

# MARKET SPOTLIGHT: MALAYSIA



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**Tuesday, 21 April 2:45-3:30 PM**

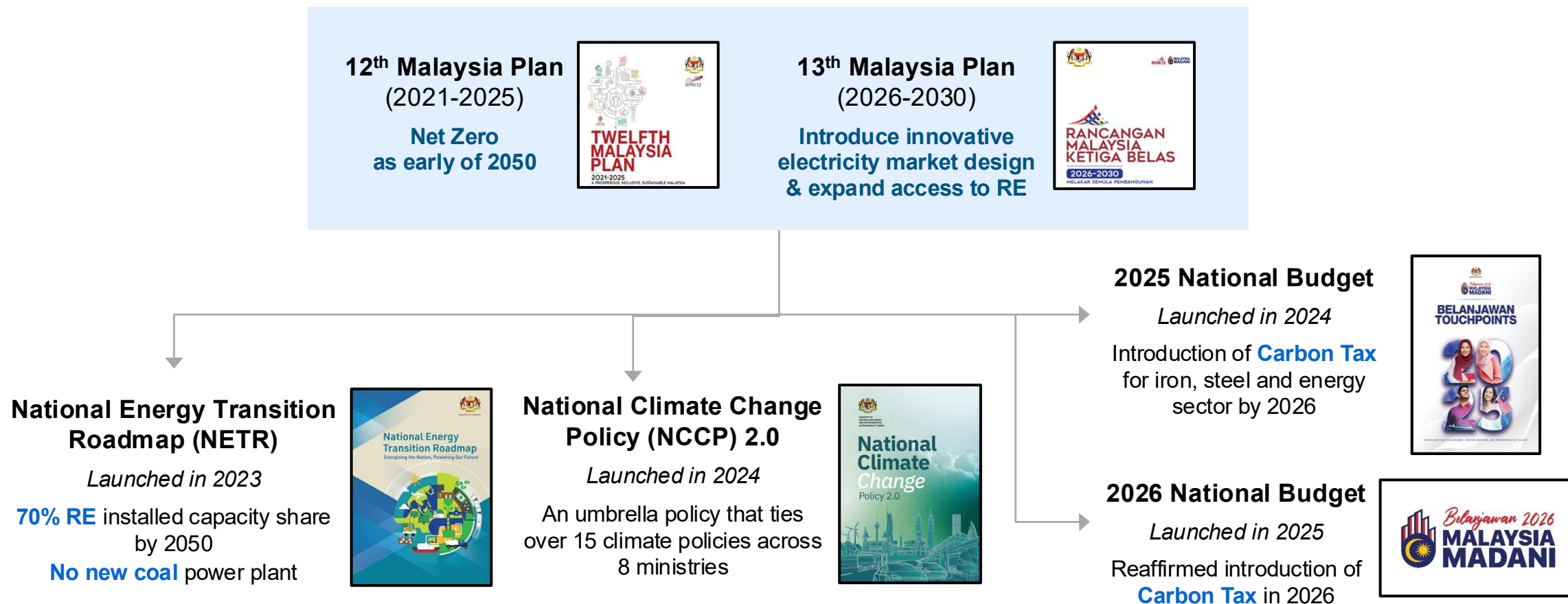


# The Malaysian Renewable Energy Market: Ambition vs Execution

Mike Thomas

April 2026

# Malaysia, has signaled a new age of energy aspirations and reforms



The reforms and directions today reflect what happens when three decades of gradual structural and policy change finally meet up with rapidly changing technology and generation sector economics and customer opportunities

# Market opening-related reforms continue, though the pace is not always “fast enough” and the outcomes are not always “clear enough”

## Workshop on the Malaysian Electricity Sector Direction (2025)

### Purpose

Engage with market participants on the current state of generation procurement and areas for potential further market evolution

**72** Participants in total

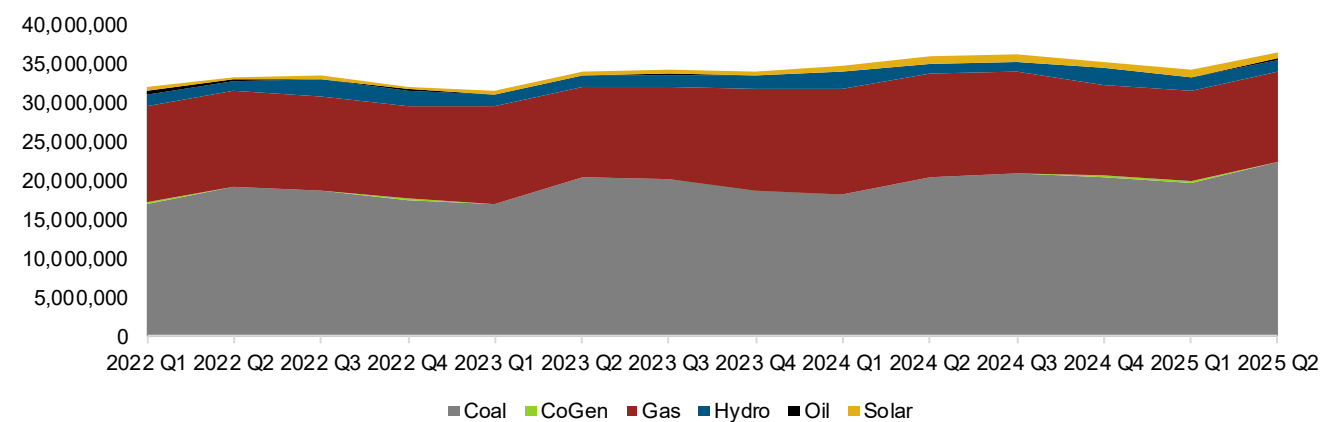
**55** Organisations from across the value chain (including thermal & RE generators, load-serving entities, large consumers, industry associations, market entities, regulator and policy-makers)



After three decades of market advisory in Malaysia we see some old ideas as well as some new ideas starting to happen

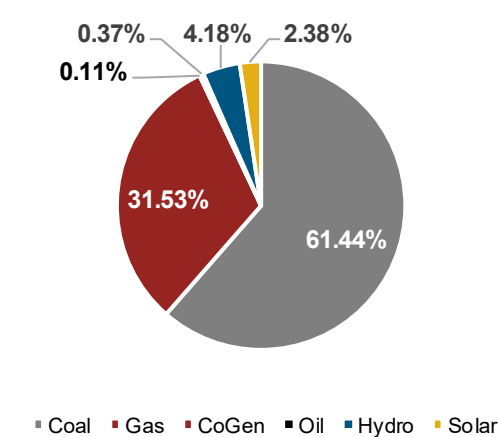
# Peninsular Malaysia’s electricity supply is underpinned by coal and gas – the huge “gas layer” is a robust, economic and “magnetic force for attracting RE”

Total Generation Mix from 2023 to Date by Quarters, MWh

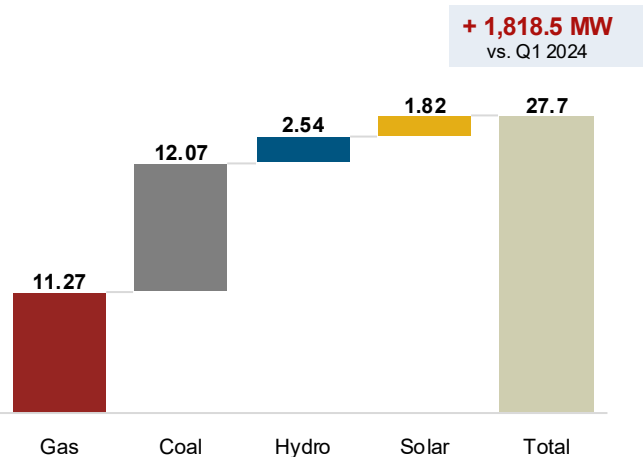


- The government mandated a full coal phase-out by 2050 under the National Energy Transition Roadmap (NETR)
- **Solar loves gas – it loves to displace gas – the economics of solar-displacing-gas is one of the most robust ASEAN fundamental supports to solar uptake**
- Commercially viable wind resources are not material due to low wind speeds

