

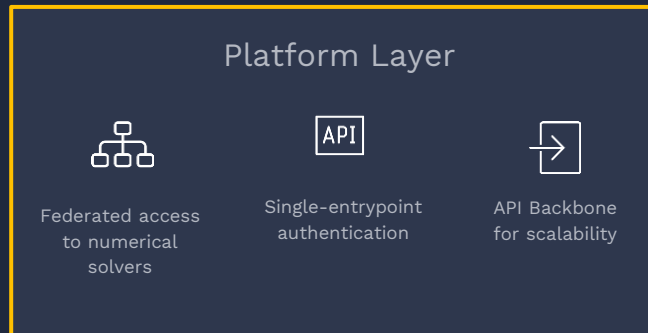
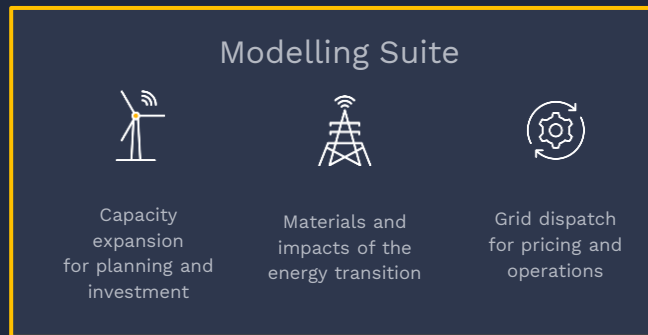


Quantifying the trade-offs

Modelling tools to enable well-informed
interconnection design options

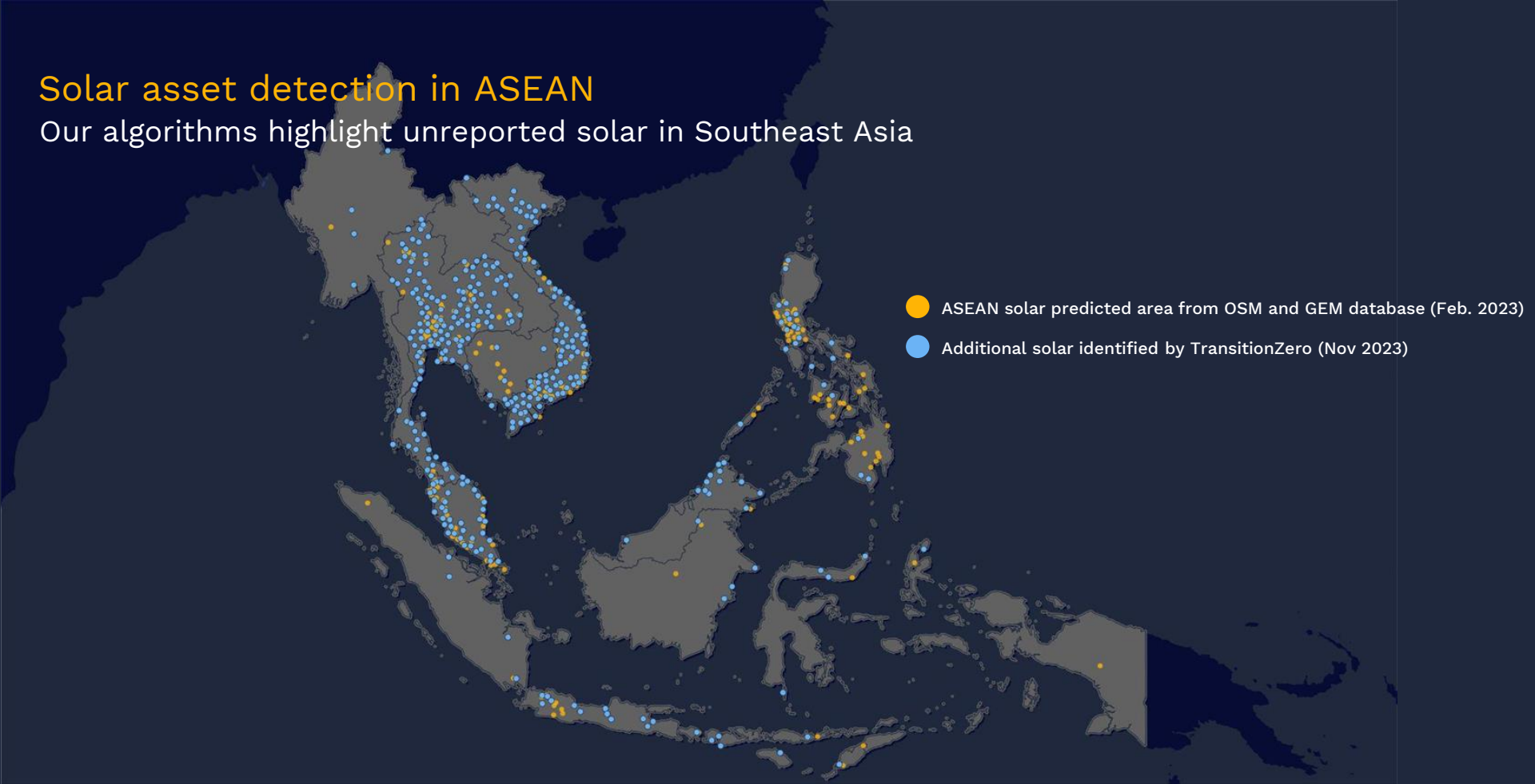
TransitionZero is empowering partners with open data products to shape a clean energy future

