

RENEWABLE ENERGY MARKETS ASIA 2024 PANEL DISCUSSION

STATE OF THE MARKETS



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**Renewable Energy
Markets™ Asia 2024**



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Renewable energy certificates, defying criticism, take off in Southeast Asia

The region leads the world in the growth of solar and wind certificate issuances. Such deals are helping developers secure funding and take off in nascent markets, amid accusation that companies buying RECs inflate their green claims.



Liang Lei

Regional correspondent

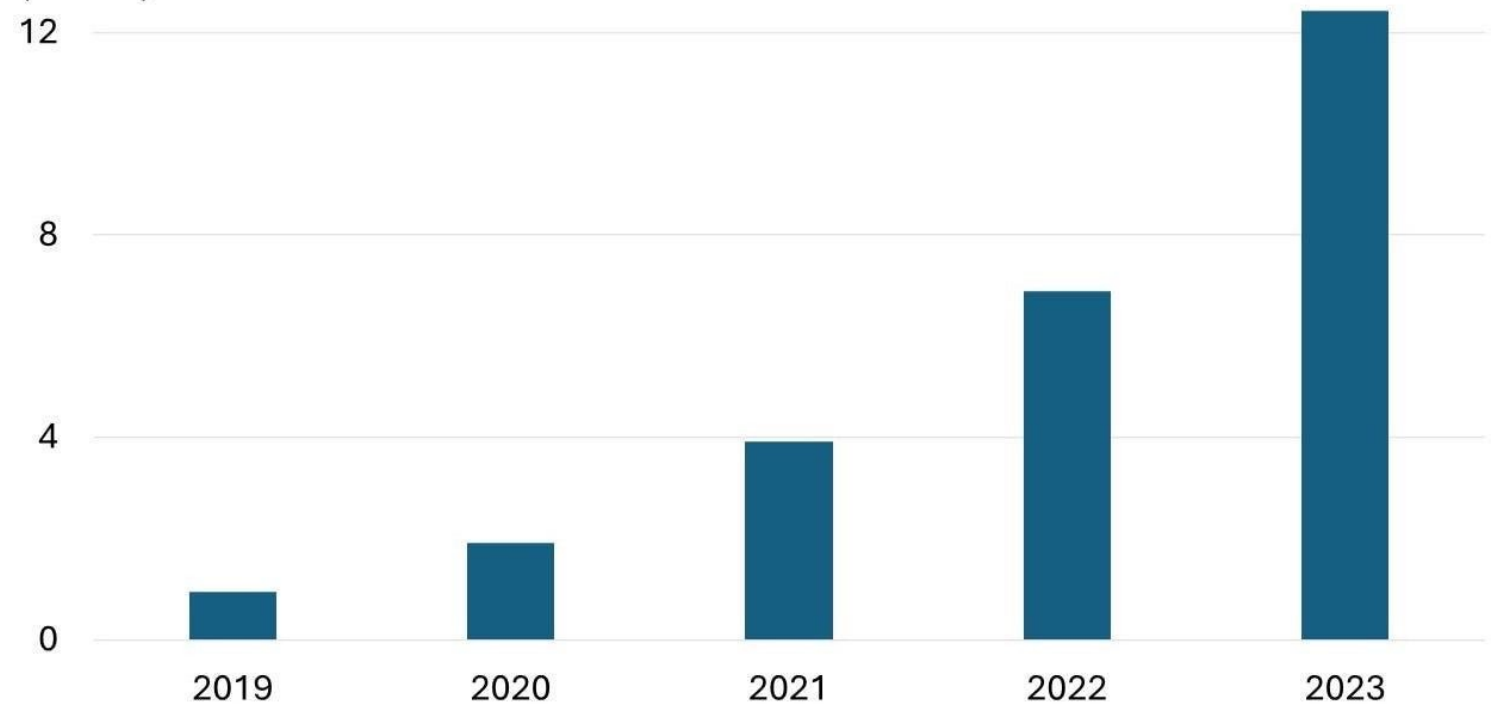
Eco-Business

Solar, wind REC issuance in Southeast Asia leads the world on I-REC, TIGR registries

- Growth rate from 2019 to 2023:
 - Southeast Asia: 13x
 - Global: 9x

Solar, wind REC issuance in Southeast Asia

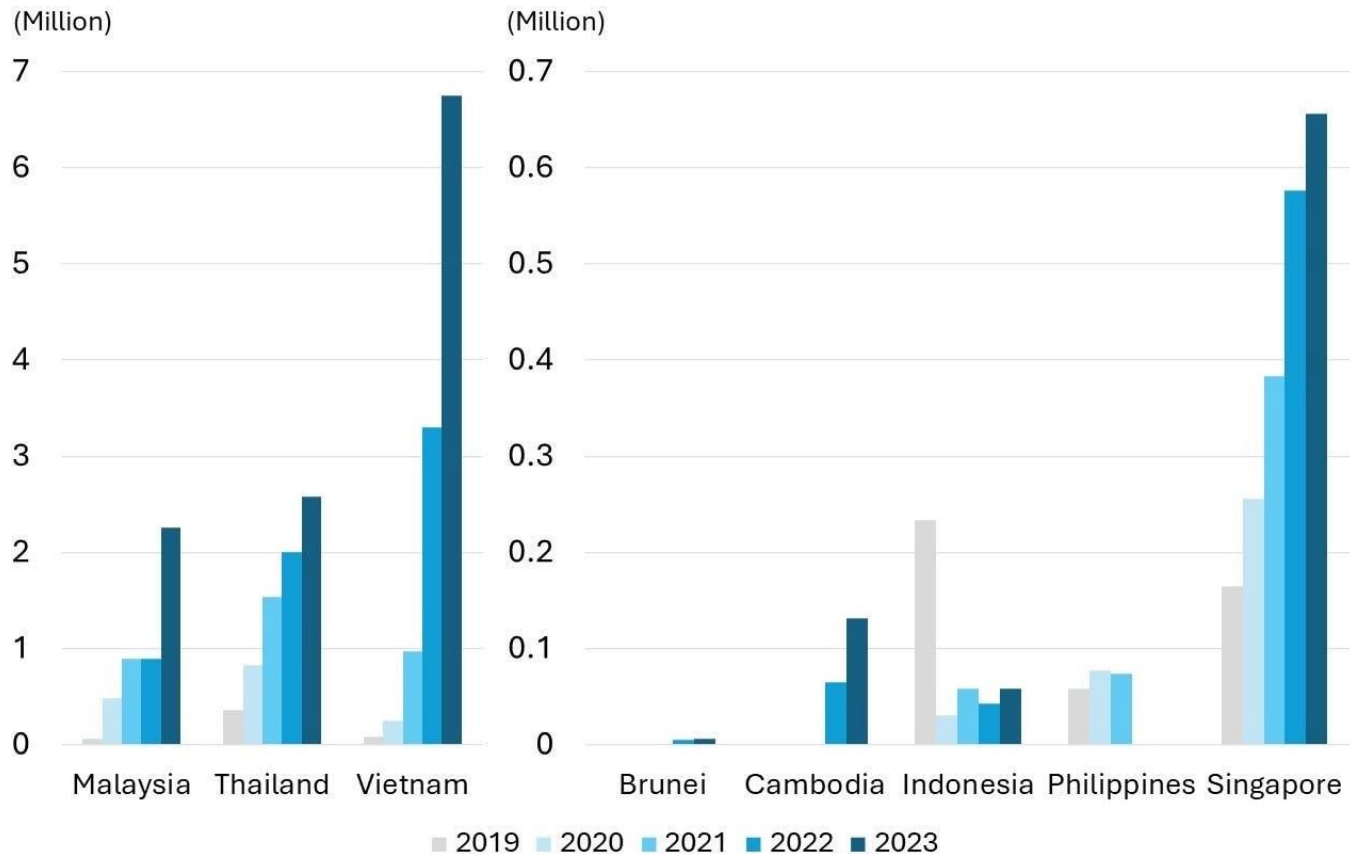
(Million)