Generation Mix (Q2 2025), %



Capacity Mix (Q2 2025), GW



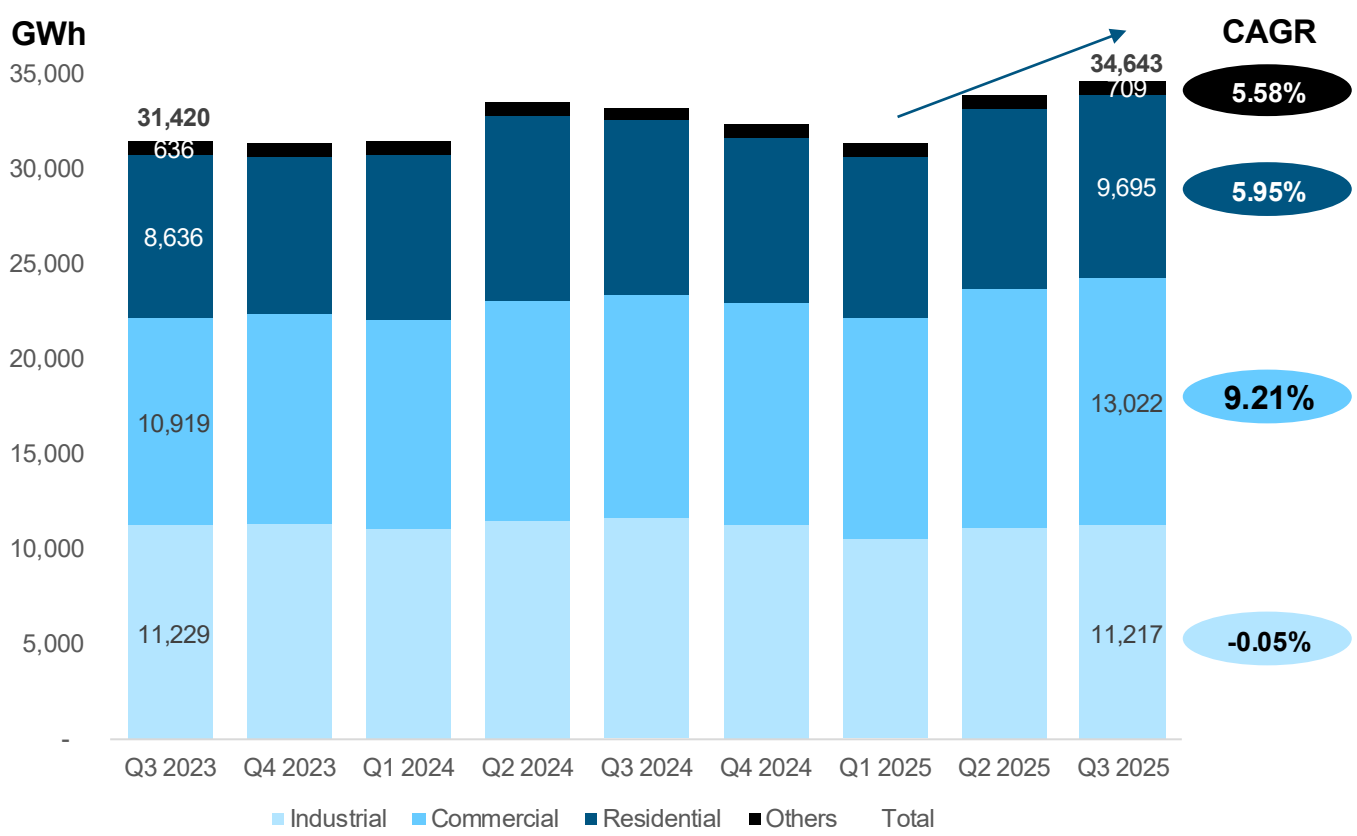
By Q2 2025, solar power was contributing only 2% to the total generation mix.

Its time for a change

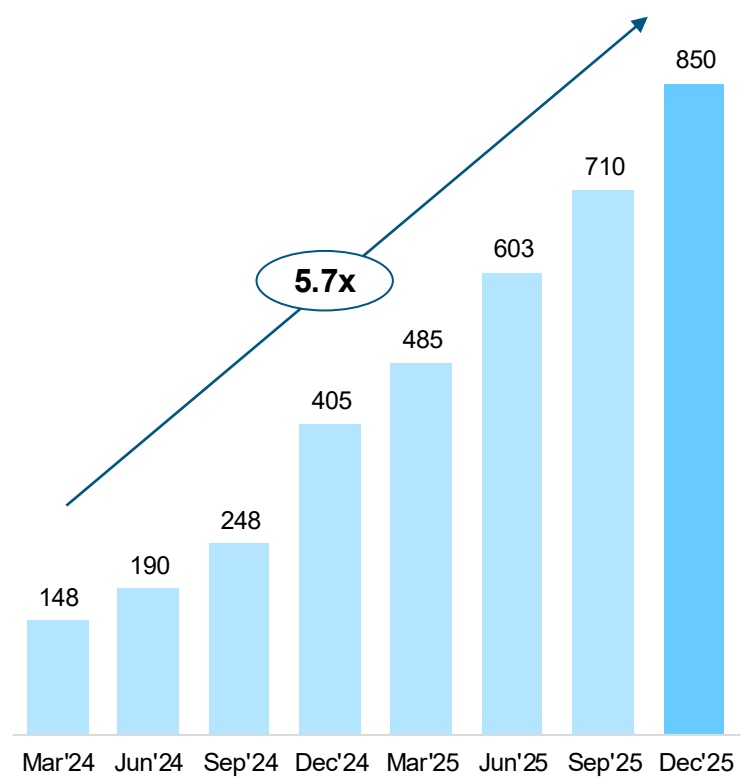
Note: (1) Capacity Mix is derived based on Gas, Coal, Hydro from latest GSO published data as of January 2024 and Solar is from LSS progress from ST  
Source: Single Buyer (SB), Suruhanjaya Tenaga (ST), TLG analysis

# Accelerating electricity demand growth anchored by Commercial and Industrial activities with upside from data centres developments

Peninsular Malaysia's Quarterly Electricity Consumption by Sector, GWh

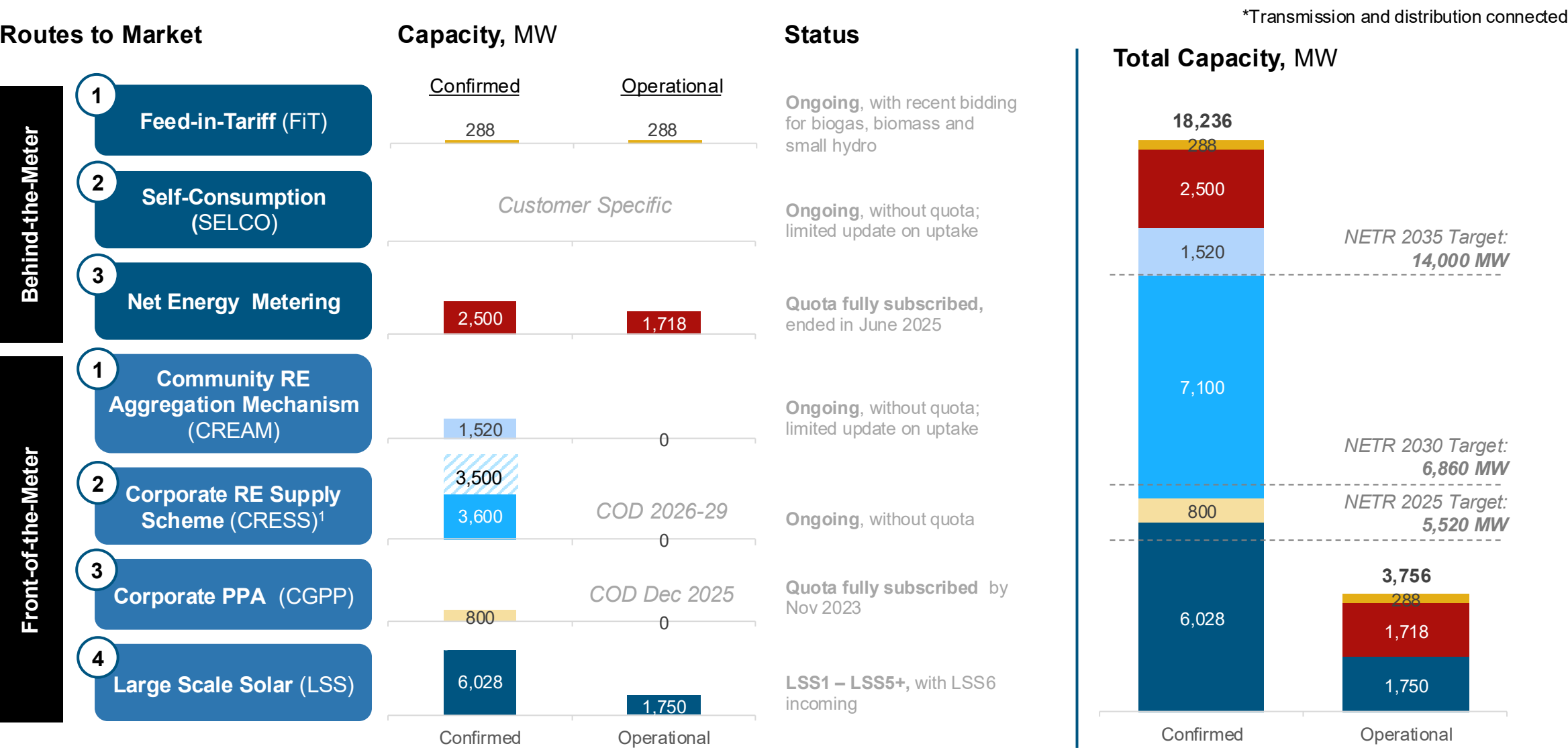


Data Centre Load Utilisation as of Sept 2025, MW



We are also seeing a shift towards “bring your own generation” emerging for ultra large loads.  
The necessary frameworks mostly exist but are not mature

