

NEW AND IMPACTFUL VOLUNTARY PROCUREMENT STRATEGIES



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Tuesday, 29 April 1:30-2:30 PM



Renewable Energy Markets™ Asia 2025

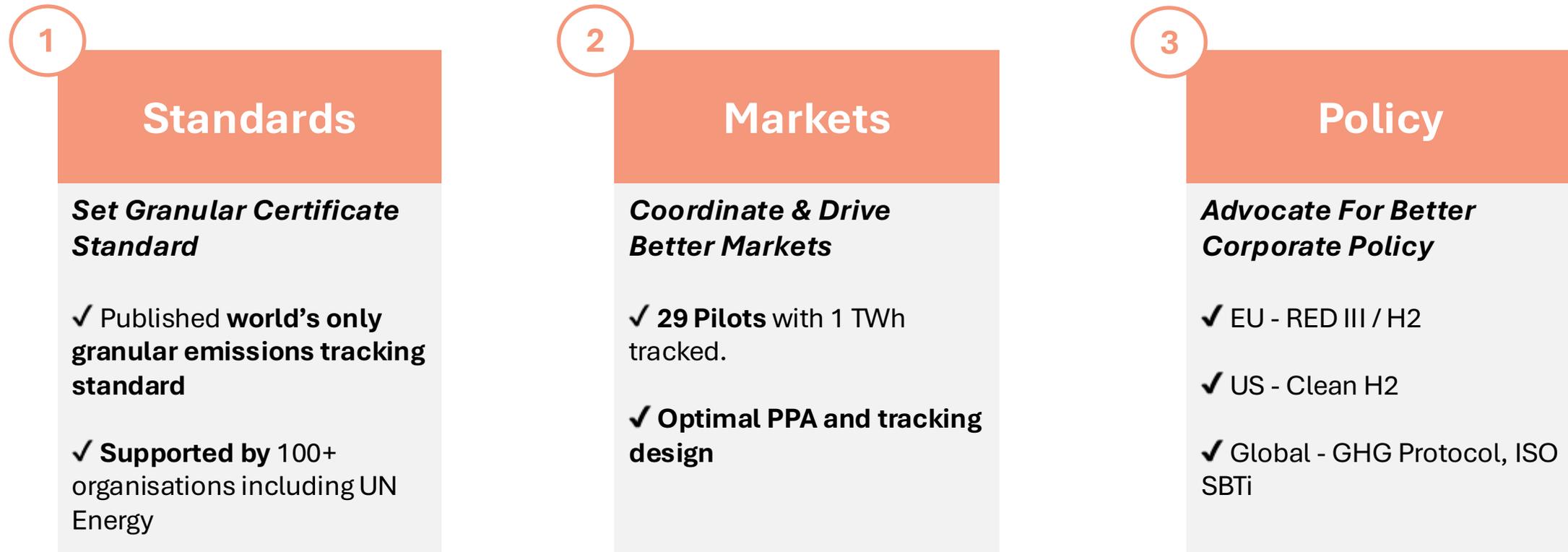
April 2025

New and Impactful Voluntary Procurement Strategies

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About EnergyTag

An **independent non-profit** defining and promoting Net-Zero aligned electricity carbon accounting, enabled by **real-time tracking with Granular Certificates**.



A Global Network

Consumers



We connect a global granular tracking ecosystem

24/7 Tracking



Suppliers/Markets



EnergyTag



500+ Organisations
5 Continents
\$4+ trillion Market Cap

Governments & NGO

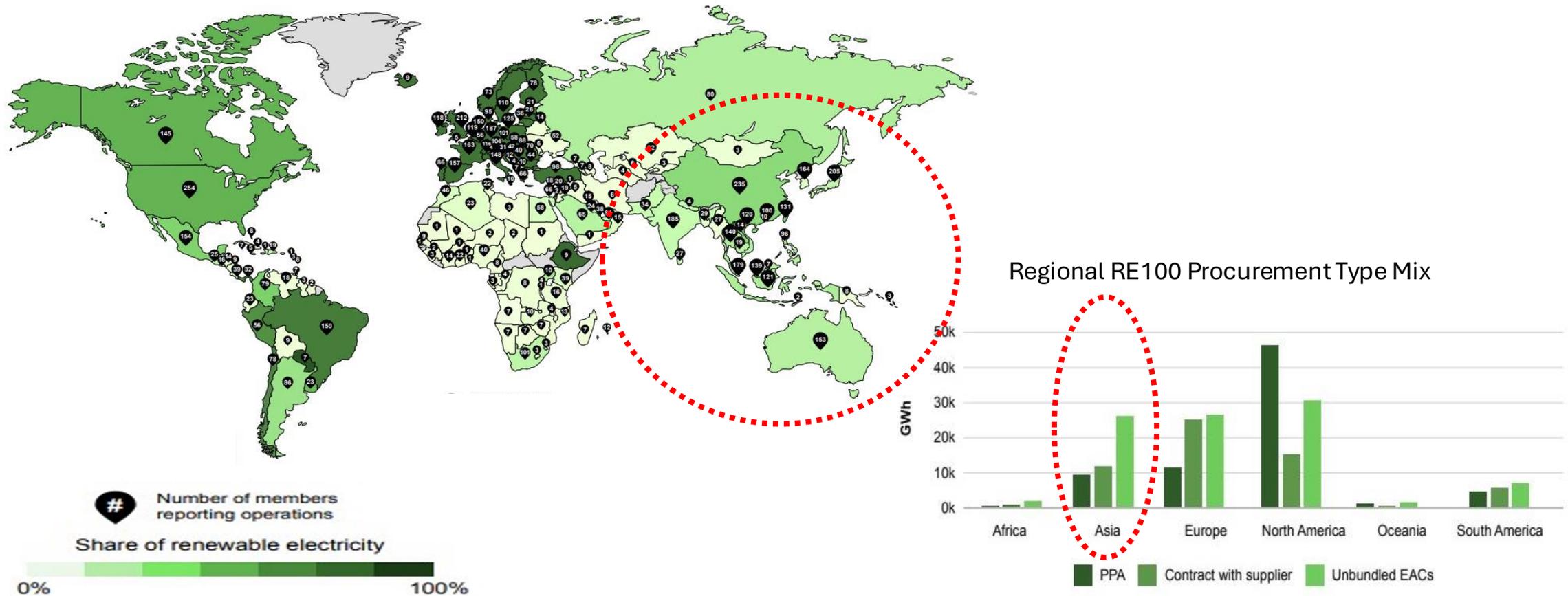


Background



APAC- Rising Corporate RE Sourcing (1/2)