We build open energy transition products without usability barriers to help scale an open data standard for energy transition planning.



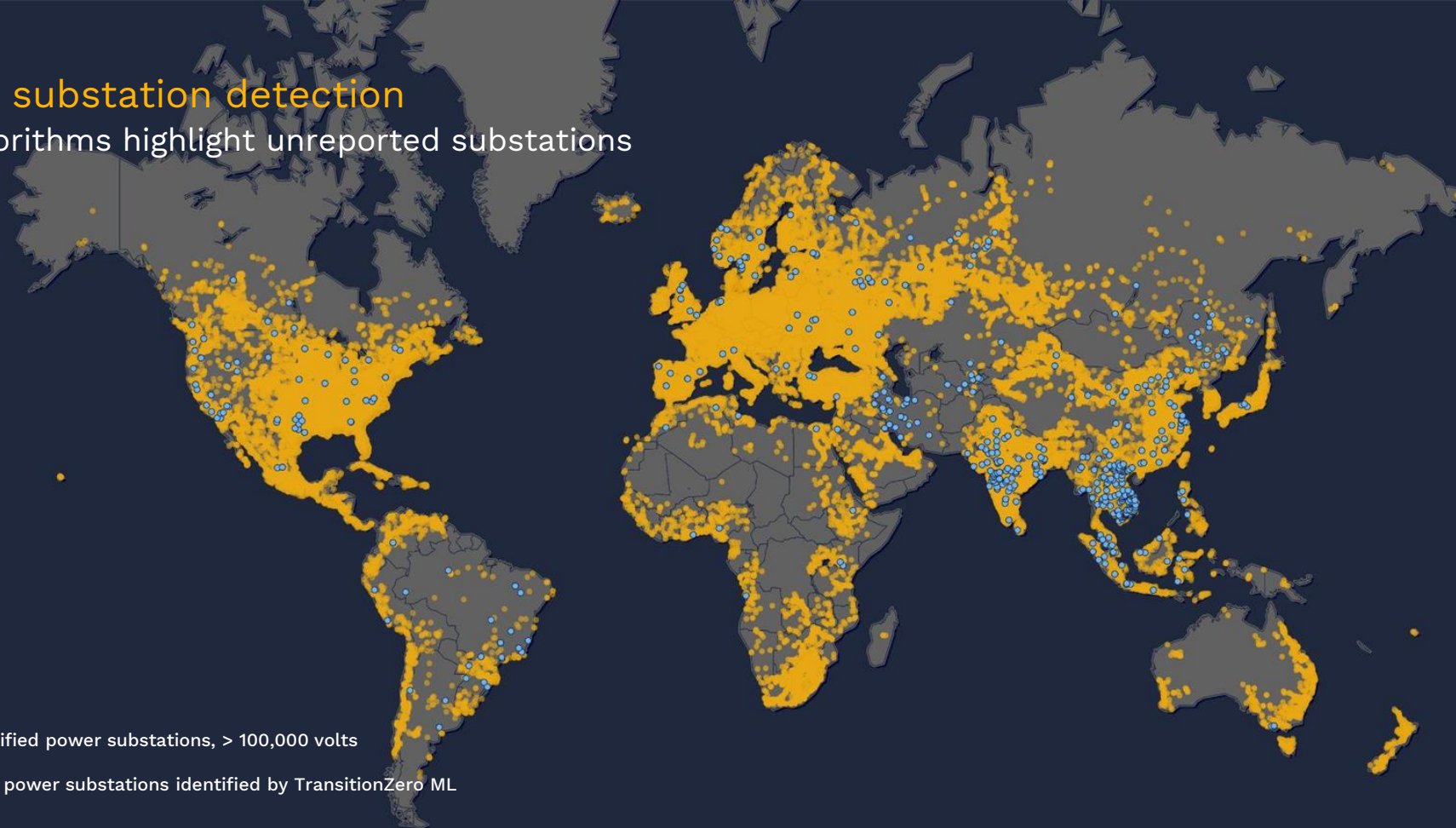
Solar asset detection in ASEAN

Our algorithms highlight unreported solar in Southeast Asia



Global substation detection

Our algorithms highlight unreported substations

- 
- OSM identified power substations, > 100,000 volts
 - Additional power substations identified by TransitionZero ML

Future Energy Outlook