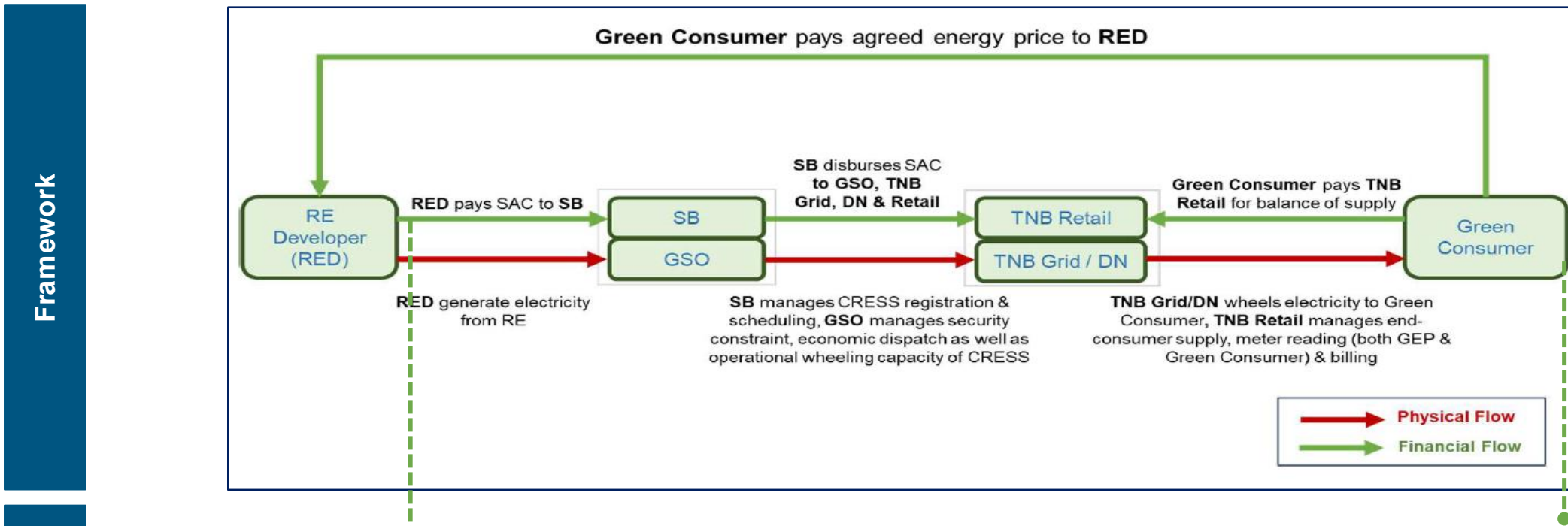
# My, what a difference a year makes! Confirmed solar capacity races ahead of plan: confirmed ~17 GW beats 2035 target



Note: (1) Confirmed projects include projects with ESA signed/under construction  
Source: ST, as of October 2025; news articles

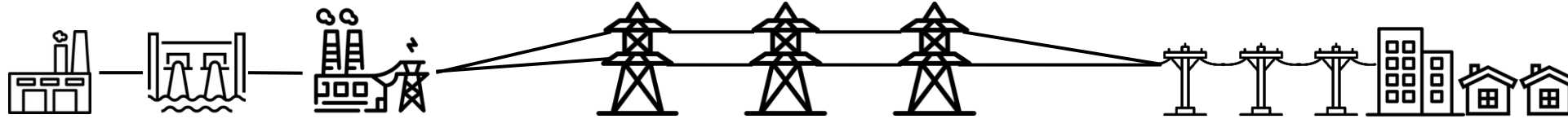
# The System Access Charge is the lightning rod of CRESS, and we argue that CRESS projects should also be able to sell into NEDA (not allowed, currently)

## Corporate Renewable Energy Supply Scheme (CRESS)



- Details
- **The System Access Charge (SAC) has been set** at 45 sen/kWh (later revised to 40 sen/kWh) for non-firm supply and 25 sen/kWh (revised to 20 sen/kWh) for firm supply for the next three-years regulatory period
  - To ensure long-term cost stability for investors, **SAC adjustments are capped at a maximum of 15%** per regulatory period.
  - **Participation is now open to existing electricity users**, in addition to new users, who wish to obtain direct green electricity supply from RE generators.

# The System Access Charge is not built up from transparent building blocks



| Ancillary Services / Balancing Costs                                                                                                                                                                                                                                                                                                       | + | Transmission Costs                                                                                                                                                                                                                                                                                                                       | + | Distribution Costs (if applicable)                                                                                                                                                                                                                                                                                                                               | + | OTHER??                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>Funds essential services to manage grid stability such as frequency and voltage control</li><li>Enables system operators to procure reserves and manage fluctuations</li><li>Addresses the variability of renewable generation and facilitating grid flexibility to support RE integration</li></ul> |   | <ul style="list-style-type: none"><li>Aims to recover capital and operational expenditures for transmission assets i.e., lines &amp; substations.</li><li>Allocates funding for system enhancements and capacity expansions</li><li>Ensures adequate cost recovery mechanisms for asset depreciation and returns on investment</li></ul> |   | <ul style="list-style-type: none"><li>Aims to recover costs for operating and maintaining the distribution network i.e., poles, transformers, meters</li><li>Supports investments in network upgrades and advanced metering infrastructure.</li><li>Provides cost recovery for asset depreciation, returns on investment, and new customer connections</li></ul> |   | <p>Costs considered to be recovered in the normal tariff that might be otherwise avoided</p> |

**A key challenge is to contrast the potential direction of the SAC over time with the potential volatility of the AFA**

# SAC Trajectory Expected to be Driven by Residual Network Cost Recovery, Uptake Dilution, and Policy Calibration

## Key Developments

- Contingent capex introduces potential upward pressure on residual network costs/ SAC, but only to the extent such costs are **non-avoidable** when customers switch to CRESS.
- SAC recovery depends on **dilution through CRESS uptake and total load growth**; stronger participation reduces per-kWh SAC pressure over time.
- Timing of grid investment** matters for SAC trajectory, as front-loaded RAB additions can temporarily elevate recoverable network components before demand fully materialises.
- Recovery profile creates short-term volatility risk, with **early-year capex recovery potentially increasing SAC before dilution effects emerge**.
- Policy calibration** remains a moderating lever, where SAC may be adjusted to balance CRESS uptake and competitiveness objectives.

### TLG view

- Certain SAC components **should decline per kWh over time due to fixed-cost dilution** as CRESS uptake increases.
- Contingent capex can create **upward pressure** only to the extent it increases non-avoidable network costs attributable to CRESS switching.
- The strongest SAC trajectory risk arises if **residual cost recovery is misaligned with actual avoided costs**.

## Primary Sac Drivers in RP5



### 3. How is SAC calibrated?

#### Key drivers:

- SAC vs base tariff split
- CRESS participation targets
- Cross-subsidy tolerance
- Use of SAC as accelerator or brake



### 2. How much demand/time dilutes SAC?

#### Key drivers:

- DC uptake under CRESS
- Investment timing vs. DC realisation (front-loaded or controlled rollout)



### What Residual Network Costs Must SAC Recover?

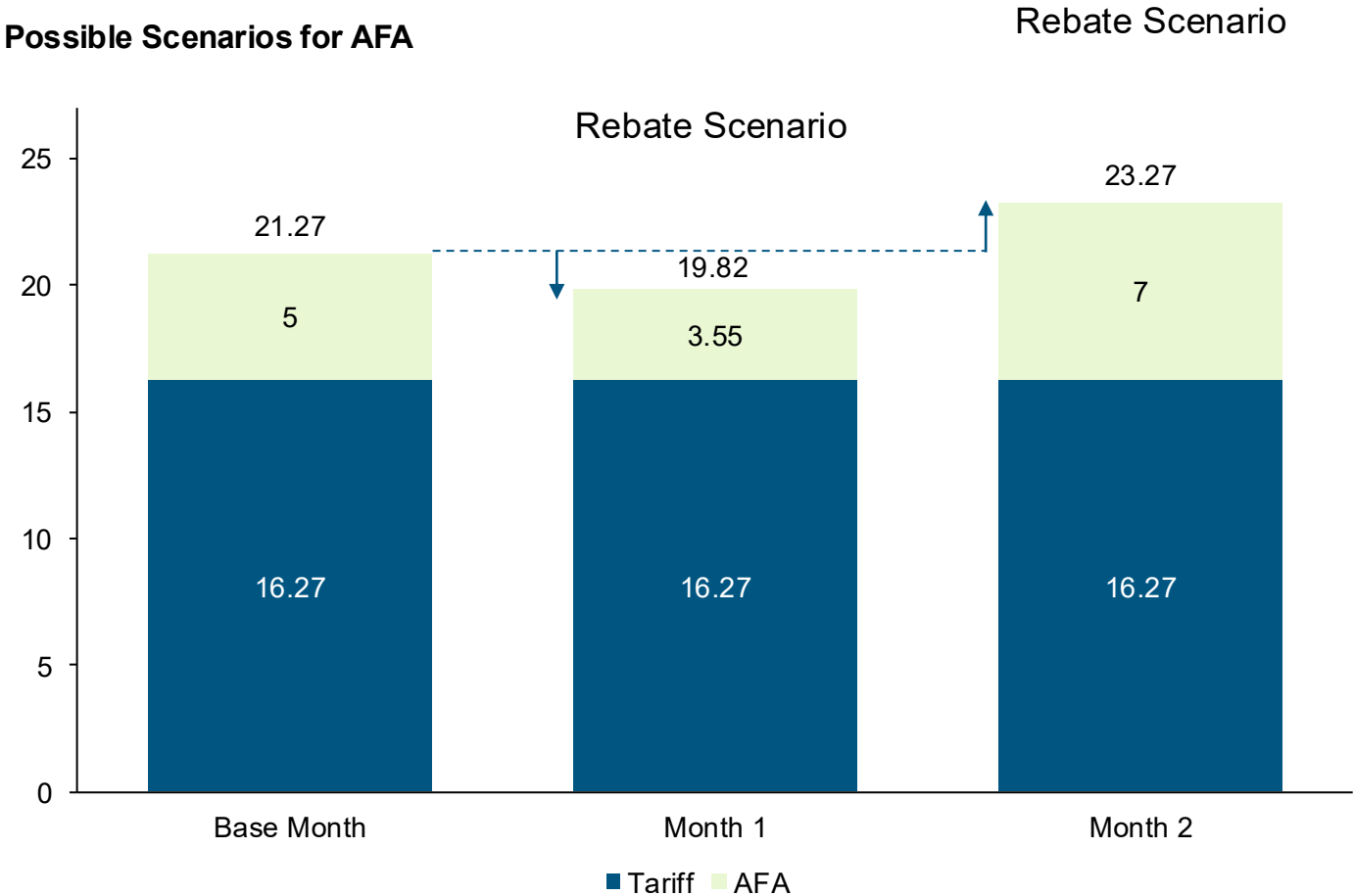
#### Key drivers:

