



DHYBRID ENERGY SOLUTIONS

OUR POWER. YOUR ENERGY.

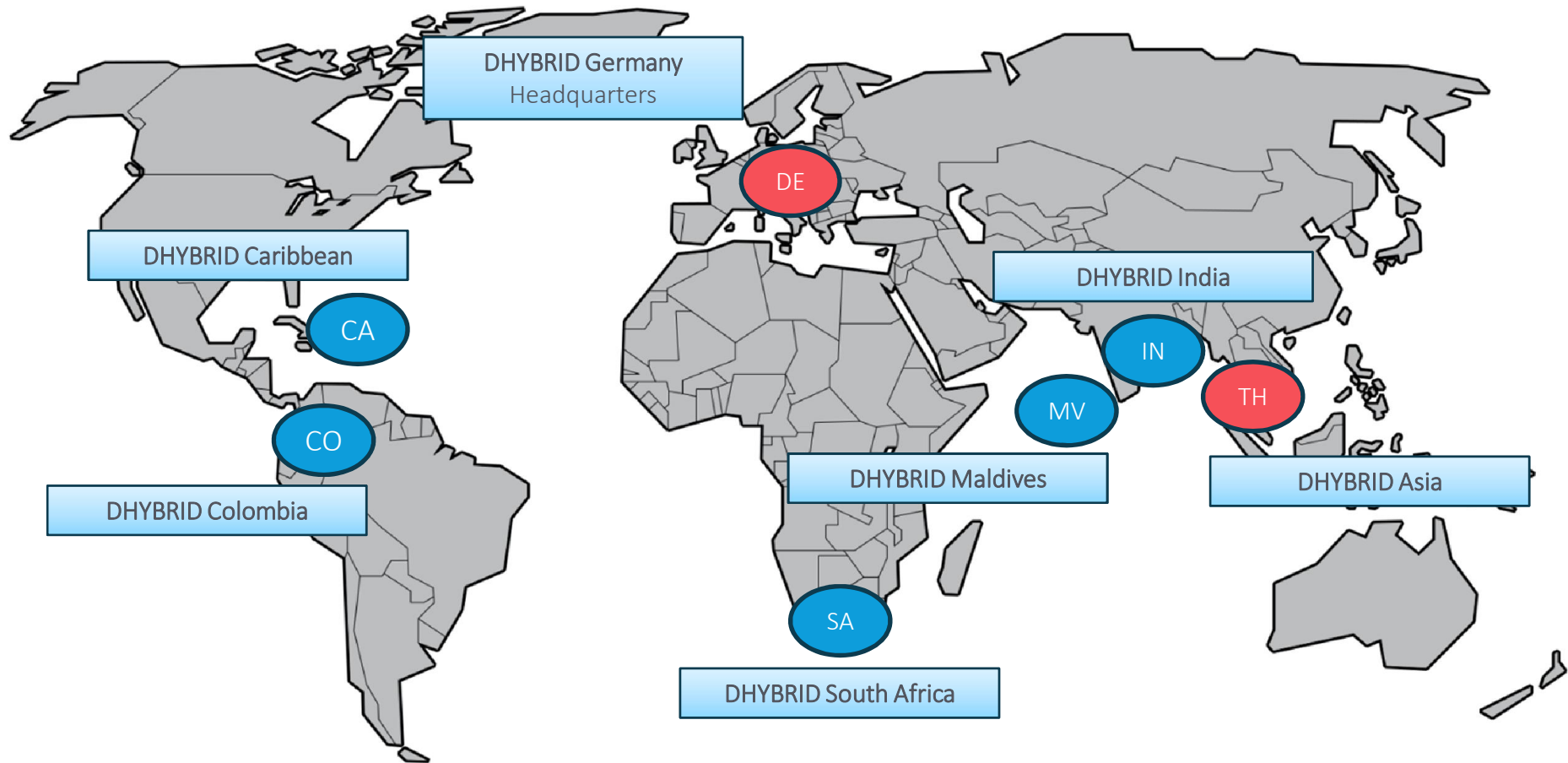
INTRODUCTION OF DHYBRID

DHYBRID is the leading provider of **renewable energy** concepts and **smart-grid** solutions for islands, utilities and industry.