Issuances within Southeast Asia varies greatly by country

- E.g. Vietnam's 2023 issuance is 10x of Singapore's
- Laos, Myanmar developers have not issued RECs (at least on I-REC, TIGR)

Solar, wind REC issuance by country



Issuances within Southeast Asia varies greatly by country (price too)

Country	Type	Price
Vietnam	Solar	US\$0.70
Thailand	Solar C wind	US\$2
Indonesia	Solar	US\$3
Malaysia	Solar	US\$5
Singapore	Solar	US\$65

Supply >> demand

Demand >> supply

Insights from developers

- In most SEA markets, RECs provide < 10% revenue (except Singapore)
- Corporate decarbonisation targets expected to push demand, prices up
- RECs could be more important for rooftop solar developers vs utility-scale

Insights from developers

- National utilities are increasingly interested in selling RECs
- Cross border electricity trading increases risk of double counting, protectionist measures
- Benefits for RE developers > risks in over-counting environmental benefits on buyers' end

Other ongoing works/ concerns

Hydropower RECs on Bursa Carbon Exchange: understanding the risks

Companies and investors planning to buy Malaysia's hydropower-backed RECs should consider the greenhouse gasses emitted by their reservoirs, as well as biodiversity and social concerns.



By Dr Pieter E. Stek

4 minute read • April 9, 2024

Following the launch of its carbon market, Malaysian stock exchange-operator Bursa Malaysia has recently geared up for the introduction of a second product on its new Bursa Carbon Exchange (BCX): the Renewable Energy Certificate (REC). RECs are due to be traded on the BCX later [this year](#).

A REC is a tradable financial instrument that represents the addition of a megawatt (MW) of renewable energy to the electricity grid. RECs are usually bought by electricity users who cannot access enough renewable energy directly, but still want 'virtual' renewable energy. Buyers might include large corporations who want renewable energy for their offices, manufacturers looking to shrink their carbon footprint, and environmentally conscious apartment dwellers who cannot install solar panels.



Bursa Carbon Exchange aims to

In December 2023, on the sidelines of the COP28 conference in Dubai, Bursa Malaysia, Sarawak Energy and two foreign partners signed a [memorandum](#) to explore the sale of RECs based on Sarawak Energy's large-scale hydropower.

At first glance, this makes good business sense: Sarawak

| 04.08.2024 | SARAH.HUCKINS@WRI.ORG

GHG Protocol Releases Market-based Accounting Approaches Survey Draft Summary Report

Market-based Accounting Approaches Survey Summary Draft Now Available

Between November 2022 and March 2023, GHG Protocol invited interested stakeholders to **provide feedback** via four surveys on the *Corporate Standard*, the *Scope 2 Guidance*, the *Scope 3 Standard*, and market-based accounting approaches.

GHG Protocol received 343 responses to the Market-based Accounting Approaches Survey. This **Draft Summary Report** provides a detailed overview of this stakeholder feedback. The report builds on the "**Topline Findings from Market-based Accounting Approaches Survey**" webinar, hosted by GHG Protocol in October 2023, by providing a more comprehensive and detailed summary of responses. Materials for the other three survey workstreams can be **found here**.

[Read the Draft Summary Report](#)

Review Period

GHG Protocol encourages all interested stakeholders to read the Draft Summary Report. To ensure that GHG Protocol is accurately representing survey feedback, GHG Protocol is holding a review period to invite comments only from individuals/organizations who

Thank you!

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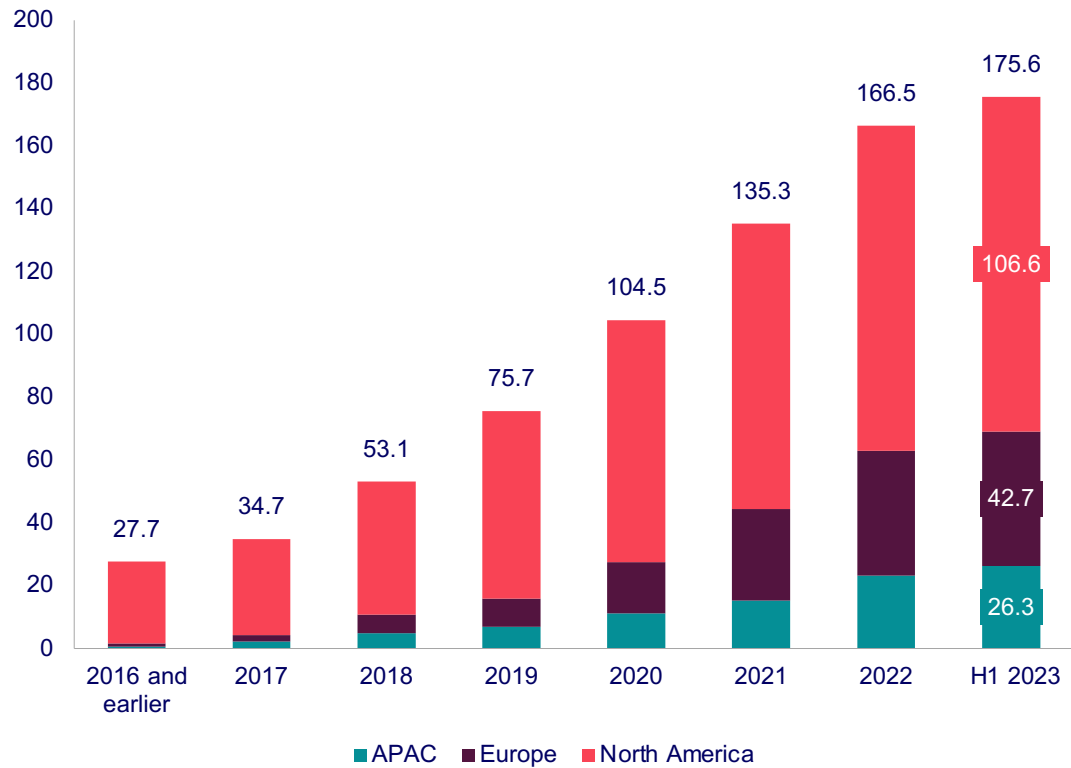
Route to green energy: Asia Pacific's corporate renewable procurement

Corporate renewable power purchase agreements
sets a record in 2023 as costs decline

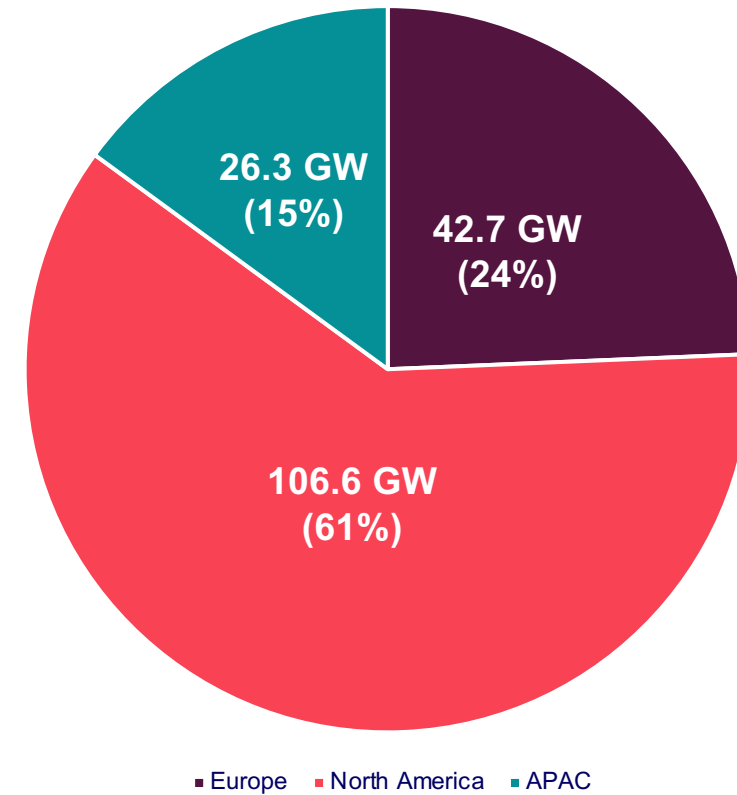


Although corporate renewable PPA capacity in Asia Pacific is growing, it accounts for just 15% of the global market

