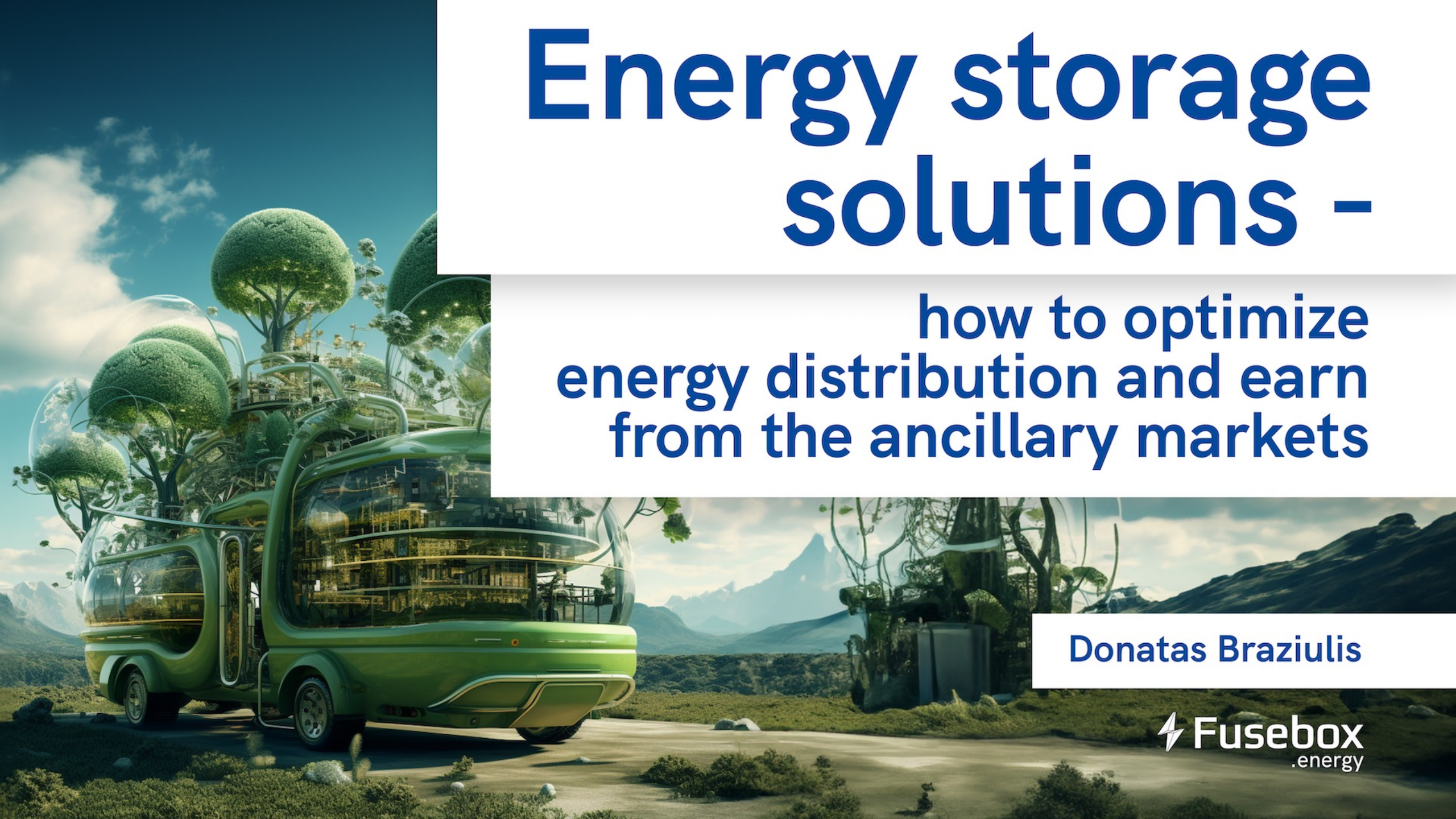


Energy storage solutions -

how to optimize energy distribution and earn from the ancillary markets

Donatas Braziulis

 **Fusebox**
.energy



About Fusebox



9 countries | **2m activations** | **7000 MWh** | **3400 t/CO₂**

The Fusebox solution is suitable



for the following sectors



INDUSTRIAL SITES



HEIDELBERGCEMENT

