

# Australia's distributed energy future

Australian Clean Energy Summit, 2018

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**Bloomberg  
New Energy Finance**

# BNEF provides analysis to help you understand the future of energy

## Clean Energy



Solar



Wind



Storage



Decentralized Energy



Frontier Power



Impact on Power & Utilities

## Advanced Transport



Electrified Transport



Autonomous Driving



Shared Mobility



Impact on Transport



Impact on Oil & Power

## Commodities



LNG & Gas



Oil & Products



Power



Carbon

## Digital Industry



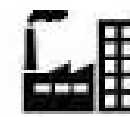
Internet of Things



Machine Learning & Analytics



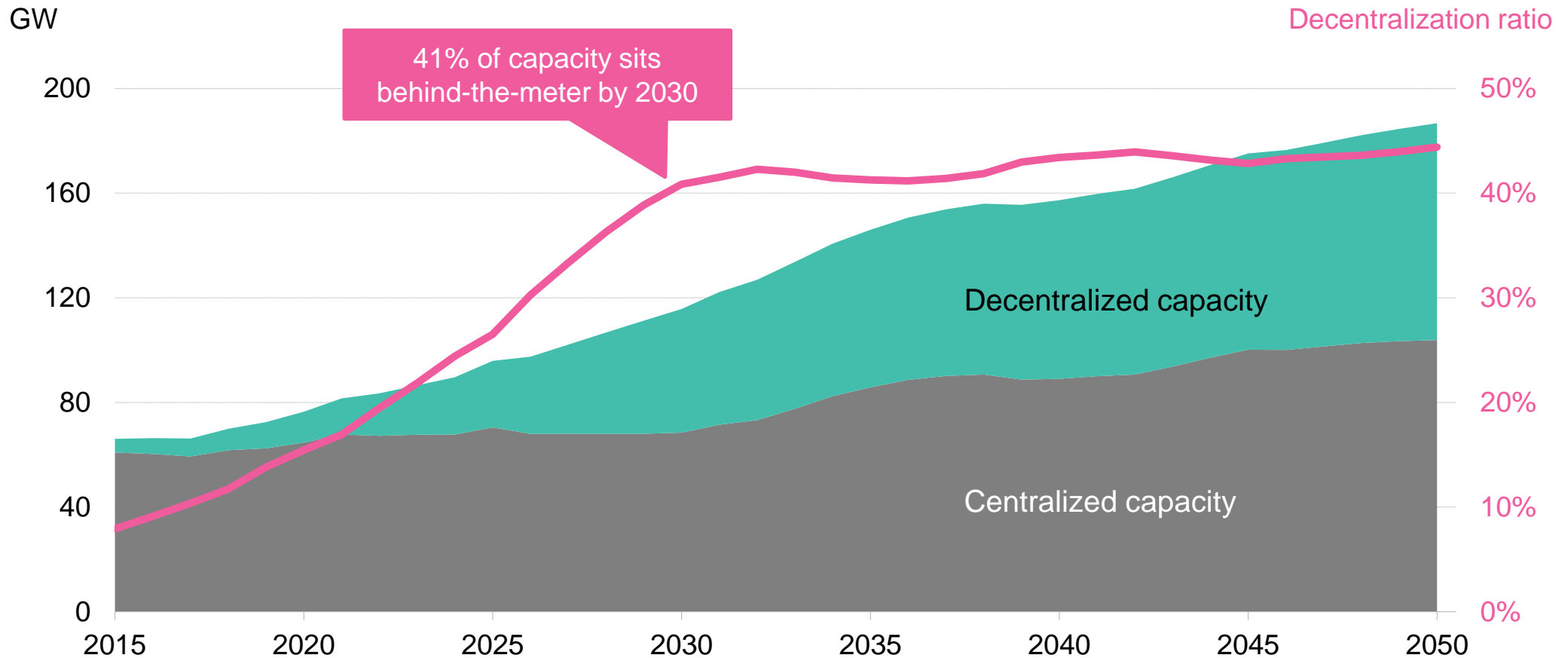
Advanced Materials



Impact on Industrials and Energy

# Power system decentralization is imminent

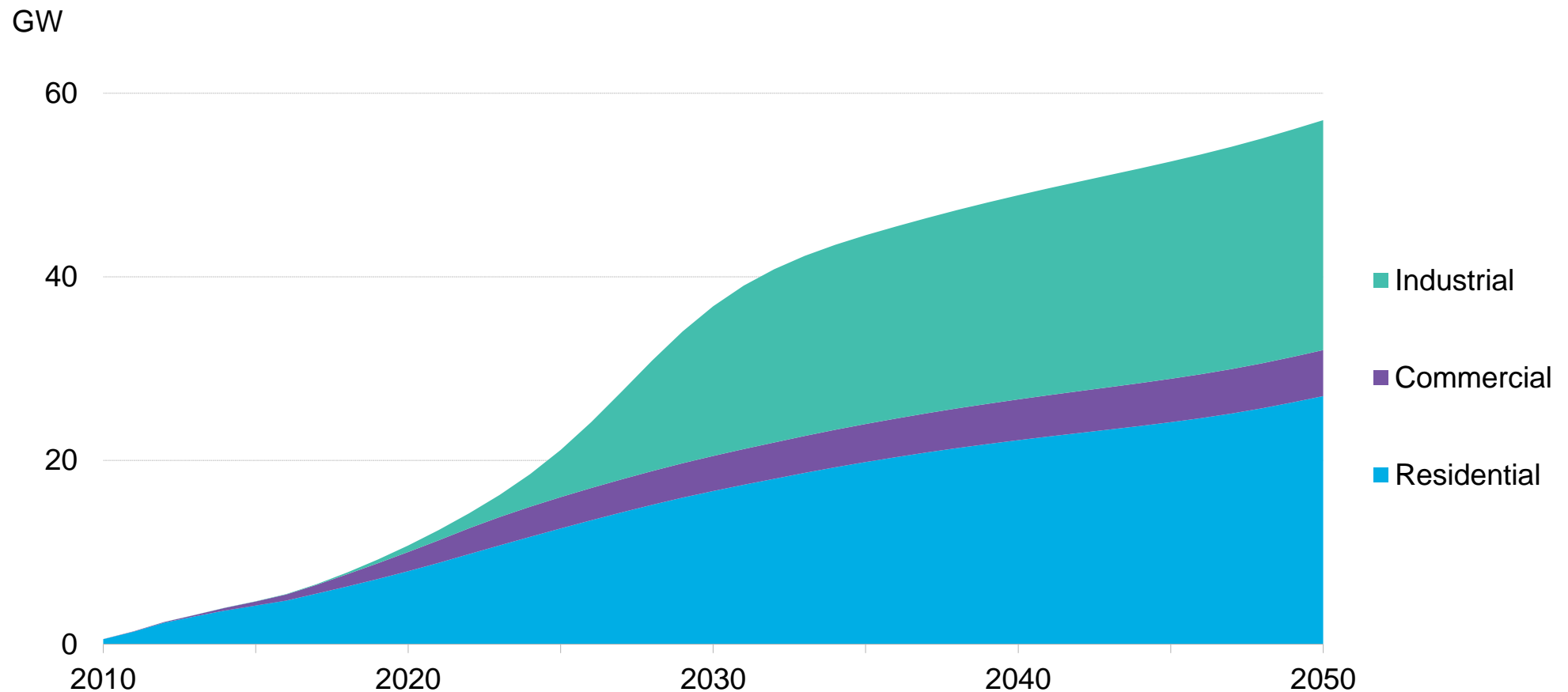
## Installed capacity in Australia, centralized vs decentralized



Source: BloombergNEF. Note: For more details see: [Australia behind-the-meter PV and storage forecast \(Web | Terminal\)](#).

# A surge in industrial PV drives a six-fold increase in rooftop capacity by 2030

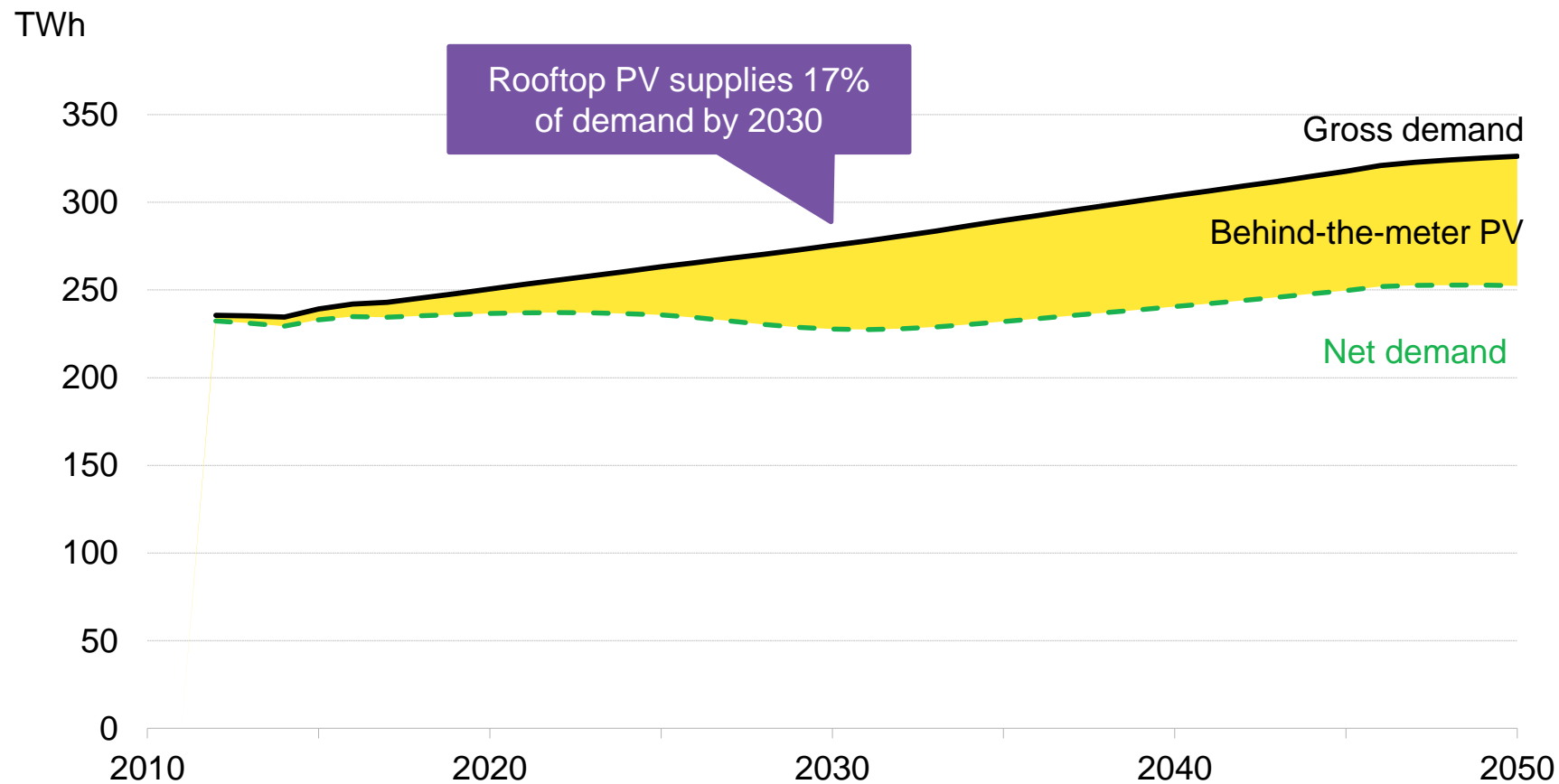
## Cumulative behind-the-meter PV capacity



