

Overview:

Corporate Procurement of Renewable Energy in Southeast Asia

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Bloomberg New Energy Finance

Corporations Purchased Record Amounts of Clean Power in 2017



Microsoft is buying solar energy from Singapore rooftops

VIR Vietnam Investment Review

Direct PPAs spark renewable energy

pV magazine

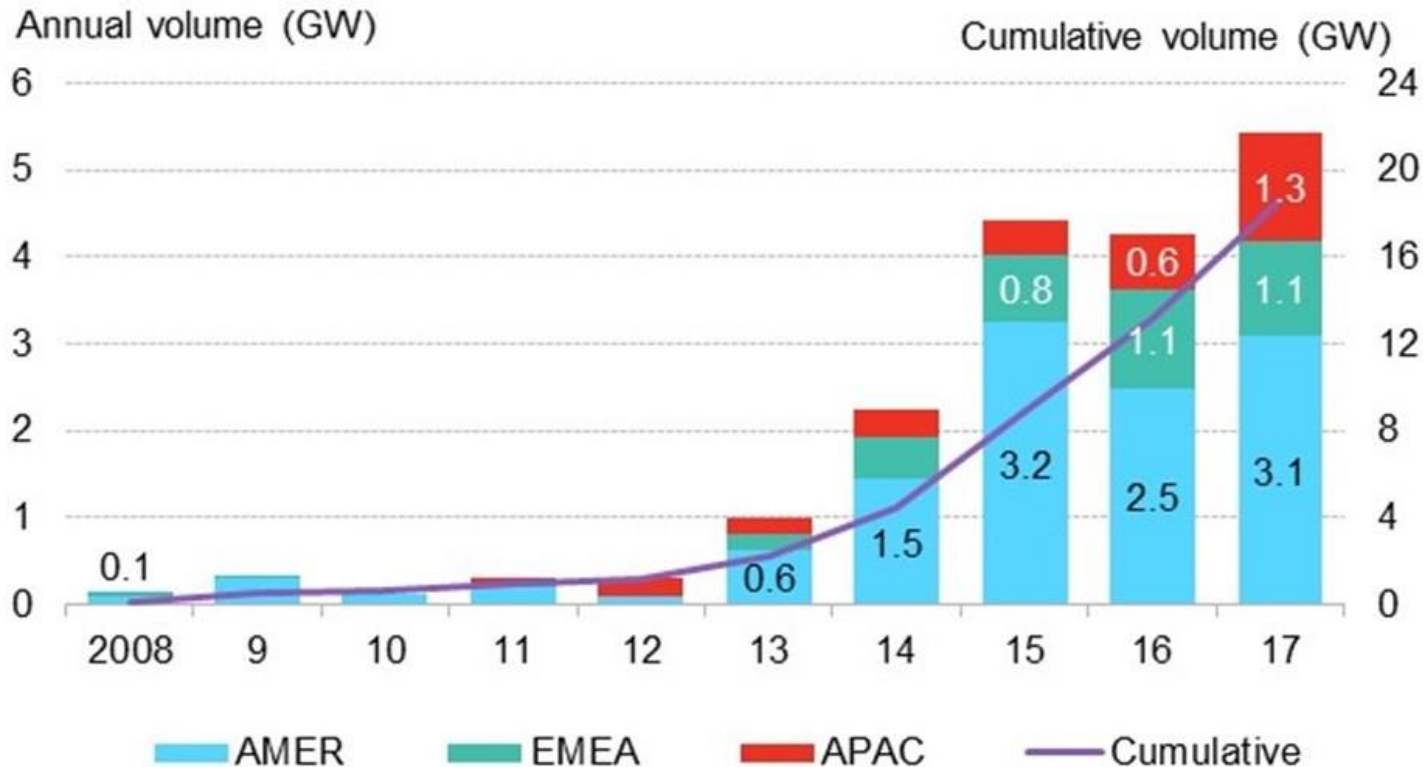
Cleantech Solar awarded 27 MW of rooftop solar across three Asian countries