Cumulative global corporate renewable PPA capacity (GW)

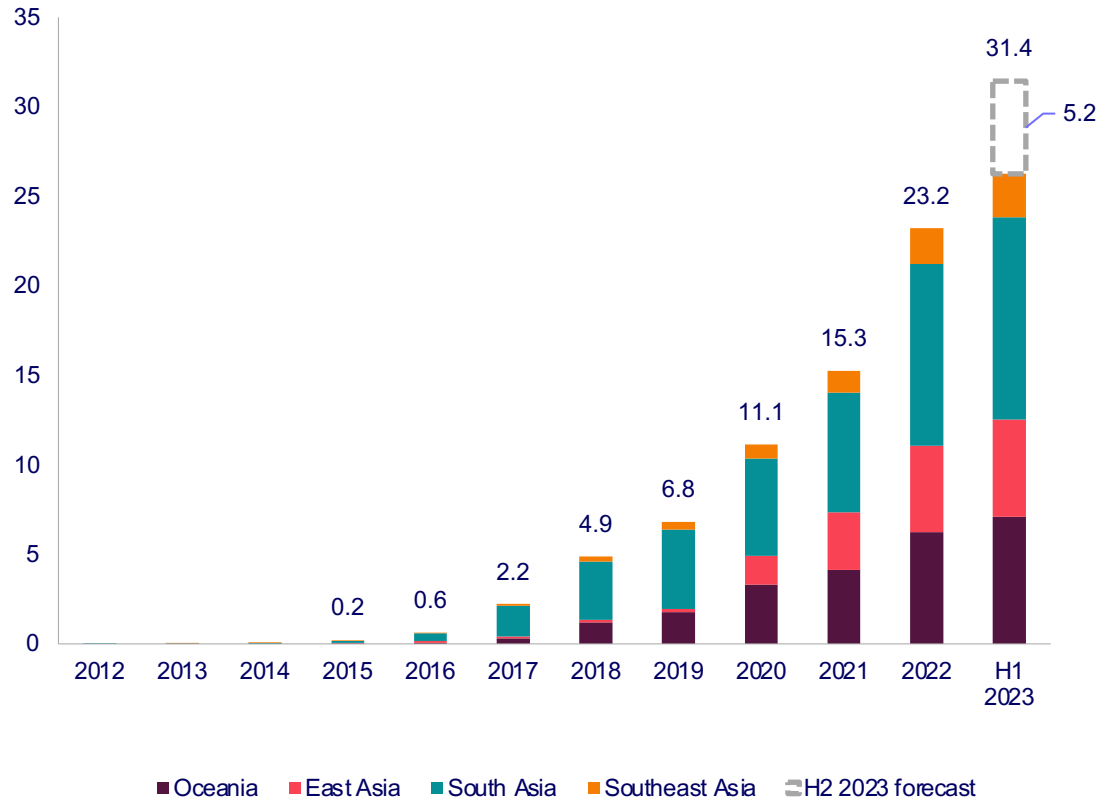


Share of global corporate renewable PPA capacity

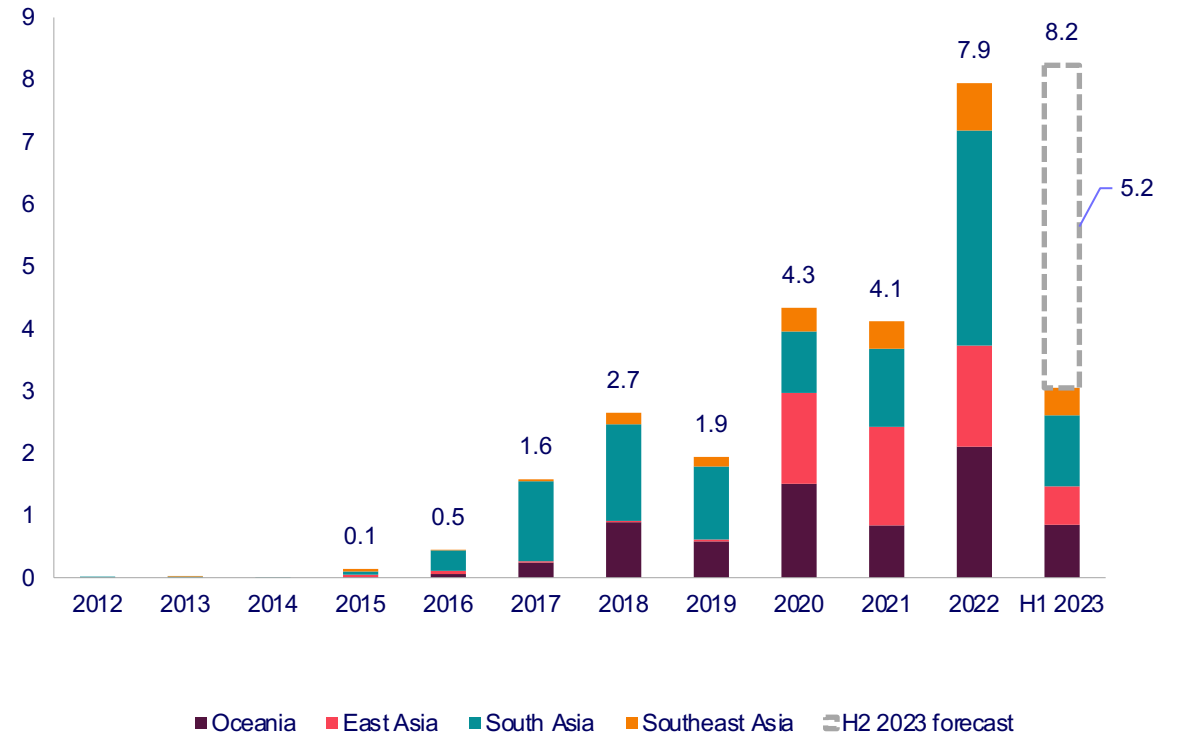


Corporate PPA volumes in Asia Pacific are on pace to reach another record level for two years in a row with 8.2 GW of additions expected in 2023, higher than the 7.9 GW registered in 2022

Cumulative contracted corporate PPA capacity in APAC (GW)