Source: BloombergNEF, [2018 Australia Behind-the-Meter PV and Storage Forecast](#), May 2018.

# ...which will supply 17% of electricity demand

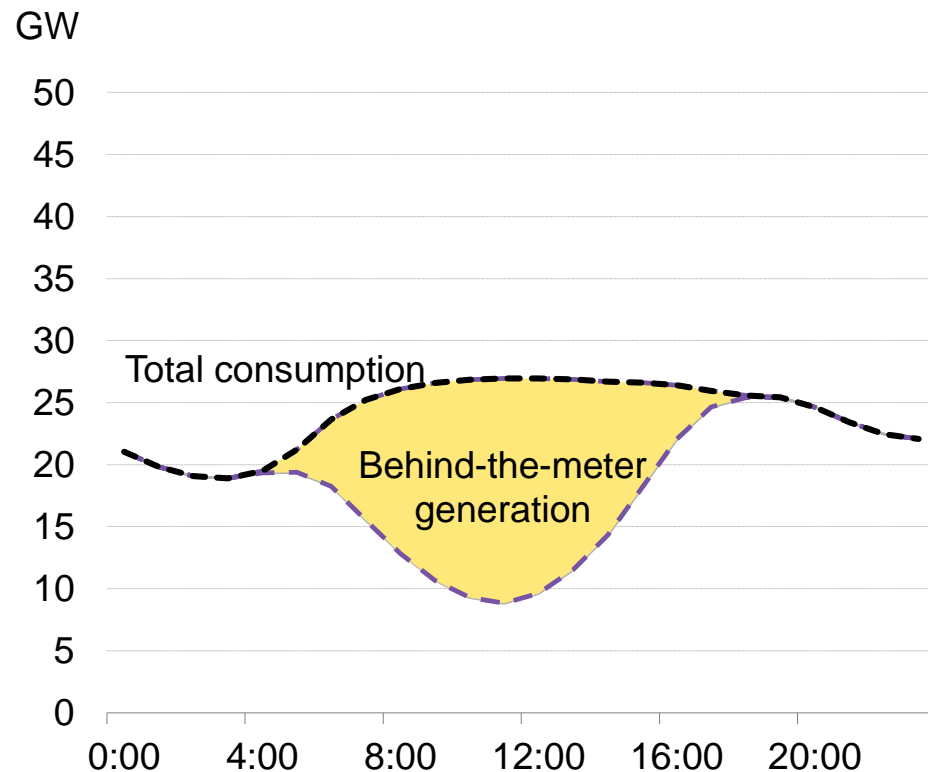
## Electricity demand in Australia



Source: BloombergNEF, [2018 Australia Behind-the-Meter PV and Storage Forecast](#), May 2018.

