




Intelligent Emissions Monitoring

Real-Time Carbon Accountability for Asia's Energy Transition

ASIA CLEAN ENERGY FORUM 2026



Closing the Gap Between Ambition and Evidence

-  Decision-making currently relies on 12-month-old carbon data estimates.
-  Manual spreadsheets create cosmetic precision without true auditable evidence.
-  Accountability is absent where sensors do not verify underlying data.

Regulators

Demanding verified, continuous emissions reporting

Investors

Pricing climate risk into capital allocation decisions

Markets

Cross-border carbon adjustments hitting Asian exporters now

From Annual Estimates to Real Accountability

01

Estimates

Backward-looking annual reports based on activity factors.

02

Disclosure

Tightening standards and mandatory climate reporting requirements.

03

Accountability

Sensor-verified intelligence replacing manual year-end approximations.

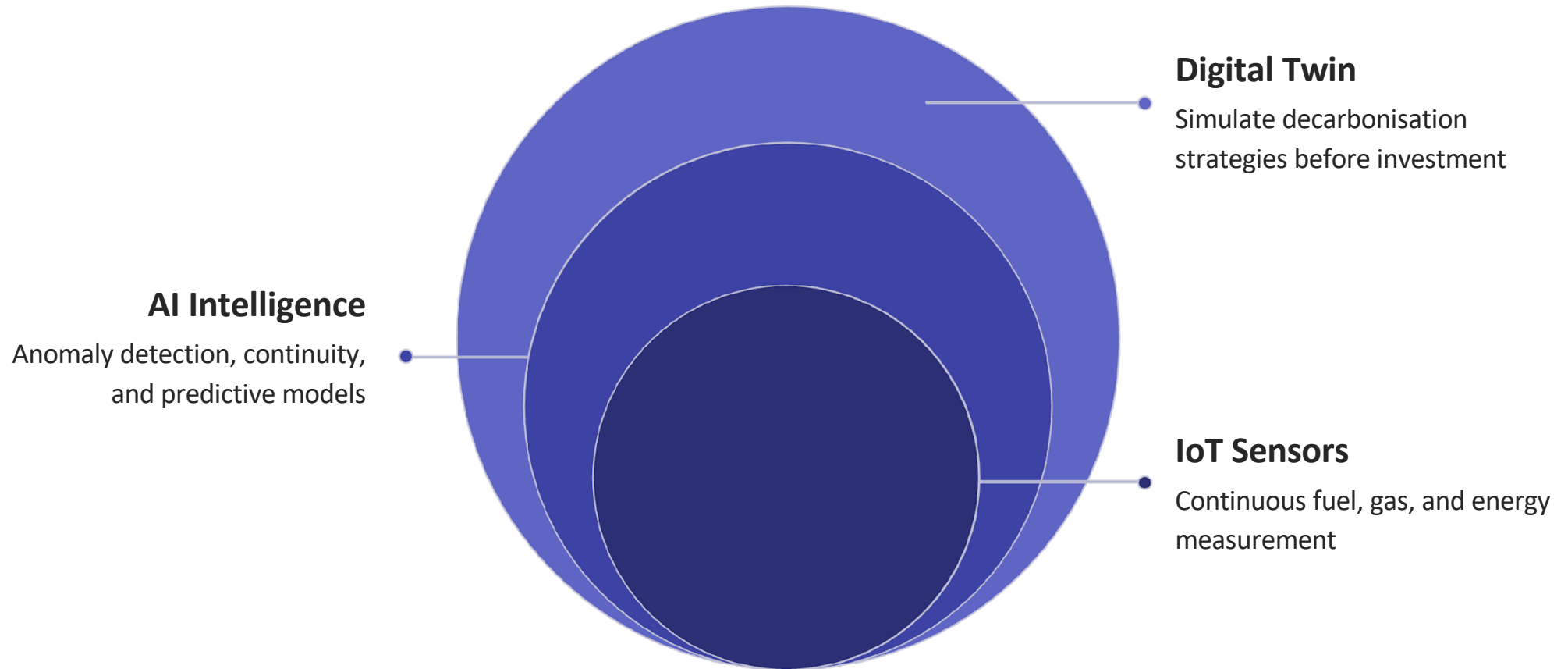
04

Strategic

Emissions monitoring becomes a critical financial license to operate.