SIEMENS

graanul invest



EV CHARGERS



Latvenergo

ignitis group

eMabler

Bolt

STARSHIP

COLD STORAGE WAREHOUSES



Premia



NORDNET LOGISTICS

Suomen Tekojää

Polarica

COMMERCIAL BUILDINGS



MAXIMA

CITYCON

ICA

WATER TREATMENT PLANTS



Tallinna Vesi



KLAIPĖDOS VANDUO

HEAT PUMPS



TRV KLIMA



RENEWABLES



Roofit.Solar

SUNROOF

SGLARSTONE

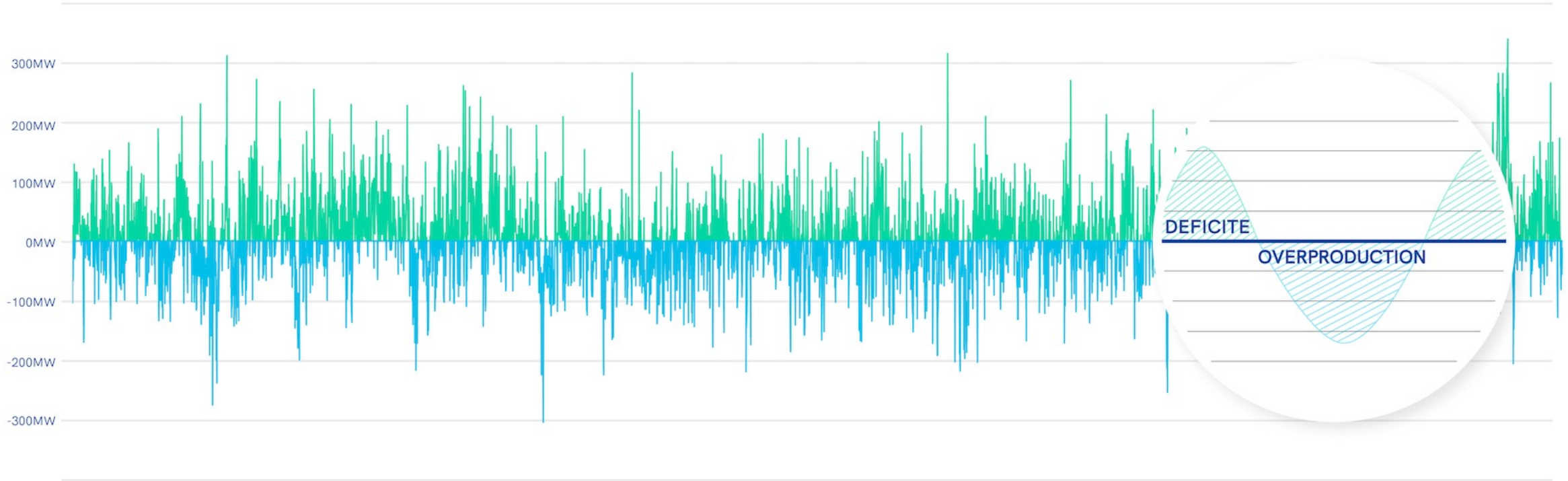
BATTERIES



PIXII



Keeping the lights on is hard work

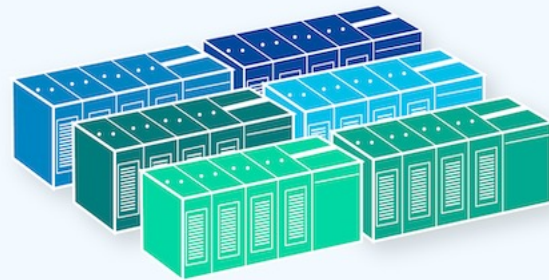


The easiest step

towards flexible consumption



SOLUTION¹
Fossil fuel
peaker plants

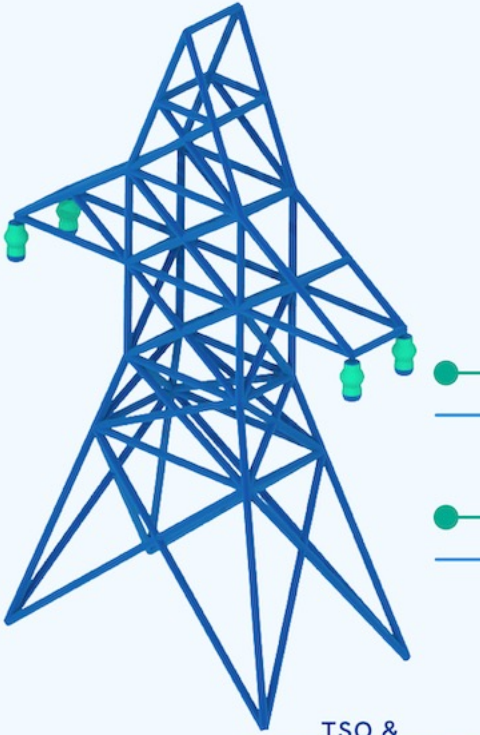


SOLUTION²
Physical
energy storage



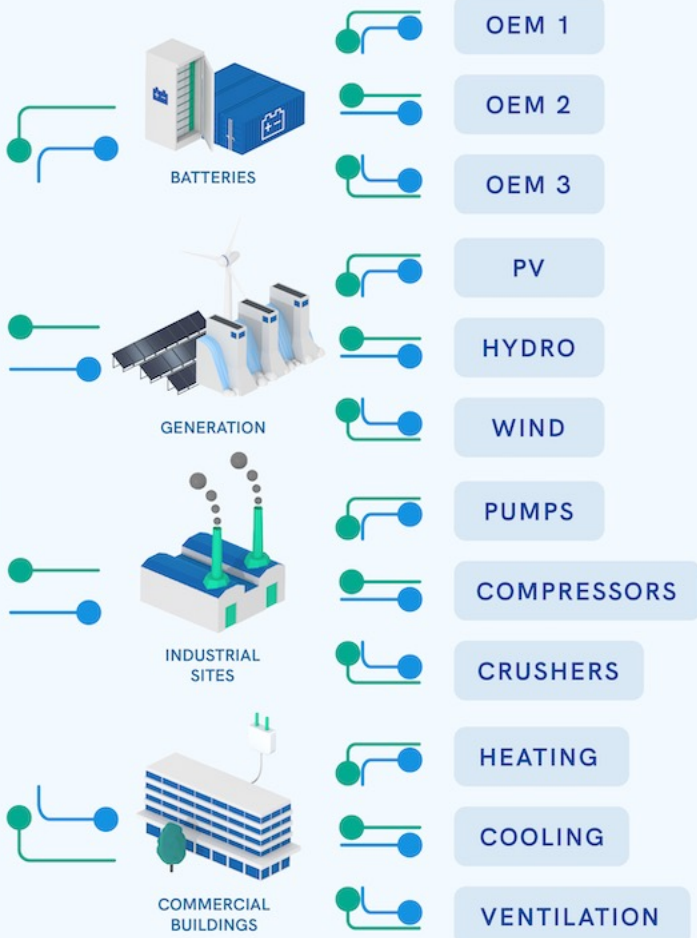
SOLUTION³
Smart software

What is VPP?

