

- ▼ Please mute your microphone
- ▼ Please turn on your camera (webcam)
- ▼ We will start at 10.02 am



## PUBLIC HEARING

# REVIEW OF SOLAR FEED-IN TARIFF BENCHMARKS

9 March 2021

## Agenda



MC – Liz Livingstone, IPART CEO



Welcome – Ms Sandra Gamble, Tribunal member

1

Session one – Consumer issues

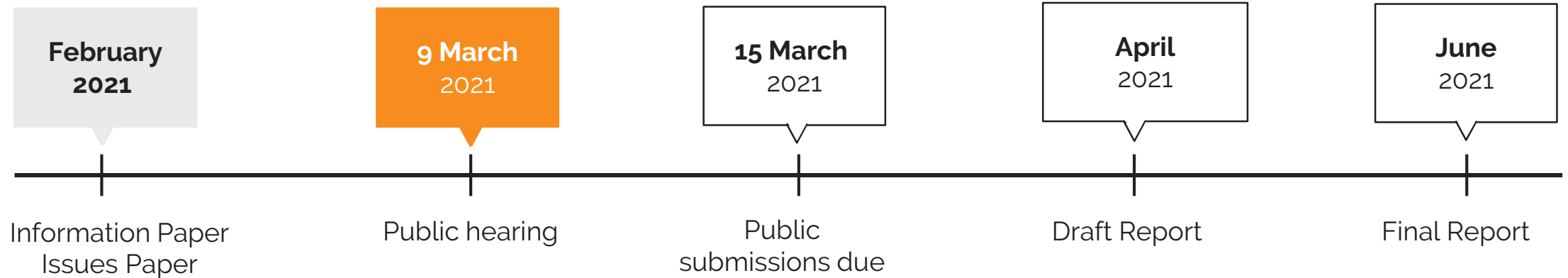
2

Session two – Technical session

3

Closing remarks

# Where our review is up to



We are seeking comment on:

- ▼ Session 1 – Consumers' experiences with solar energy
- ▼ Session 2 – How should we value solar exports?



## Session 1

## Stakeholders' slides



*Climate Change Balmain-Rozelle Inc. is a collective of residents in the Inner West of Sydney who have come together out of mutual distress over Australia's excessive greenhouse gas emissions and the world our children will inherit.  
We count over 1000 supporters.*

*Submission from*  
**Climate Change Balmain-Rozelle**  
*on*  
**IPART's Issues paper on  
Solar tariffs, 2021-2024:**  
*part 1*  
**Homeowner Issues**

## *Q: Enough information for would-be solar households?*

- Tools exist for estimating output
  - SunSPoT is supported by several councils
- App needed to interrogate retail offers
  - Offers in a standardised form on the net (permitting robots)
  - App turns user data and SunSPoT results into \$

### ***Recommendation:***

- Engage in discussion with e.g. SunSPoT
- Specify standard form to retailers

# *Q: Barriers to customers installing batteries?*

- Inherently more complex than merely adding PV
  - Four-way interaction, PV-battery-grid-demand
  - Several grid-connected options
    - Basic: Grid outage disables battery and PV
    - Back-up: Manual switchover to home power
    - UPS: Automatic switchover

# *Q: Barriers to customers installing batteries? - ctd.*

## Optimisation

- Involves anticipation of demand profile
  - Use battery now, or use grid and hold battery in reserve for peak charge period?
    - Optimised choice also good for grid
- Solutions exist
  - e.g. evergen®
- Independent information hard to find



# SOLAR CITIZENS

- **An independent, community-based organisation working to protect and grow solar in Australia.**
- **We run people-powered advocacy campaigns to bring about the best outcomes for solar owners and supporters.**
- **Our vision is for an Australia powered by 100% renewables, where everyone has access to cheap, clean energy.**
- **100,000+ supporters nationwide.**



# WHAT'S GOOD FOR SOLAR OWNERS

- **Minimum FiTs for solar owners**
- **Option to choose single or time-varying FiT**
- **FiT calculations take into account carbon + health costs**
- **Solar owners still benefit from self-consumption, saving on retail energy costs**
- **Ensuring household solar remains competitive**