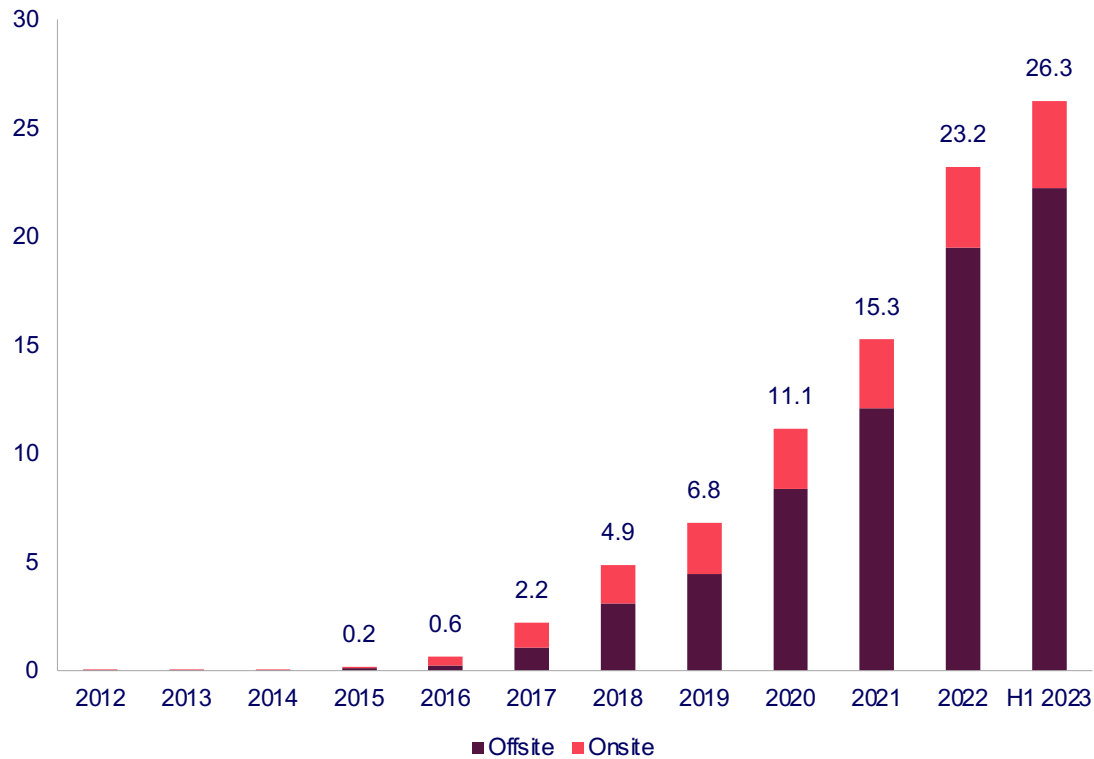


Incremental contracted corporate PPA capacity additions (GW)

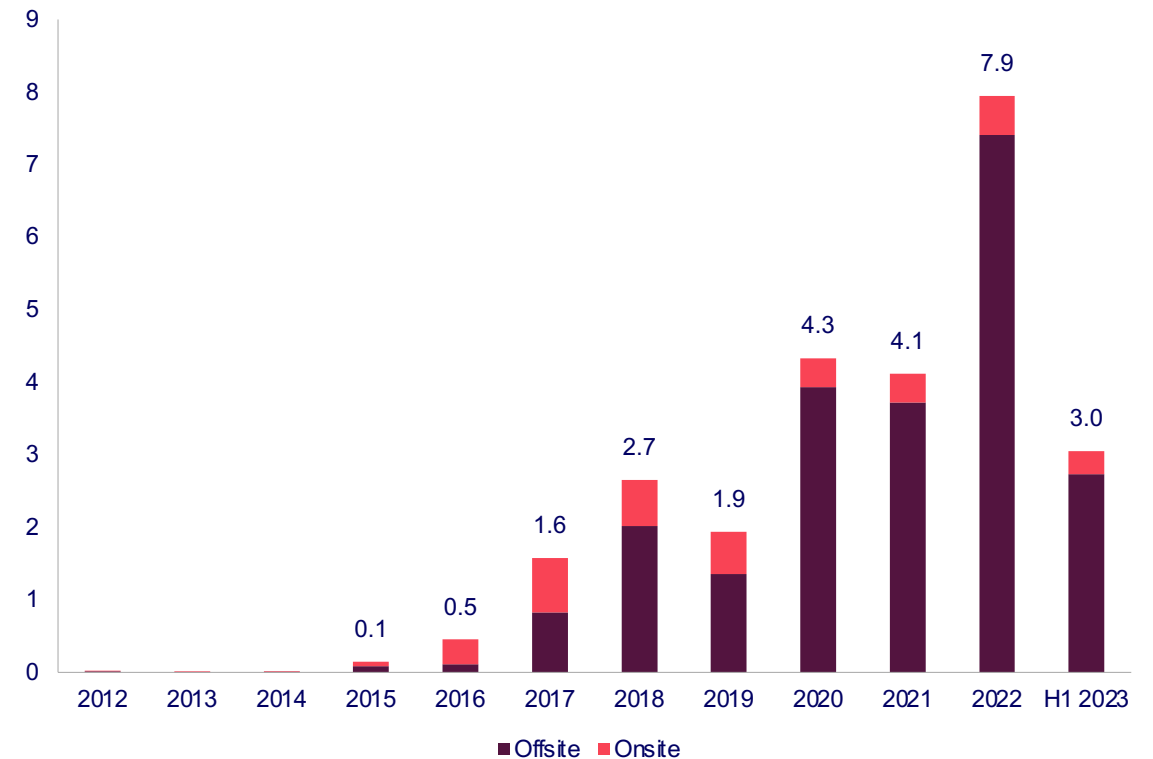


Offsite corporate PPA deals drive the growth in corporate renewable procurement in Asia Pacific, increasing to 85% of the total contracted capacity

Cumulative corporate PPA capacity by project location (GW)

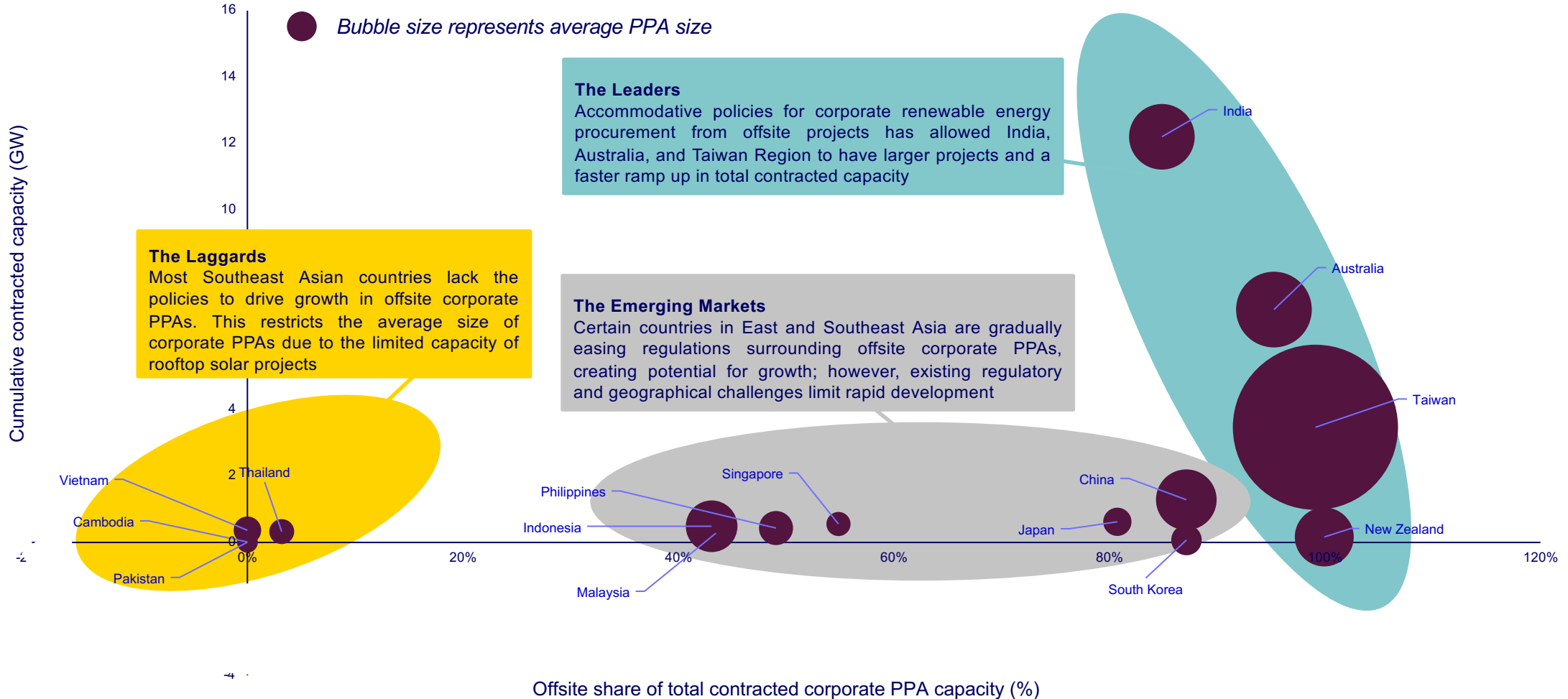


Incremental contracted corporate PPA capacity by project location (GW)