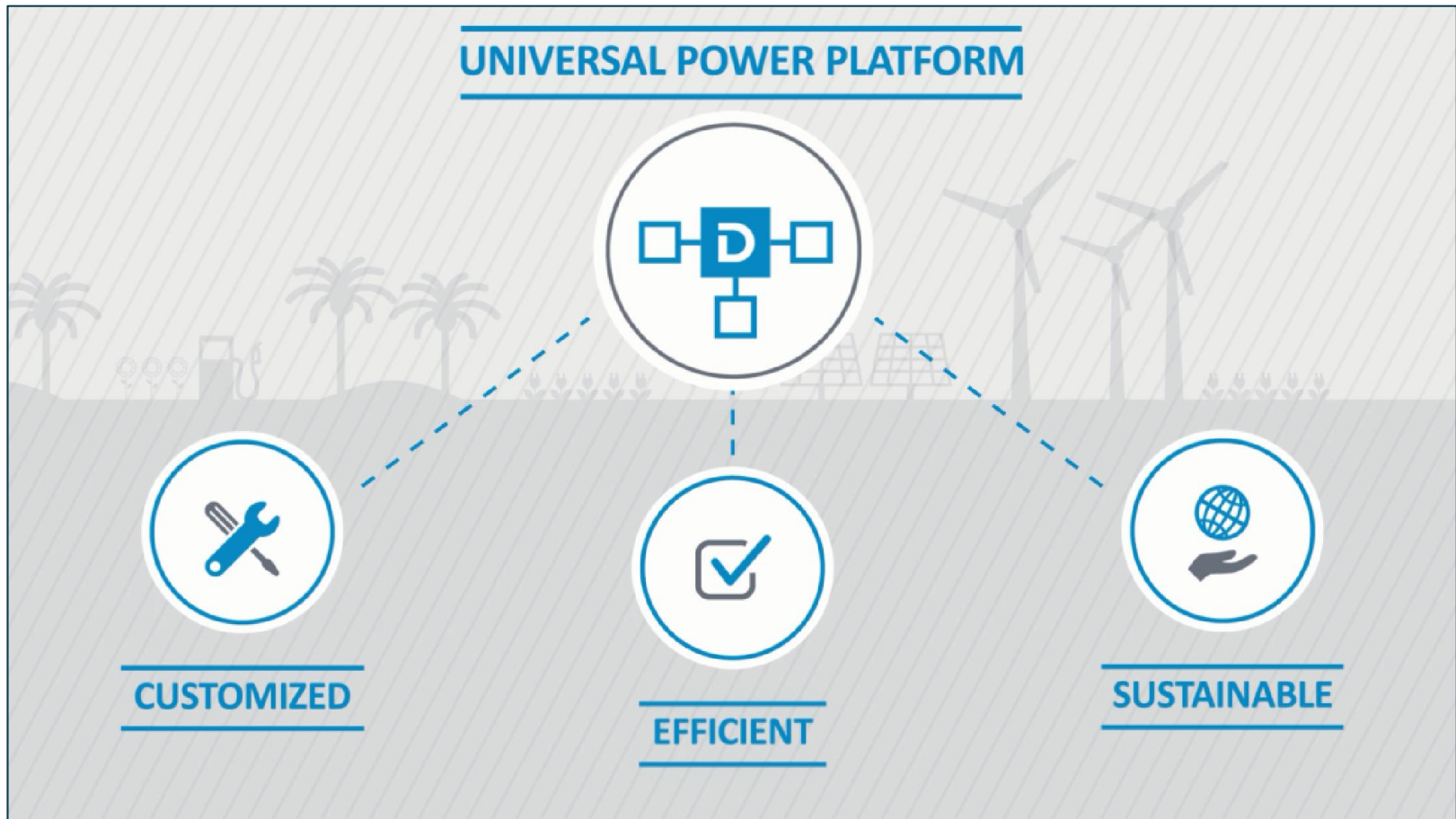
DHYBRID provides tailored solutions from **energy management** systems up to **fully integrated renewable energy** projects to significantly reduce the energy consumption and carbon footprint of our clients.