RE100 members' share of RE

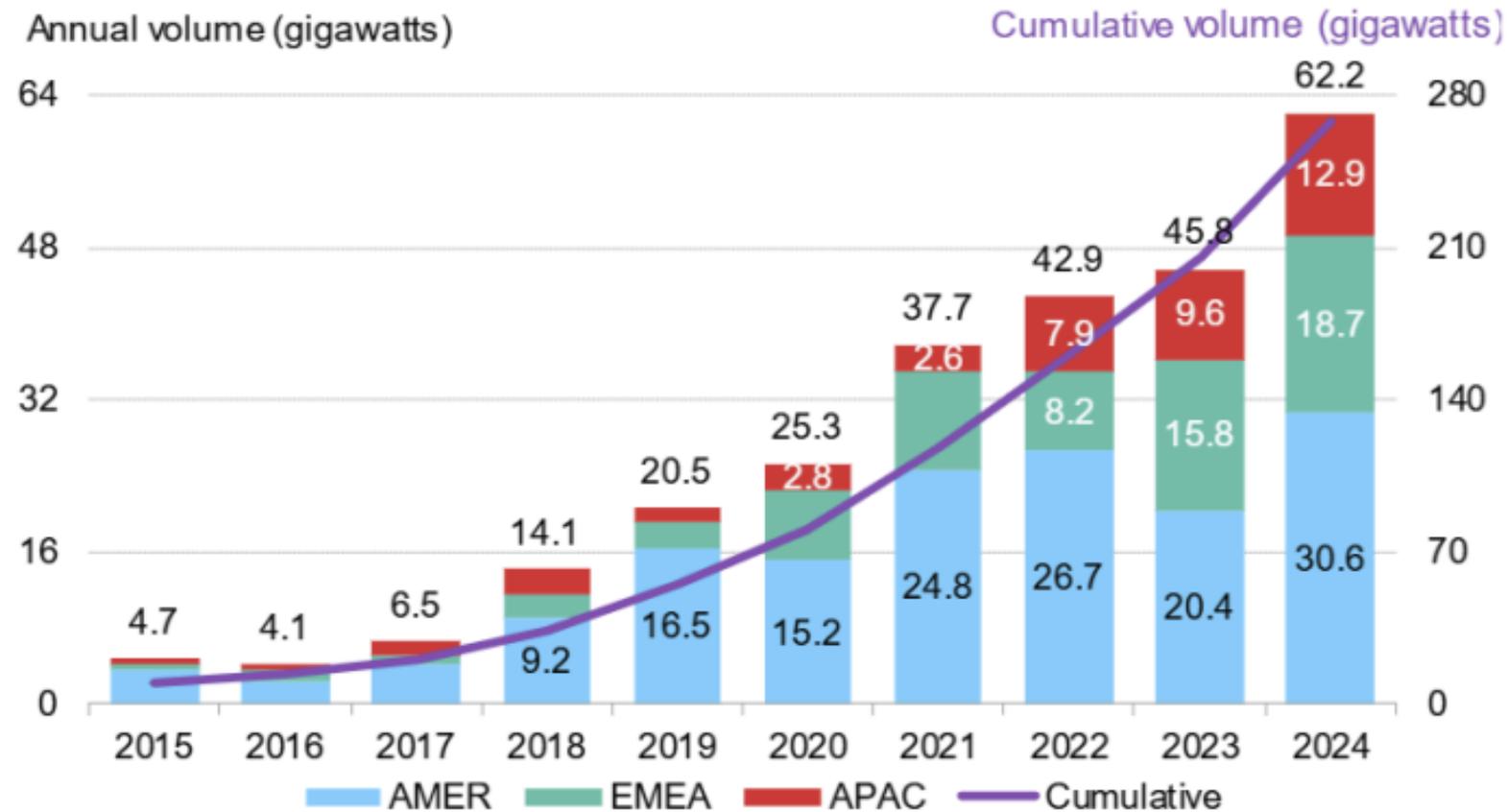


- RE procurement in Asia accounts for 21% of all procurement of RE reported by RE100 companies.
- Unbundled EACs continue to play a significant role in RE purchasing in Asia.
- PPA are increasingly becoming available in APAC

Source: RE100 annual report 2023

APAC-Rising Corporate RE Sourcing (2/2)

Figure 1: Global corporate power purchase agreement volumes, by region



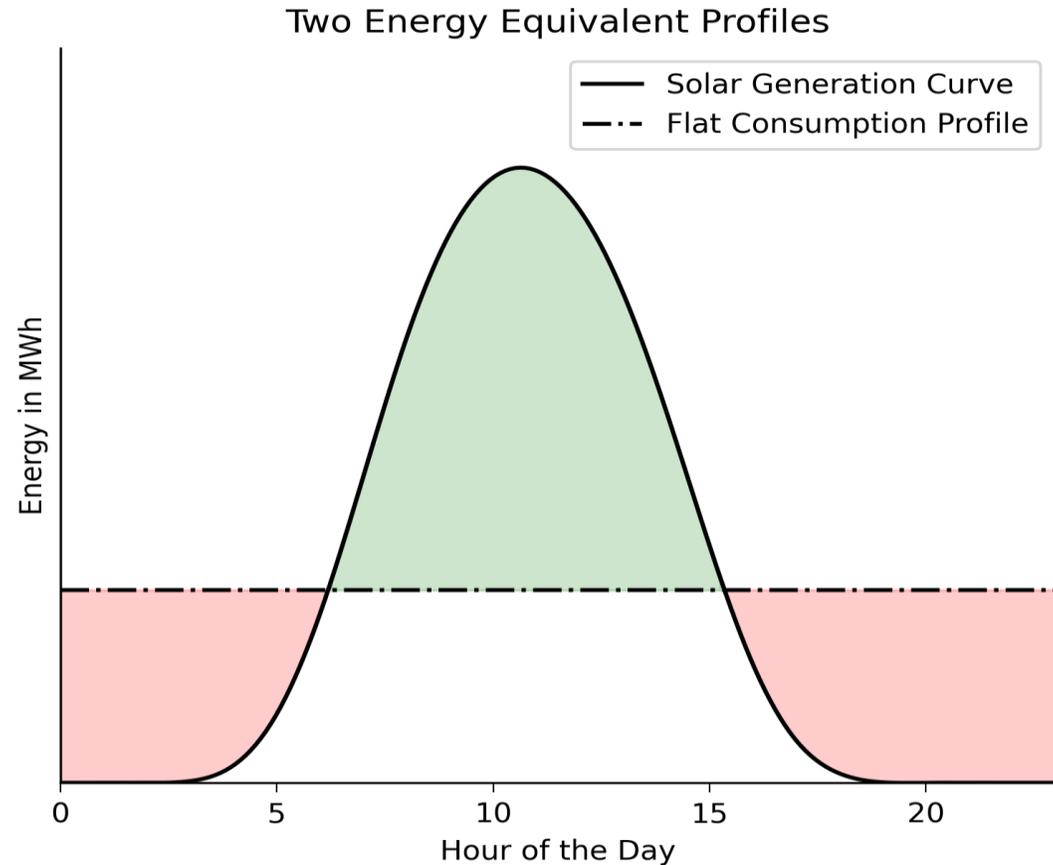
Source: BloombergNEF. Note: Chart shows only offsite power purchase agreements. Asia Pacific capacity estimated. Figures are subject to change as more information made available. Data through December 2024.