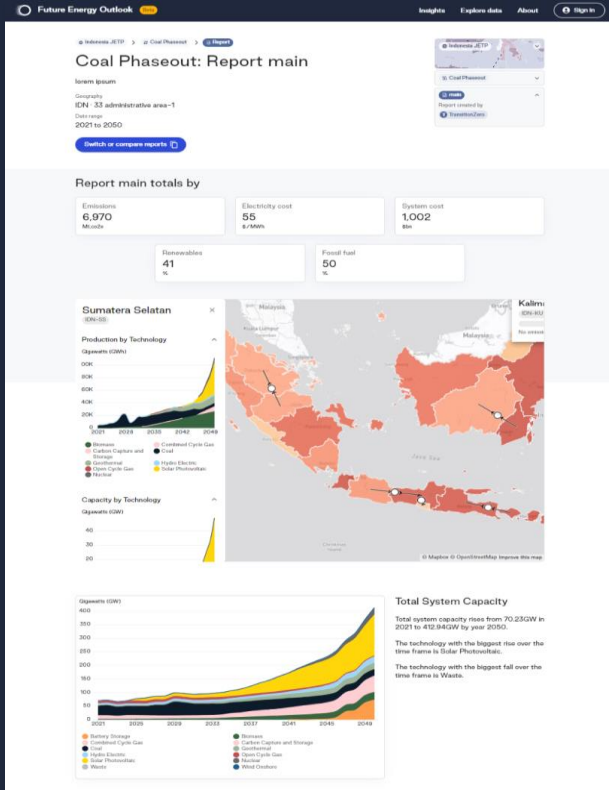
A software platform to answer 'what if' questions about the energy future

What if...

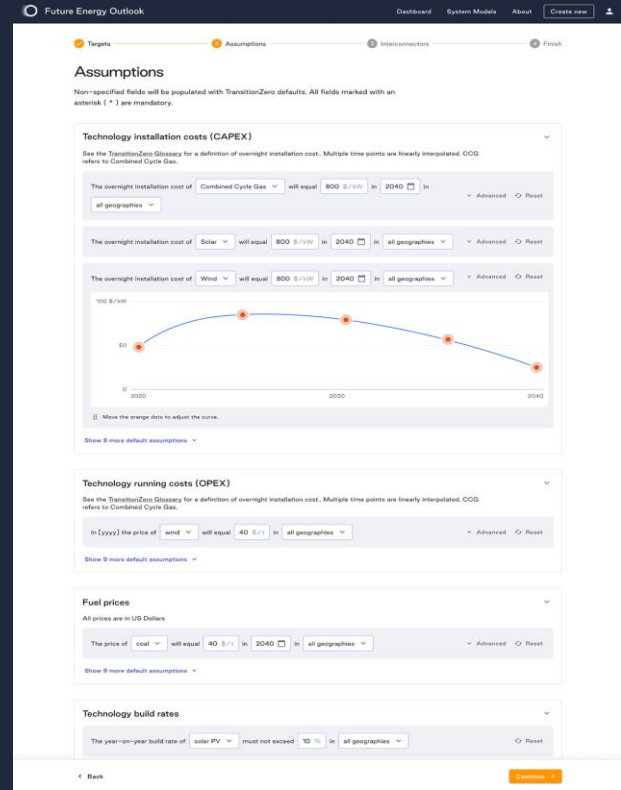
- ... RE100 membership requires 24/7 carbon-free energy
- ... coal generation is phased out by 2030
- ... extreme weather disrupts Pacific LNG trade
- ... the ASEAN Power Grid becomes a reality**
- ... battery costs drop 90% by 2035
- ... air conditioning demand increases 10x by 2040
- ... water shortage disrupts lithium mining



