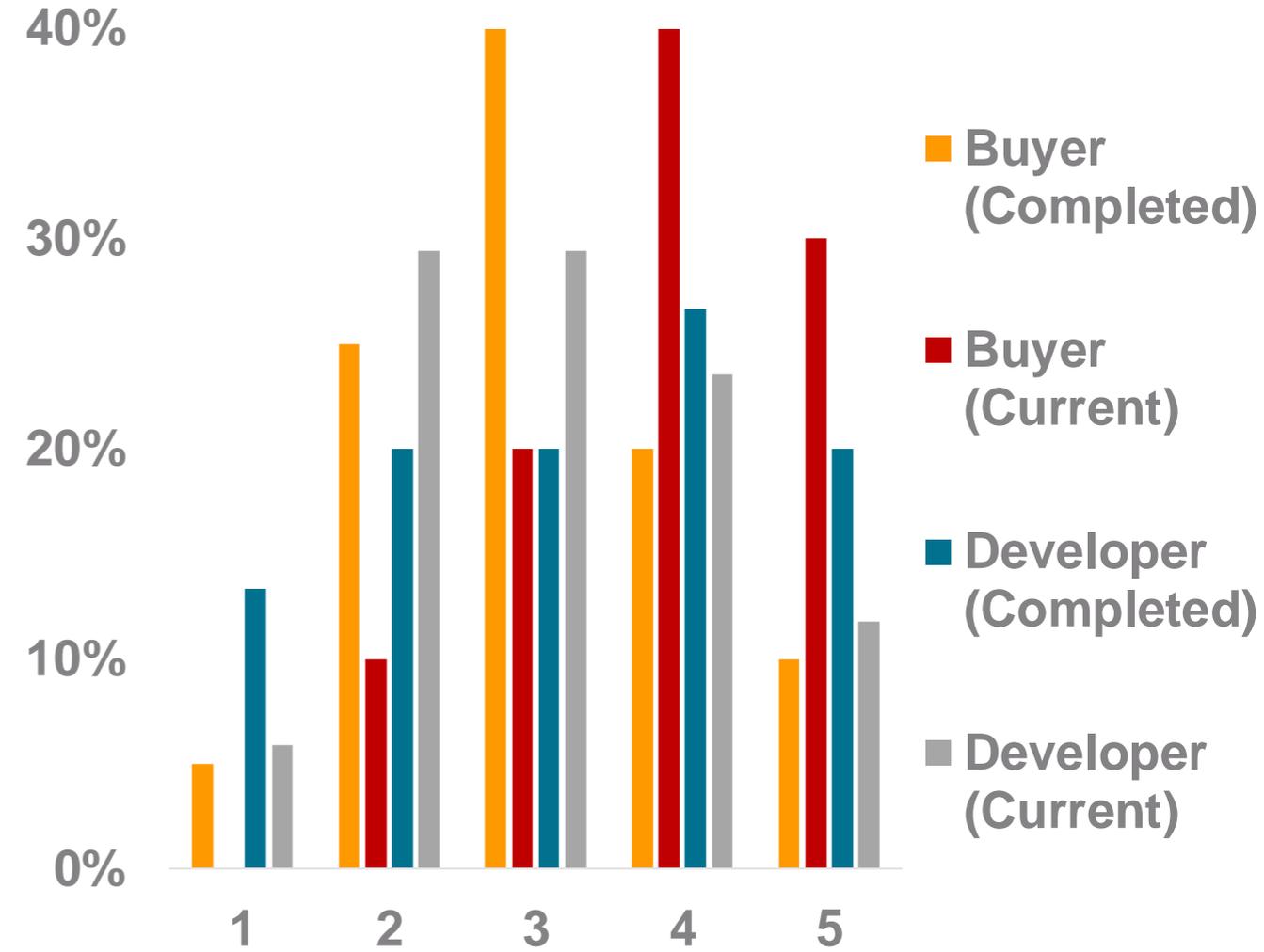
Price is important to buyers – but maybe not as important as developers think



Community support and benefits are rising in importance for buyers



Local Community Support, PPA buyers



Community benefits, PPA buyers