The Technology: AI and IoT working together



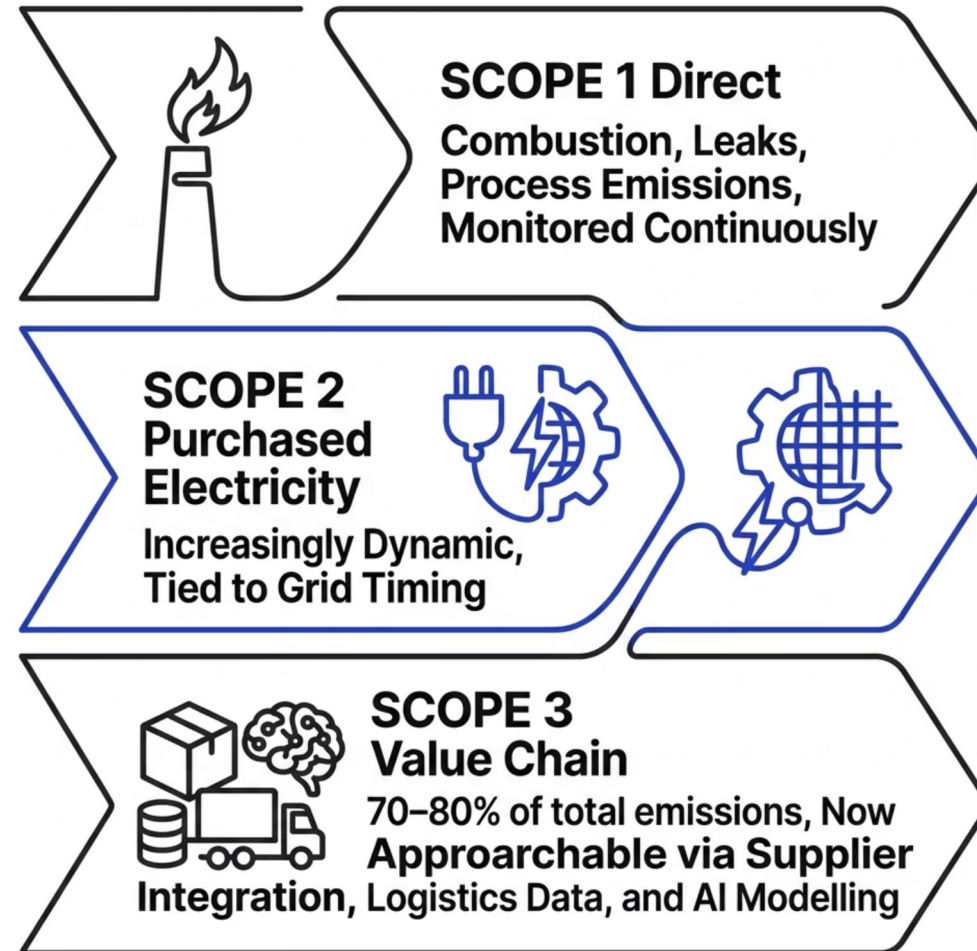
Hardware is the foundation, but the strategic value lives in the intelligence layer above it. AI enables organizations to stop merely *reporting* carbon and start actively *managing* it.