Problem



Today's RE sourcing does not reflect Grid Realities

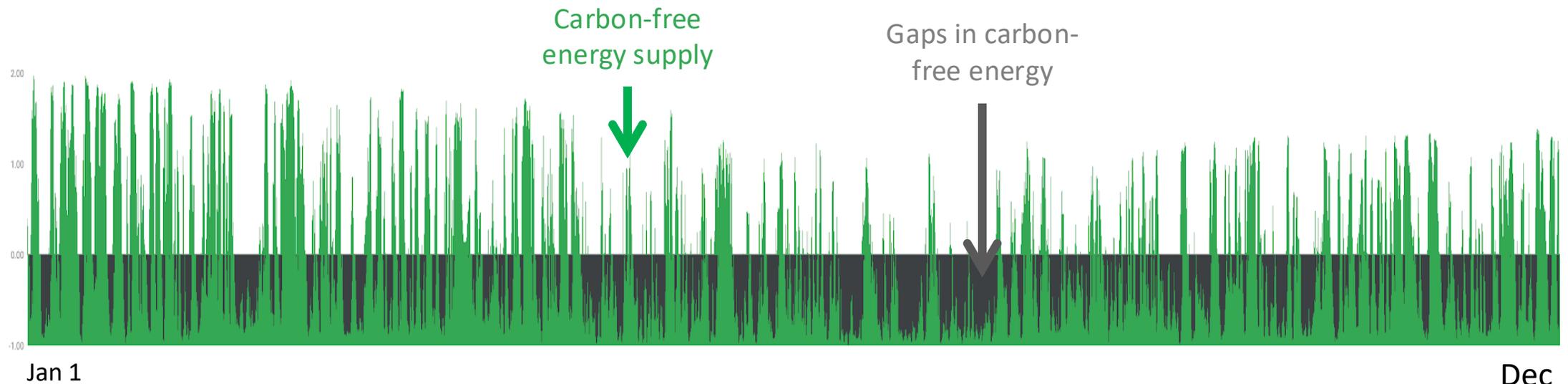
Companies purchase **solar** certificates to cover 100% of their load - even during the night



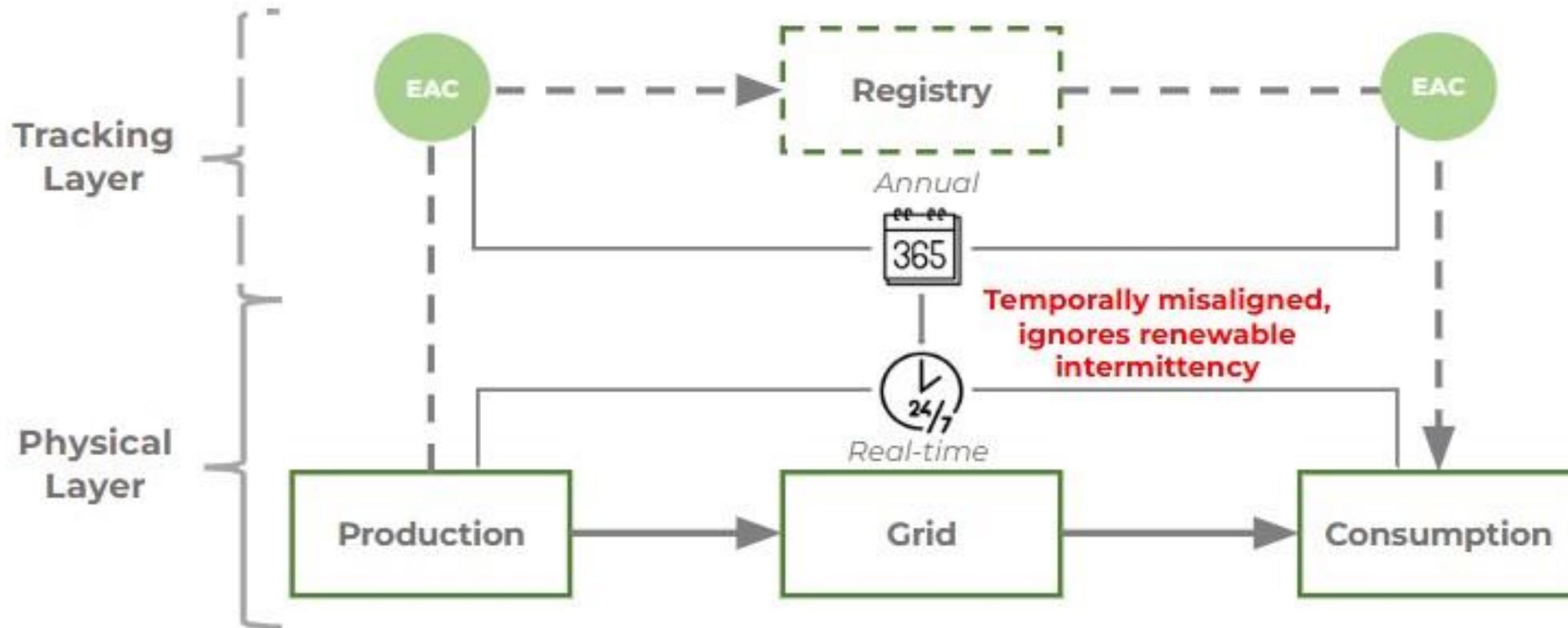
Temporal Mismatch between Consumption and Generation

100% RE claims can be misleading

- Companies can achieve “zero” emissions by buying EACs to match annual demand, ignoring hourly variability and need for flexibility, storage.
- Therefore, companies must match demand with carbon-free supply 24/7 by **time and location** to **fix incorrect accounting**.



Today's EAC Systems are robust but lack temporal information



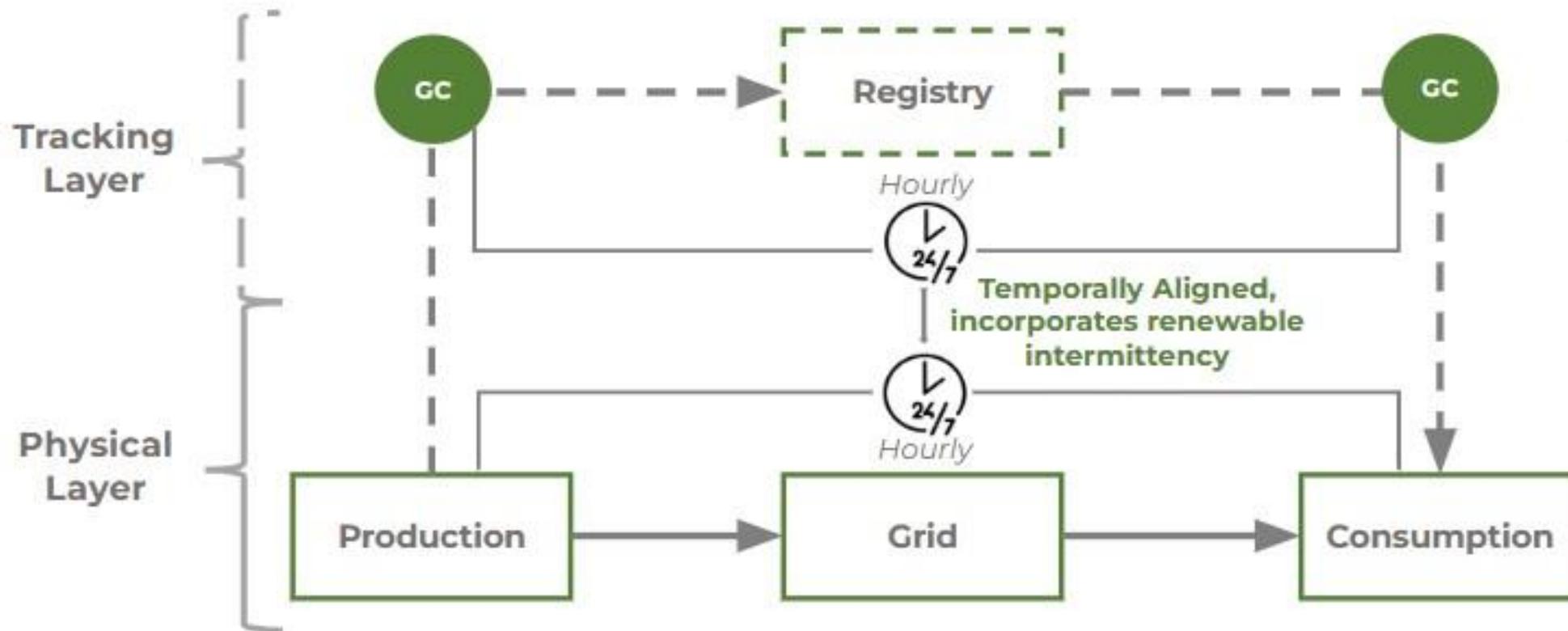
- Annual resolution hinders **consumer transparency**
- Annual EAC provide **no signal for flexibility and storage** required for RE integration.