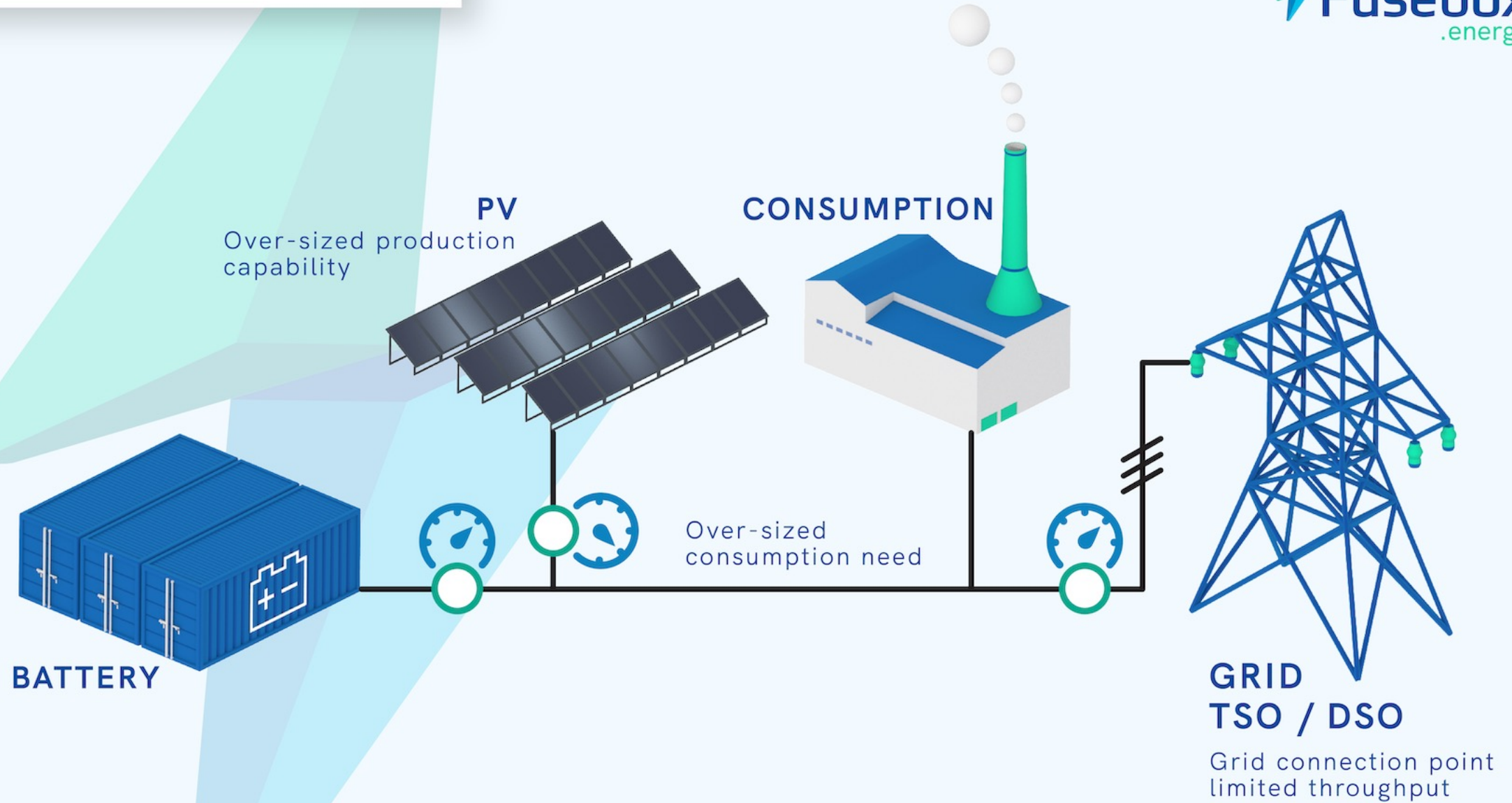


TSO DATA EXCHANGE

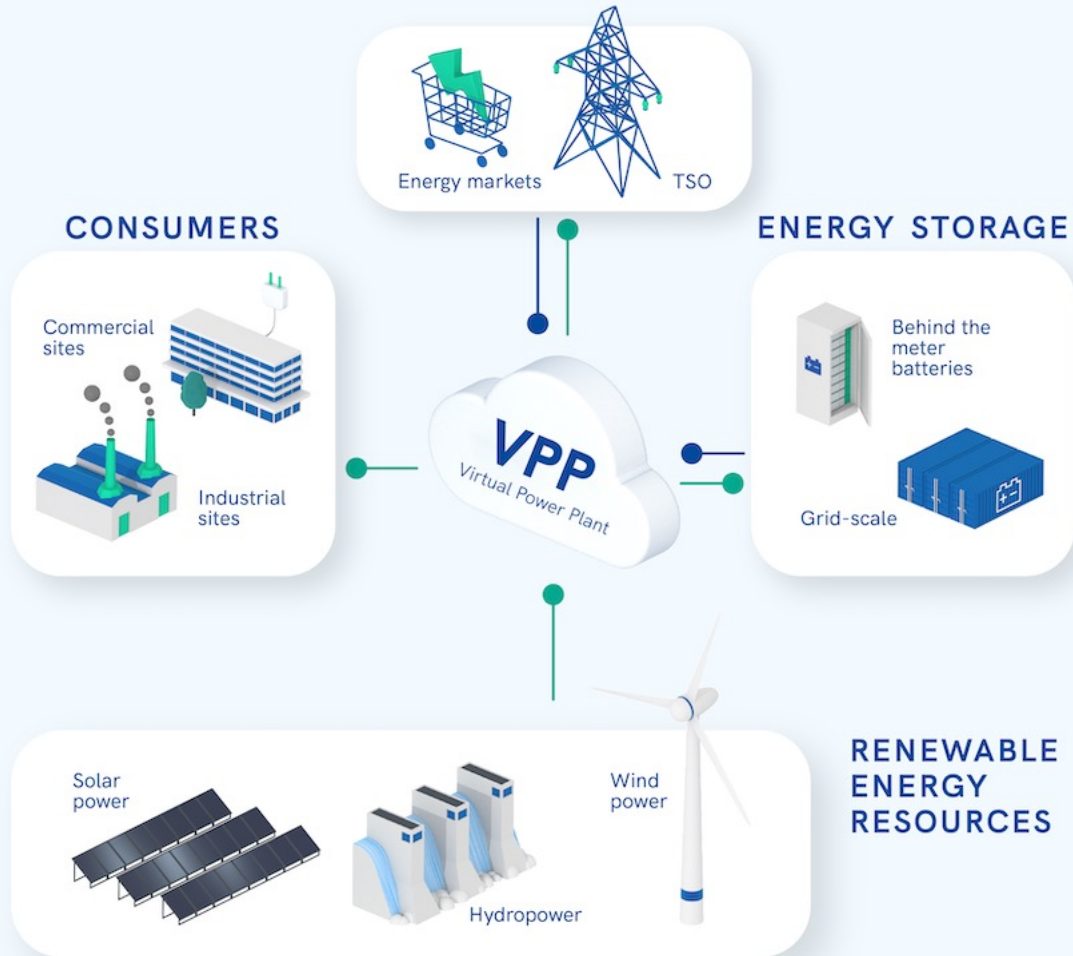
BRP TRADING DESK



EMS example



Business models



EMS
Model 1

VPP
Model 2

Business case 1



Energy arbitrage → EMS

Generating additional income through energy arbitrage, with revenue sharing for asset owners.

What you need

- Energy storage capability
- Real-time telemetry

Optional:

- Cooperation between renewable and demand-side resources (small & medium-scale assets)
- TSO integration for improved arbitrage via ancillary services for increased price difference

What we do

- Activate energy arbitrage scheduling based on prices
- Implement reporting and billing
- Consider PV and wind production in operation choices

Results

- Managing Energy
- Expanded market options
- Increase revenue
- Maximized earnings by managing energy market volatility and balancing services

Business case 2



Ancillary markets → VPP

Creating revenue streams through the provision of ancillary services to TSO.

What you need

- **Integration with TSO:**
 - mFRR, aFRR bidding and FCR bidding and control
 - real-time telemetry capabilities
- **Integration with Assets:**
 - real-time telemetry with control and monitoring capabilities