# OUR CONCERNS

- **Victoria behind on rooftop solar uptake**
- **Impacts on consumer choices**
  - **Challenges for solar owners to maximise solar benefits**
  - **Solar + battery uptake**
- **Broader market & regulation issues**
  - **Wholesale power price drop impacting solar owners, not retailers**
  - **Zero export limits**
  - **Proposed export charges (AEMC)**
  - **EV tax**



# Central NSW Joint Organisation



Local Government Regional Joint Organisations (JOs) were proclaimed in May 2018 under the NSW Local Government Act 1993.

The Central NSW Joint Organisation (CNSWJO) represents over 200,000 people covering an area of more than 50,000sq kms comprising the Local Government Areas of Bathurst, Blayney, Cabonne, Cowra, Forbes, Lachlan, Oberon, Orange, Parkes, Weddin, and Central Tablelands Water.

Tasked with intergovernmental cooperation, leadership and prioritisation, JOs have consulted with their stakeholders to identify key strategic regional priorities. This includes ensuring members are provided with value for money from collaboration on energy related projects.

<https://www.centraljo.nsw.gov.au/>



# Landscape – Central NSW

---

The Central Joint Organisation supports policy that enables its members and communities to adopt new technology to lower costs to themselves and the broader region

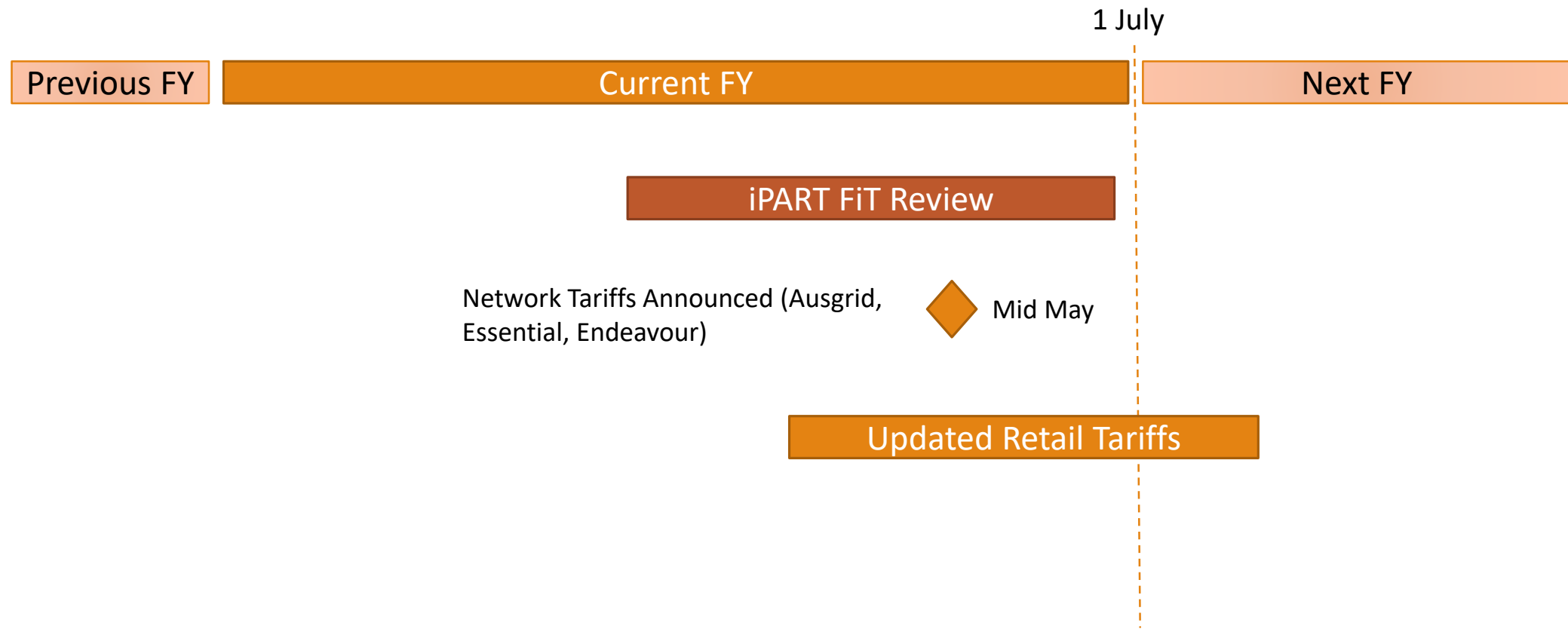
Central NSW has access to some of the lowest cost electricity in the world, in the form of new technologies such as wind and solar. However, due to the energy system and market structure, it pays some of the highest rates for electricity