- Non-avoidable T & D costs for CRESS
- Net capex additions (including contingent capex)
- Allowed WACC
- RE integration & grid reinforcement

## How Sac May Evolve:



# The latest tariff reforms (RP4) introduced the automatic fuel adjustment (AFA) a monthly adjustment for fuel costs – pushing both clarity and risk to end users



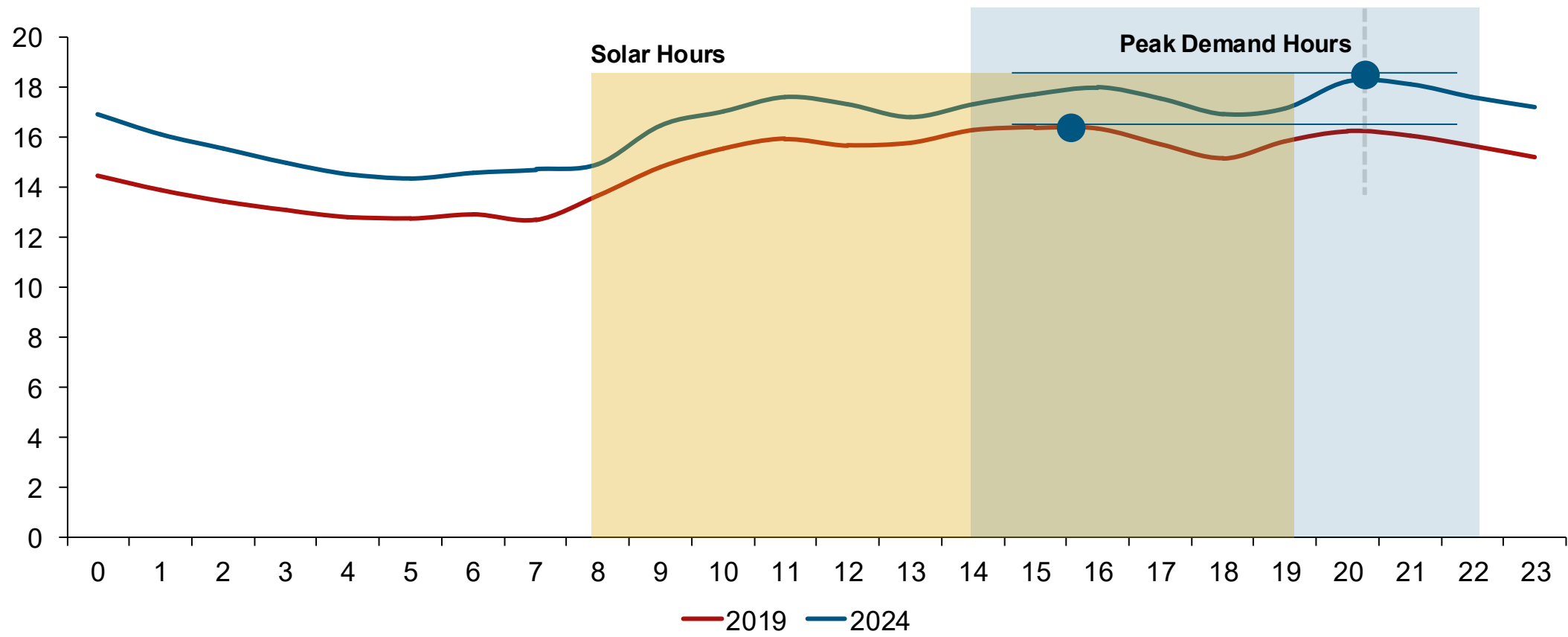
## Key Highlights

- The specific formula used for the monthly AFA determination is not public; however, it is based on the prior *annual* ICPT calculation but applied monthly with automated thresholds.
- Whilst Malaysia is more insulated from imported gas costs, coal and oil priced linkages in gas contracts do put upward pressure on the AFA
- In the past, rising coal prices have been a significant fuel cost driver

Note: As of August, it is only 1 month after release of RP4 with minimal data on historical AFA performance, therefore TLG provide likely scenarios.

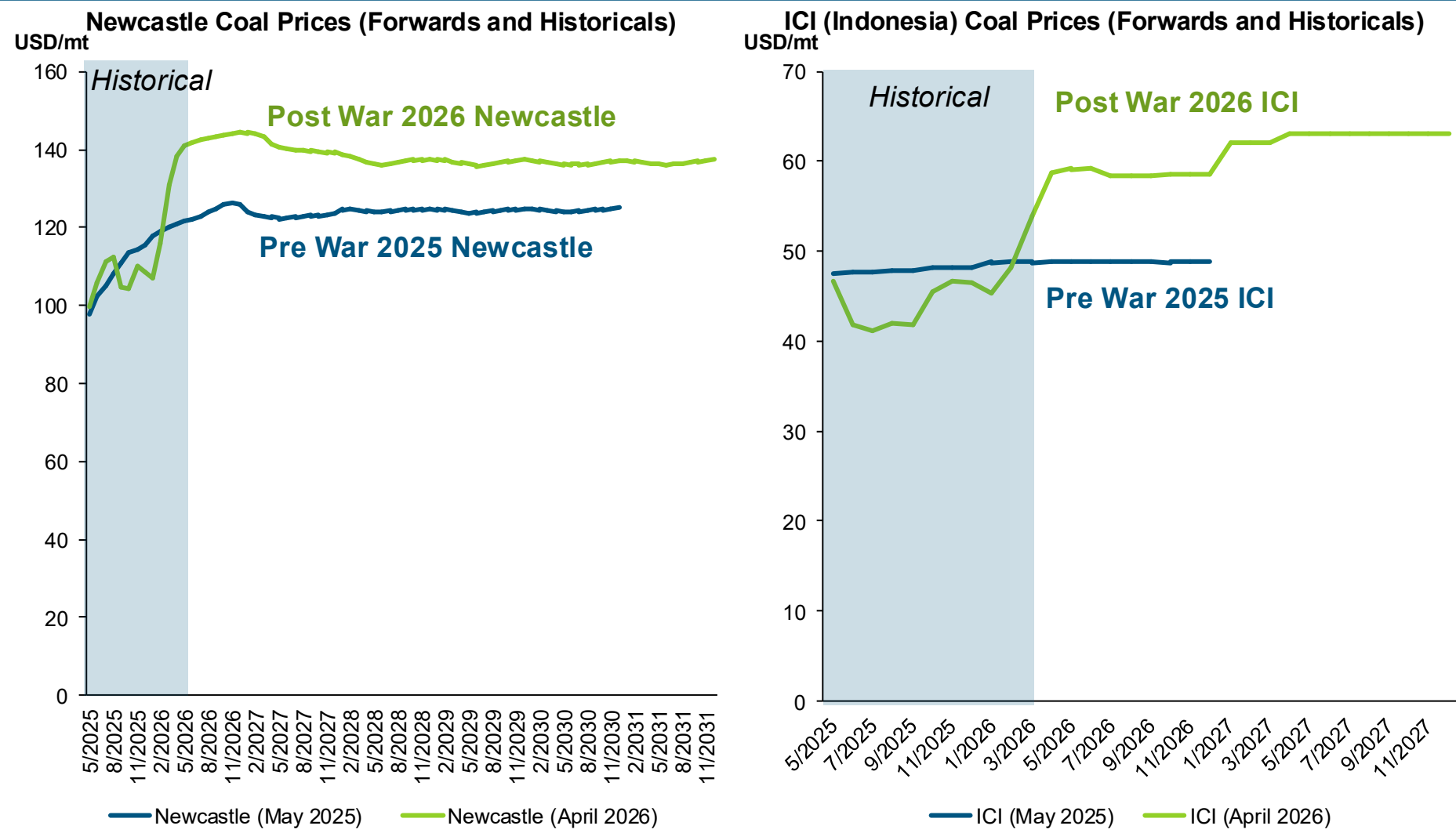
# Malaysia is a stronger solar market than a BESS market, for now, but BESS tenders and opportunities will also emerge over time for flexibility support