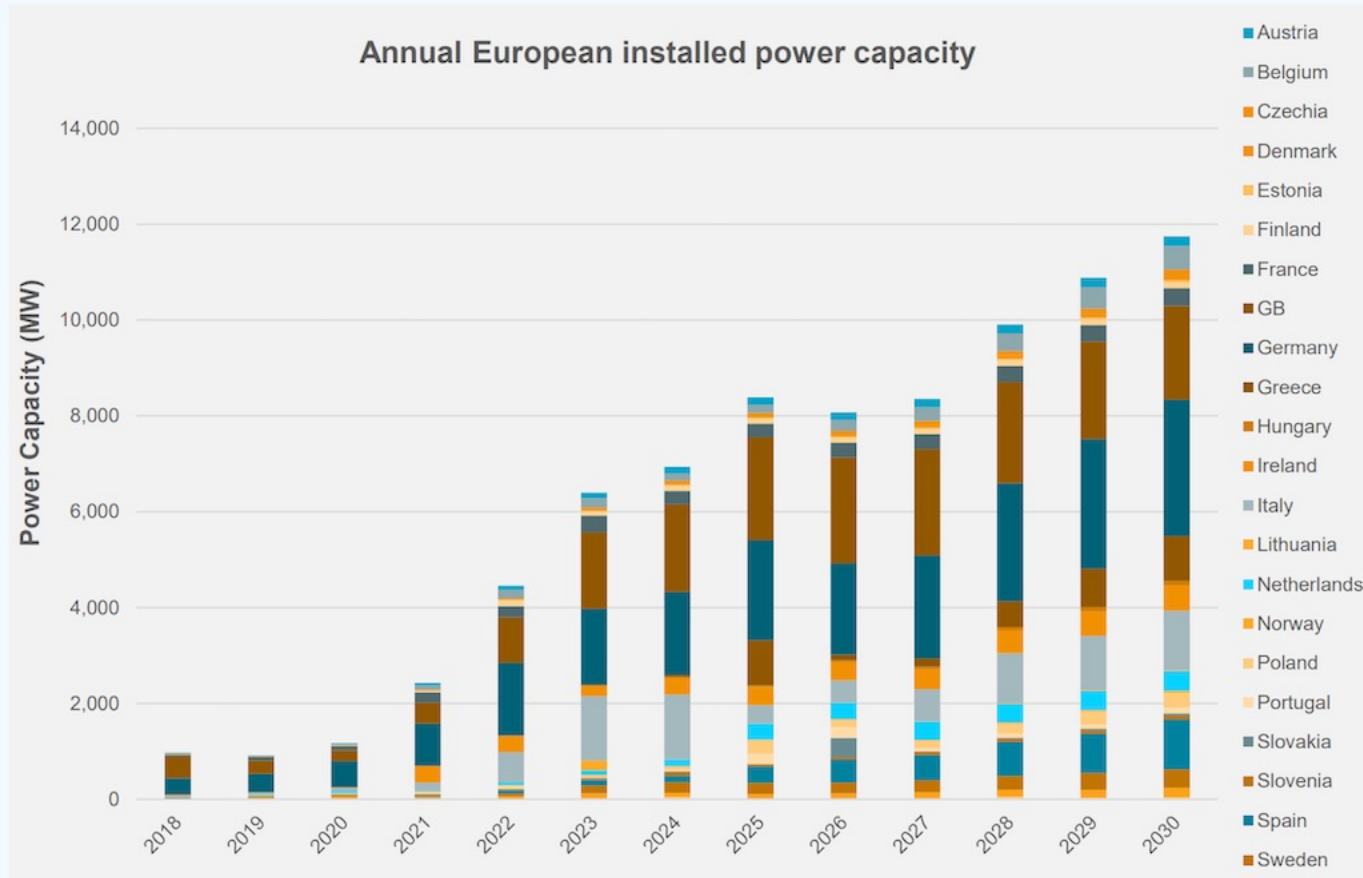
What we do

- Price strategy, bidding, market result monitoring, and scheduling
- Dispatch and regulation
- Reporting, settlement, and billing
- Support & training

Results

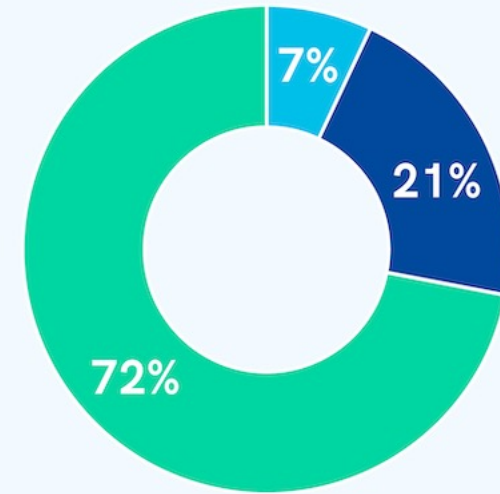
- New revenue stream
- Expanded market options
- Increase revenue
- Maximized earnings by managing energy market volatility and balancing services

Future for BESS



Source: LCP Delta

- Residential
- Commercial and industrial
- Utility



**Battery size
total capacity share**

Source: McKinsey & Company

Future for Estonia



- **Desynchronization from the Russian grid**

- **FCR**

- FIN BESS 1kW/2kWh FCR-N revenue 2023 230k EUR

- **mFRR**

- EST BESS 1kW/1kWh mFRR revenue 2023 70k EUR



Smart

Energy Solutions

Fusebox is comprised of 32 professionals
working across the globe

Donatas Braziulis | Baltic Aggregation and Product Manager
+372 5680 5895 | donatas@fusebox.energy

 **Fusebox**
.energy