Solution

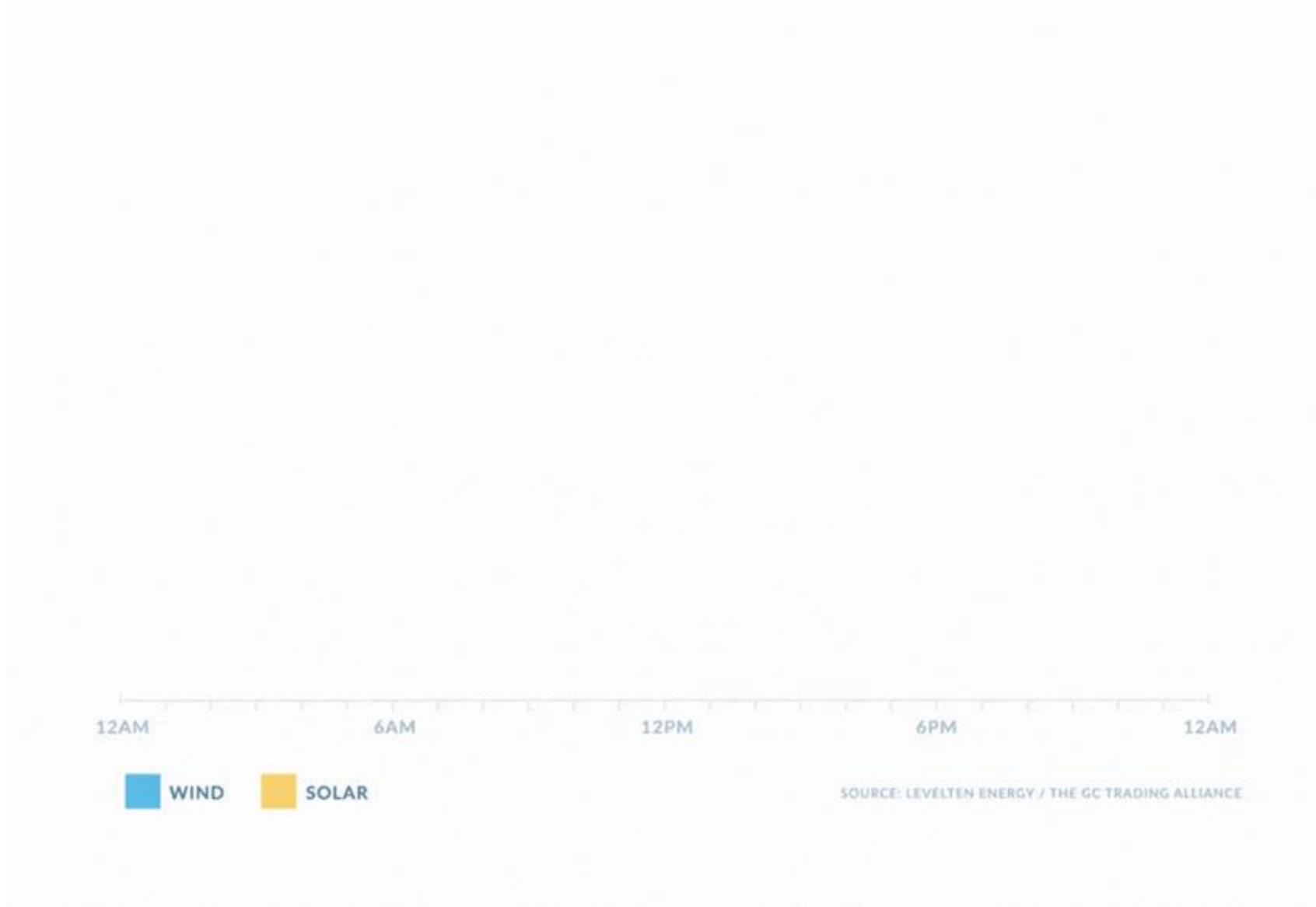
Granular electricity accounting

Granular Certificate (GC) System is closer to Physical Grid Realities



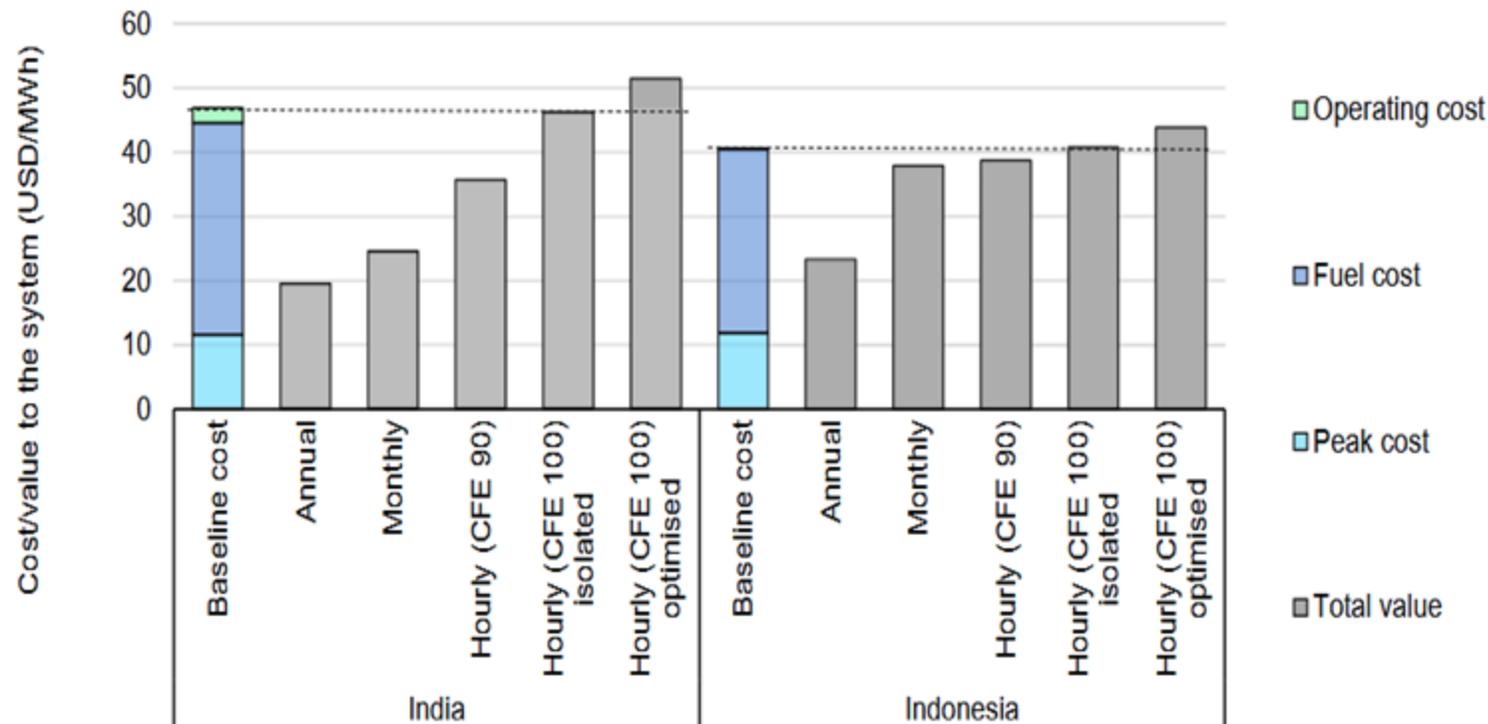
- Hourly resolution **improves consumer transparency** by closing gap with physical system.
- 100% renewable means **hourly rather than annual matching** of production and consumption
- Hourly Granular Certificate (GC) can provide **signal for flexibility and storage** required for RE integration.