# Consumers will be the most influential generator

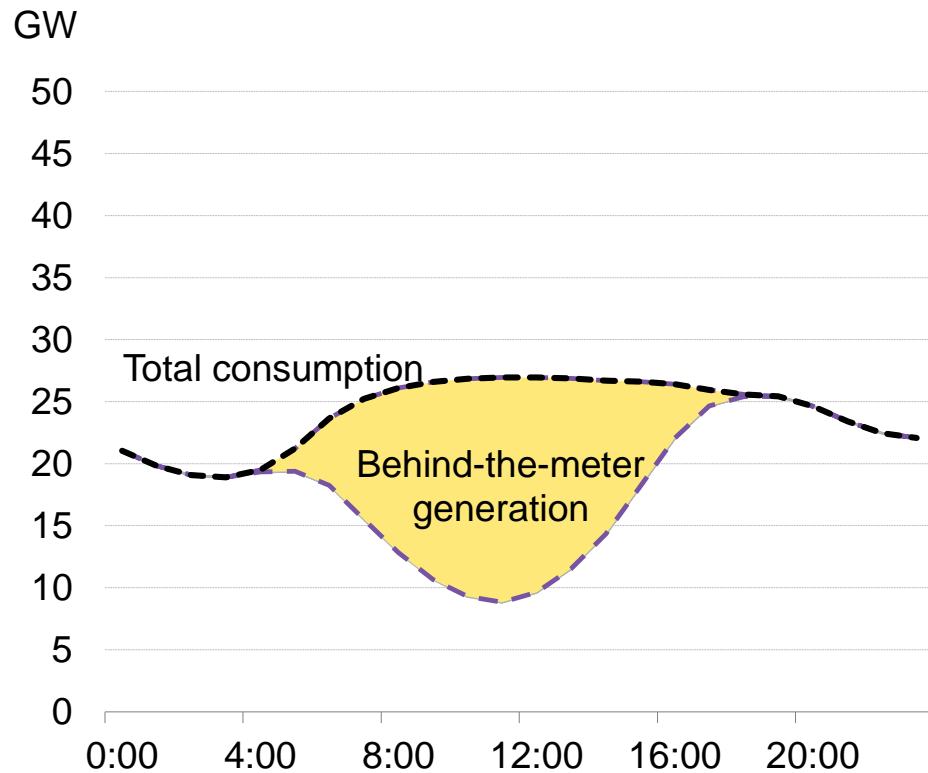
## Behind the meter generation, 2030



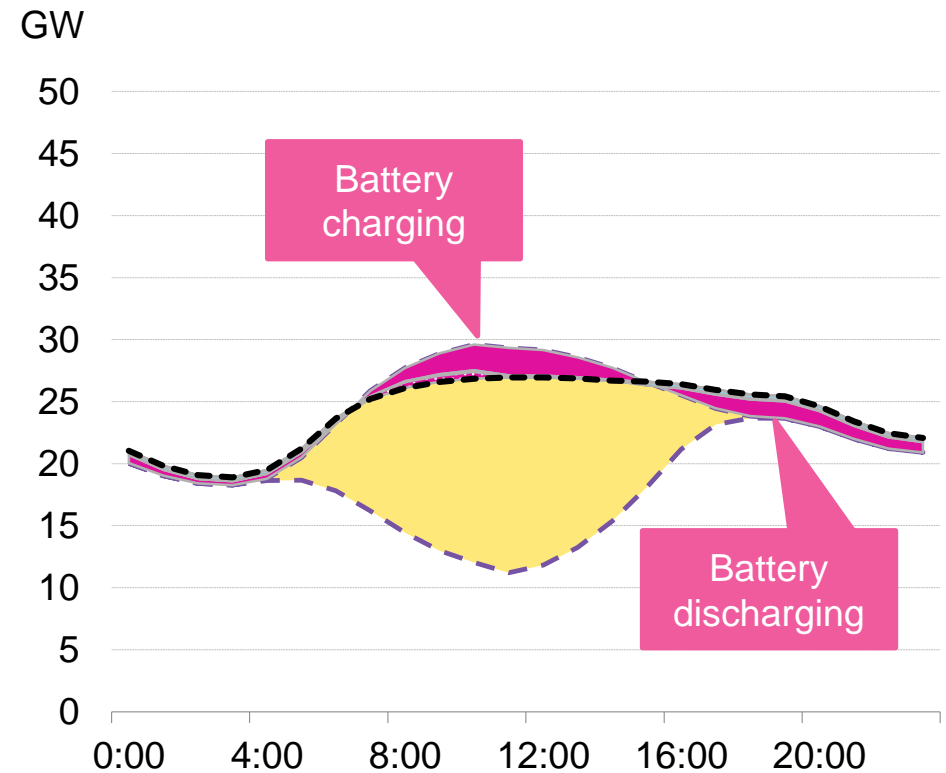
Source: BloombergNEF. Note: For more details see: [Australia behind-the-meter PV and storage forecast \(Web | Terminal\)](#).