Average Diurnal Load – 2019 and 2024, GW



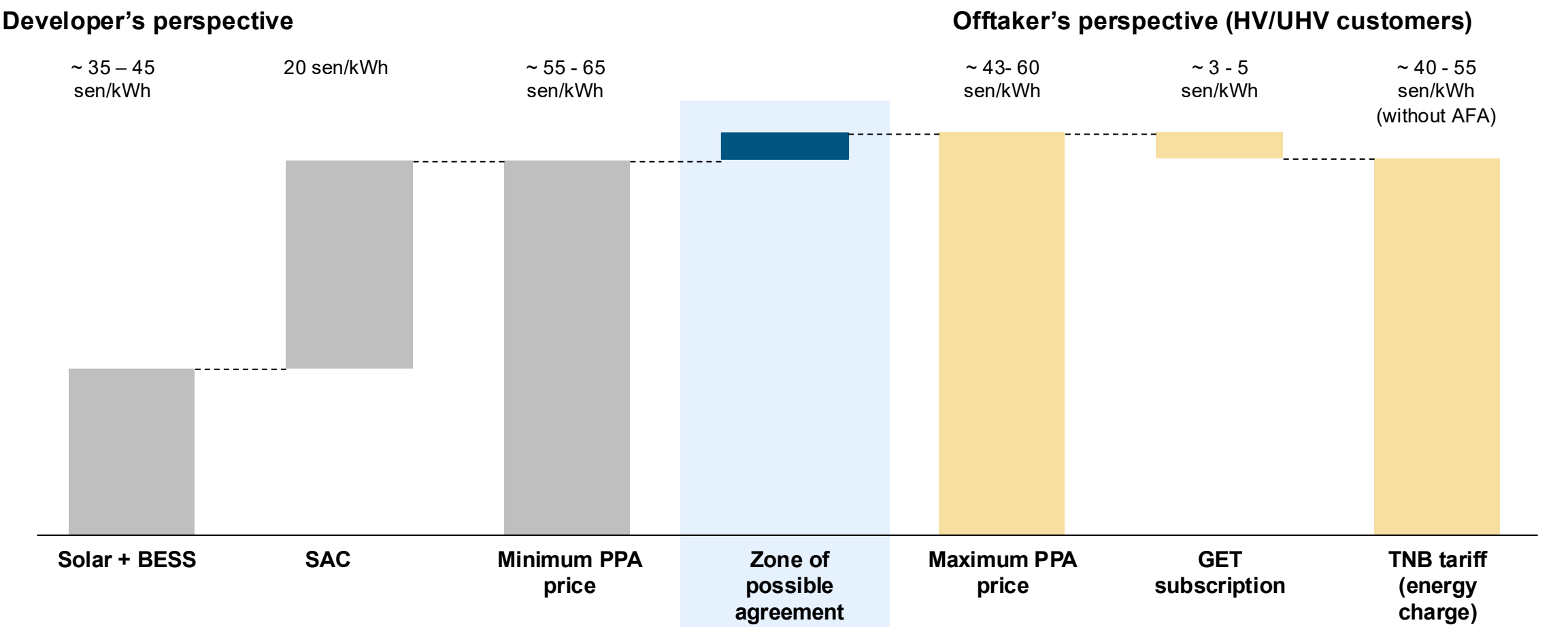
Source: TLG Analysis

# Coal prices are not projected to normalize over the horizon for which forward indicia are available (out to 2030)



Note: April 2026 Outlook = As of 8<sup>th</sup> April

# Bridging the Gap: Aligning Developer Economics with Offtaker Expectations



Whilst regulatory clarity and market maturity remain risks, prospective AFA risk may well be enough to swing the momentum faster

For more information, feel free to reach out to us at our REM Asia booth.

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## Market Updates and Forecasts Comprehensively Covering Asia

- Power sector developers
- Large end-users
- Regulators and policymakers
- Financing stakeholders
- Deep insights across Asia

Sign up here for more information

Feature 2: New System Operation Fees and Government Surcharges to Appear on Power Bills in 2026

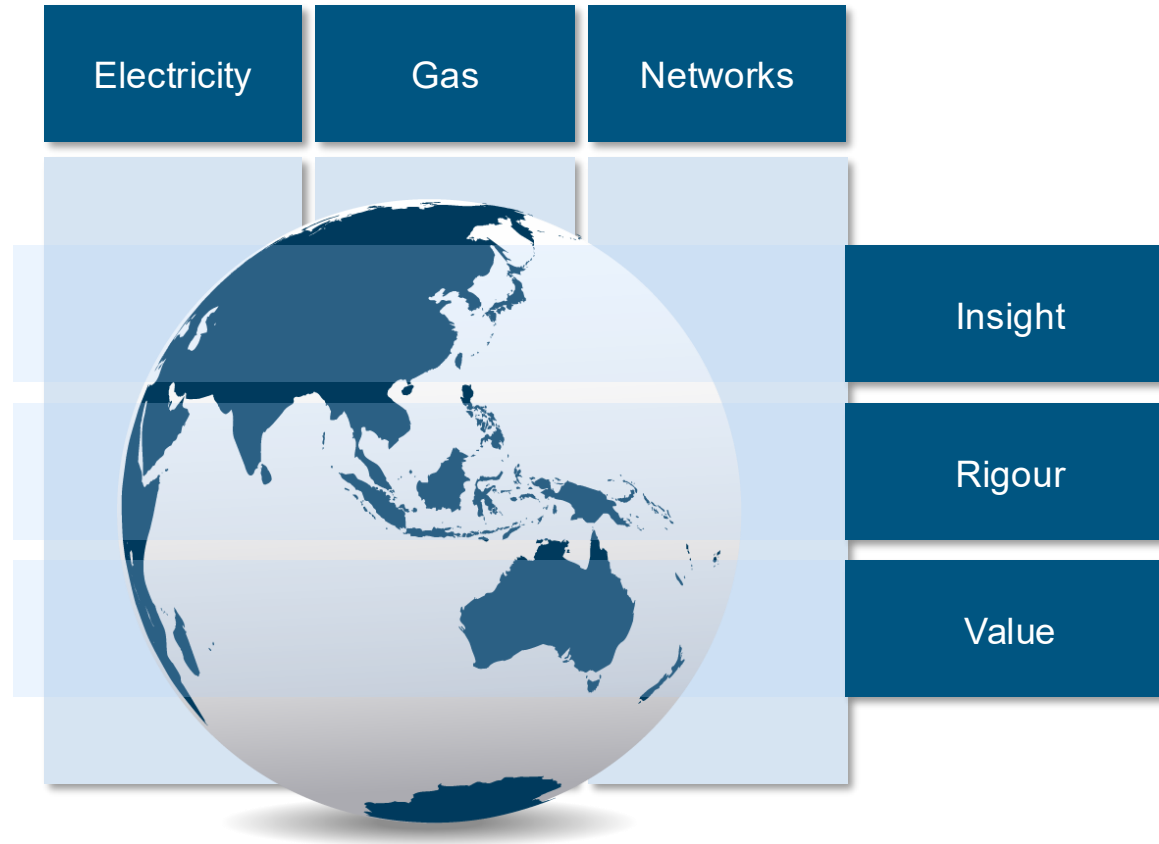
Feature 6: State Council Issues Key Policy Guidance on National Unified Power Market Development

CREDA Pricing Remains Above Unit-Ton and HV-WV Rates, Inflationary Pressures Mount

Shandong Power Market: Lower Prices, Greater Transparency, and Expanded Storage Participation

Shandong Grid Collapse on Unbalanced MW Storage Prices

# Celebrating three decades advising Malaysian energy stakeholders



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# REM Asia 2026

## Market Spotlight: Malaysia



**Renewable Energy**  
**Markets** **Asia** 2026



## Navigating Green Power Access in Malaysia

Malaysia offers several green power pathways, each suited to different corporate needs. The right route depends on a company's priorities around cost, contract complexity, flexibility, and overall decarbonisation strategy.



### On-site

1. Solar Accelerated Transition Action Programme (**ATAP**)
2. Self-Consumption (**SELCO**)



### Off-site

1. Corporate Green Power Programme (**CGPP**)
2. Corporate Renewable Energy Supply Scheme (**CRESS**)
3. Community Renewable Energy Aggregation Mechanism (**CREAM**)