Granular Markets Balance Renewables



24/7 Brings Much More Societal Value

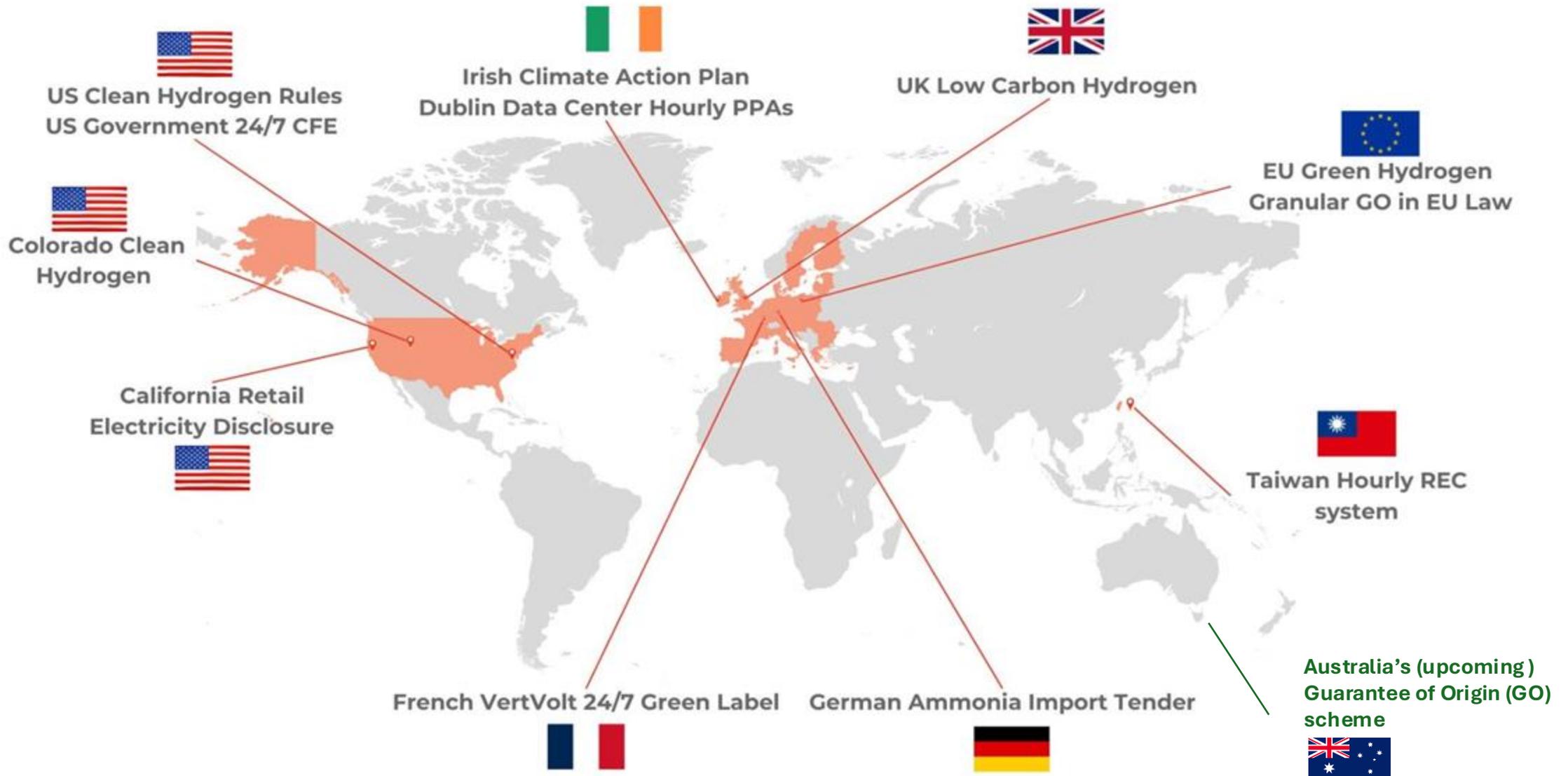
System costs and value contribution in India and Indonesia, 2030



IEA. CC BY 4.0.

- 24/7 portfolios induce much lower costs on power system than 100% annual matching.
- This means that these costs are not unfairly shifted from large corporate to other consumers in APAC countries.