# Consumers will be the most influential generator

Behind the meter generation, 2030



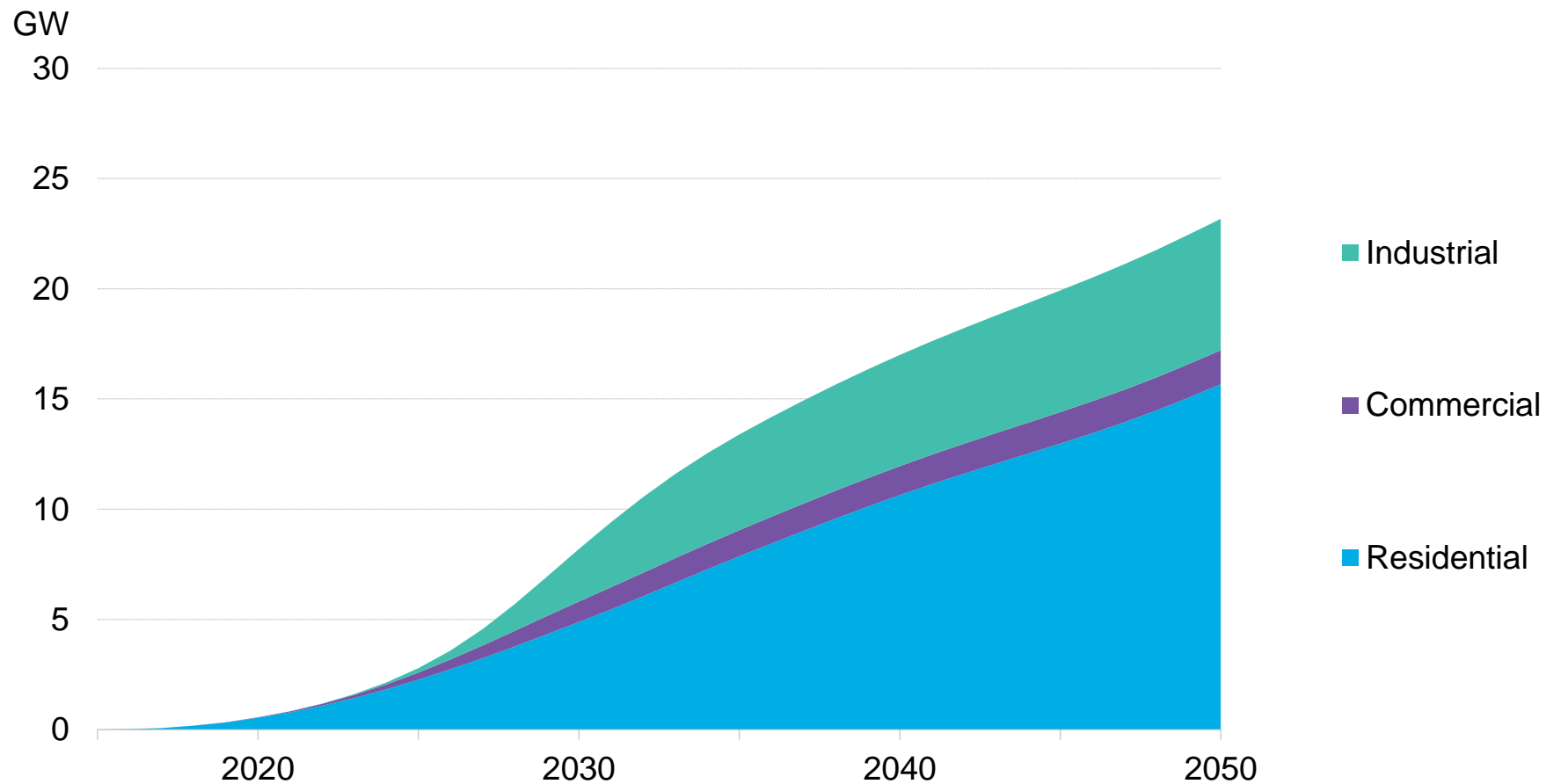
Behind the meter generation with storage, 2030



Source: BloombergNEF. Note: For more details see: [Australia behind-the-meter PV and storage forecast \(Web | Terminal\)](#).