In NSW, coal fired generation is closing in the next 15 years. The value of solar (and storage) should be on the basis of a medium and long term horizon, not just the price today.

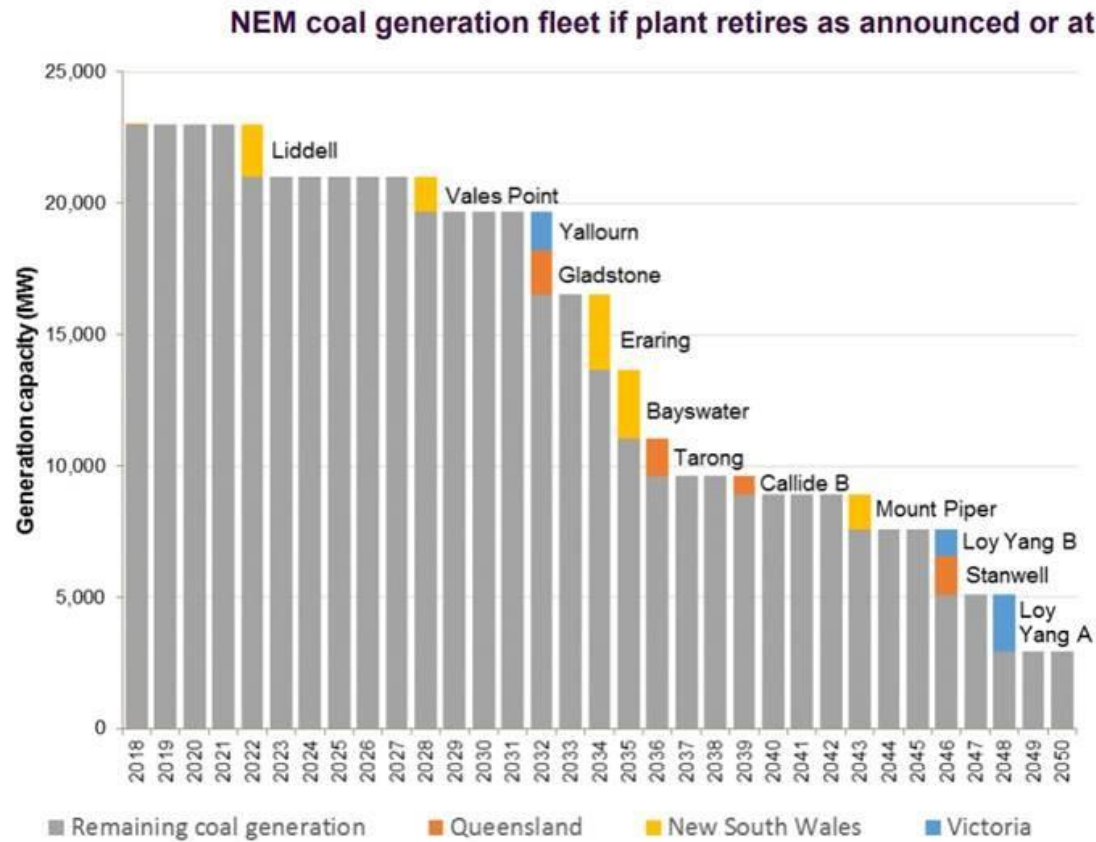
Transparency and medium term outlook is key

# Solar FiT Credits

---



# Medium Term Perspective



# Rooftop Solar Investment

---

Business and household rooftop solar cannot contract long term for FiTs, IPART role to provide medium term certainty

Sizing is important. Optimising around minimizing exports is a common strategy due to low FiT certainty, but sometimes a larger system is beneficial. For example, 5 day per week businesses, schools, homes

An important part of roof top solar is how it is used. This includes using power at the right time, shifting discretionary power demand (eg. Hot water, dishwasher, EV charging) and also ensuring the optimal retail plan is being used. This can be complex and onerous at times.