Policy Enabling 100s TWhs of Granularity



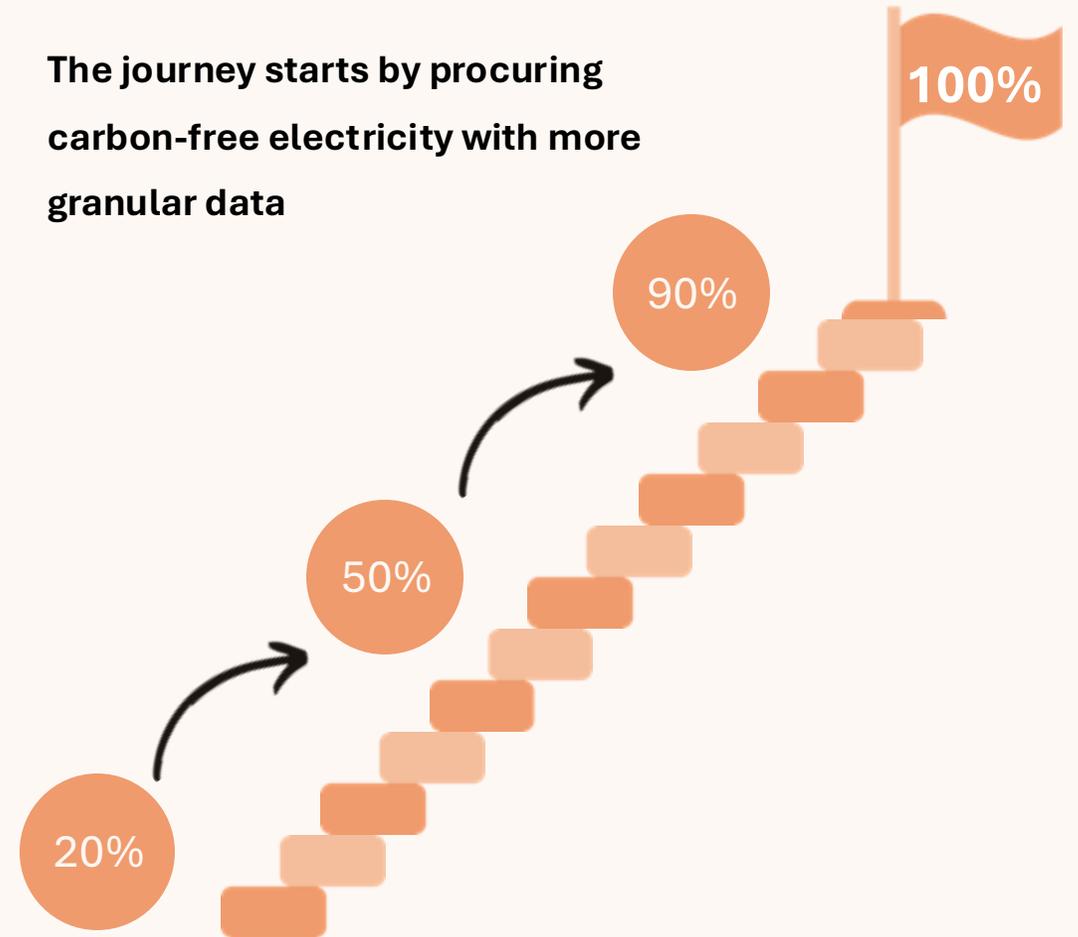


How to start sourcing 24/7 CFE?

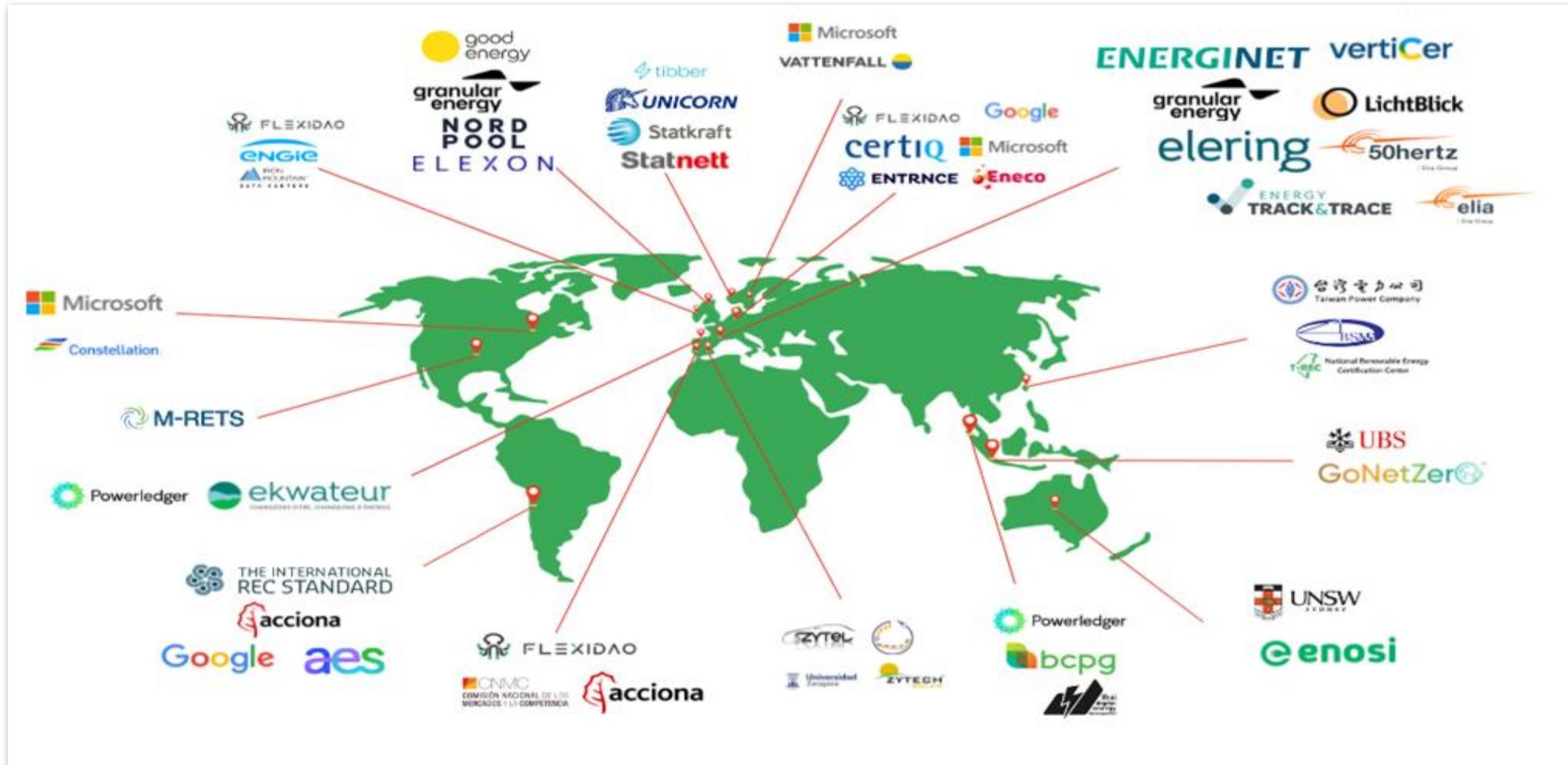
24/7 is a journey, but we must start now

-  **KNOWLEDGE BUILDING:** : Build knowledge & competencies
-  **FEASIBILITY:** Assess the gap towards 24/7
-  **PLANNING:** Develop detailed strategy and roadmap
-  **PROCUREMENT:** Secure the necessary resources, equipment
-  **DIGITALISATION:** Implement digital solutions to optimise
-  **CERTIFICATION:** Gain recognition and validation for attaining
-  **REPORTING:** presenting & acting on data and insights

The journey starts by procuring carbon-free electricity with more granular data



Hourly matching is happening today



Case studies

Global

GWs of Granular PPAs Are Signed

Deal	Buyer	Supplier	Volume	Hourly	Region	Deliverable	Additional	Signed In	Techno
Google Virginia 24/7	Google	AES	500 MW	90%	US - PJM	Same Grid	YES	2021	Solar PV, Wind, Li-Ion Battery
Google 24/7 Germany	Google	Engie	152 MW	~80% (by 2022)	Germany	Same Grid	YES	2021	Wind, Solar
Microsoft 24/7 Virginia	Microsoft	AES	576 MW	90%	Global	Bidding Zone	Old/New Assets	2021	Solar PV, Wind, Storage
AES/Microsoft California	Microsoft	AES	165 MW	100%	California, US	Same Grid	-	2022	Solar PV, Storage
US Gov Arkansas	US Gov.	Xcel	278 GWh	100%	Entergy Arkansas	Same Grid	Old/New Assets	2023	Solar PV, Wind, Nuclear, Hydro
Google 24/7 California	Google	SVCE	-	92% (by 2022)	US - California	Same Grid	YES	2022	Solar PV, Wind, Storage, Geothermal
Iron Mountain 24/7	Iron Mountain	NRG	-	100%	PJM, ISONE, NYISO	Same Grid	Existing Assets	2023	Wind, Hydro

