

# A (clean) tech tsunami - batteries included

Presentation at BCCI's *Canapés under the Canopy*  
launching the Solar Car Park at the Boulevard in Broome

Professor Ray Wills

Managing Director, Future Smart Strategies

Adjunct Professor, The University of Western Australia

Future Smart Strategies  
Business | Innovation | Sustainability



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@ProfRayWills

## How to be a better surfer

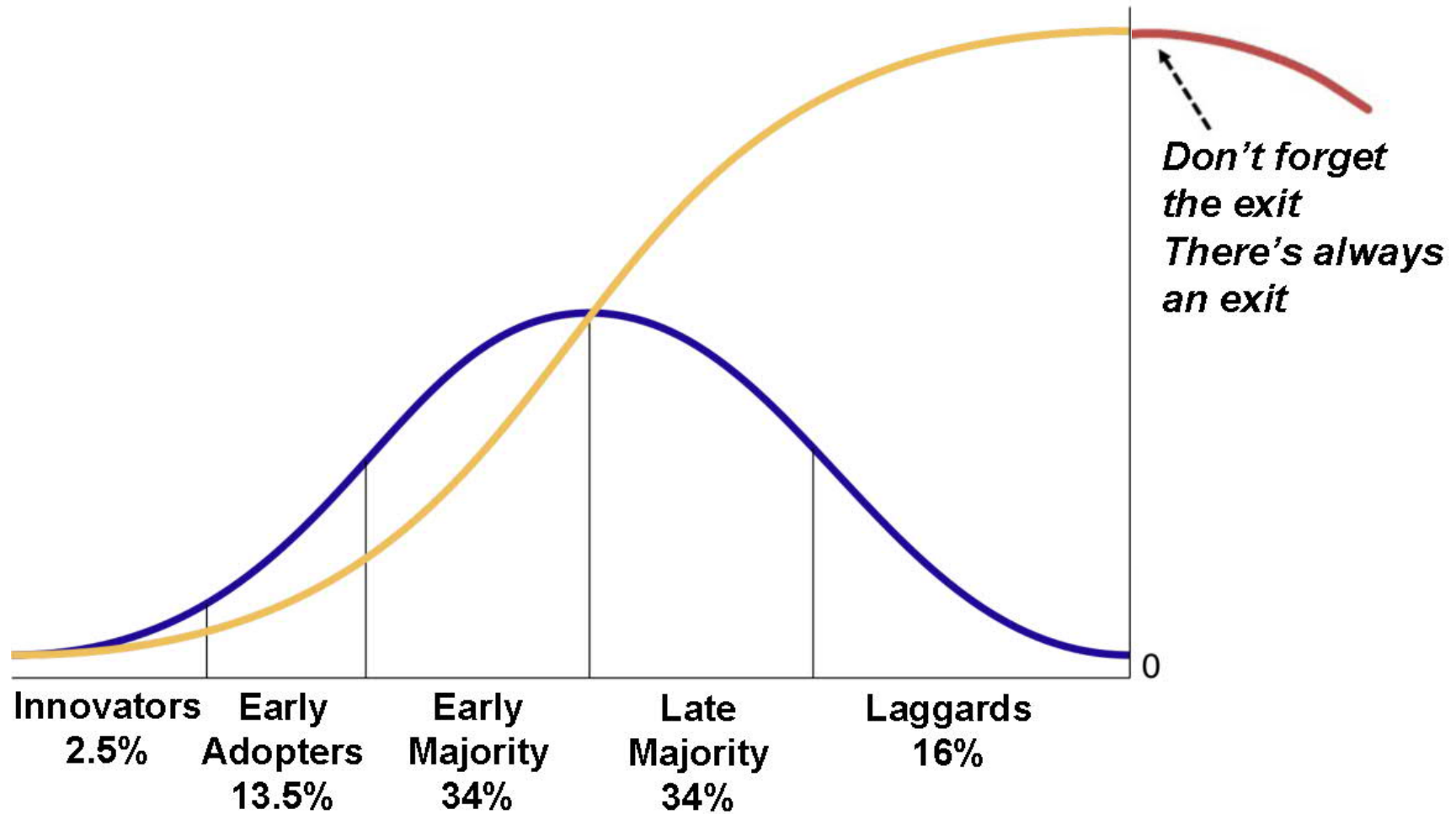
- What's happening globally with clean technology?
- What do markets tell us about how quickly disruptive technologies will impact on everything?
- How do we prepare for mind-boggling rapid change?
- Is Broome ready?
- Are you ready??



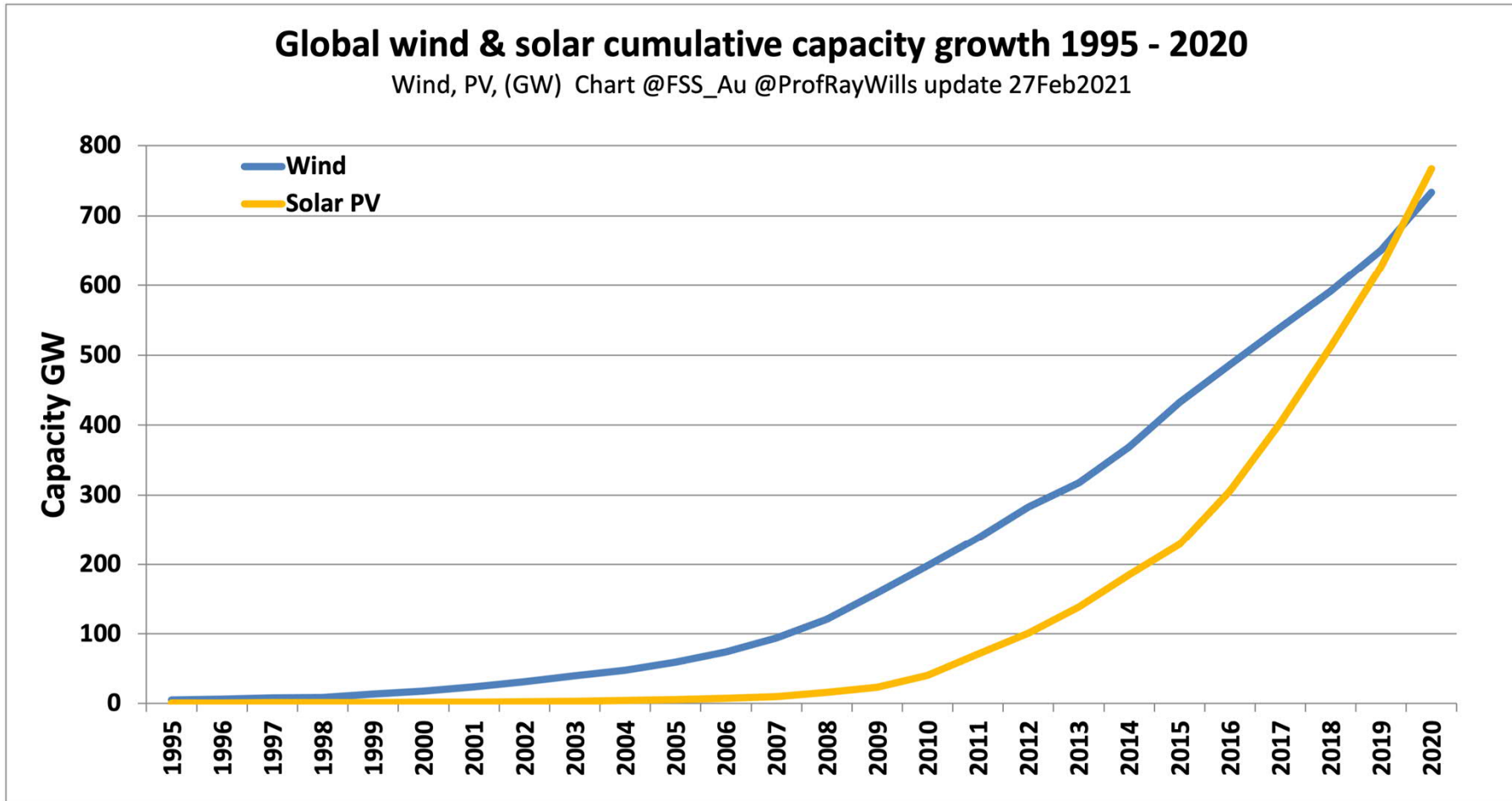
Prediction is very difficult, especially about the future.

(Niels Bohr)