DHYBRID OFFICES



INTRODUCTION OF DHYBRID

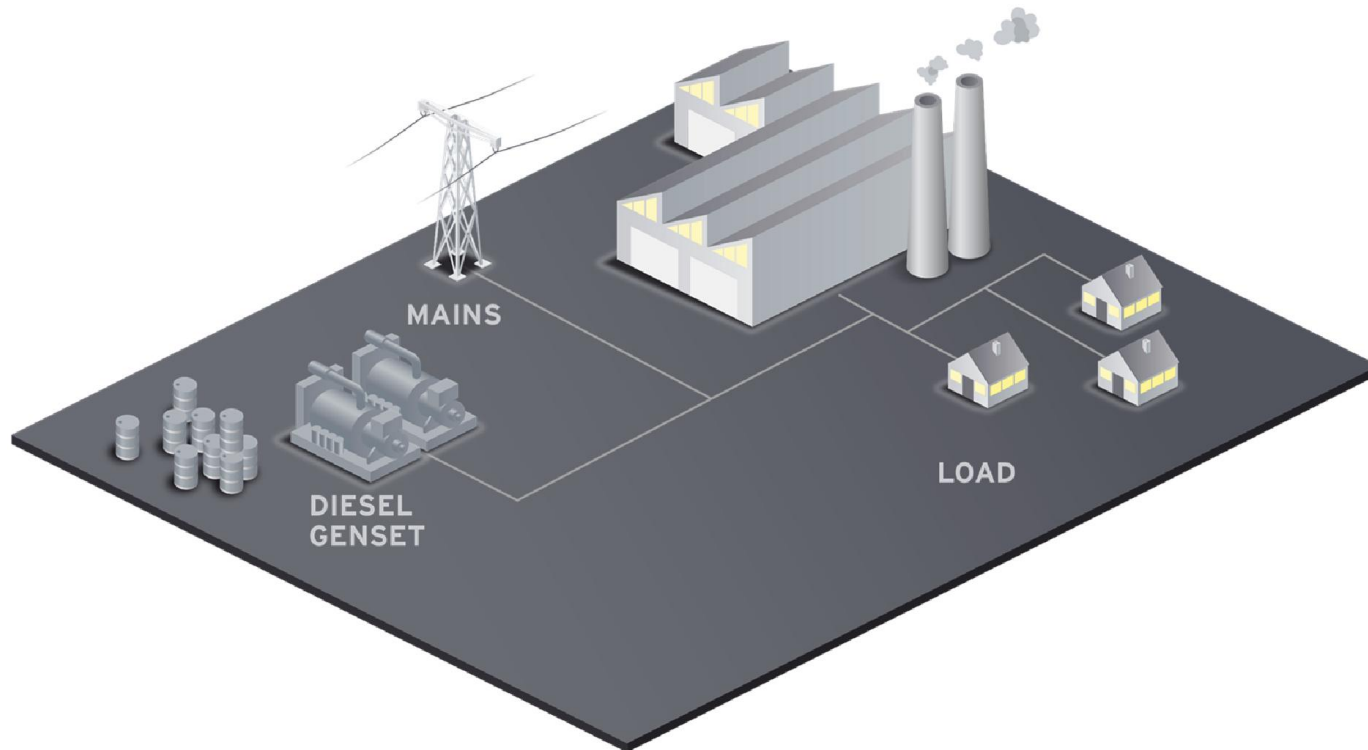


INTRODUCTION OF DHYBRID

YOUR BENEFITS

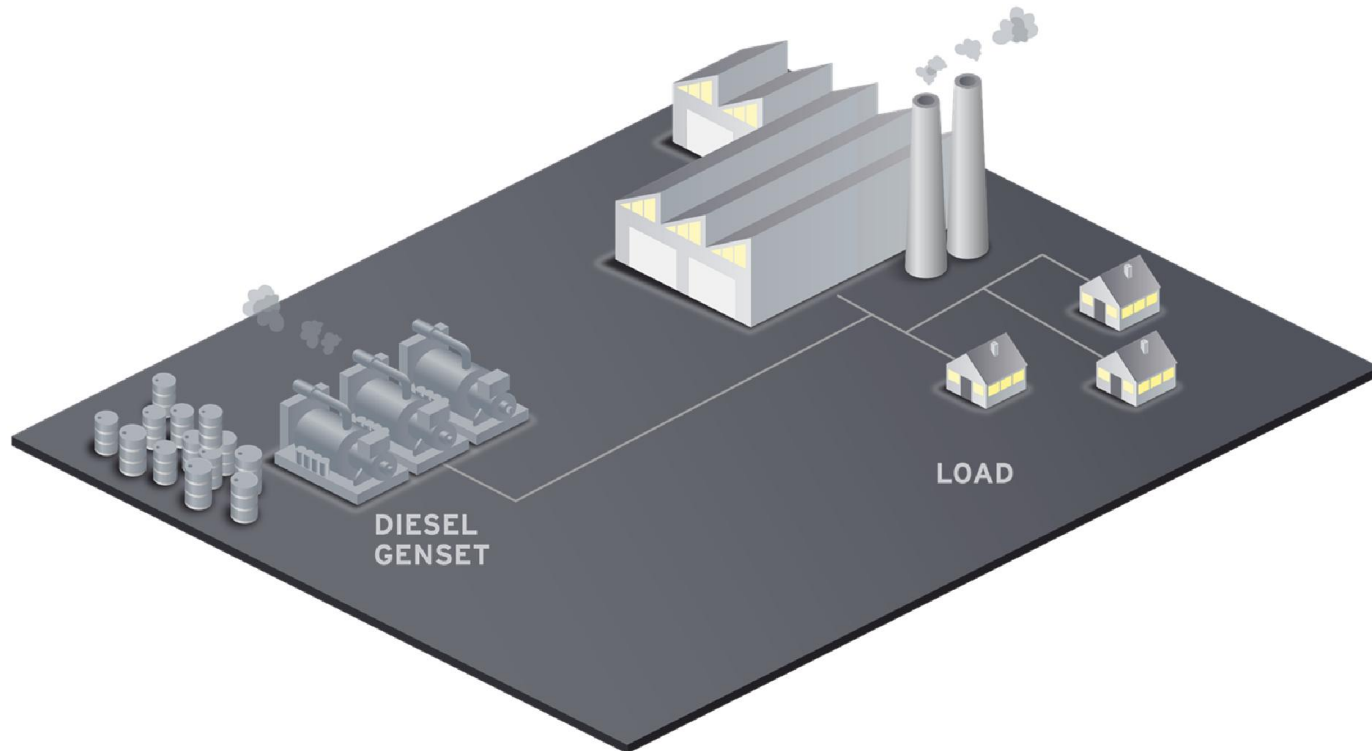
- ✓ High-quality renewable energy solution with German Engineering and Supervision
- ✓ Professional EMS for fuel-saving and energy storage applications
- ✓ Manufacturer independent system design ensures best performance and quality
- ✓ Expert company for hybrid projects – one-stop solution provider for all aspects of energy operations (backup generator integration / UPS functionality, genset synch.)
- ✓ Proven track record in industry, utility and island projects in 20+ countries
- ✓ Experienced and dedicated Service and Support Team