# Optimal Retail Offers

---

It is not possible to treat every home or business the same. Some are more engaged and some less. Different retail plans suit different people. Engaged customers can achieve significant savings.

Clever variable FiTs may not be practical for retailers, or useful for 95% of electricity customers who are less engaged

However, it is important that education is done to ensure as many people as possible are encouraged to moderate their electricity use behavior and make good and informed decisions.

Different Solar FiTs for different times of day is appealing, but may not effect many customers, and retailers may be reluctant to provide

# Batteries

Put simply: Solar is subsidized, but batteries are not.

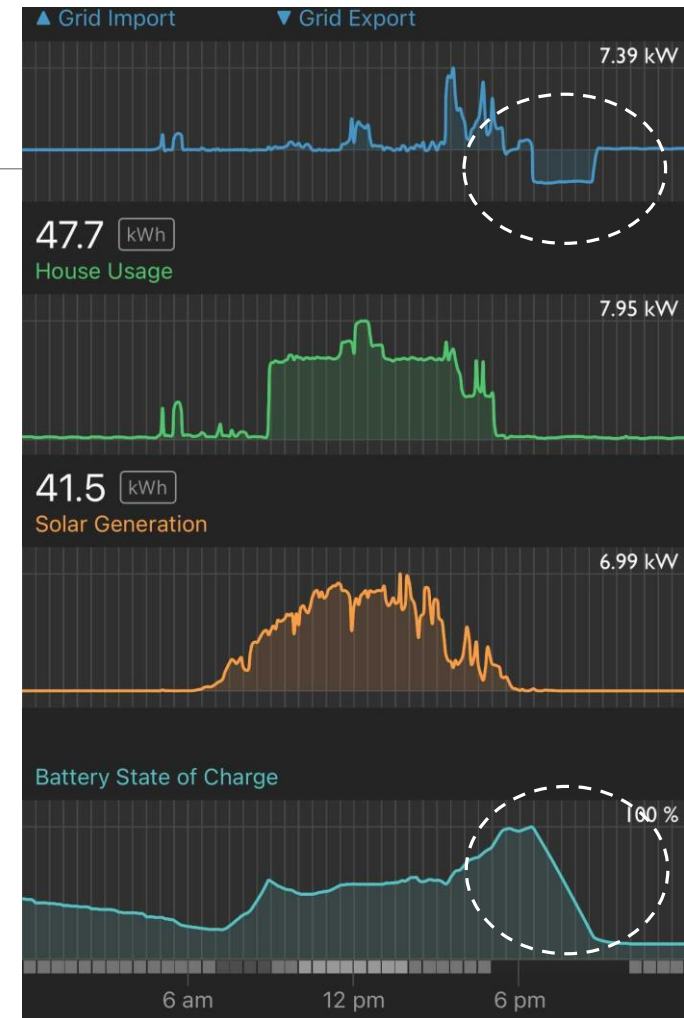
Full Value of Batteries not appreciated commercially

We are now seeing the result of investment in wind and solar, without much investment in batteries:

1. Reducing wholesale pricing for wind and solar leading to more difficult market conditions for investment
2. Local and System level challenges, such as over supply, high peak prices, voltage, system security

With more renewables coming into the grid, coal fired generation retiring, we need an orderly transition

Any government regulatory or financial support should be reserved for 'smart' batteries



## Session 1 Public Interest Advocacy Centre

The background of the slide features a photograph of solar panels in the foreground, with a building's roofline visible in the upper left corner against a clear blue sky. A solid blue horizontal bar is positioned across the middle of the image, containing the text 'Session 2'.