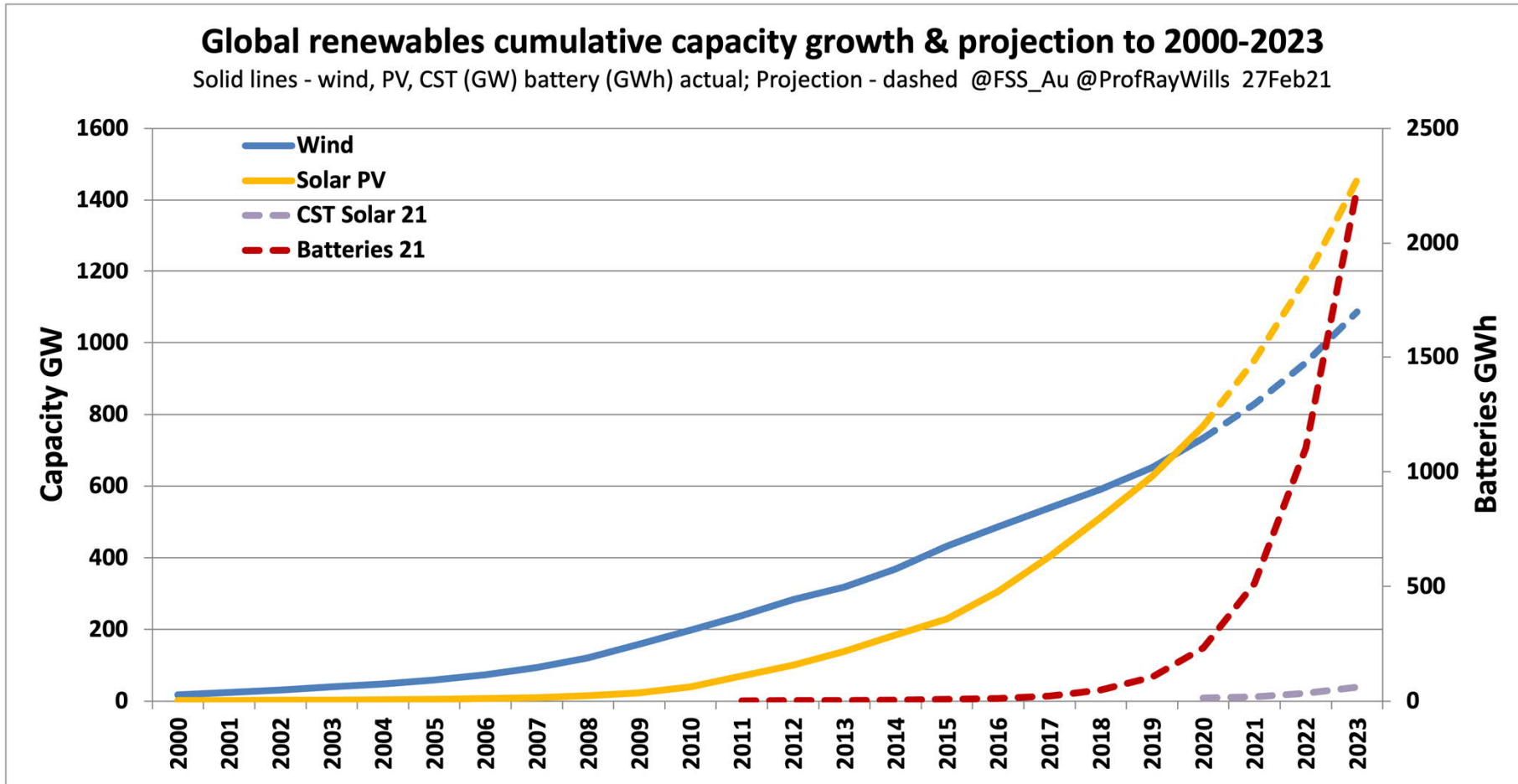
# Diffusion of ideas – and stuff



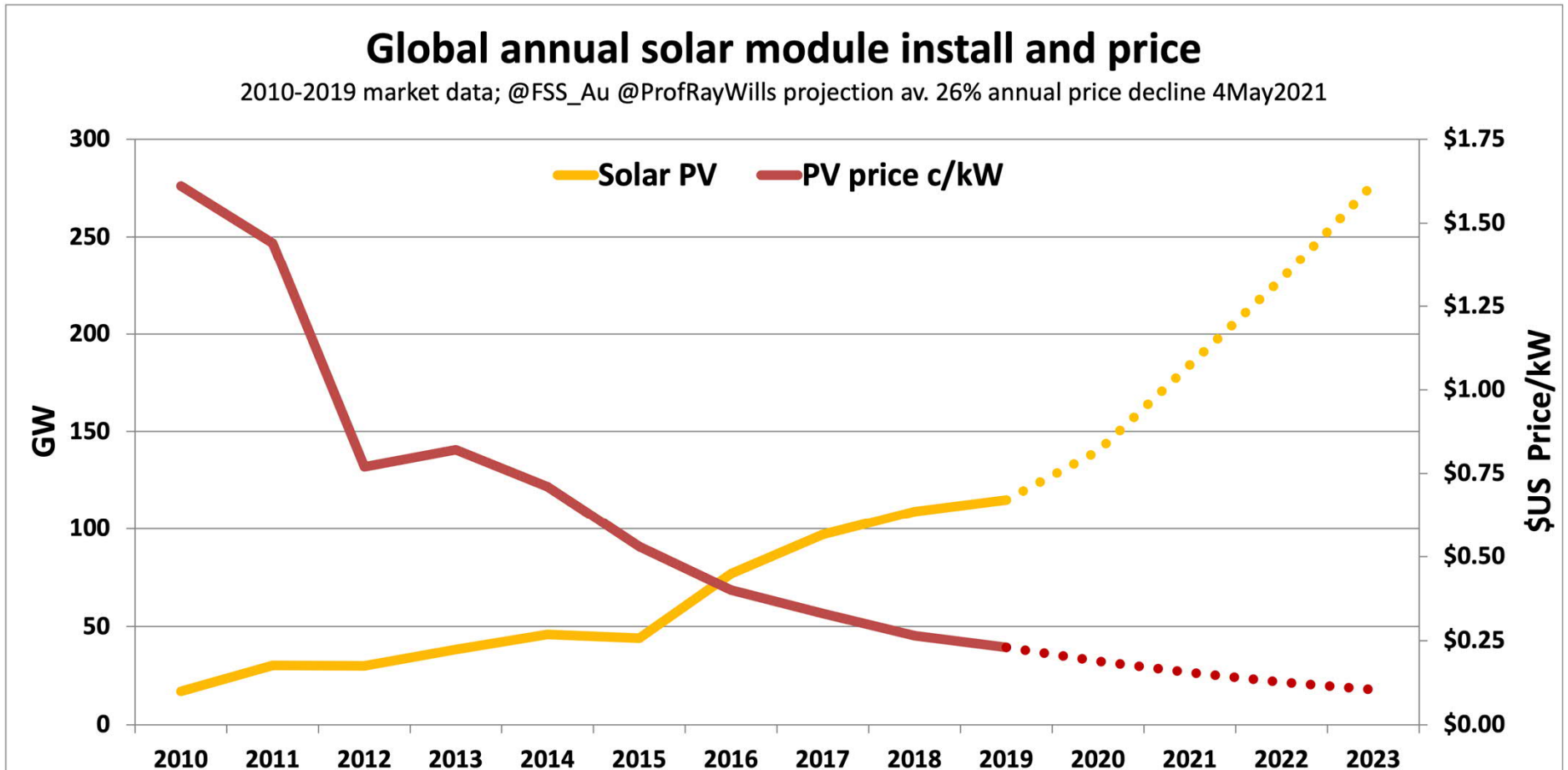
# Global renewables growth to 2020



# Global renewables growth and forecast to 2023