Countries that have favourable policies for offsite corporate energy procurement have seen the greatest levels of development within the corporate PPA market

Cumulative contracted corporate PPA capacity (GW), average project size (MW) and cumulative corporate PPA capacity share by project location (%)

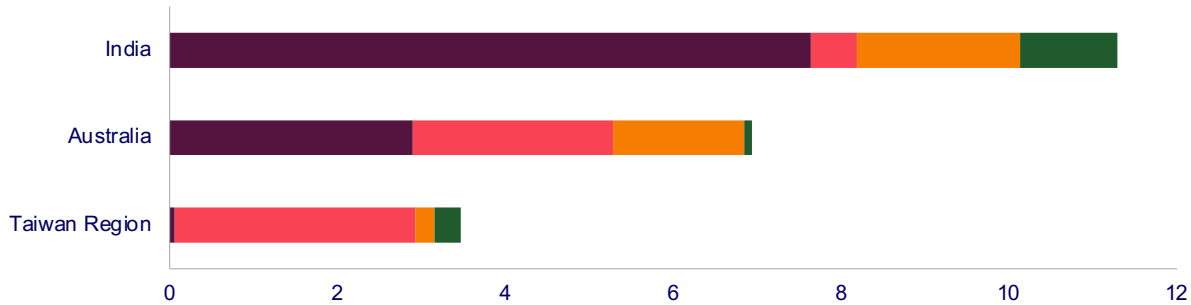


With increasing reporting and regulatory requirement, more favourable policies and option are on the way

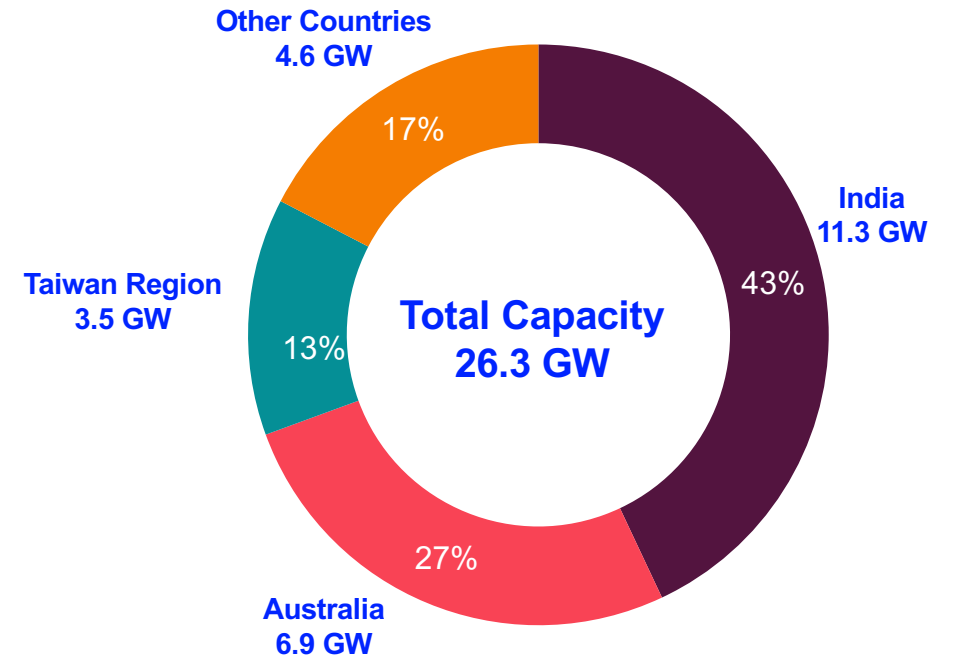
Label guide		Market type		CPPA		
		Countries	Regulated, wholesale or hybrid	On site	Off- Site	VPPA
Market type	Regulated market					
	Hybrid Mix of regulated and wholesale elements	Australia	Wholesale market			
		New Zealand				
		Singapore				
		Japan				
	Philippines					
Renewables and capacity market policy	Wholesale market					
	Yes Policy scheme offered in the market	South Korea	Hybrid of regulated and market			
		India				
		Vietnam				
		China				
		Indonesia				
	No Policy scheme absent in the market	Malaysia	Regulated			
		Taiwan Region				
		Thailand				

India, Australia, and the Taiwan Region top Asia Pacific in total corporate PPA procurement capacity

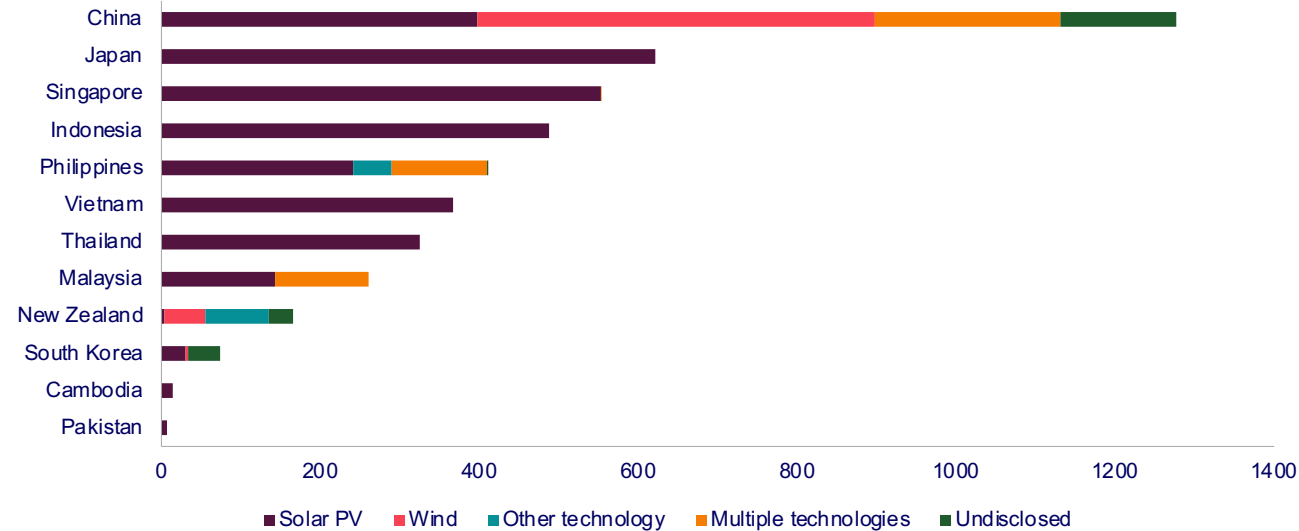
Cumulative contracted capacity (GW) by country/region