Hourly Matching Happening in APAC



Project location
Chiang Mai, Thailand

Temporal matching
15 min

Geographical matching
Country level

Energy tracked (measured/forecasted)
1.5 GWh/y

Tracking method
Hourly Data

**Chiang Mai University,
Thailand**



Project location
ROC Taiwan

Temporal matching
15 min

Geographical matching
Country level

Energy tracked (measured/forecasted)
1,155.77 [GWh/y]

Tracking method
Granular Certificates

T-REC, Taiwan



Project location
Australia

EnergyTag audited
No

Temporal matching
5 min

Geographical matching
Market zone

Energy tracked
100 GWh/y

Tracking method
Powertracer & Granular Certificates

UNSW Sydney



Project location
Japan

Temporal matching
30 mins

Geographical matching
Country

Energy tracked (measured/forecasted)
NA

Tracking method
Hourly Matching

JERA Cross, Japan



Many more ...



Thank you

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Procurement's Next Frontier: **Imperfect Traceability**

REM Asia 2025
New & Impactful Procurement Strategies
29 April 2025

Barry Jones
Principal Value Chain Specialist



LOCK TWO THREE

Our influence on the decarbonisation of individual companies (...) has limits.

There are fundamental prerequisites, outside of our control, which impact our ability to meet our 2030 targets.

Global Financial Institution. 2024 Strategic Report

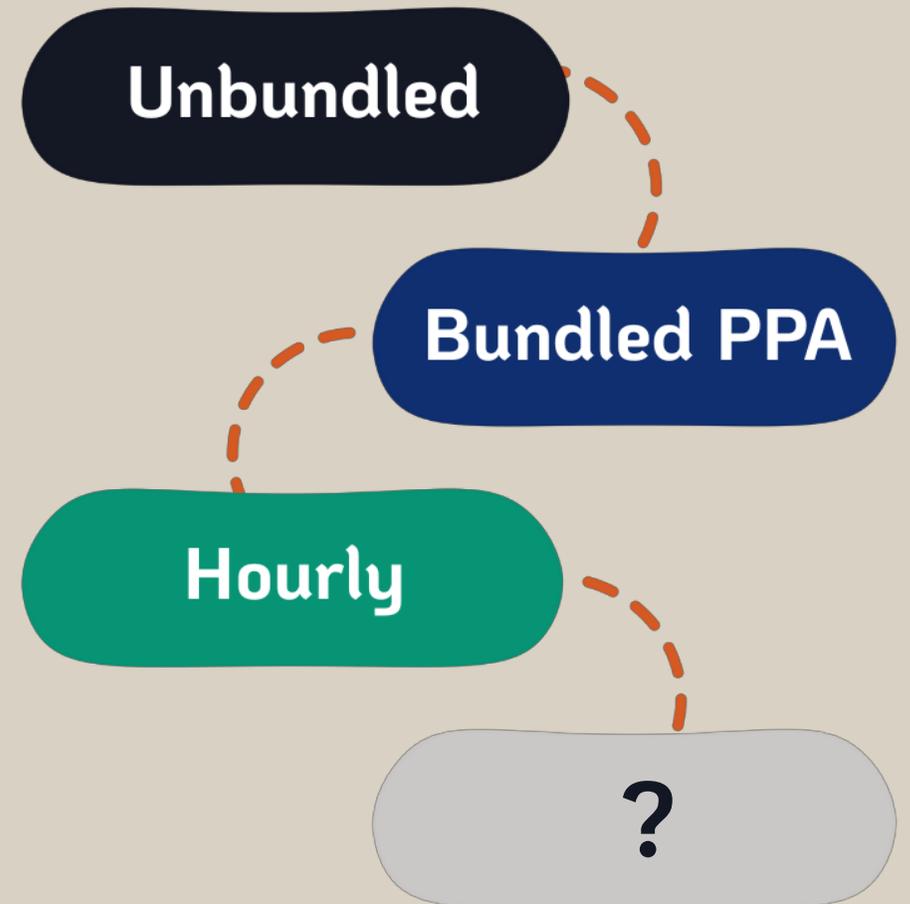
What We'll Cover

- How control affects markets
- Acting on imperfect data
- Case Study: Rice in India

How control affects Markets

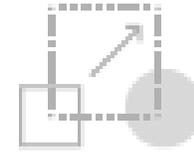
From Access to Action

- **Unbundled Procurement:**
electricity + certificates, separate contracts
“We’ll buy, to show we’re doing something”
- **Bundled Procurement:**
electricity + certificates, same contracts
“We’ll buy, because this is our preference”
- **Data → influence → transition → maturity**



Data Limitations: Scope 3

- Fragmented value chains create traceability challenges.
- Imperfect data \neq no accountability
- **Can we still act credibly, even without perfect traceability?**



26x

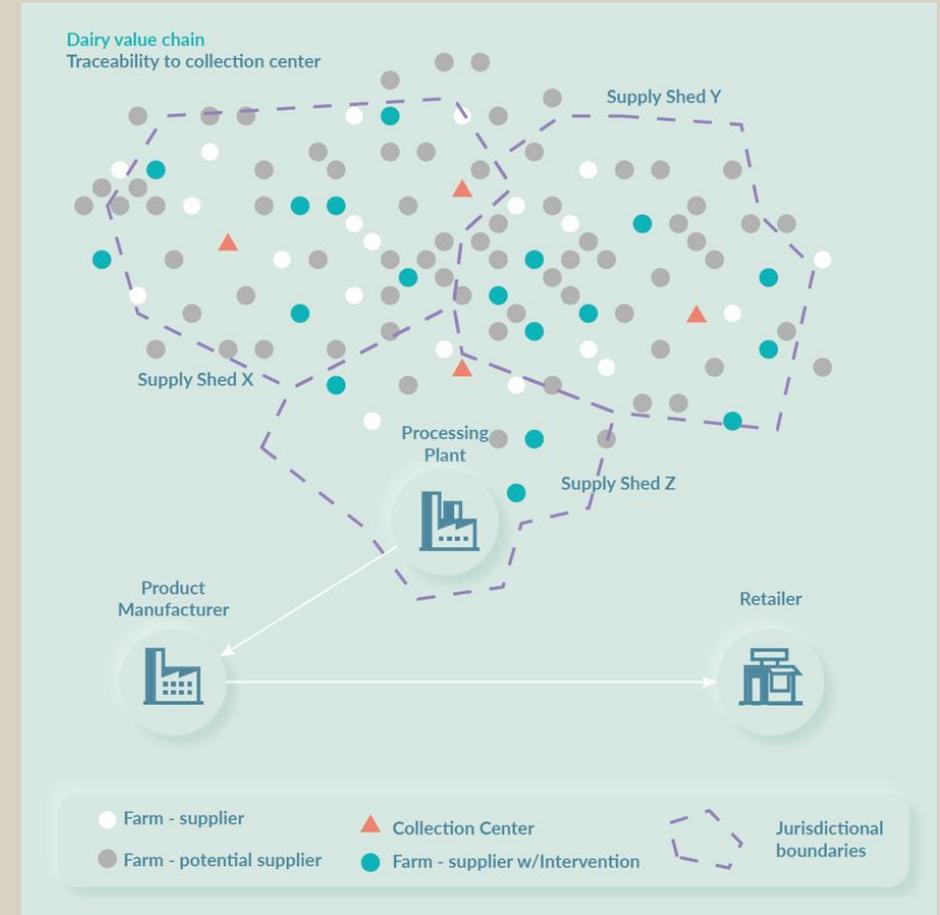
Supply chain
emissions are 26
times higher than
operational emissions

Scope 3 Upstream: Big Challenges, Simple Remedies .
CDP & Boston Consulting Group, June 2024

Acting on Imperfect Data

Supply Sheds & Activity Pools

- 1. Define a sourcing region.**
(ideally subnational).
- 2. Create estimates.**
(LCA / aggregated data).
- 3. Procure high integrity renewables.**
(against estimated load).
- 4. Transparently document interventions.**
(audit trail).