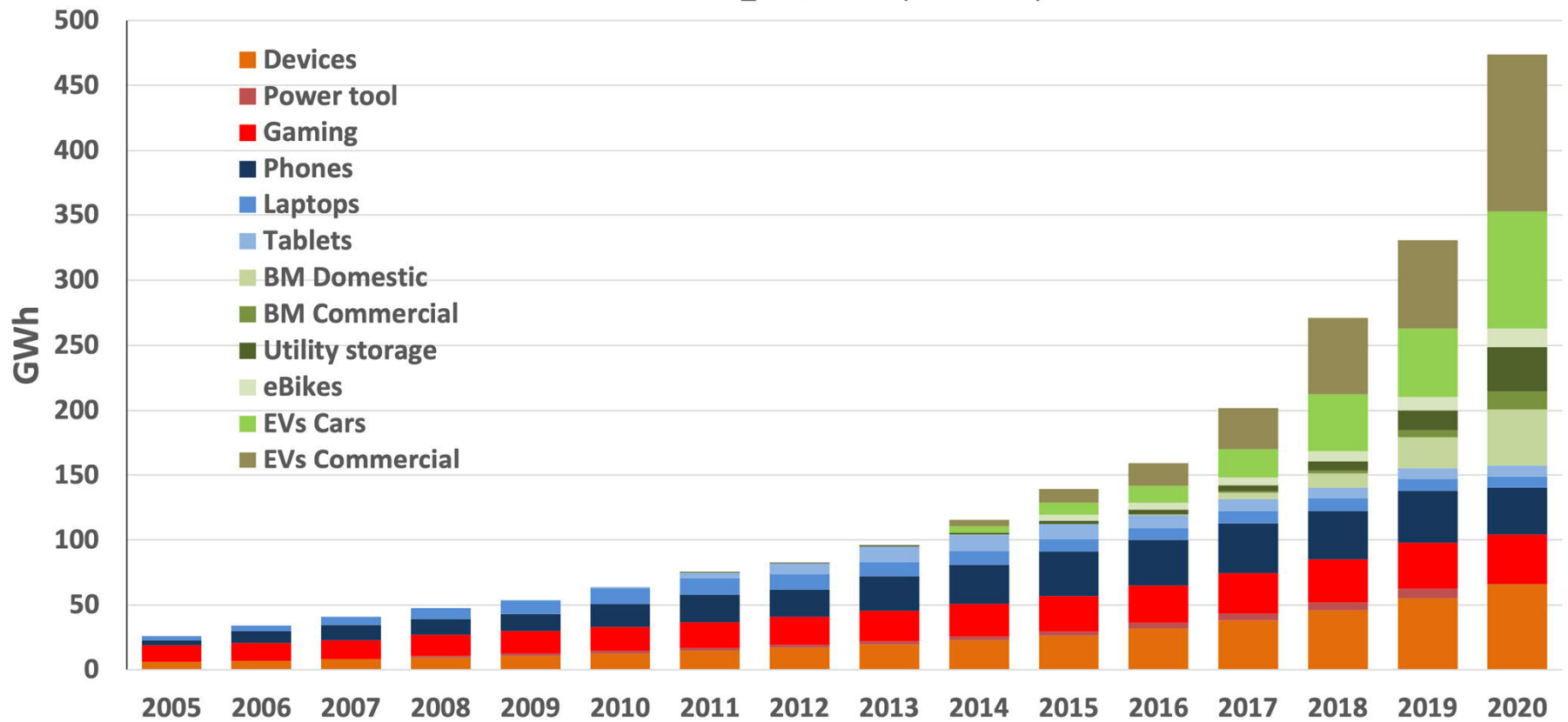
# More volume brings lower cost



# Here come the batteries

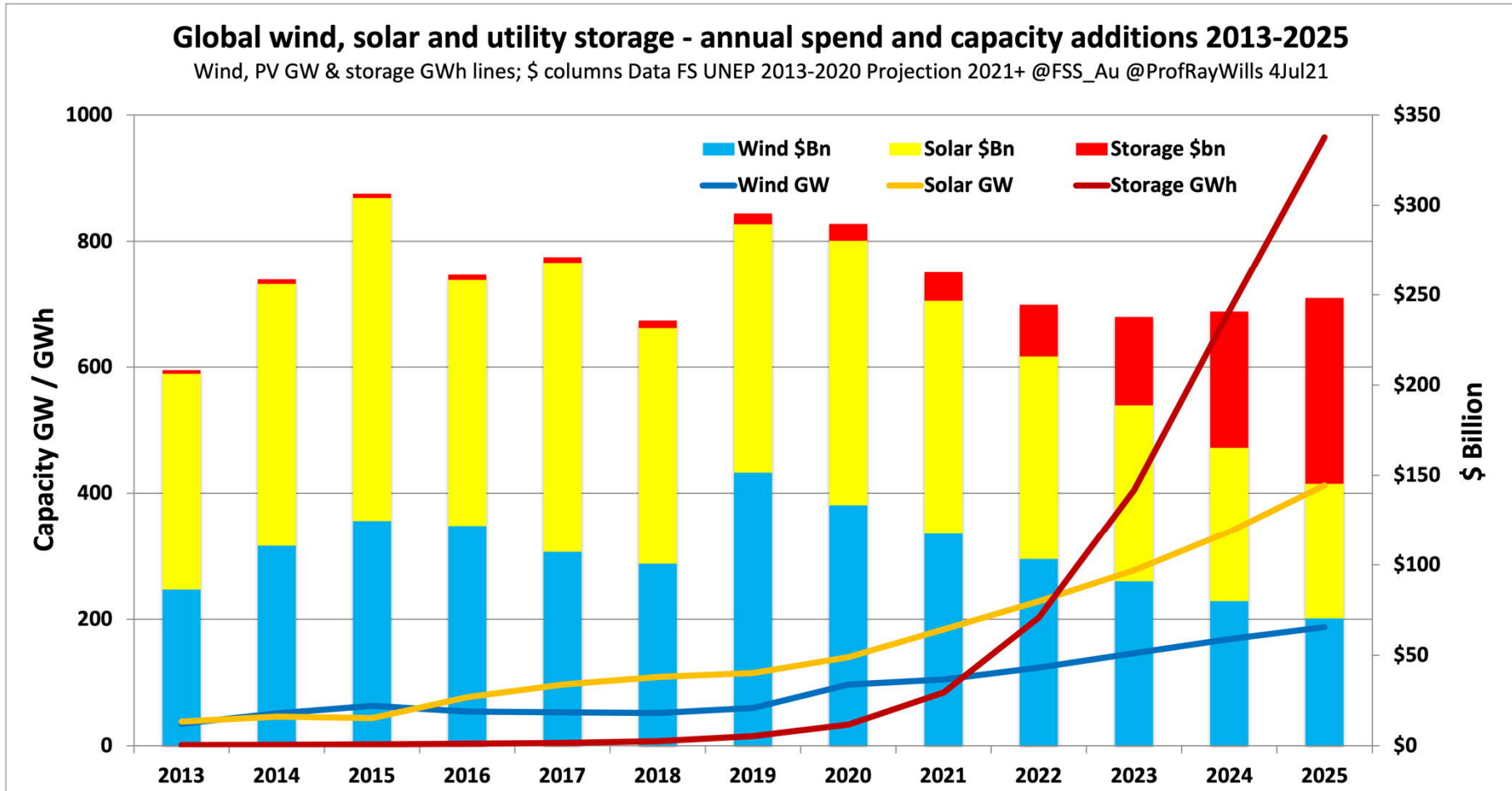
Estimated annual global use of lithium batteries by category 2005-2020