FEO supports net-zero, least cost, and current policy scenarios



FEO helps users build models, and test assumptions



Global interconnector report

Scenarios:

FEO (Future Energy Outlook)

Results database:

A global energy systems planning model

No Grid Scenario (NGS)

Meet net-zero by 2040
without expanding
existing grid systems

Grid Upgrade Scenario (GUS)

Meet net-zero by 2040
allowing expansion of
existing grid systems



2020-2040



Covers 163 countries and
99% of the world's population



Subnational scale
(at least one node per country)



Hourly, seasonal and annual
representation



Captures generation, storage and
transmission systems

Total System cost (USD)

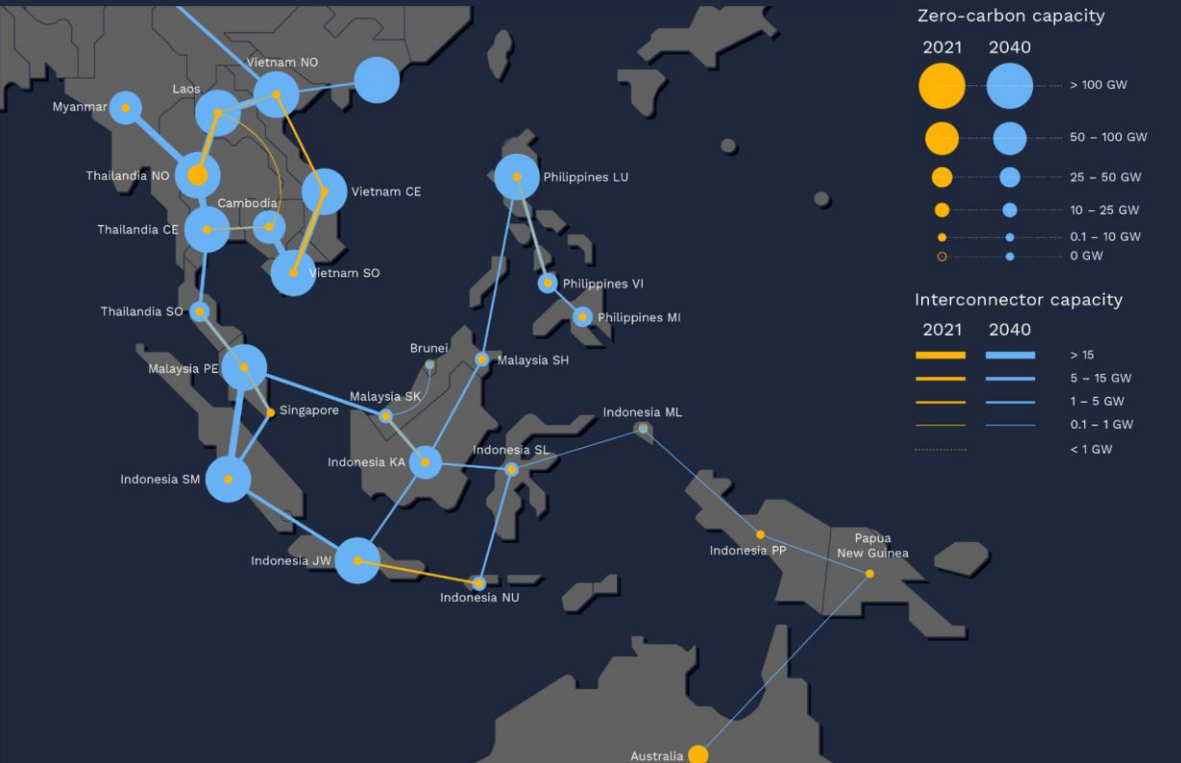
Generation Capacity (GW)

Storage Capacity (GWh)

Grid Capacity (GW)

Emissions (MtCO₂eq.)