# We forecast 23 GW of behind-the-meter storage by 2050

## Cumulative storage capacity by sector

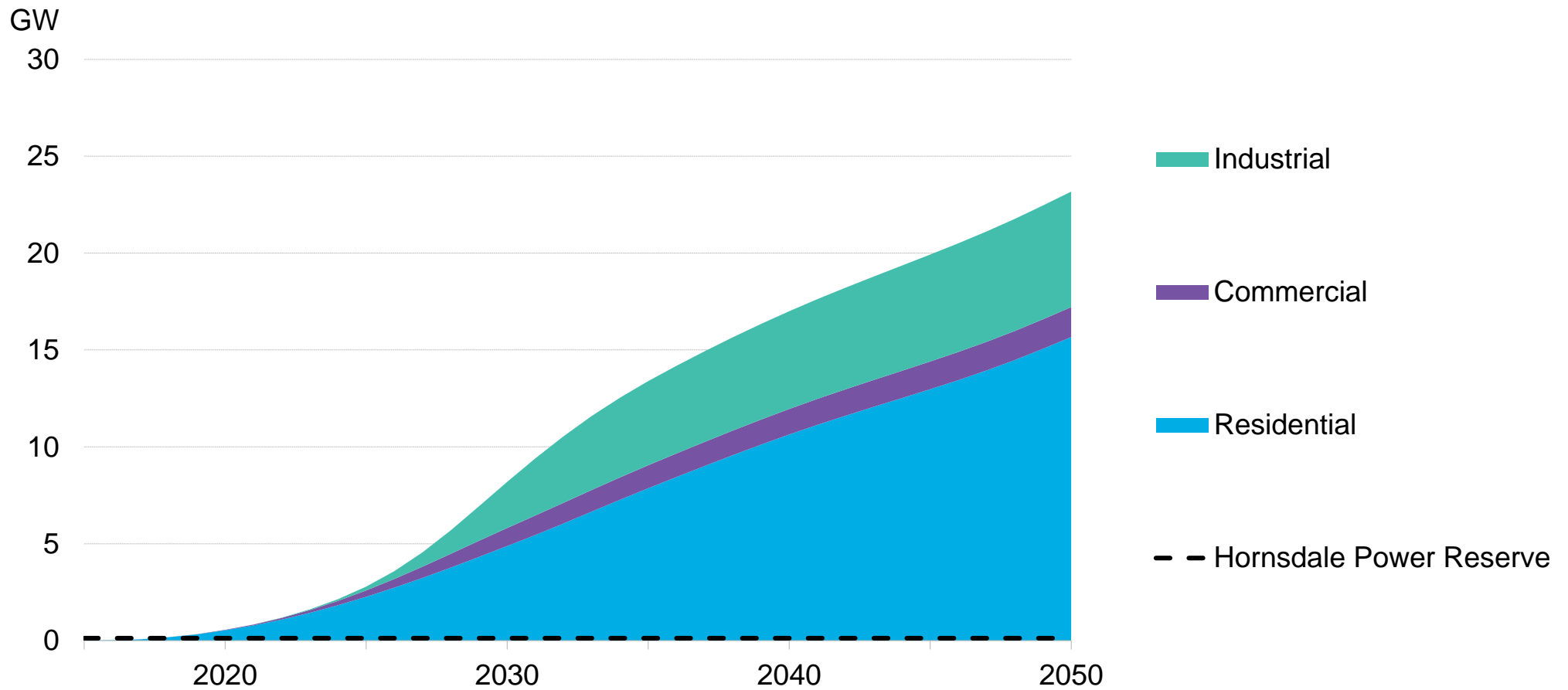


Source: BloombergNEF, [2018 Australia Behind-the-Meter PV and Storage Forecast](#), May 2018.



# 230x the capacity of the world's largest (existing) lithium-ion battery

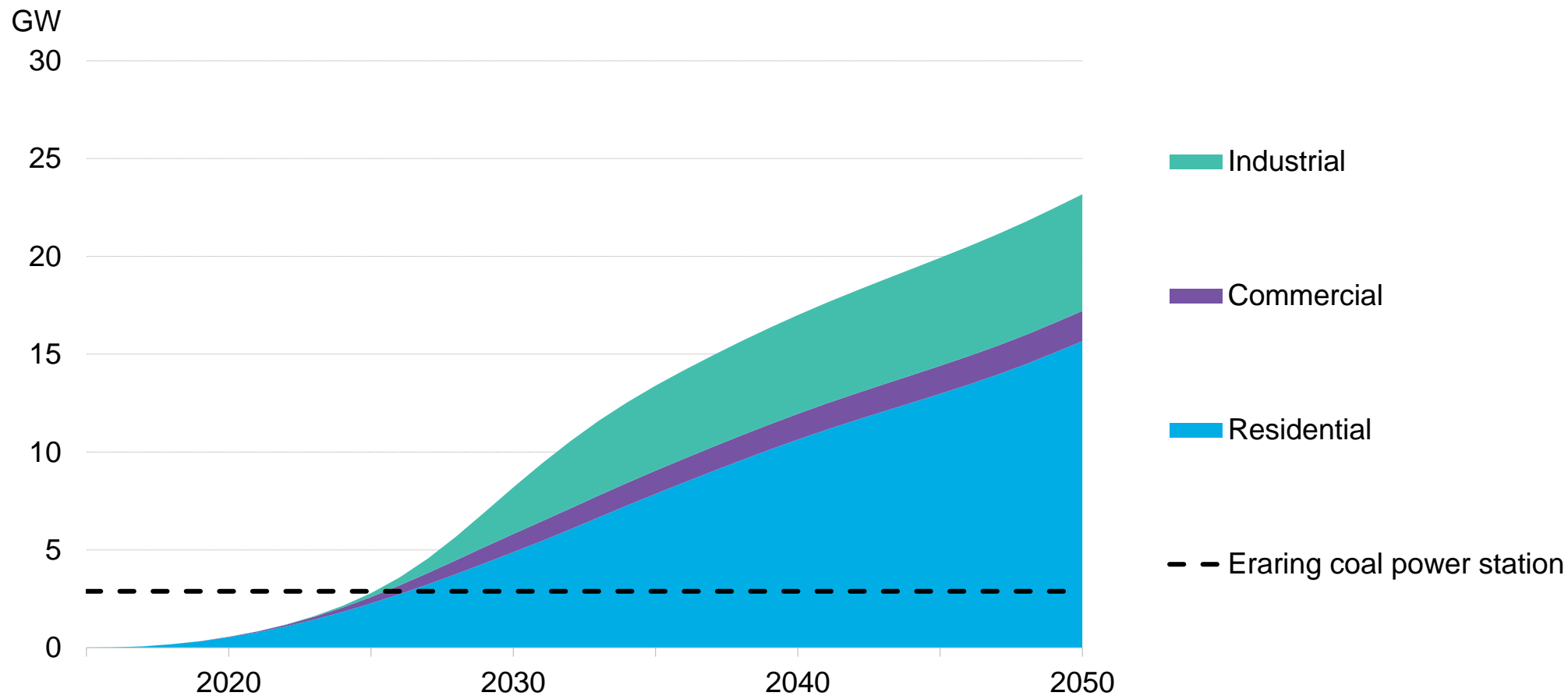
## Cumulative storage capacity by sector



Source: BloombergNEF, [2018 Australia Behind-the-Meter PV and Storage Forecast](#), May 2018.