Estimate and Chart FSS\_Au @ProfRayWills 4May2021



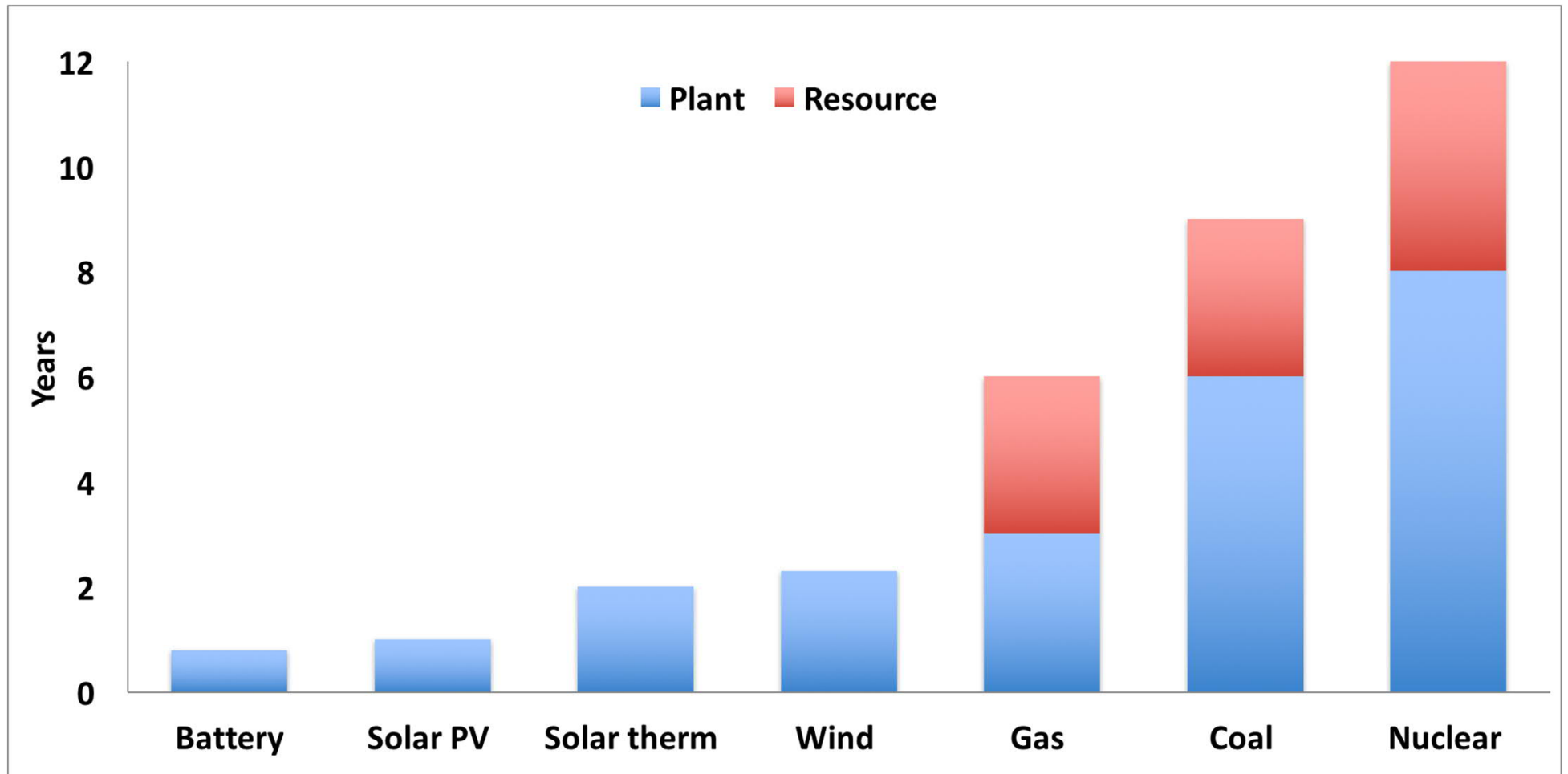


# Build it cheaper

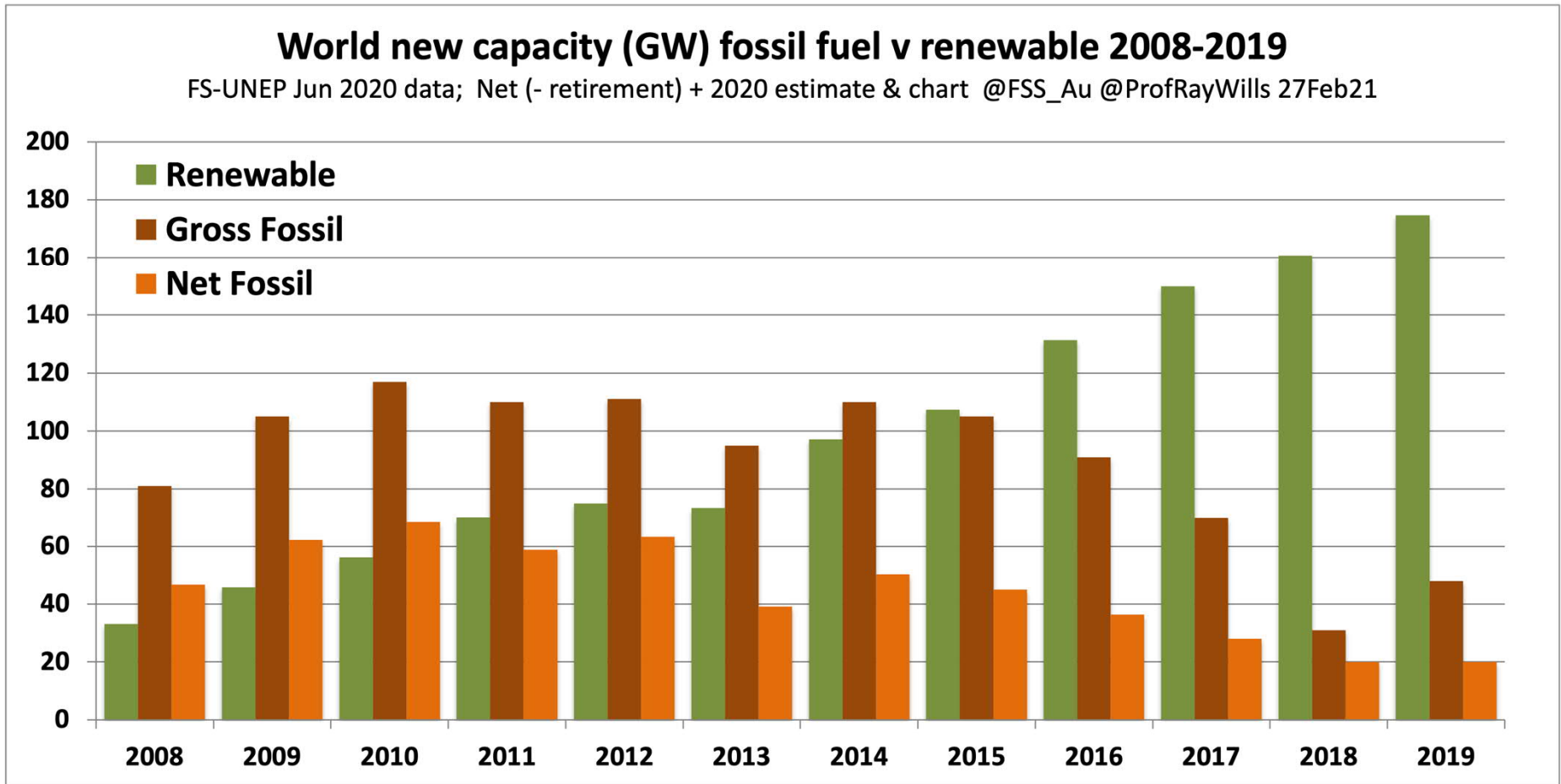




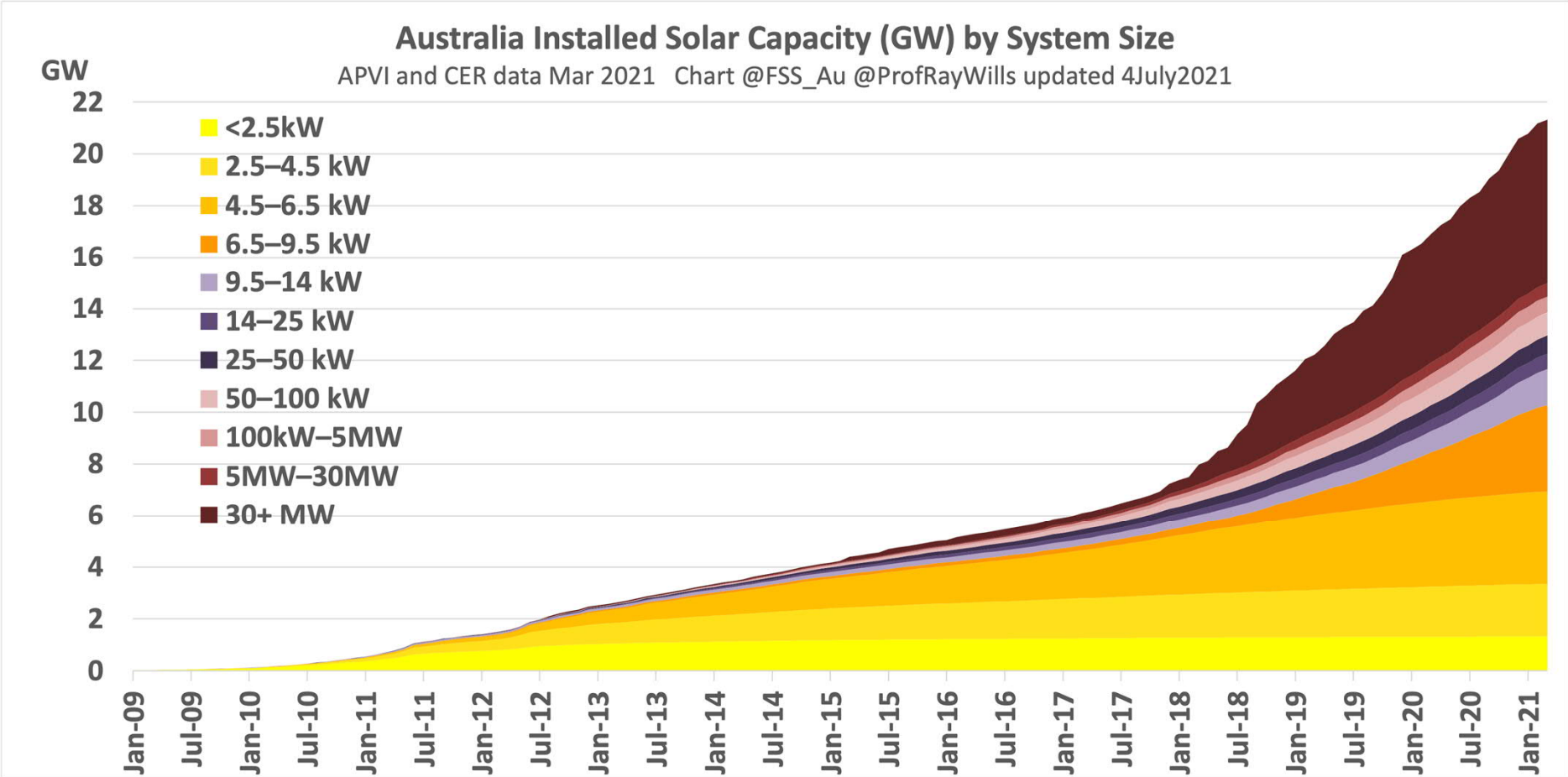
# Build it faster



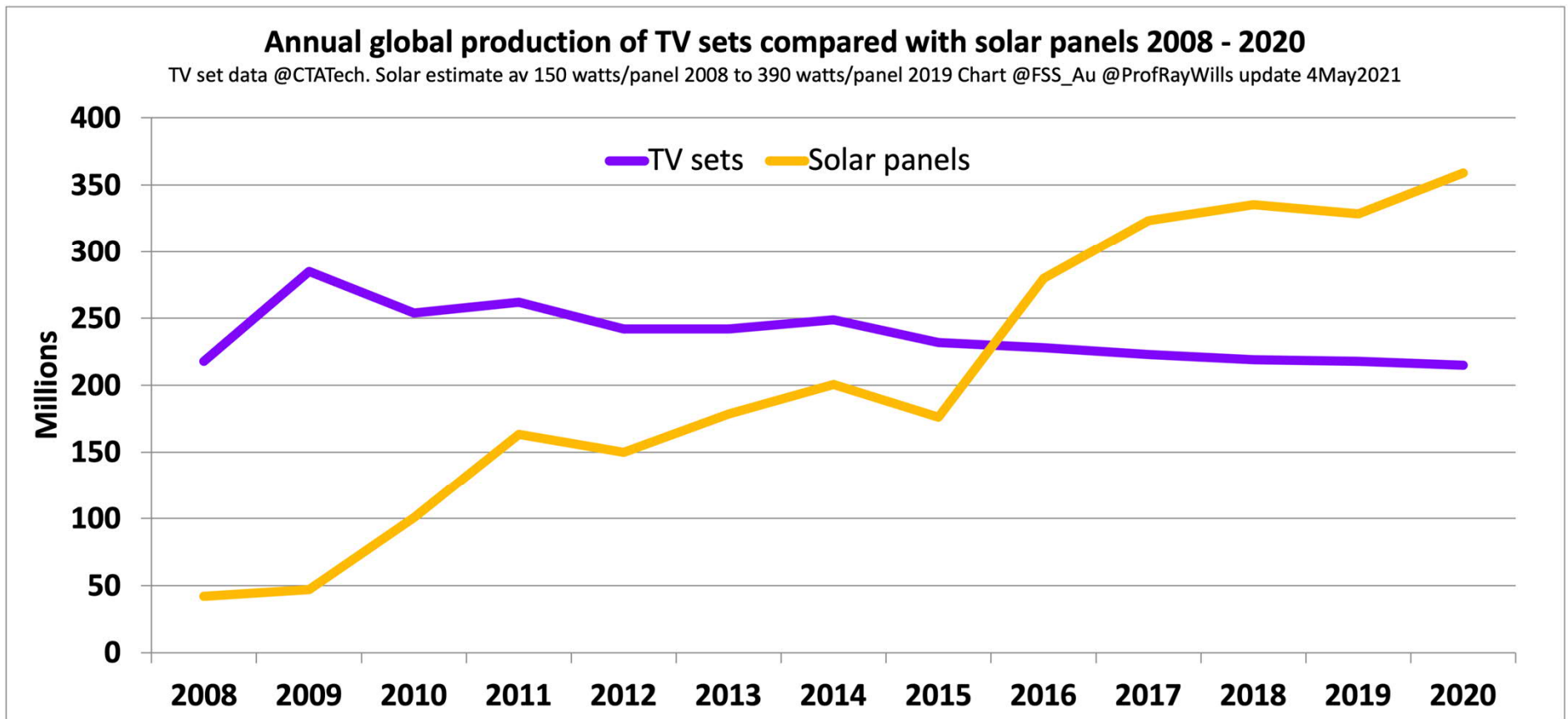
# Build less of the old, more of the new