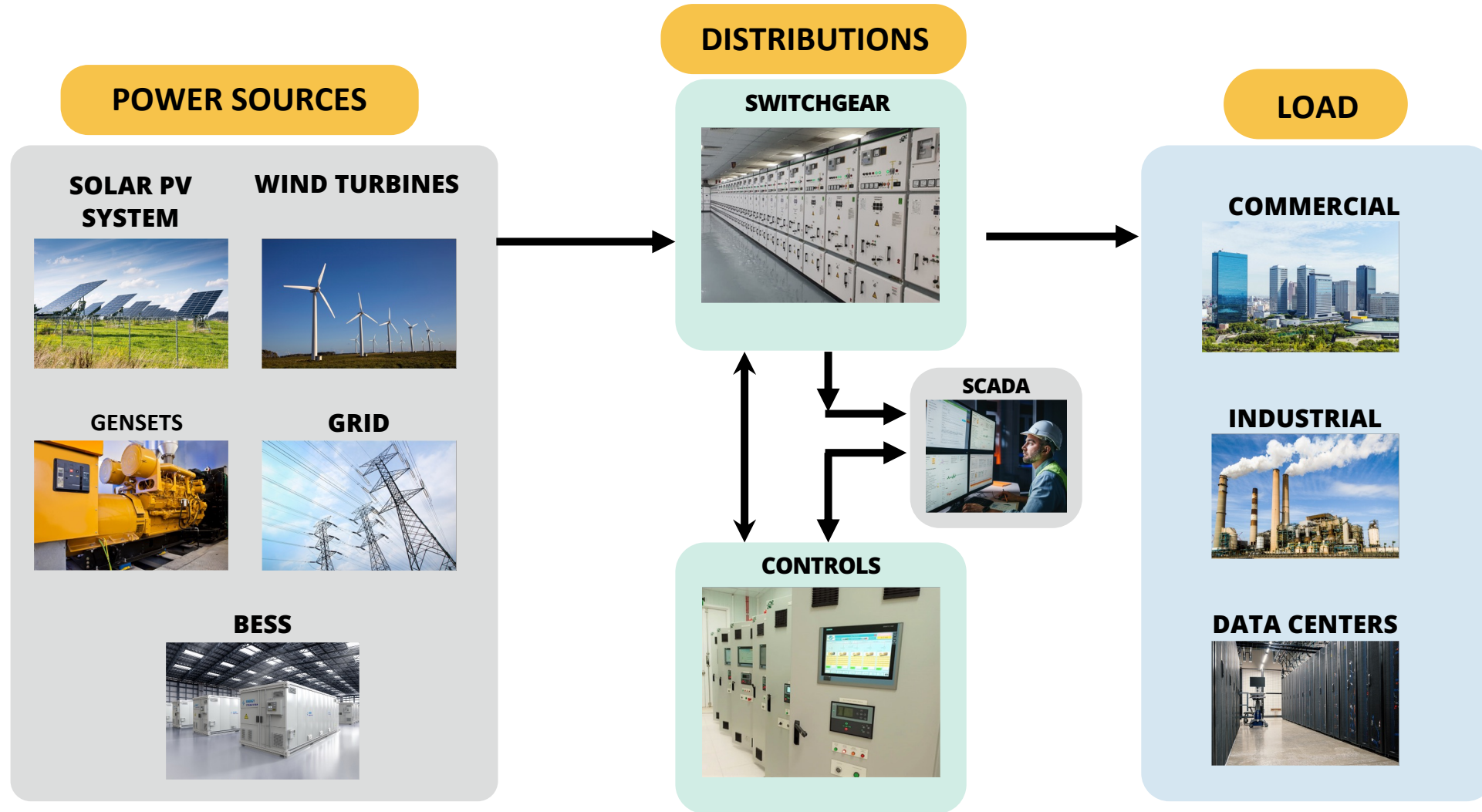
Scopes 1, 2, and 3: Full Visibility

-  **Scope 1:** Continuous monitoring of direct combustion and process leaks.
-  **Scope 2:** Dynamic tracking of energy consumption vs grid timing.
-  **Scope 3:** AI-driven supplier integration to illuminate the full value chain.

Full audit trails ensure every data point is time-stamped and traceable.



Customized Microgrid Solutions





Project Screens – Real Time Energy Monitoring

PCVue - Main window - ARC Informatique

PLANT LOAD
730 kW

SOLAR LOAD
730 kW

GRID LOAD
730 kW

GENSET LOAD
730 kW

WIND LOAD
730 kW

BESS LOAD
730 kW

ACTIVE ALARMS
12 Ack. 12

07/11/25
12:32:52

MASTER

Login Logout

- Dashboard
- Overview
- Solar
- WTG
- Gensets
- BESS
- Network
- Trending
- Alarms
- Events
- Reports
- Configuration

Active Power
3555 kW
Reactive Power
3555 kVAR
Frequency
49.99 Hz

Active Power
3555 kW
Reactive Power
3555 kVAR
Frequency
49.99 Hz

Active Power
3555 kW
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GENSETS