CLIENTS WITH ACCESS TO ELECTRICITY GRID



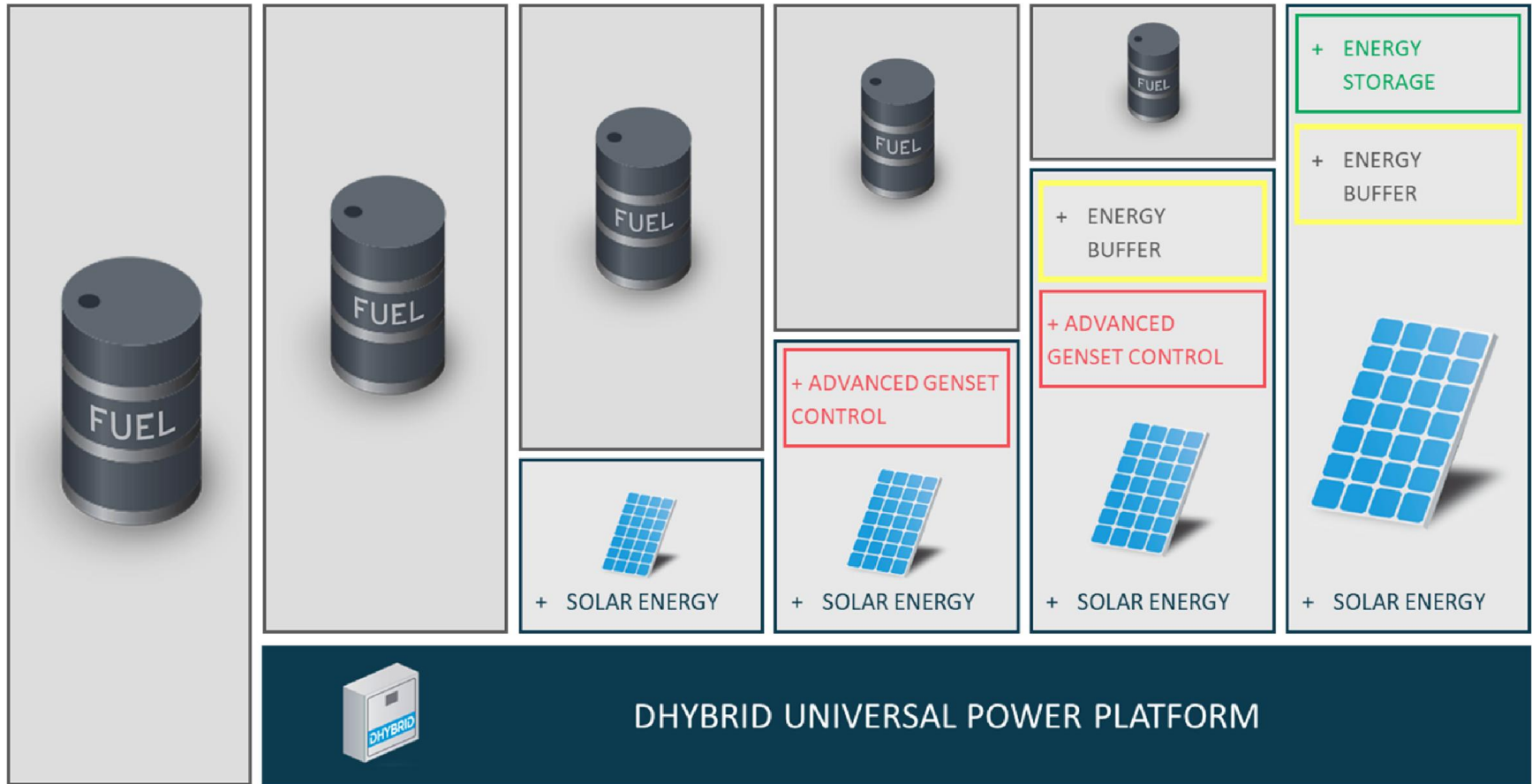
Unstable utility grid: Diesel generator as backup