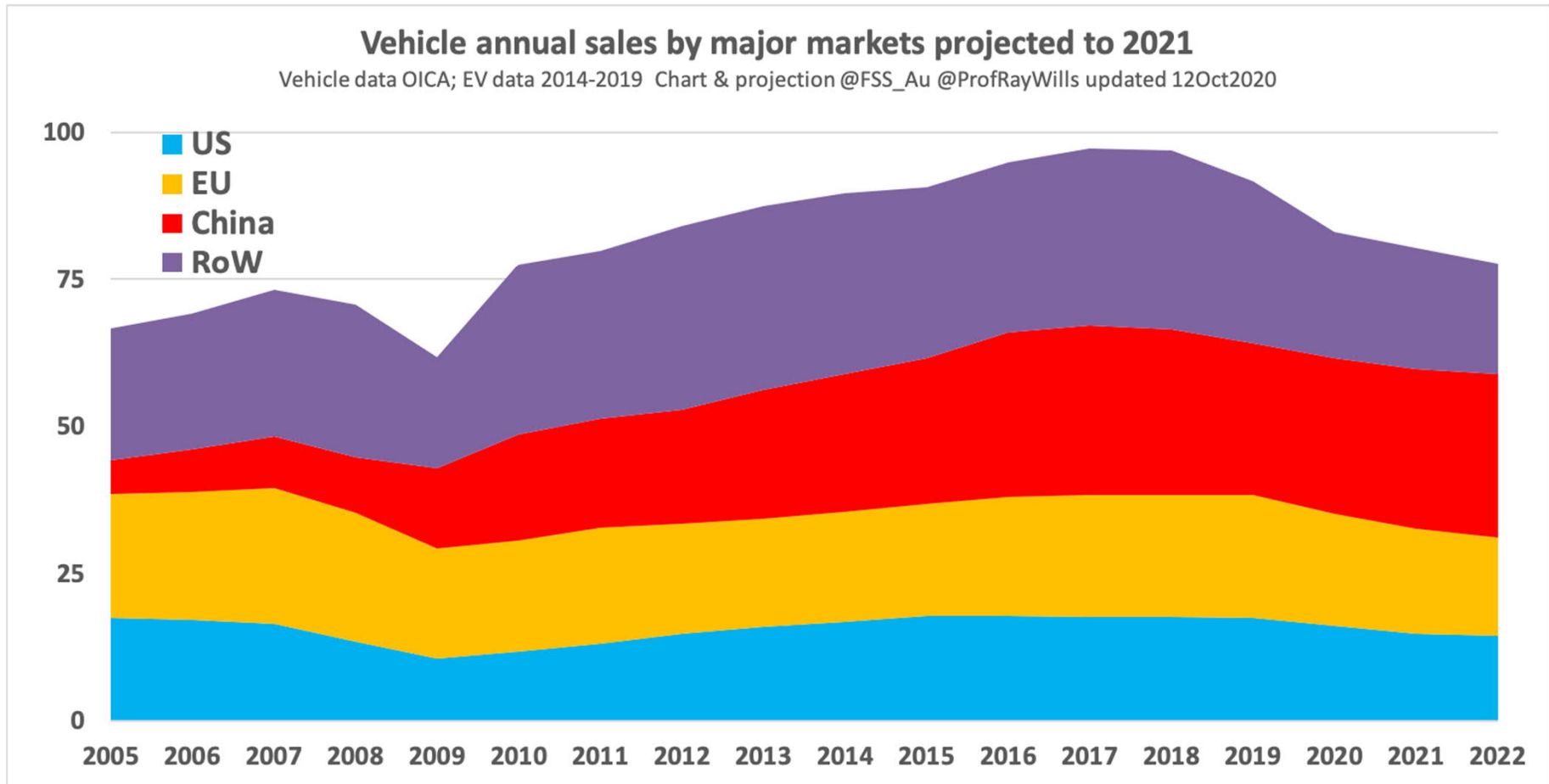
# Solar key part of Australia's change



# Solar as just another consumer product



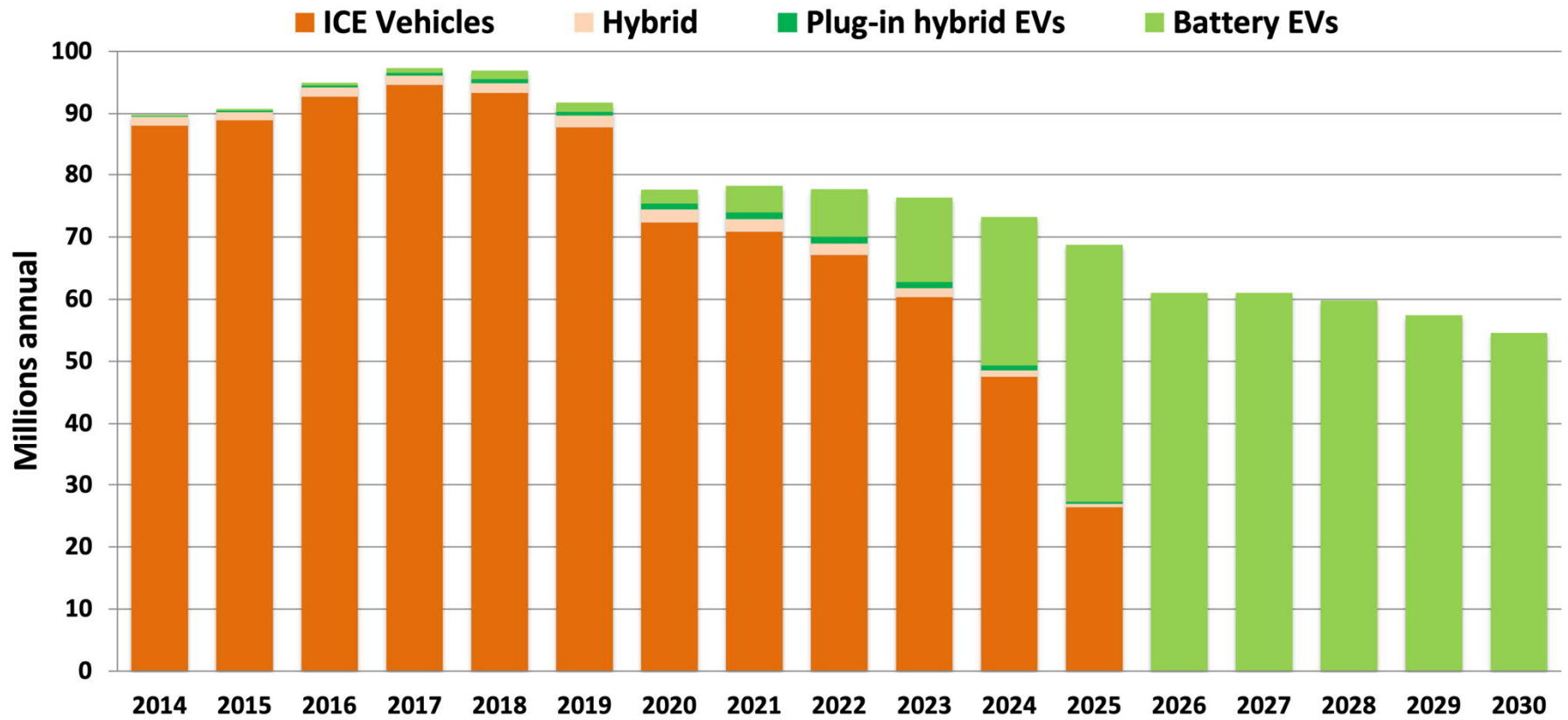
# Global vehicle sales – peak car



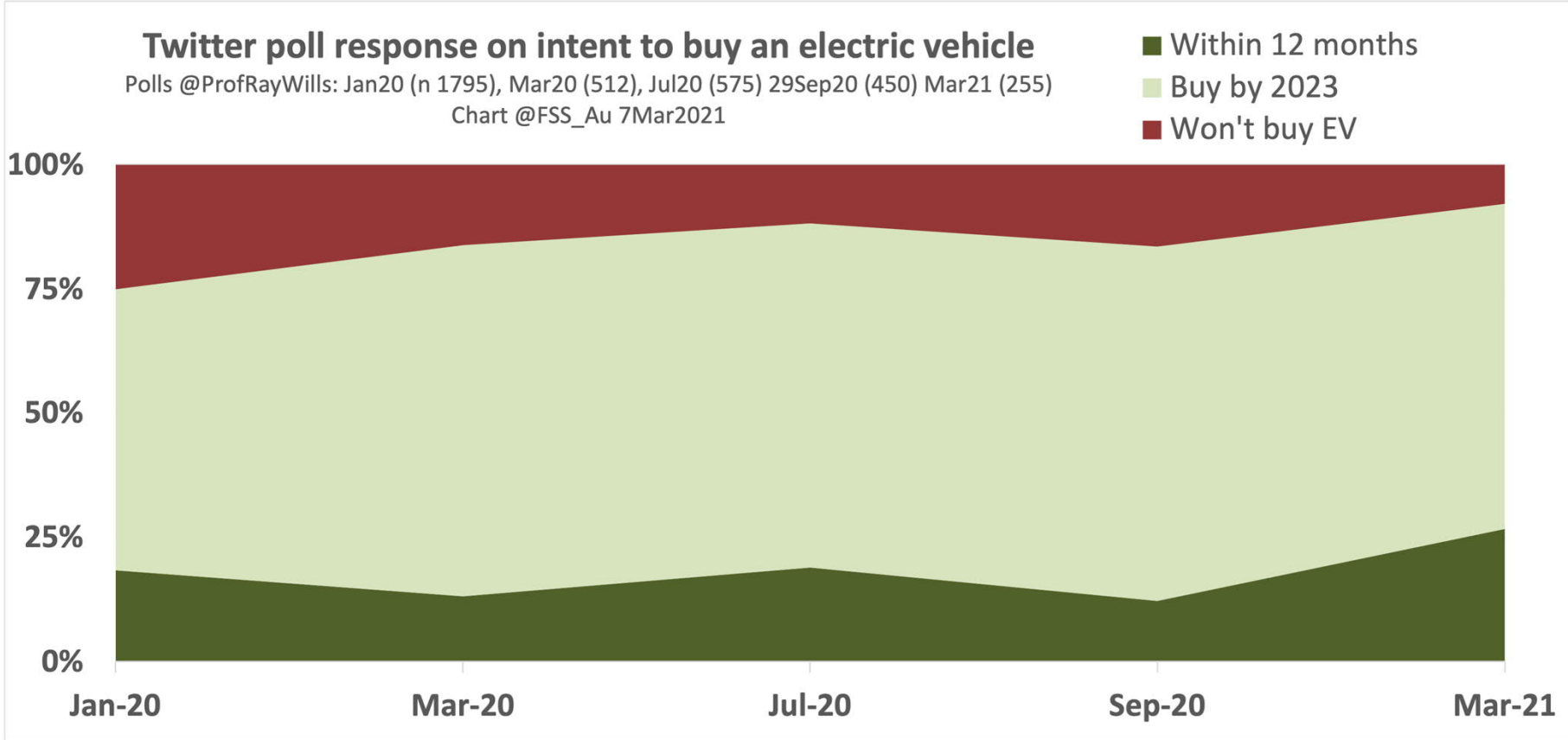
# Here comes batteries in cars

## Transition to electric vehicles - global vehicle annual sales to 2020 projected to 2030

Vehicle data OICA; EV data to 2020 @IEA 2021 FSS Estimate, Chart & projection @FSS\_Au @ProfRayWills updated 5Jul21