Genset	Status	Breaker	Power	PF	Frequency	Energy	Loading	
G3512H-CAT-01	■	Closed	220 kW	220kVAR	220	50.55 Hz	355678 kWh	20.59 %
G3512H-CAT-02	■	Opened	220 kW	220kVAR	220	50.55 Hz	355678 kWh	48.69 %
G3512H-CAT-03	■	Closed	220 kW	220kVAR	220	50.55 Hz	355678 kWh	92.63 %
G3516H-CAT-04	■	Closed	220 kW	220kVAR	220	50.55 Hz	355678 kWh	75.63 %
G3516H-CAT-05	■	Opened	220 kW	220kVAR	220	50.55 Hz	355678 kWh	20.59 %
MTU-01	■	Closed	220 kW	220kVAR	220	50.55 Hz	355678 kWh	48.69 %
MTU-02	■	Closed	220 kW	220kVAR	220	50.55 Hz	355678 kWh	92.63 %
MTU-03	■	Opened	220 kW	220kVAR	220	50.55 Hz	355678 kWh	75.63 %

SOLAR

Total Capacity: **3555 kW**
Total Active Power: **355546 kVAR**
Total Reactive Power: **96566 kVAR**

Performance Ratio: **3555 %**
Daily Energy: **35554674 kWh**
Total Energy: **45467 kWh**

105 kW

105 kW

105 kW

105 kW

SOURCES POWER

- SOLAR 16546 kW - 40 %
- GENSET 16546 kW - 40 %
- WIND 16546 kW - 40 %
- BESS 16546 kW - 40 %
- GRID 16546 kW - 40 %

WTG 01

Braking Start delay Cooling water pressure UPS battery Gear box oil level Cooling delay

Gear Oil Pump Temp: **50.3 °C**
Gear Oil Pressure: **960 mbar**
Gear Bearing Temp: **50.3 °C**

Finch Angle: **69.9 °**
Gen. Winding L1 Temp: **49.7 °C**
Gen. Winding L2 Temp: **49.7 °C**
Gen. Winding L3 Temp: **50.2 °C**
Wind Speed: **49.7 °C**
Wind Direction: **155.5 °**
Cooling Inlet Temp: **50.3 °C**
Nacelle Position: **269.8 °**

Active Power	Reactive Power	Apparent Power
3555 kW	355546 VAR	96566 kVA
Power Factor	Frequency	Generator Speed
3555	35554674 Hz	3500 RPM
Voltage VAB	Voltage VBC	Voltage VCA
3555 V	35554674 V	45467 V
Current A	Current B	Current C
3555 A	35554674 A	45467 A
Daily Energy	Monthly Energy	Total Running Hour
3555 kWh	35554674 kWh	45467 Hours

BESS

Current Mode: **VSG**

Current State: **Charging**

Daily Battery Cycles: **35** cycles
Total Battery Cycles: **3555765** cycles

Daily Charge Energy	Total Charge Energy	Chargeable Capacity
3555 kWh	355546 kWh	96566 kWh
Daily Discharge Energy	Total Discharge Energy	Dischargeable Capacity
3555 kWh	35554674 kWh	45467 kWh
Active Power	Reactive Power	Total Consumed Energy
3555 kWh	35554674 kWh	45467 kWh
Ambient Temperature	Avg. Cell Temperature	No. of PCS Connected
38.3 °C	49.7 °C	12

Solar Active Power

750 kW

Wind Active Power: **45467 kW**

Genset Active Power: **45467 kW**

Grid Active Power: **45467 kW**

BESS Active Power: **45467 kW**

BESS Charge Energy

45467 kWh

BESS Discharge Energy

45467 kWh

Trust the Data. Prove It to Anyone.



Full Audit Trails

Every data point is time-stamped, traceable, and immutable, accessible directly by third-party auditors, not just processed reports.