# 8x the size of Australia's largest coal plant

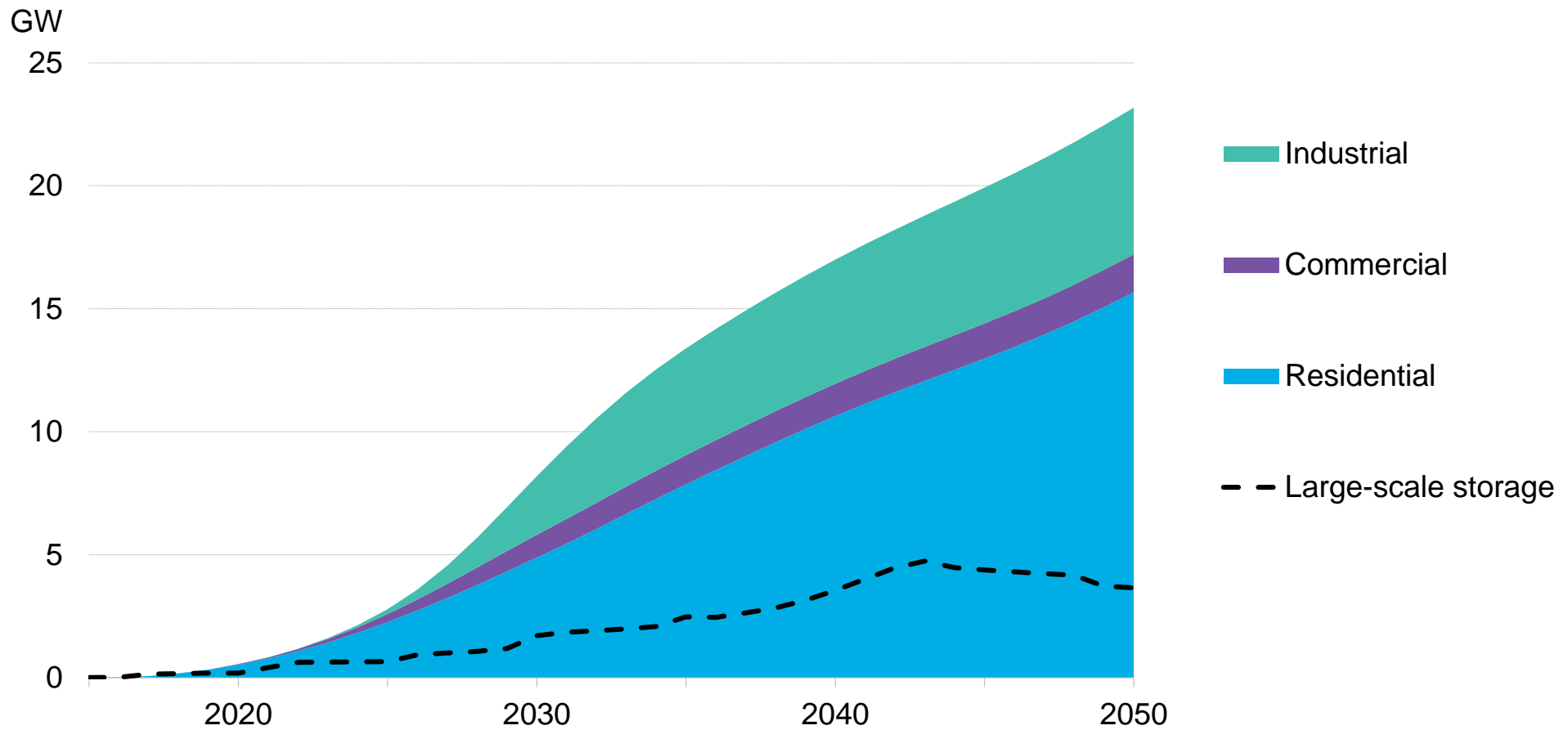
## Cumulative storage capacity by sector



Source: BloombergNEF, [2018 Australia Behind-the-Meter PV and Storage Forecast](#), May 2018.