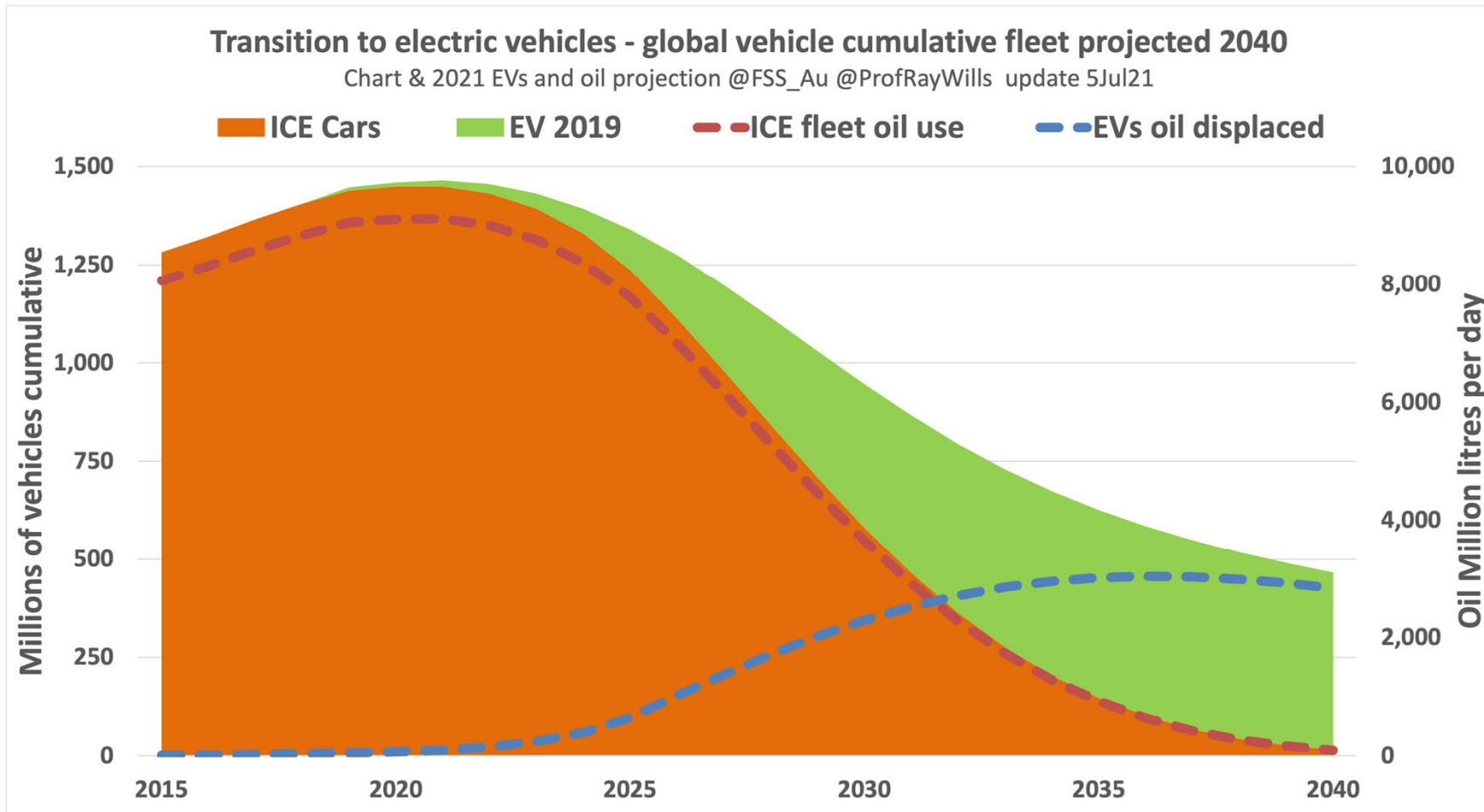


# Who's buying a battery electric car?

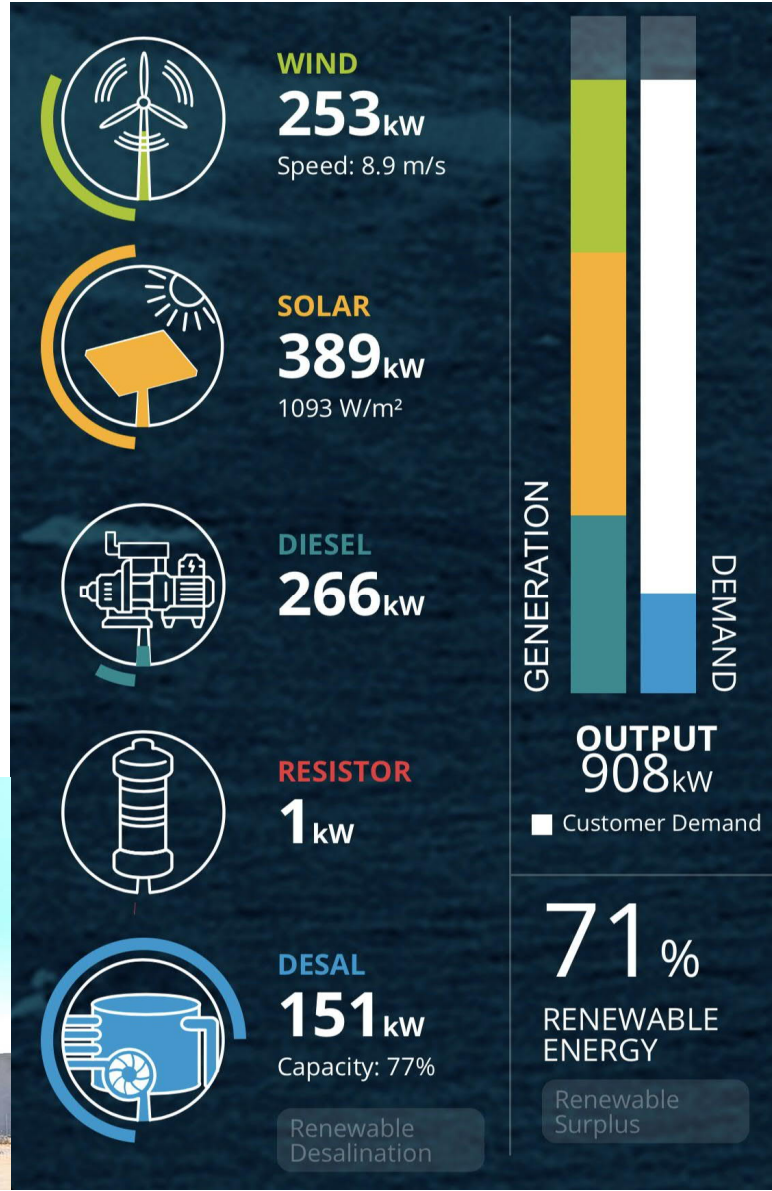




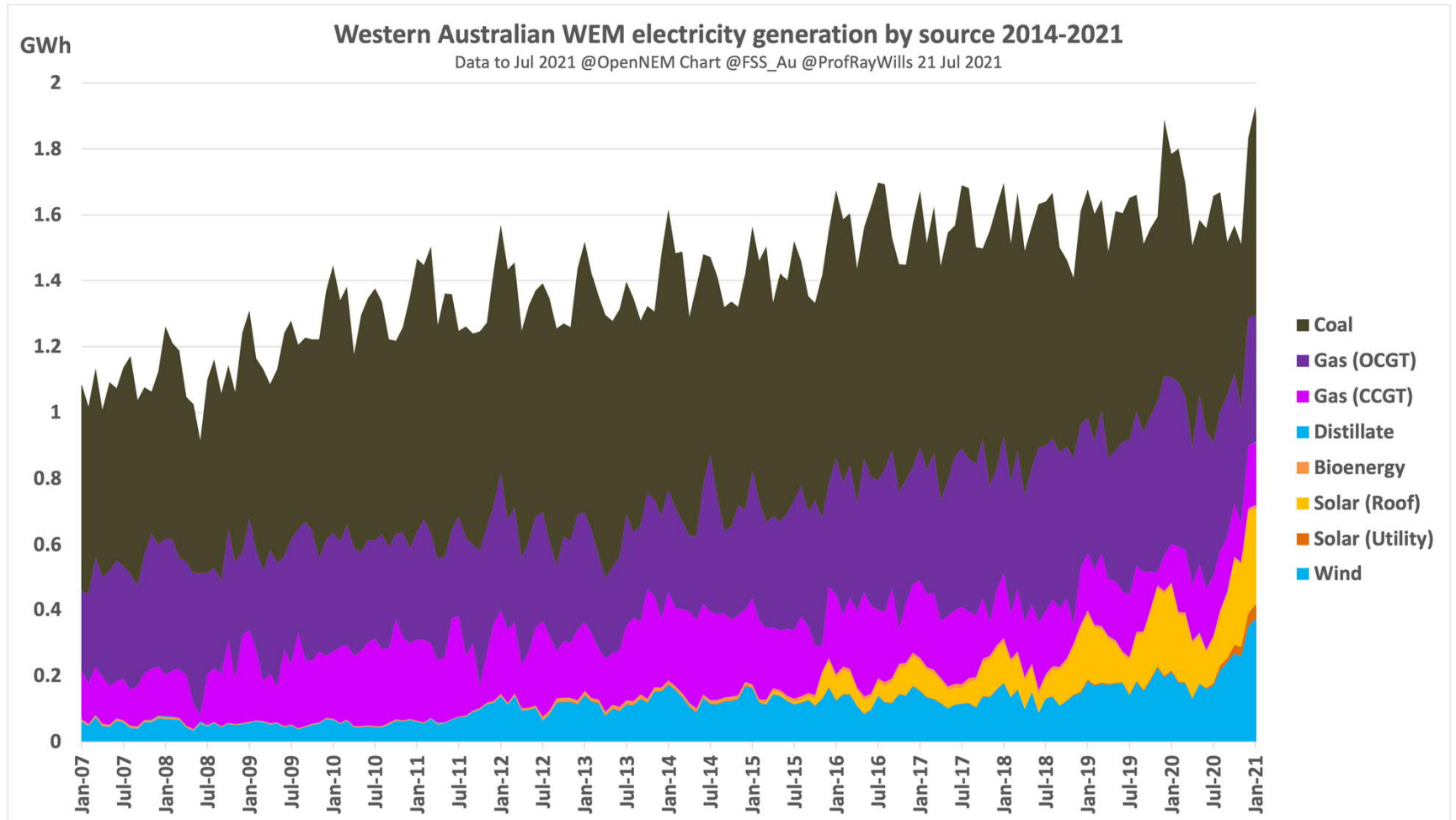
# It's just the data – future is electric