Cumulative contracted capacity (GW) by region

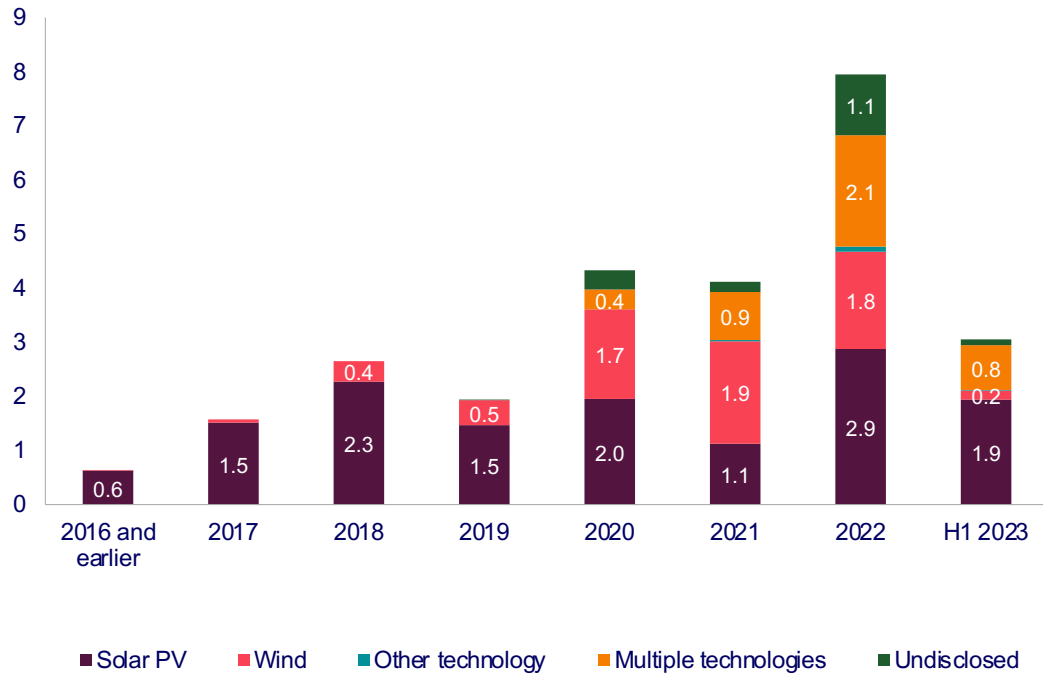


Cumulative contracted capacity (MW) by country

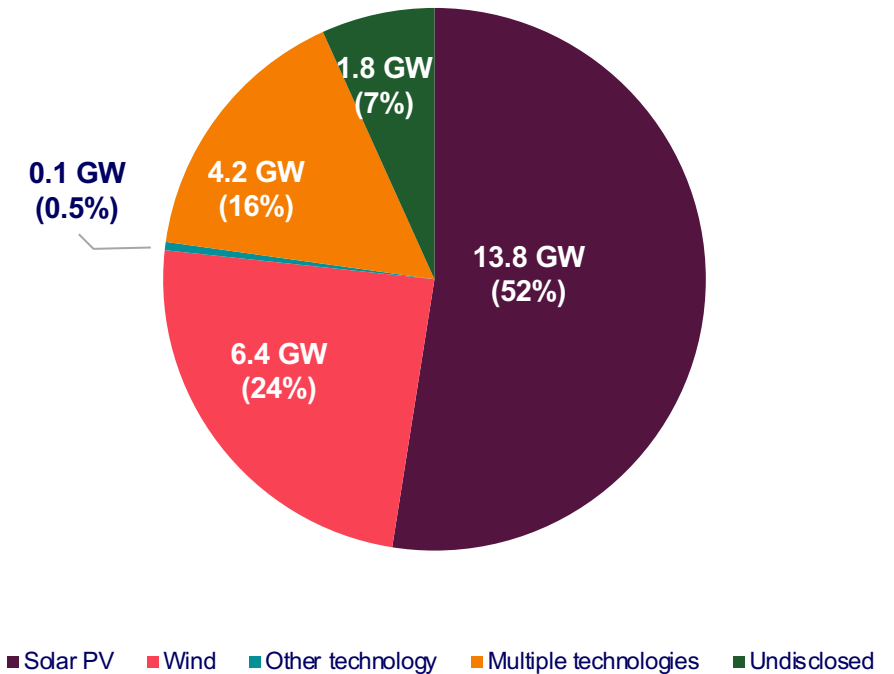


Solar dominates the corporate renewable procurement share accounting for 52% of Asia Pacific's cumulative contracted corporate PPA share as of H1 2023

Incremental contracted corporate PPA capacity by technology (GW)



Cumulative corporate PPA capacity share by technology as of H1 2023 (GW)



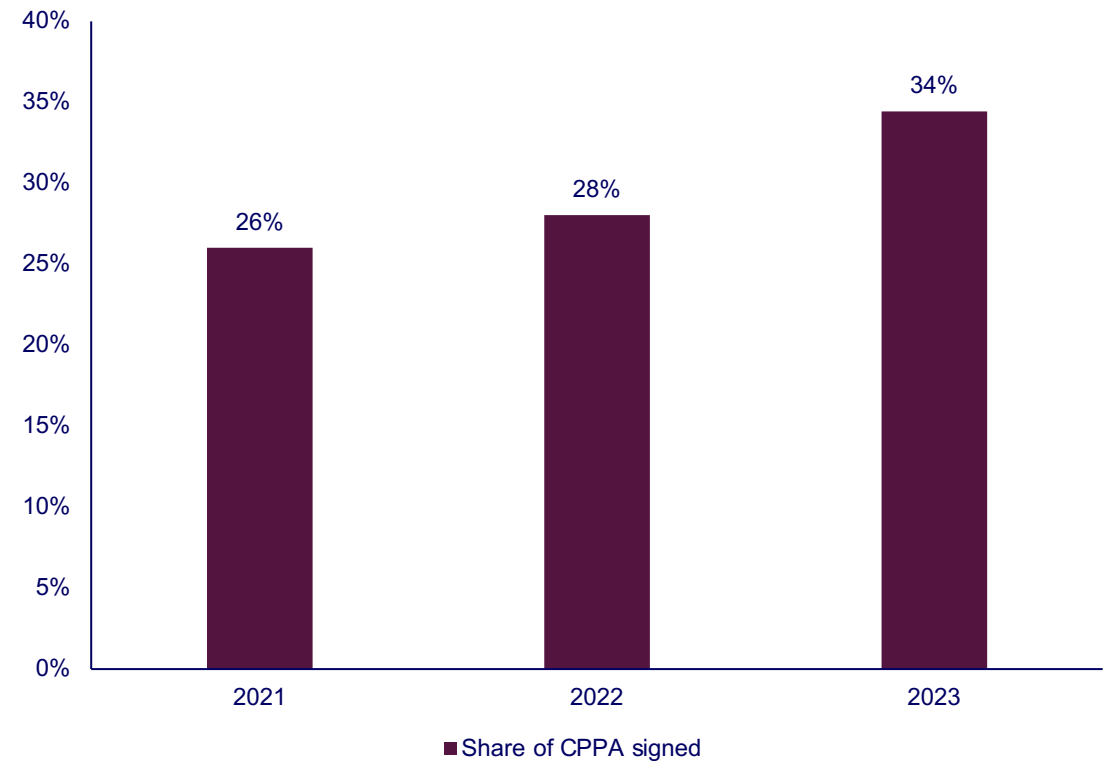
*Other technology includes geothermal and hydro projects

The number of RE100 members that have signed corporate PPA deals in APAC have reached a record high of 62 in 2023 or 34%, 6% higher than in 2022