## Session 2

How should we  
value solar exports?

**What is our current  
approach to setting  
the feed-in tariff  
benchmarks?**

**Some key issues we are seeking feedback on:**

- ▼ How to value the wholesale cost of electricity
- ▼ How to calculate the solar multiplier
- ▼ How to set time dependent benchmarks

# How to value the wholesale cost of electricity

---



Should we set the average wholesale value of electricity by:

- ▼ forecasting wholesale spot prices?
- or
- ▼ considering the costs that retailers pay to avoid wholesale spot price risk?

**OR**



Could we use both of these approaches to set each end of the benchmark range?

- ▼ Retailers may have different approaches to setting prices

## Calculating the solar multiplier – previous approach

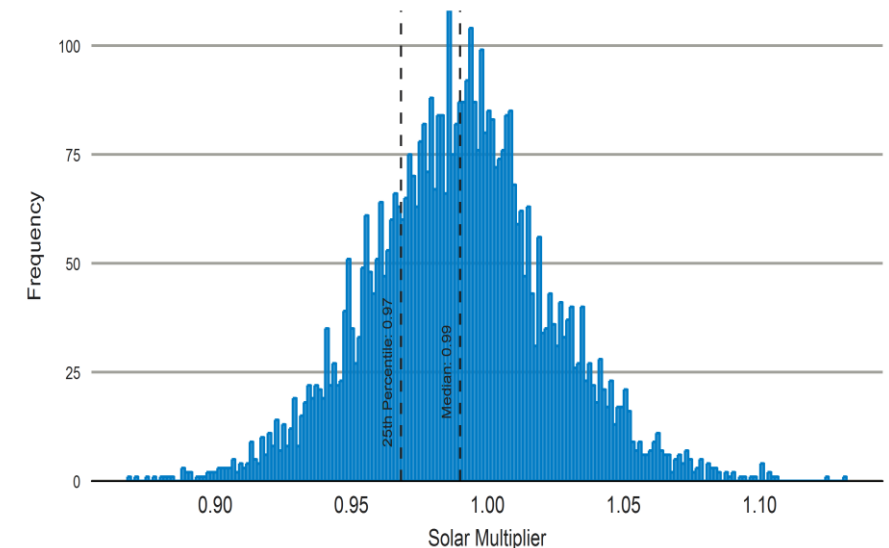
- Reflects whether solar energy is exported during times when wholesale spot prices are relatively higher or lower than their average price. 'Solar multiplier < 1' means that more exports occur when spot prices are lower than the average wholesale spot price

$$\text{Solar multiplier} = \frac{\text{Solar-weighted price}}{\text{time-weighted price}}$$

- Use a Monte Carlo method to obtain a distribution of solar multipliers from 5,000 simulations

- **median value** is selected as the best estimate
- but is complex, costly and difficult to replicate

Distribution of solar multipliers (2018-19)



## Calculating the solar multiplier – alternative approach

- ▼ Calculate a **single** solar multiplier from the same input data that would otherwise be used in the Monte Carlo method
  - represents an **average solar multiplier** across the input data, rather than the **median value** of the simulations
  - more transparent and replicable
  - results for the “all-day” tariffs are almost identical

### Solar multipliers and feed-in tariff benchmarks using Monte Carlo and simplified methods

Financial year	Solar multiplier		Feed-in tariff benchmarks	
	Monte Carlo	Simplified	Monte Carlo	Simplified
2018-19	0.99	0.99	6.9 to 8.4 c/kWh	6.9 to 8.4 c/kWh
2019-20	0.98	0.98	8.5 to 10.4 c/kWh	8.5 to 10.4 c/kWh
2020-21	0.97	0.96	6.0 to 7.3 c/kWh	5.9 to 7.2 c/kWh



## How to set time-dependent benchmarks

- ▼ Ranges previously set based on when the most price variation occurs during the day