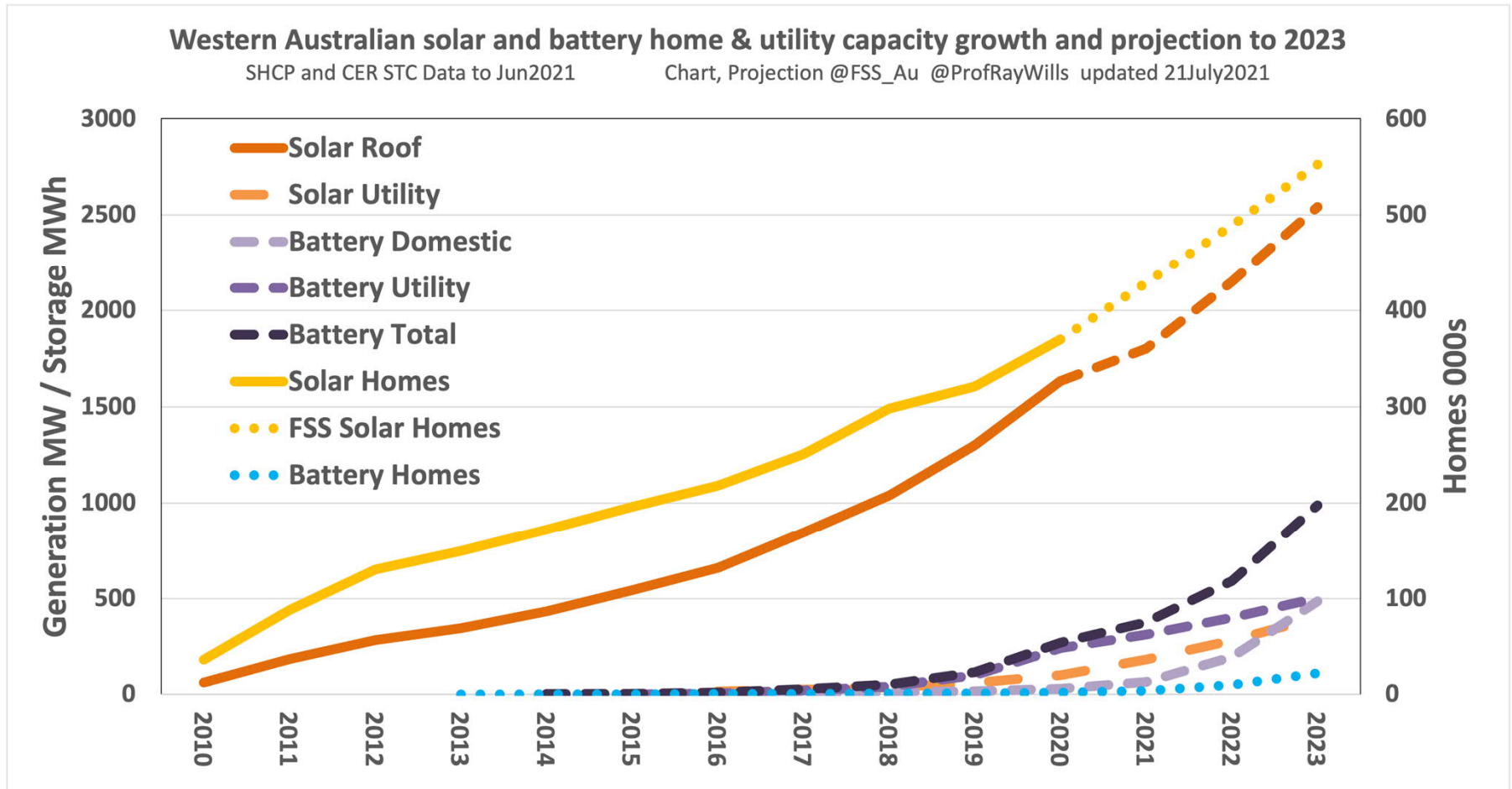
# Wind, solar, batteries change WA



# Renewables bringing change to WA



# Solar key to WA's change



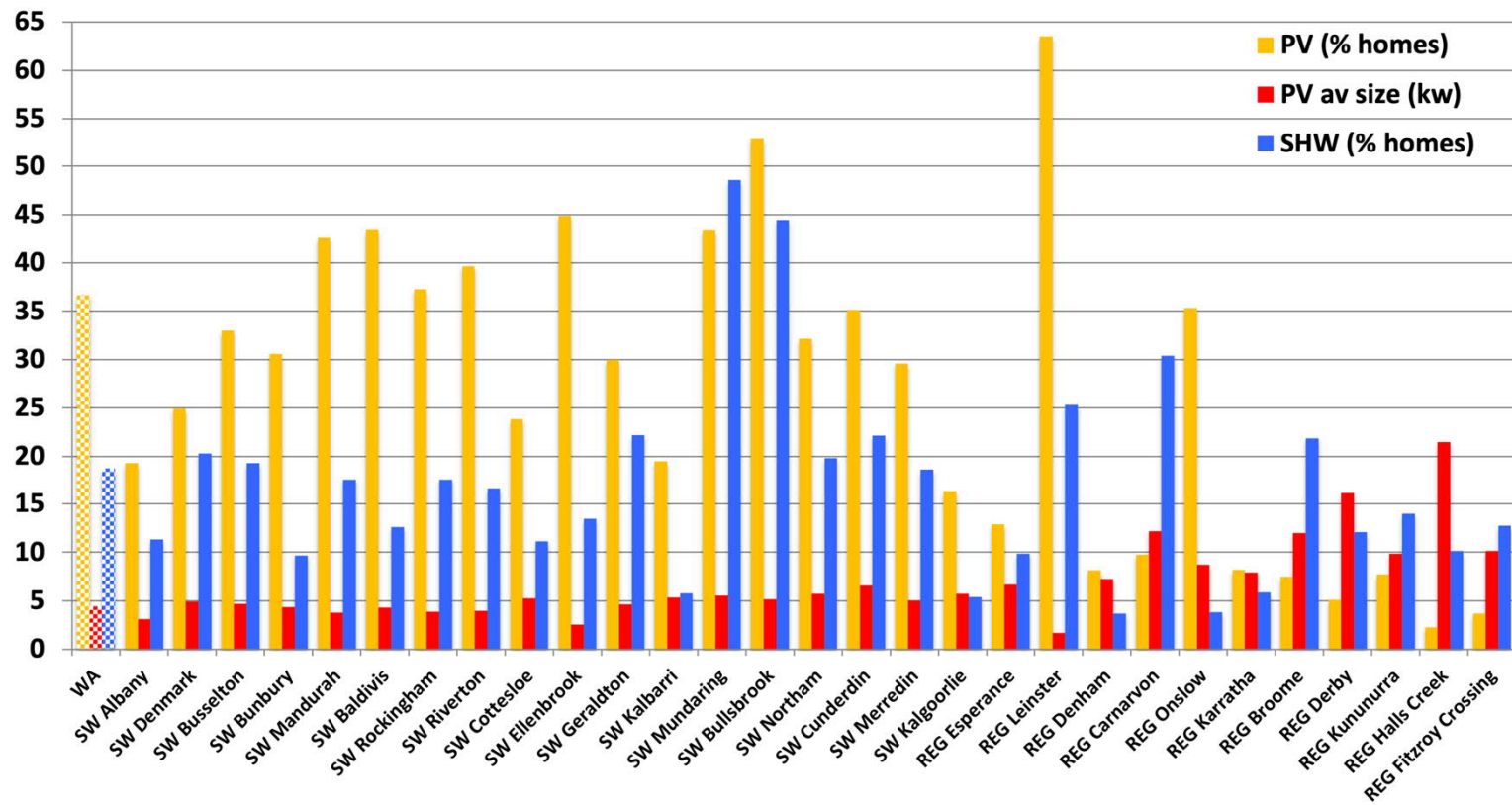


# Solar across WA

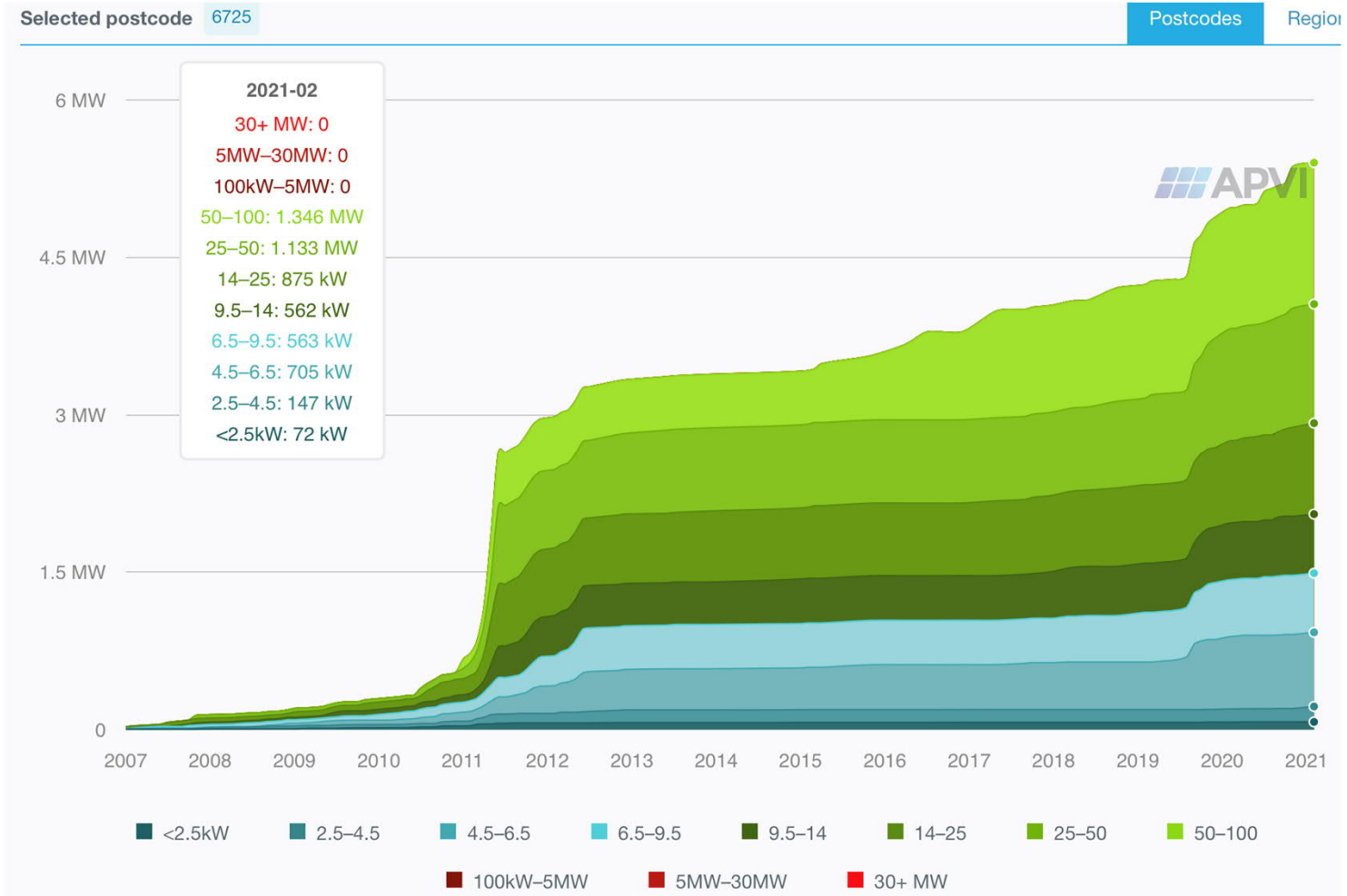
## Western Australian Households with Solar PV and Solar Hot Water

Towns and cities by postcode SW grid vs Regional microgrid towns

Households ABS via APVI CER STC data via APVI to May21 Chart @FSS\_Au @ProfRayWills 4 Jul 21



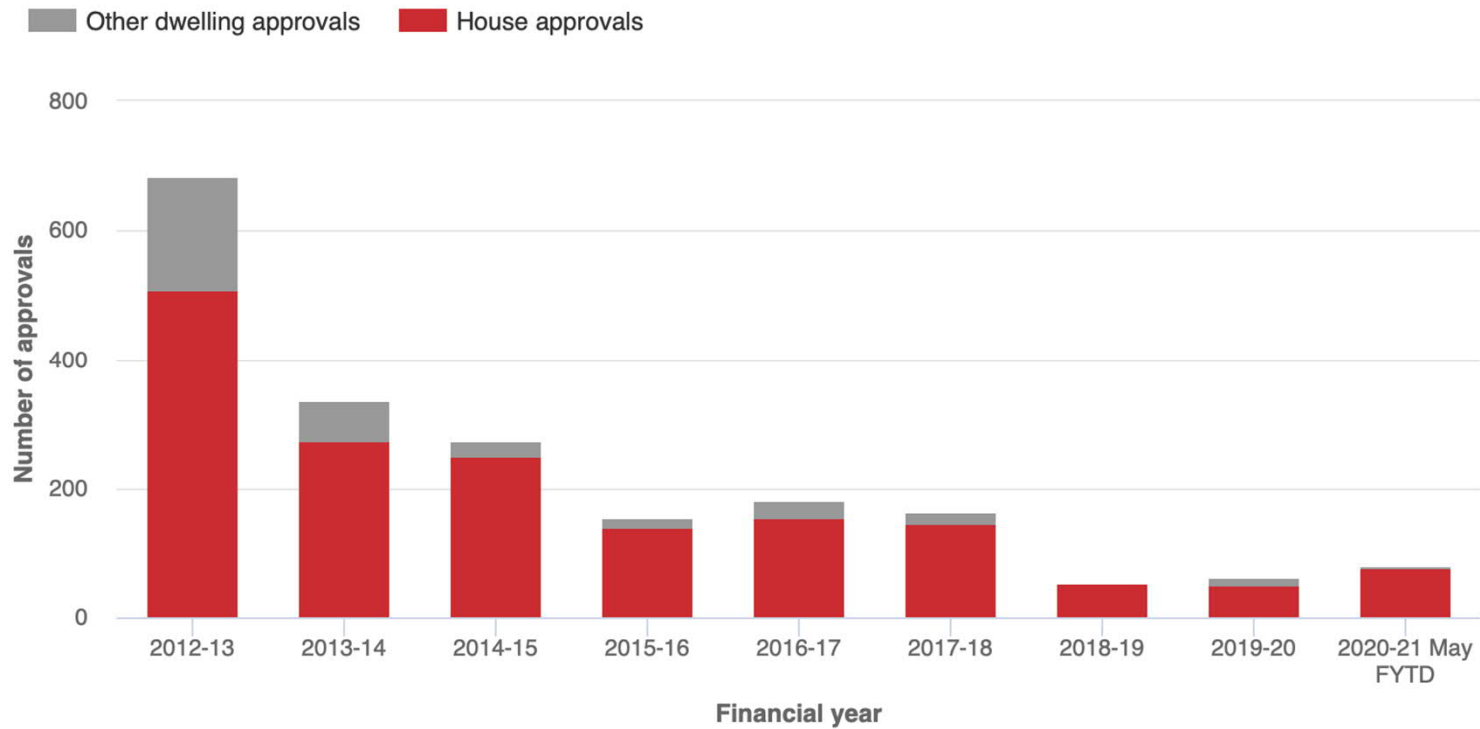
# Broome solar roof history - capacity



# Broome building approvals

## Residential building approvals

RDA Kimberley



Source: Australian Bureau of Statistics, Building Approvals, Australia (8731.0). Compiled and presented by .id (informed decisions).



# Broome corporate players

Latest News

## Woolworths Group to be powered by 100% green energy by 2025 in move set to help grow renewable sector

# Supermarket Giants Race To Net Zero, Beating The Do-Nothing Australian Government



By [David Waterworth](#) Published August 26, 2021



6 Comments

Australian city connected requires something in the order of six petajoules of energy each year and last year that resulted in nearly 1.3m tonnes of greenhouse gas emissions.

## Broome shopping centre to host massive solar and battery system

Michael Mazengarb 15 January 2021



The Western Australian town of Broome will become host to one of Australia's largest shopping centre solar installations.

The 1.2MW commercial solar installation will be added to the Broome Boulevard Shopping Centre, owned by ASX-listed property investors Primewest, constructed over the centre's car park, and is expected supply around 45 per cent of the centre's electricity needs.



## OVER THE LONG TERM

*Sustainability at Wesfarmers.*

## Bunnings and Officeworks commit to 100% renewable energy by 2025

Bunnings and Officeworks have announced plans to source 100 per cent renewable electricity by 2025, to help achieve their recently announced targets of net zero Scope 1 and 2 emissions by 2030.

# Energy Transformation Association for the Kimberley

The future of energy is coming to the Kimberley  
- how can we help to shape that future?

## ETAK's Vision

- To facilitate and advocate for the transformation of the energy landscape in the Kimberley to add value and benefit to our members and to provide an affordable, secure, and sustainable energy future for the Kimberley.