CLIENTS WITHOUT ACCESS TO ELECTRICITY GRID

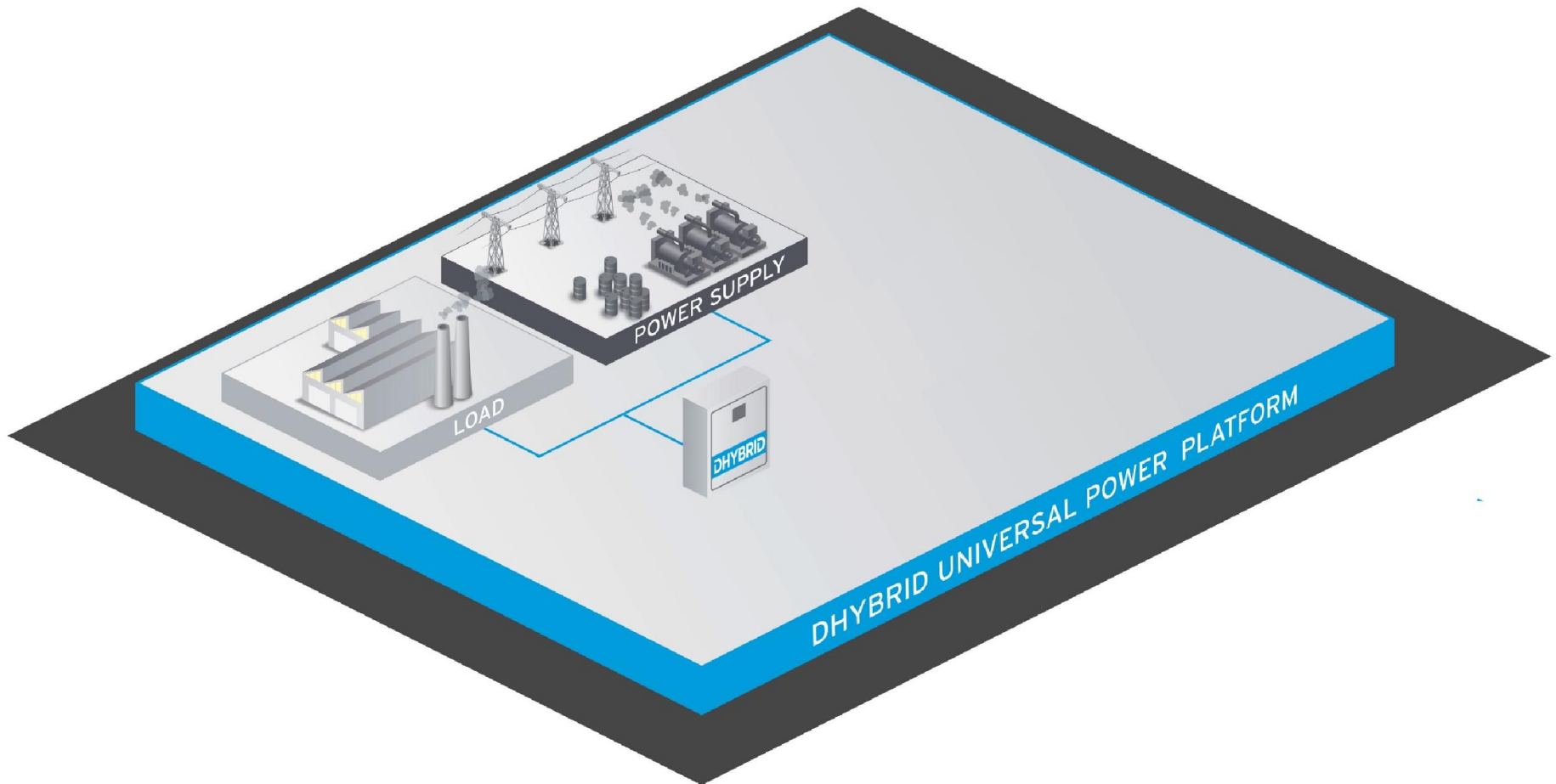


No utility grid: Diesel generator as prime energy