### Attribute-based

1. Unbundled-RECs
2. Green Energy Tariff



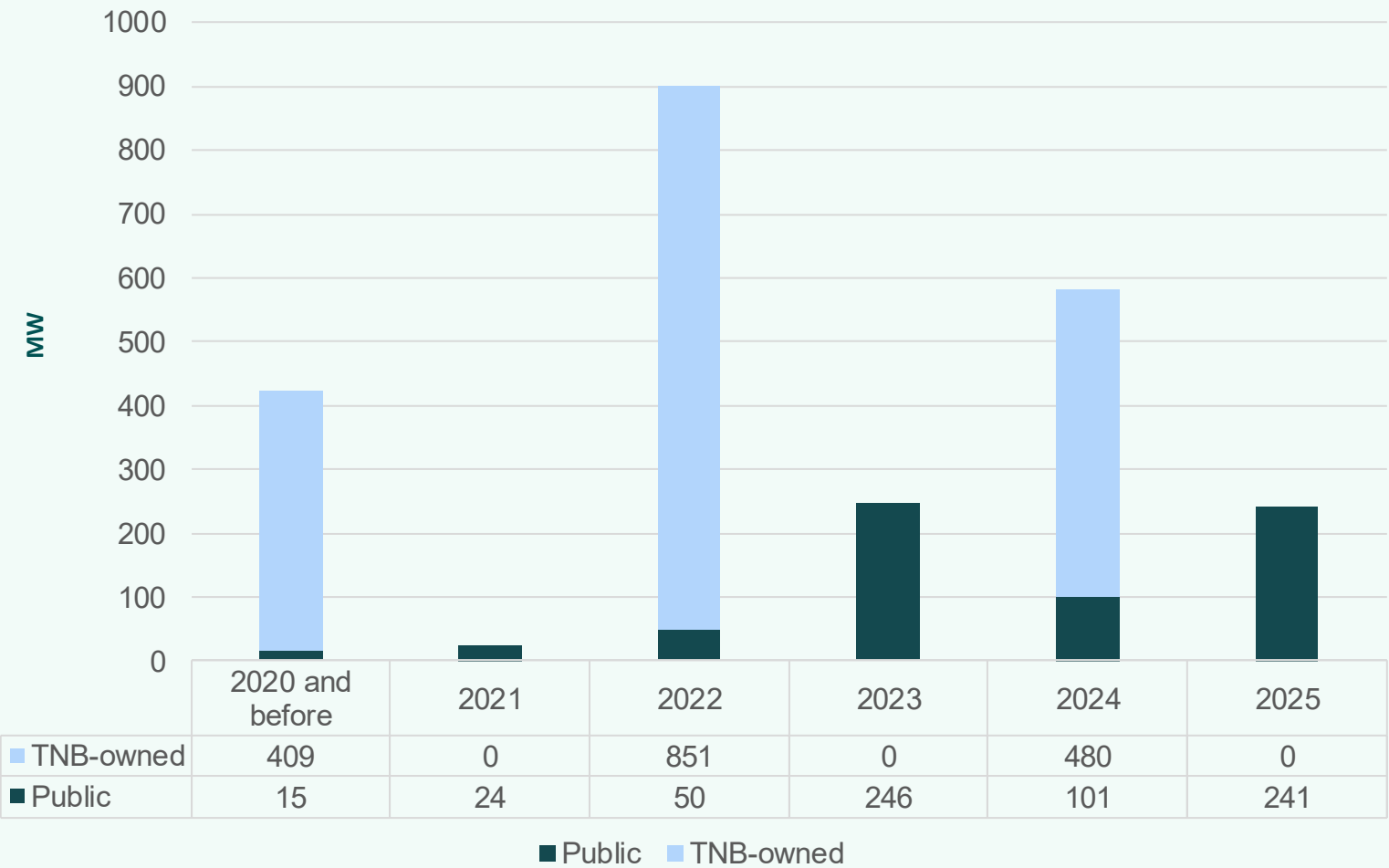
## Navigating Green Power Access in Malaysia

### Key takeaways:

- 1) Following TNB's tariff reform in 2024, **ATAP and SELCO** have become less attractive than before, as average electricity tariffs declined from around RM0.55/kWh to RM0.30/kWh. As a result, distributed solar PPAs are also becoming less compelling.
- 2) Under **SELCO**, systems above 72 kWp are required to incorporate BESS; otherwise, a standby charge of RM12/kWp/month applies.
- 3) **CGPP** has been fully awarded, with projects expected to achieve COD in 2026, and there is currently no new quota available.
- 4) **CRESS** continues to see low take-up, largely due to corporate concerns such as the potential increase in SAC charges. At present, it appears to be only feasible to data centre players.
- 5) **CREAM** is still at an early implementation stage in Malaysia. Publicly visible uptake remains limited, with applications only opening in June 2025 and the first announced pilot project sized at 1.9 MWp.
- 6) In the unbundled **REC** market, larger corporates appear to be shifting from hydro and bio-energy to solar, and in some cases from unbundled to bundled solutions. At the same time, SME demand is picking up, although volumes remain relatively small compared with large corporate buyers.
- 7) **Green Electricity Tariff (GET)** remains available, with around 2.6 GWh of quota still available out of 6.6 GWh, compared with previous rounds that were fully taken up. The latest pricing stands at RM0.05/kWh for a one-year subscription, RM0.04/kWh for two years, and RM0.03/kWh for three years, equivalent to roughly USD12.5/REC, USD10/REC, and USD7.5/REC respectively.



# Malaysia’s REC Market: Key Trends and Market Signals



Malaysia’s I-REC Solar PV  
Registered Projects  
Capacity: 2,417 MW

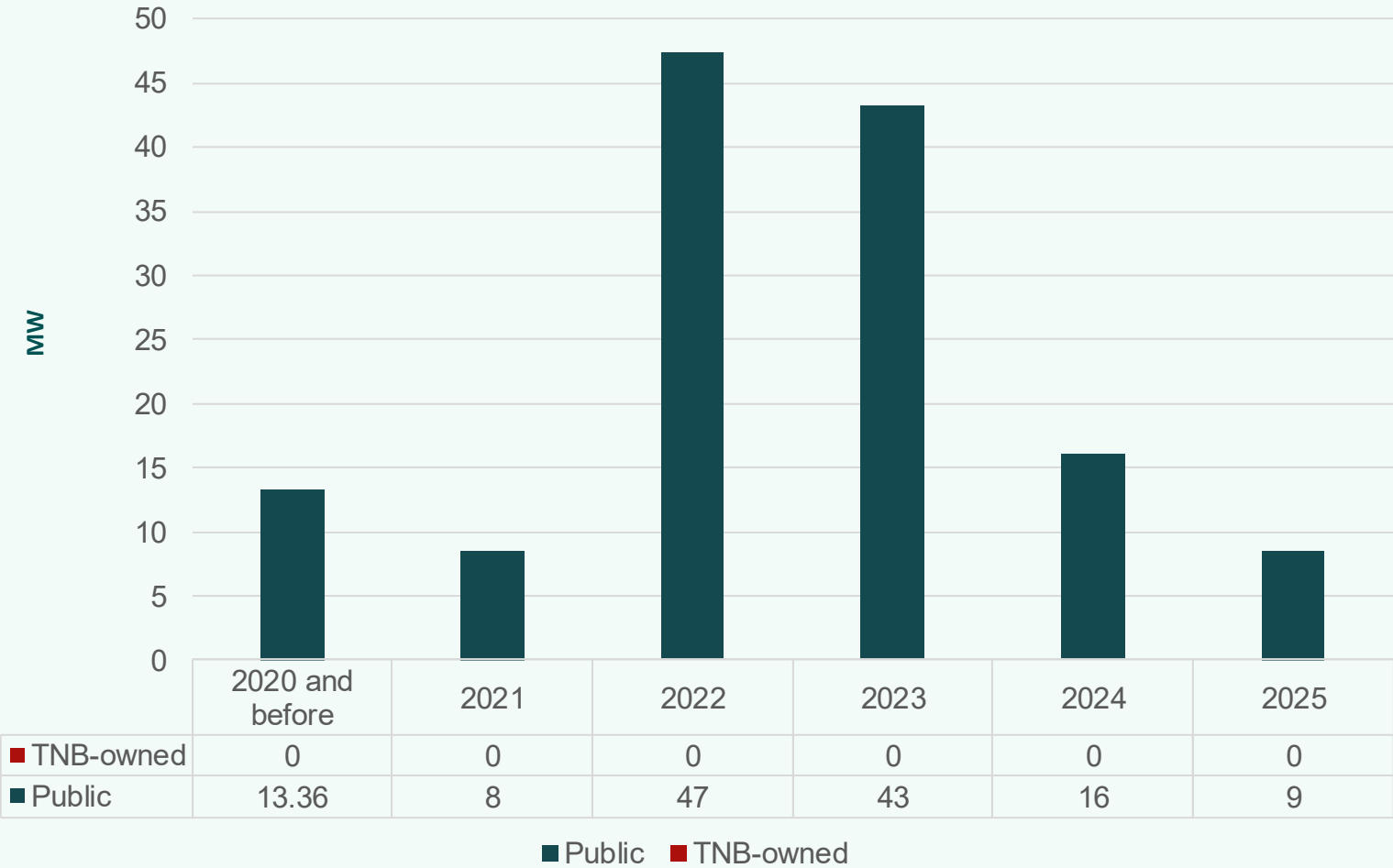
TNB-owned: 1,740 MW

Public: 677 MW  
Devices:  
- 5 large-scale solar (LSS >30 MW)  
- 622 - distributed (C&I / small-scale) assets