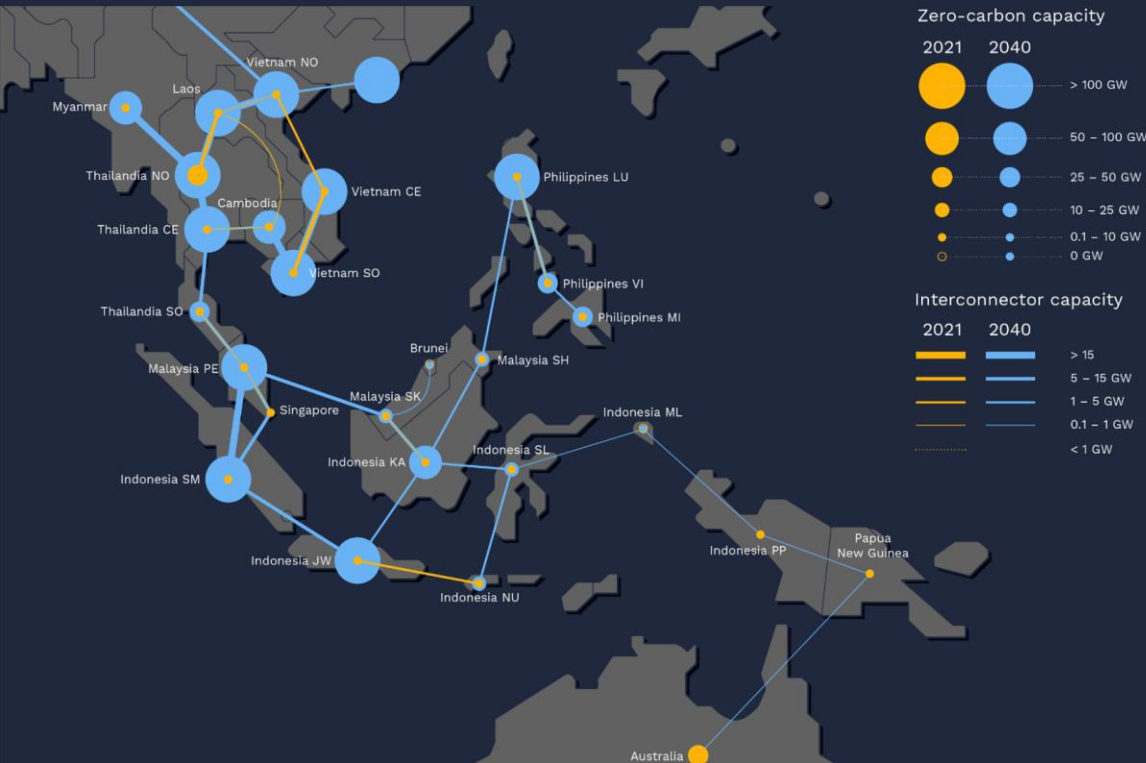
In-Focus: Southeast Asia (1)



Grid expansion integral to national transition plans

- Generation-focused power development strategies of the past are hindering fast and scalable decarbonization progress
- Regional policy-makers are actively evaluating new system design options, with a focus on investment in long-distance high voltage transmission cables to connect RE-rich areas to socio-economic hubs
- National net-zero targets have triggered renewed interest in cross-border power exchange, and at greater scale

In-Focus: Southeast Asia (2)



Taking charge of the new normal with more and better modelling

- The region's power system outlook is constantly shifting, with national planning cycles being disrupted by new market dynamics
- Energy planners and policymakers must be able to test and adjust systems development scenarios when new technologies and policy priorities emerge
 - Understanding the "What ifs"
 - Adjusting to alternate scenarios
- Open-access modelling tools like FEO are designed to support adaptability and inclusivity in power system planning
- Better data supports consensus-building among policy stakeholders focused on different system design options



Reach out at:
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