Number of RE100 members in APAC from 2021 to 2023

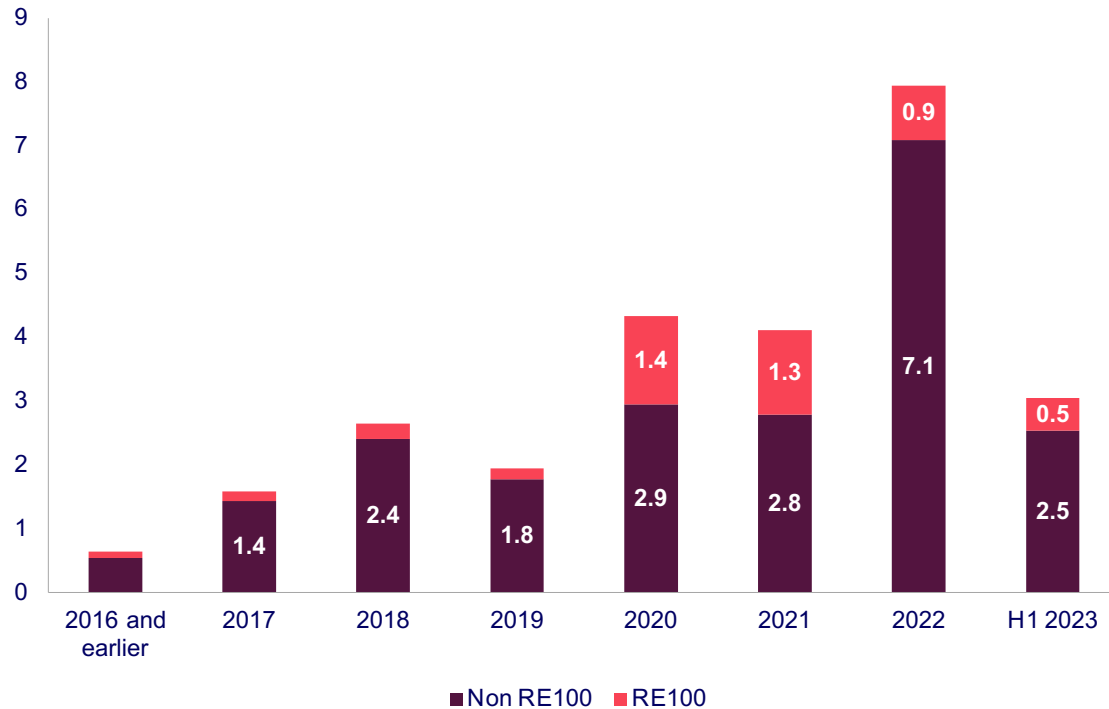


Percentage share of RE100 companies in APAC that signed CPPA deal

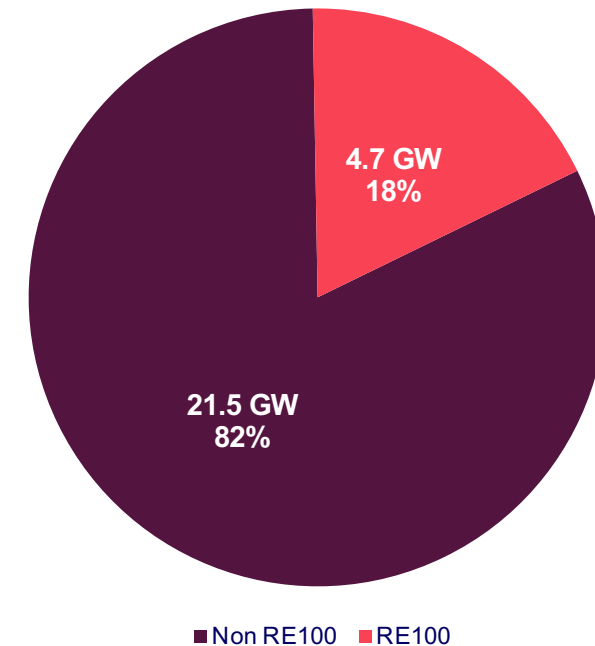


Non-RE100 companies have contracted 82% of all corporate PPA capacity in Asia Pacific

Incremental contracted corporate PPA capacity additions (GW)



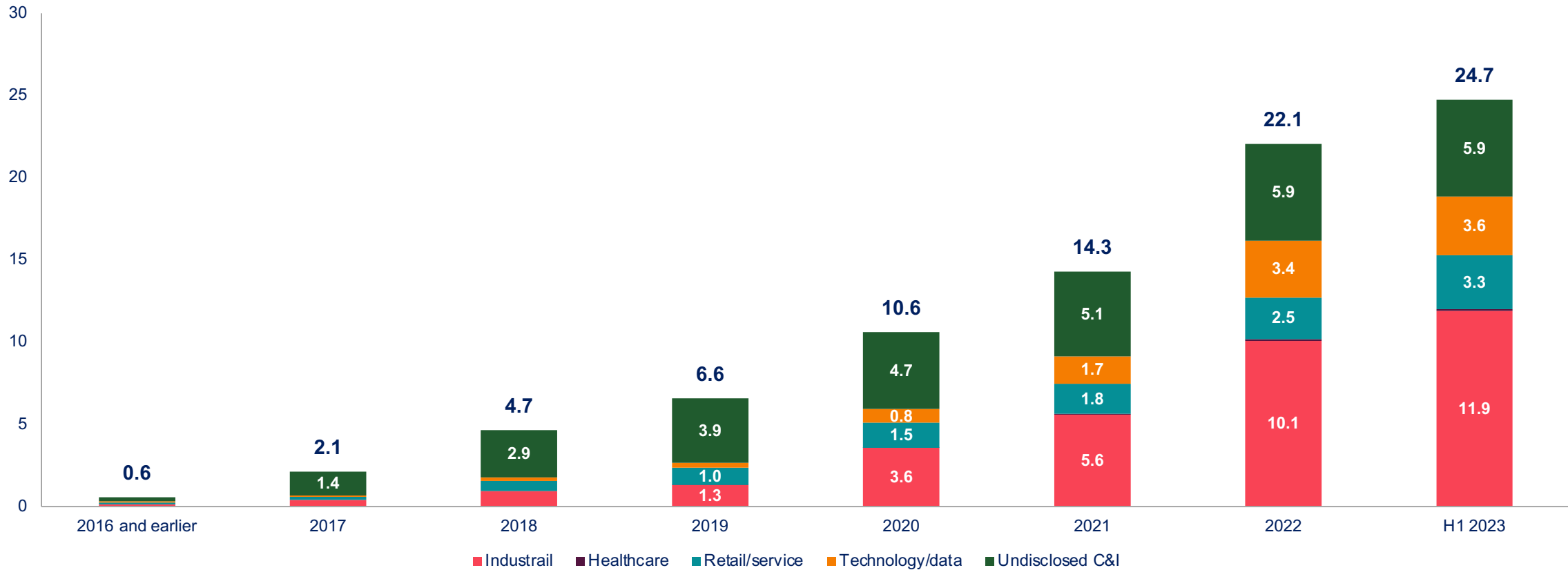
Share of contracted corporate PPA capacity (%) by RE100 status



- **Most companies that signed corporate PPAs in Asia Pacific have not committed to RE100**, as limited regulations permitting large-scale procurement of renewables in the region forms a major barrier.