Total Registered Solar PV  
Capacity in TIGR: 201 MW



# Malaysia's REC Market: Key Trends and Market Signals



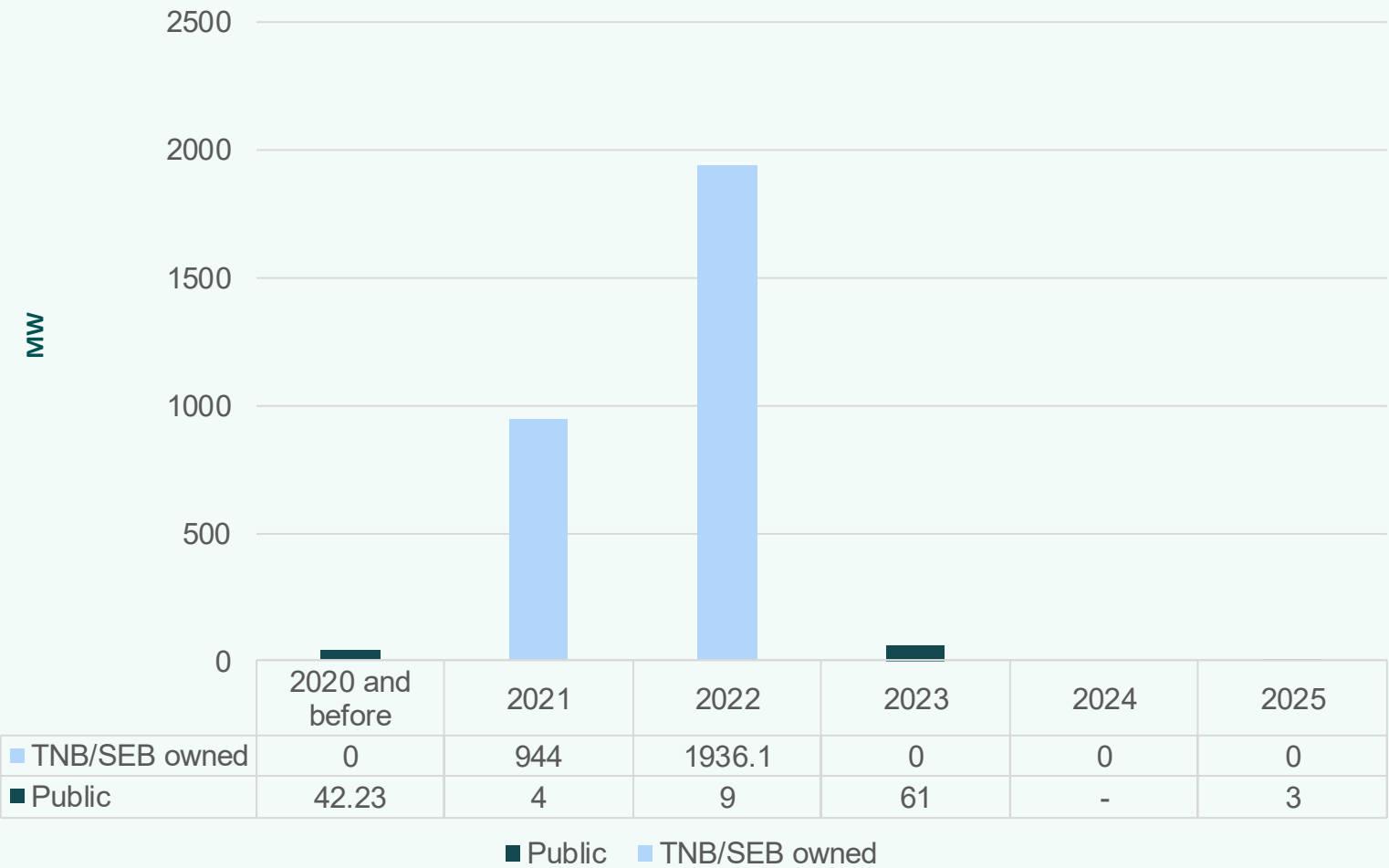
## Malaysia's I-REC Bio-energy Registered Projects

**Capacity:** 136.36 MW  
51 Devices

*Total Registered Bio-energy Capacity in TIGR: 2.4 MW*



# Malaysia’s REC Market: Key Trends and Market Signals



## Malaysia’s I-REC Hydro Registered Projects

Capacity: 2,999 MW

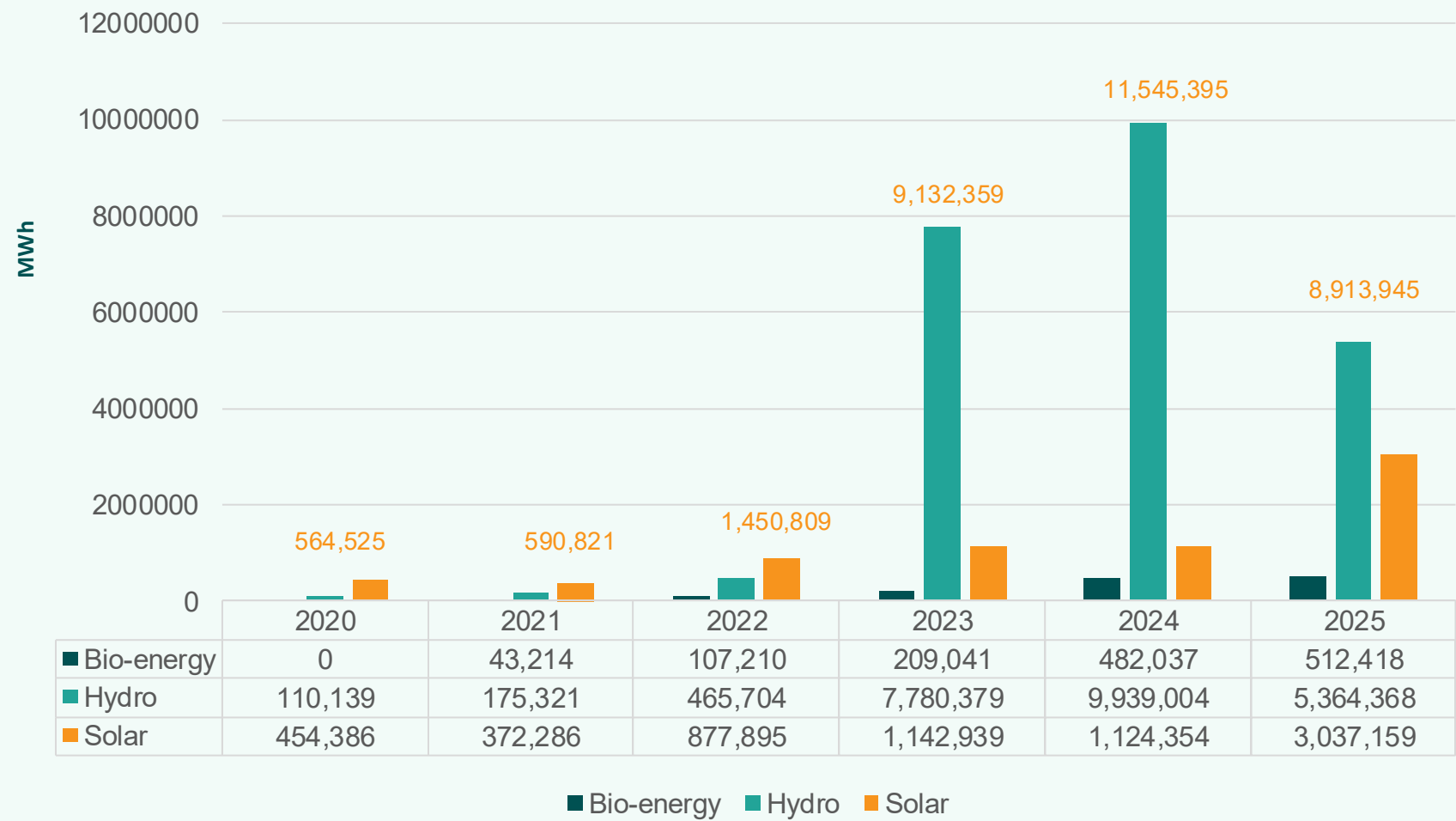
TNB/SEB owned: 2,880.1 MW

Public: 119MW  
14 devices

Total Registered Hydro Capacity in TIGR: 108 MW



# I-REC Redemption Trend





## Malaysia's REC Market: Key Trends and Market Signals

### Summary:

- Malaysia's solar REC supply remains highly concentrated, with around 70% of market supply still owned by TNB and largely channelled through the GET programme.
- Malaysia's bio-energy REC supply has remained broadly unchanged. The 35 MW awarded under FiT 2.0 in 2025 has not yet reached COD.
- Malaysia's hydro REC supply also remains heavily dependent on TNB and SEB. The additional 100 MW awarded in 2026 is still under construction.
- REC redemptions in 2025 declined compared with 2023 and 2024. One likely reason is that a significant number of GET subscribers completed their contracts and did not renew. Under the earlier programme structure, GET was offered at no additional cost, or even at a slight discount to consumed electricity, which attracted many companies for pricing reasons rather than genuine green power demand. With that pricing advantage no longer in place, demand appears to be normalising back to underlying market-driven demand.

# Thank you

**Partner with Saxon — Let's accelerate your net  
zero journey today.**

Sustainability is not just about our future, but the future of  
generations yet to come.