*Achieving net zero through value chain mitigation interventions
Value Chain Initiative, 2023*

What Frameworks Say

- **Rules are still being drafted**
 - Value Chain Initiative: “Supply Sheds”
 - Science Based Targets initiative: “Activity Pool Interventions”

Shared Principles:

1. Geographic specificity
2. Clear value chain link
3. Transparency is key to credibility

Case Study: **MARS**

Mars Inc.

Science-based Target:

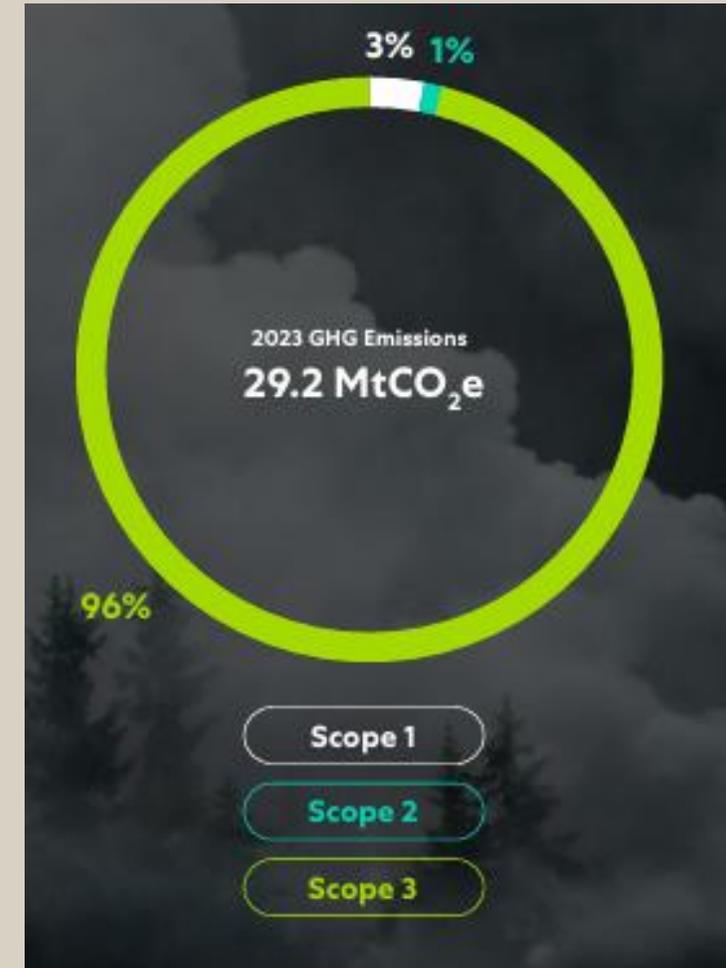
- Reduce total GHG emissions across value chain by **50% by 2030** (2050 Net Zero)

2023 Progress:

- 16% decrease in GHGs of full value chain (from 2015 baseline)

Hotspot:

- Electricity used in Rice Production (India)



*2023 Sustainable in a Generation Report,
Mars Inc.*

Challenges with Indian Rice Production

- Deeply fragmented supply chain
- Real electricity use – but data doesn't exist
- **Wait – or act?**



India Rice Supply Shed Intervention

- Supply shed region defined.
- Electricity use estimated via LCA factors.
- Indian solar and wind RECs retired to match footprint
- Full audit-trail for third-party review.

Taking action – despite limited traceability.

It's about action.
This isn't about perfection.

We cannot afford to wait for perfect traceability
before supporting real-world decarbonization.

Claiming Ownership of Value Chain Decarbonization

1. Identify

- Value Chain Components
 - Facility
 - Supplier
 - Commodity (Supply Shed)
- “Fair Share Allocation” (MWh)

2. Evidence

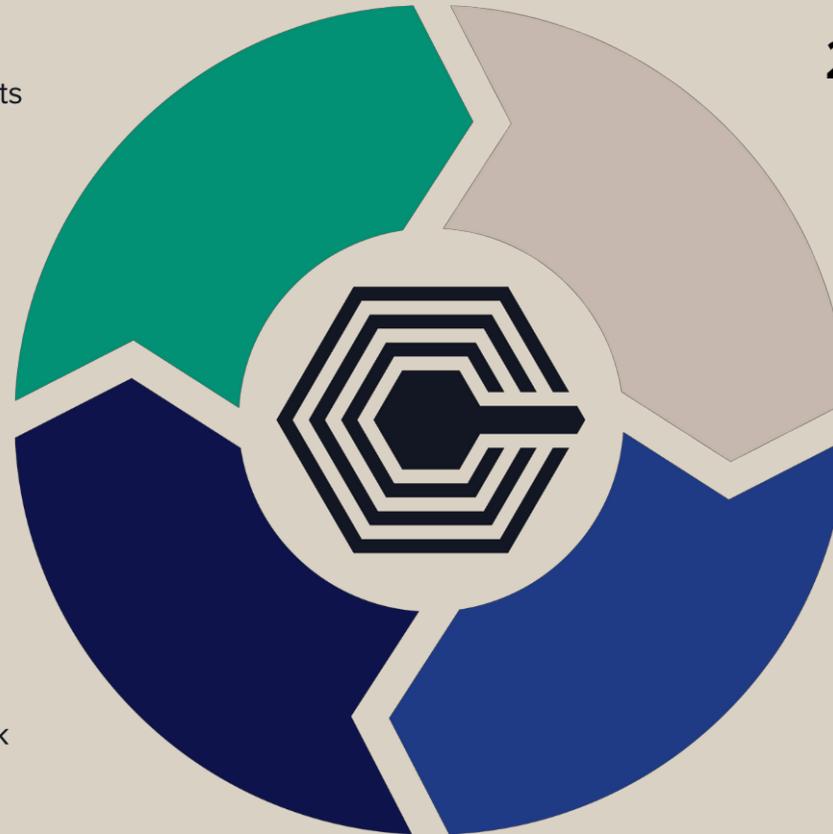
- How did you determine FSA?
 - Meter Reads
 - Utility Invoices
 - Attestation
 - LCA

4. Lock

- Make REC redemptions and lock them against **only** your Scope 3

3. Procure

- Procure RECs for the value chain matching the Brand’s FSA



www.lock23.com



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Thank You