# 6x the large-scale storage capacity we forecast

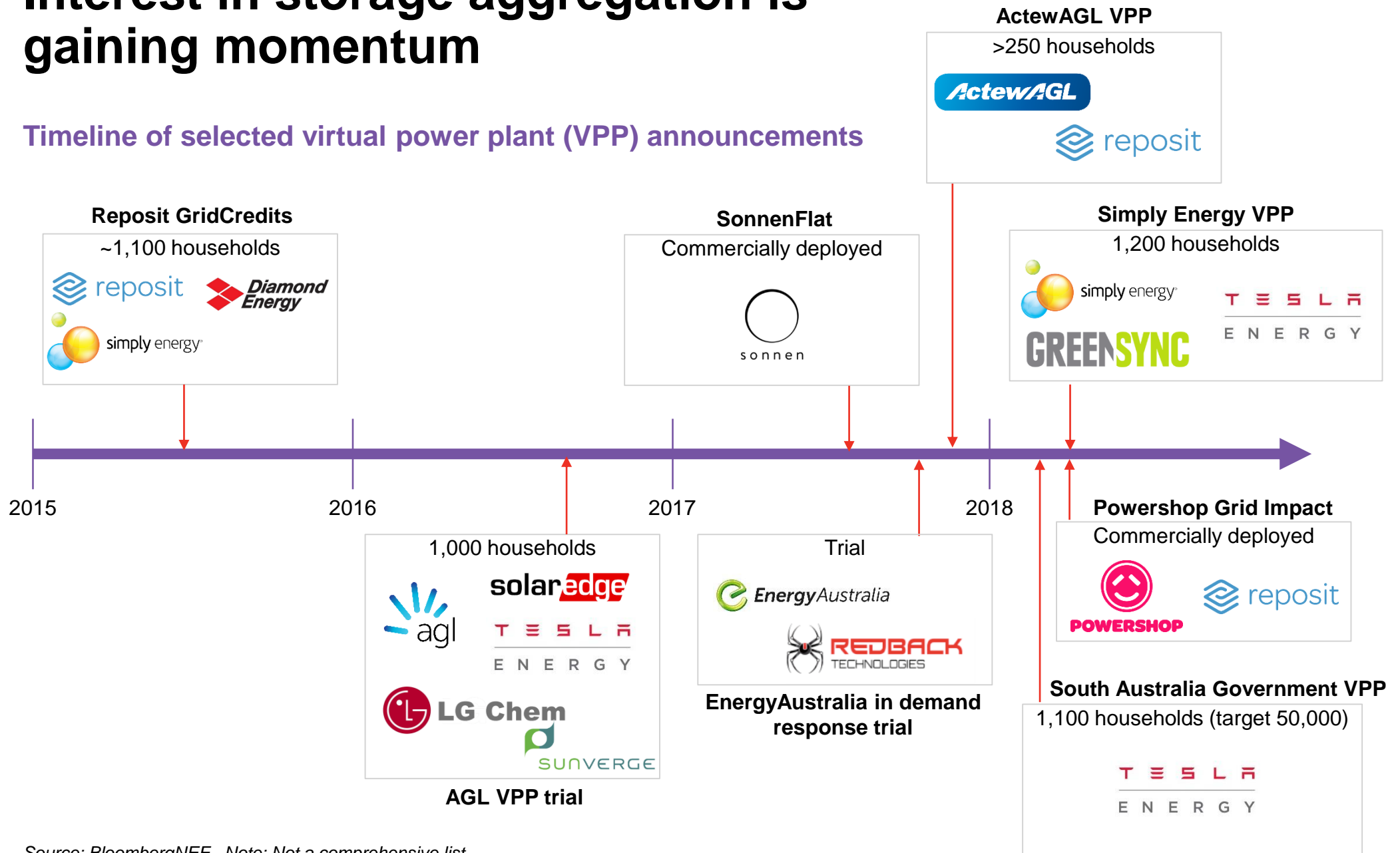
## Cumulative storage capacity by sector



Source: BloombergNEF, [2018 Australia Behind-the-Meter PV and Storage Forecast](#), May 2018.

# Interest in storage aggregation is gaining momentum

## Timeline of selected virtual power plant (VPP) announcements



Source: BloombergNEF. Note: Not a comprehensive list.

# Markets are changing to allow improved access by demand-side resources

## Summary of demand response market access, Europe and Australia

Country	Ancillary services	Energy	Capacity	Distribution	
Austria	Market access granted	Restricted access & limited participation	No participation or activity	Pilot	
Belgium	Market access granted	Restricted access & limited participation	Market access granted	No participation or activity	
Finland	Market access granted	Market access granted	Market access granted	Pilot	
France	Market access granted	Market access granted	Market access granted	Pilot	
Germany	Restricted access & limited participation	Market access granted	Pilot	Pilot	
Ireland	Market access granted	Restricted access & limited participation	Market access granted	No participation or activity	
The Netherlands	Market access granted	Restricted access & limited participation	No participation or activity	No participation or activity	
Norway	Market access granted	Restricted access & limited participation	No participation or activity	Pilot	
Switzerland	Market access granted	No participation or activity	No participation or activity	Pilot	
U.K. (GB)	Market access granted	No participation or activity	Market access granted	Pilot	
Australia	Market access granted	No participation or activity	Pilot	Pilot	

Source: BloombergNEF. Note: strategic reserves are included under capacity. For details see: [Demand Response in Australia: An Untapped Resource \(web | terminal\)](#).

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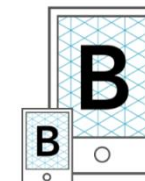
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