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# REM ASIA 2026

Malaysia

Aashna Pawar, Decarbonization and Energy Procurement

# Who we are

## OUR PURPOSE

Improving life for all  
by integrating the world



**690+ vessels**



**12M FFE shipped annually**



**500 + Warehousing sites (8.1M sqm)**



**4M intermodal moves annually**



**300,000 tons airfreight annually**

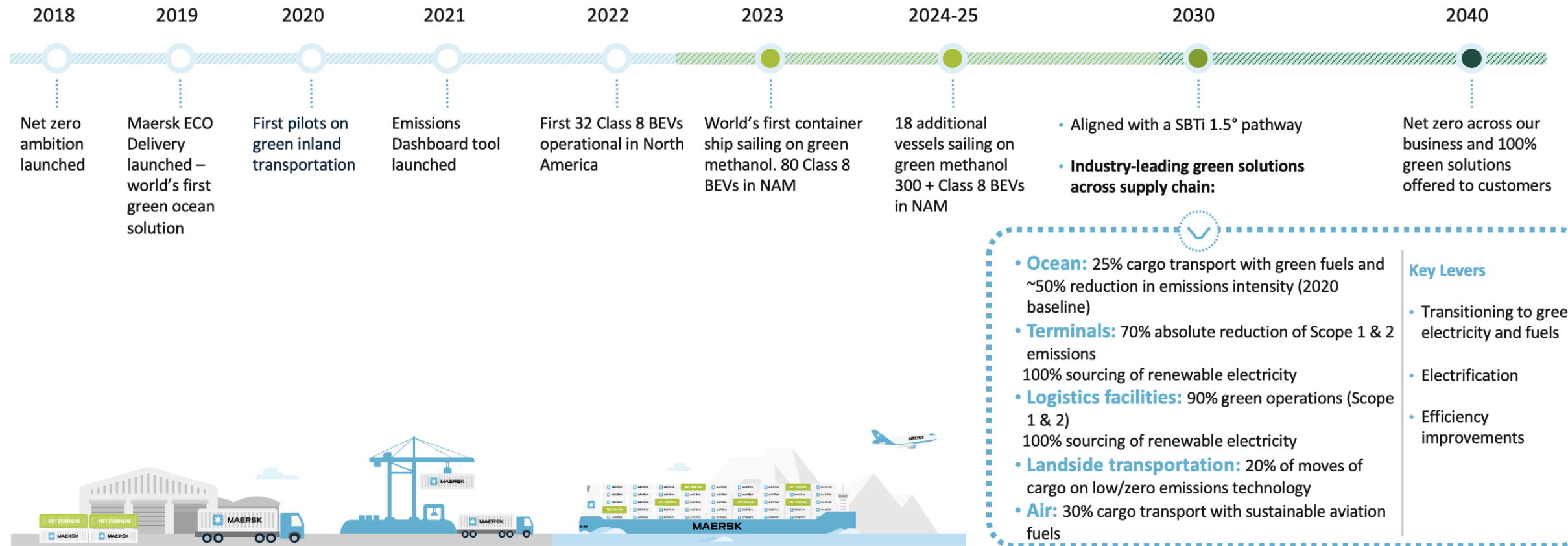


**62 Terminals and 22M moves annually**

# Why Renewable Energy matters to us

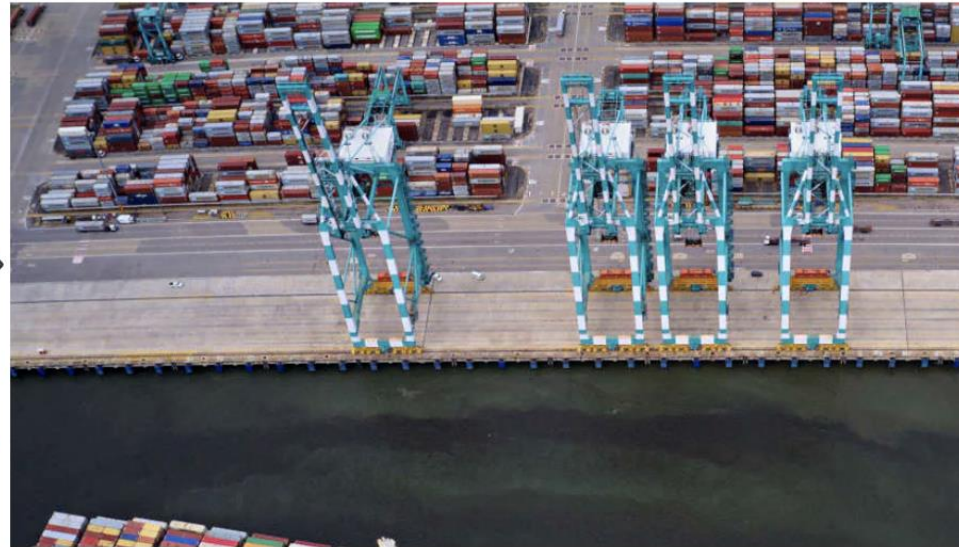
*Roadmap to deliver net zero by 2040*

We have **accelerated our decarbonisation target by a full decade** as there is no time to wait! We are taking a lead in decarbonising the logistics industry through **partnerships with customers and suppliers**, as well as **bold investments**.



# Renewable Power in Malaysia is promising however, needs to be further developed

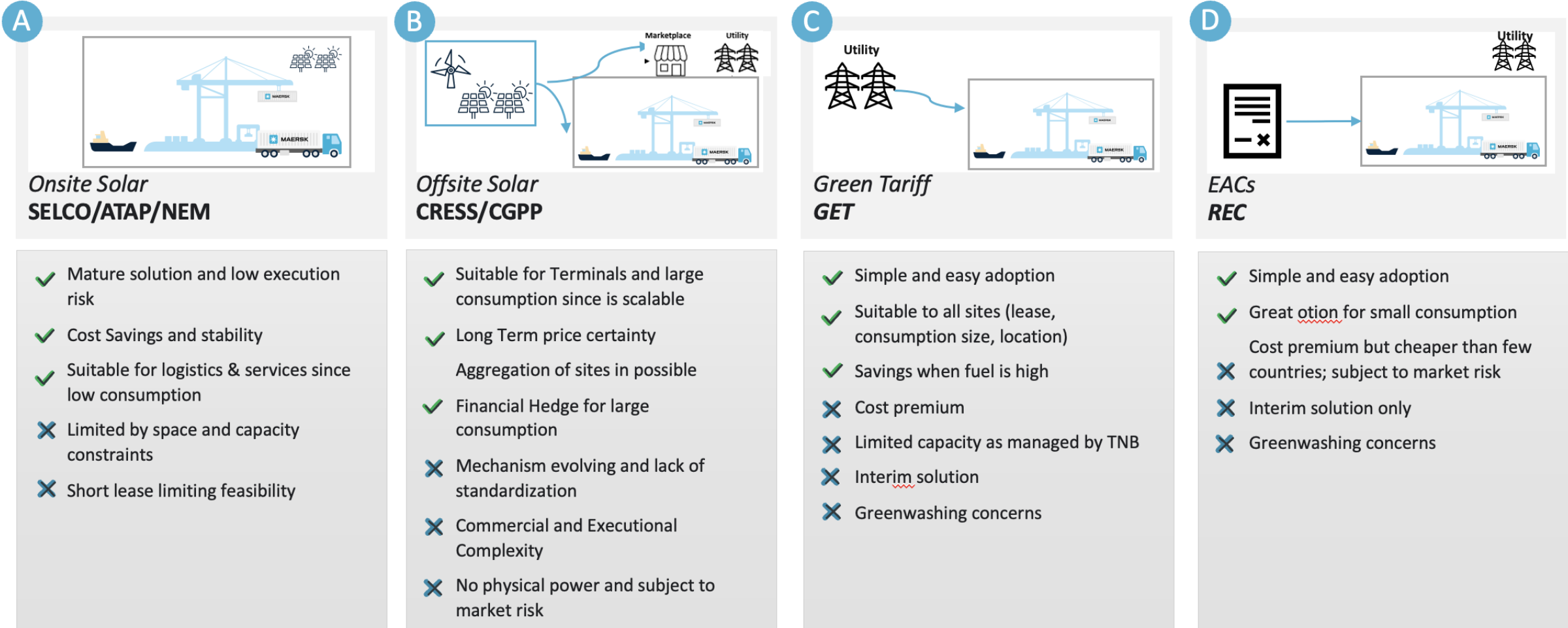
| Facility Type                                                                        | Consumption Profile                                                                             |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| APMT<br>-Terminals<br>-Shore Power                                                   | 10-100 GWh<br> |
| Logistics & Services<br>- Warehouse & Inland Facilities<br>- Landside Transportation | <1-10 GWh<br>  |
| Corporate Real Estate<br>-Offices & Admin                                            | <1 GWh<br>   |



- **Commercial Challenges** - cost premiums, fuel adjustment factor, other charges transparency; long term reliance; lack of subsidy
- **Execution and Scalability** lease, onsite, standardize, Maturity, grid readiness
- **Regulatory Changes** Fluid landscape, new tariff structure

# Corporate view on Renewable Power in Malaysia

*Where policy meets commercial and execution challenges*



# Current Market Comparison

*What makes a market more Attractive for Corporate Buyers*

| Parameter                                 | Malaysia                                                        | ASEAN                                                         | Europe (overall)                             |
|-------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------|----------------------------------------------|
| <b>Policy direction/ Clear Regulation</b> | ✅⚠️ Clear intent however needs more clarity and standardization | ⚠️ Strong intent however uneven implementation across markets | ✅ Very strong, long established              |
| <b>Renewable electricity options</b>      | ✅ Onsite<br>⚠️ Offsite evolving<br>✅⚠️ Green Tariff/RECS        | ✅ Onsite<br>⚠️ Offsite<br>⚠️ Green Products                   | ✅ Onsite<br>✅ Offsite<br>✅ Green Tariff/RECS |
| <b>Commercial Viability</b>               | ⚠️ Medium (cost premium, evolving models)                       | ⚠️ Medium (policy and execution gap)                          | ✅ High (predictable, although high cost)     |
| <b>Execution certainty</b>                | ⚠️ Medium (approvals, timeline)                                 | ⚠️ Medium (market by market)                                  | ✅ High (clear timelines)                     |
| <b>Market Reliability</b>                 | ✅ Improving, utility led stability                              | ⚠️ Medium (market by market)                                  | ✅ High (deep, liquid market)                 |
| <b>Contract Standardization</b>           | ⚠️ Evolving                                                     | ⚠️ Evolving                                                   | ✅ Highly standardised                        |