### Benchmark ranges for time-dependent solar feed-in tariffs

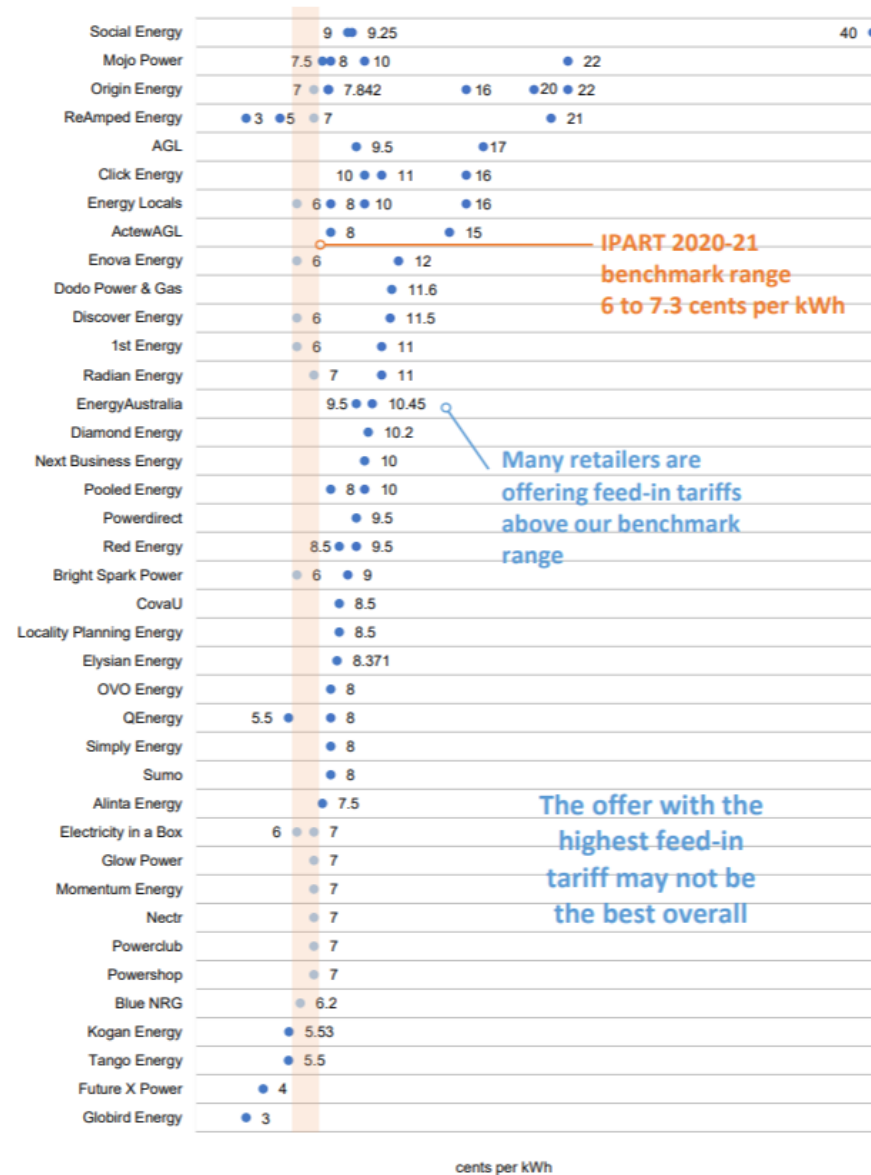
Time window	(c/kWh) (2020-21)	% of solar exports (2018-19)
6 am to 3 pm	5.7 to 7.0	86.96
3 to 4 pm	6.5 to 7.9	8.36
4 to 5 pm	7.8 to 9.5	3.71
5 to 6 pm	9.0 to 11.0	0.84
6 to 7 pm	8.8 to 10.8	0.07
7 to 8 pm	8.2 to 10.0	0.01

- ▼ Could set them based on time-of-use consumption tariff bands but they differ between each network
- ▼ What would retailers and consumers find most helpful?

# Feed-in tariff offers

Offers available as  
at January 2021

## Solar feed-in tariffs available in NSW January 2021



## Retail cost components