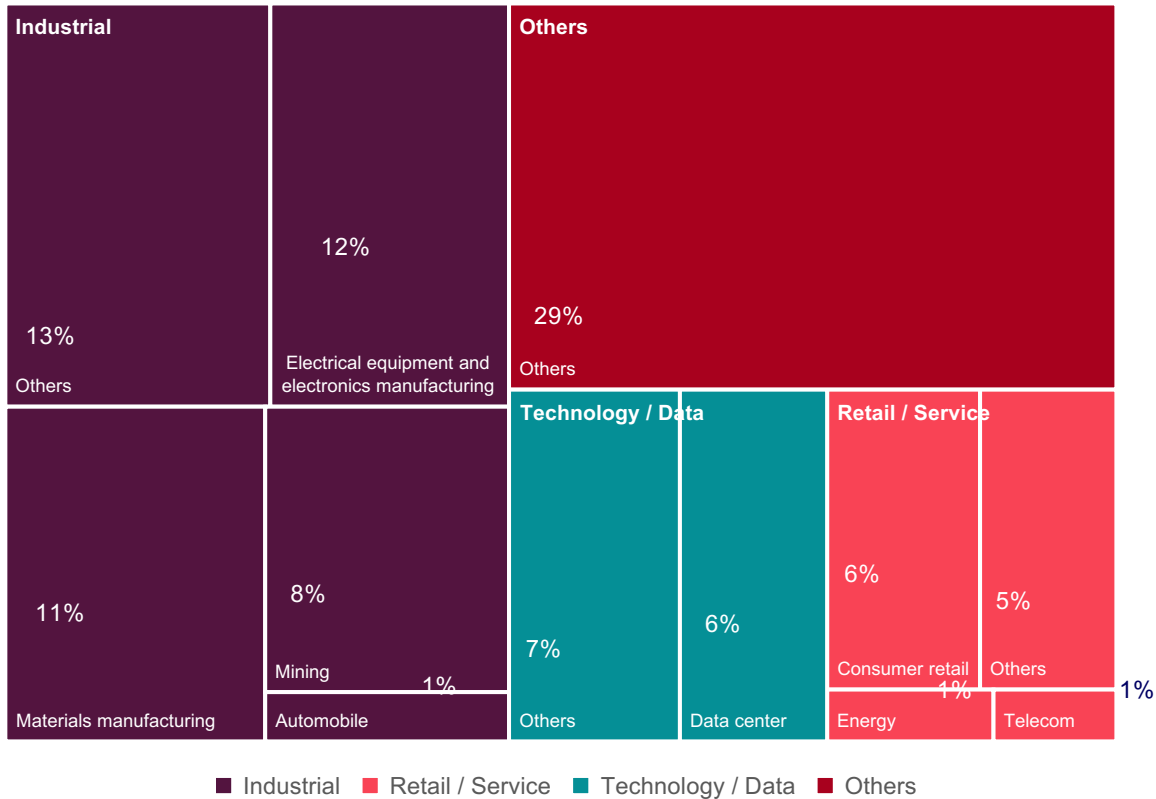
Industrial offtakers make up the largest sector of contracted corporate renewable PPA capacity at 45%, as it is the most power intensive and carbon-emitting sector

Cumulative corporate PPA contracted capacity by offtaker type (GW)



Large energy users in the industrial, retail and technology sectors are the primary offtakers, accounting for 71% of the total corporate PPAs contracted in Asia Pacific

Offtaker industry sub-categories in Asia Pacific



Industrial offtakers: 11.9 GW cumulative contracted capacity

- Electrical equipment and electronics manufacturing, especially chipmaking, continue to lead corporate renewables procurement.
- Materials manufacturing, especially in the steel and cement sectors, also procure large amounts of renewable energy through PPAs.

Technology & Data offtakers: 3.6 GW cumulative contracted capacity

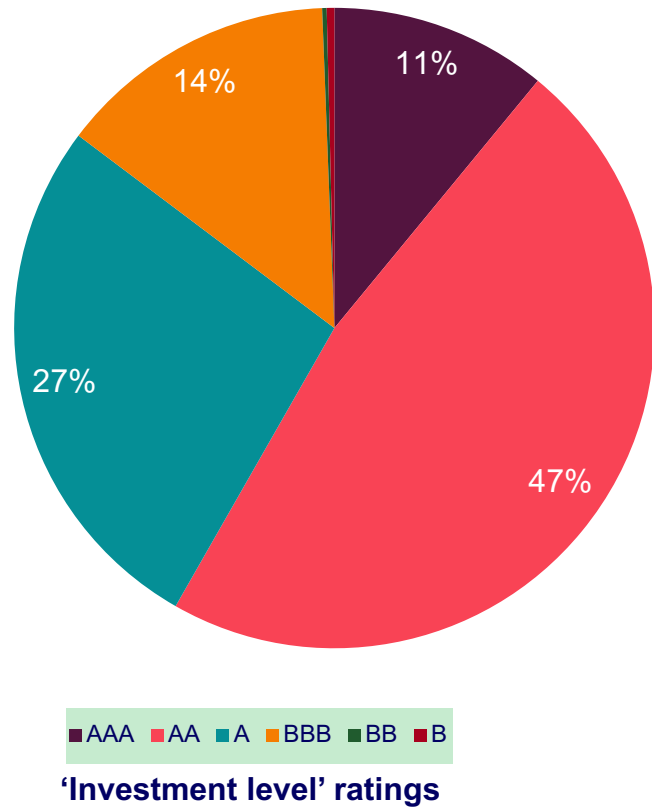
- Contracted capacity additions have grown in the last 1-2 years, fueled by large agreements with telecommunications and cloud service providers.

Retail & service offtakers: 3.3 GW cumulative contracted capacity

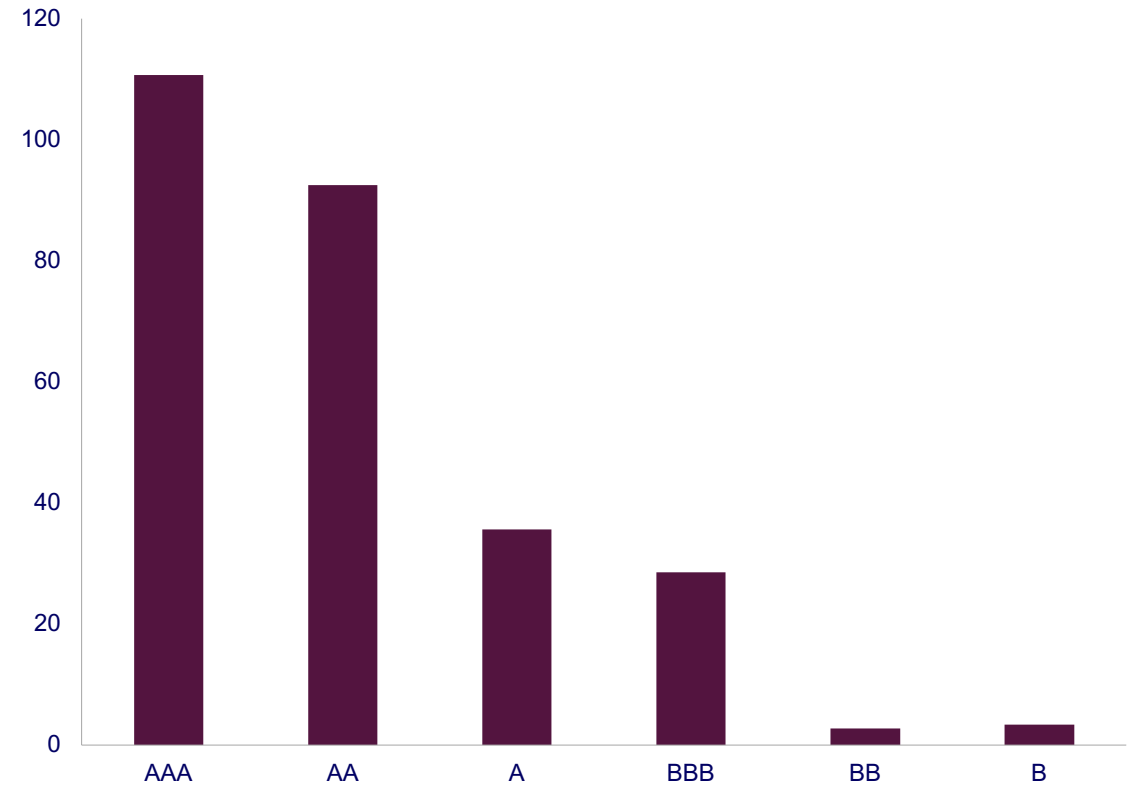
- Australian retail conglomerates continue to dominate corporate renewable PPA volumes.

Developers strongly prefer corporate buyers with a strong credit rating: nearly all (99%) credit-rated corporations with corporate PPA deals have at least an 'investment level' grade rating of BBB- or higher

Share of contracted capacity by offtaker credit rating in Asia Pacific (%)



Average corporate PPA volume by offtaker credit rating in Asia Pacific (MW)



Note: figures presented include only corporate PPAs whose offtakers have received long-term issuer credit ratings by S&P Global Ratings.

For questions and comments, please contact our team

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