THE NATION

SHARP TO DEVELOP 16MW ROOFTOP PV PORTFOLIO IN THAILAND

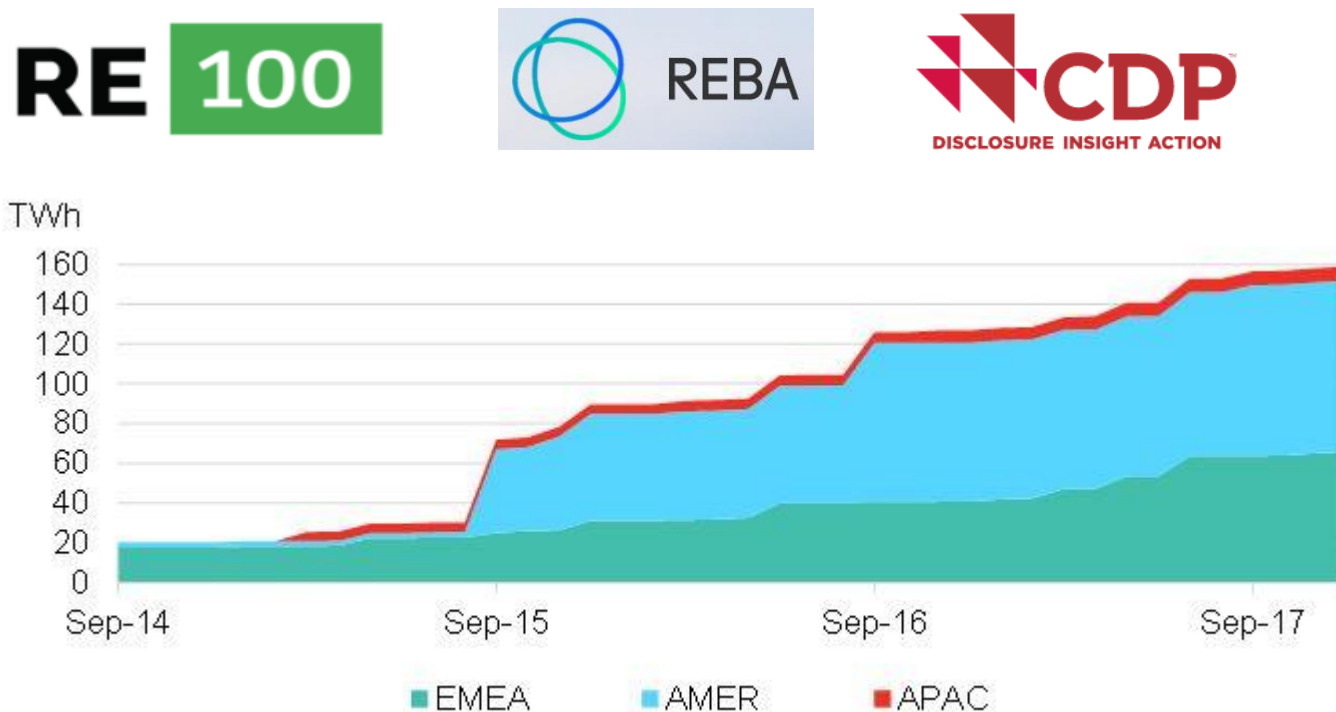
Current State of Corporate RE Buying

- 19GW of clean power bought by corporates since 2008
- 75%+ of contracting in the last 3 years



Drivers of Corporate RE Procurement

1. Sustainability agendas and commitments



Bloomberg New EnergyFinance, 2018

- 130 global companies committed to 100% renewable electricity (to-date)
- 172 terawatt-hours of additional clean energy generation by 2030

Drivers of Corporate RE Procurement

2. Cost-effectiveness and operational advantages

- Cheaper than the grid for C&I in several markets
- Long-term pricing predictability for C&I consumers
- Reliability and resilience

How?

- Falling hardware costs
- Falling soft costs (installation, etc.)
- Lower cost of capital
- Off-taker attractiveness/bankability

What Do Most Corporate RE Projects Look Like To-Date?

- **Primarily limited to on-site generation**
 - Direct PPAs; long-term leases; or lease-to-own
 - Limited instances of outright asset purchase
- **Primarily “self-consumption” / “behind the meter”**
 - Lack of ability to export to grid
 - Lack of ability to monetize excess RE-based electricity
- **The exceptions:**
 - Wheeling / off-site RE PPAs (mostly Singapore, to-date)

What's Next for Corporate RE Procurement in SE Asia?

Policy & regulation:

- Moving from regulated to liberalized power markets
- Recognizing and encouraging decentralized generation
 - On-site generation:
 - Net-metering at right size
 - Legality of 3rd party ownership and financing models
- Wheeling and open access
 - DPPAs

Open opportunities for:

- RE to compete with traditional power; and
- for corporate energy users to choose