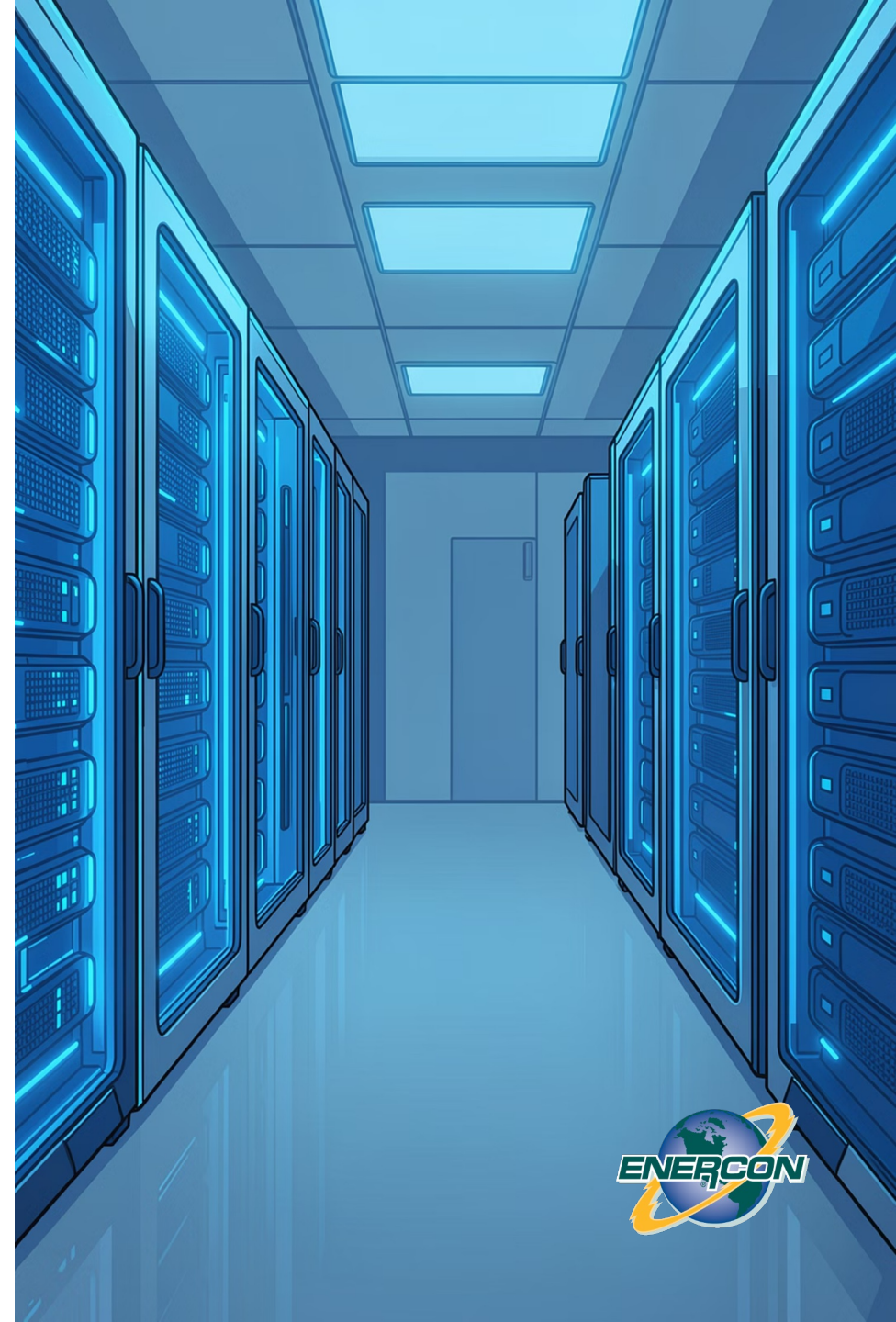
Multi-Jurisdiction Ready

Single data layer reporting across Singapore, China, Korea, and beyond, eliminating costly parallel reporting systems.



Standards Aligned

Built to GHG Protocol, ISO standards, and emerging MRV frameworks, ready for regulatory scrutiny today and tomorrow.



From Cost Centre to Competitive Advantage

Not just for Compliance

- ✔ For companies that move early, real-time emissions intelligence becomes a **competitive advantage**.



Credible data enables access to preferential green financing terms.



Global buyers prioritize suppliers with real, auditable transparency.



Operational savings often justify the investment through efficiency gains.

Moving from Pledges to Proof

Asia's energy leaders will be defined by their data, not just their targets.

THANK YOU FOR YOUR ATTENTION

Q & A