DHYBRID UNIVERSAL POWER PLATFORM

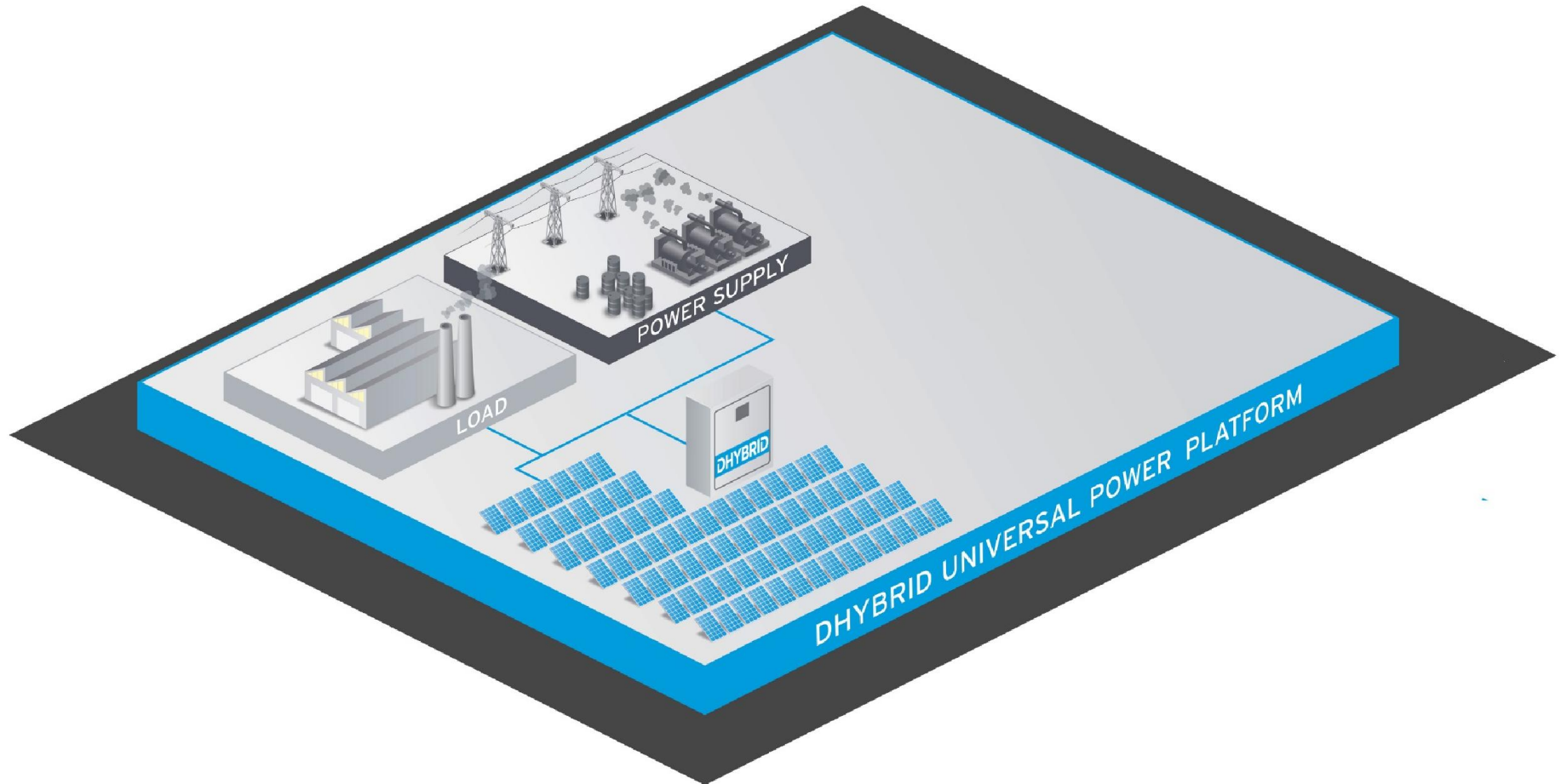


DHYBRID UNIVERSAL POWER PLATFORM



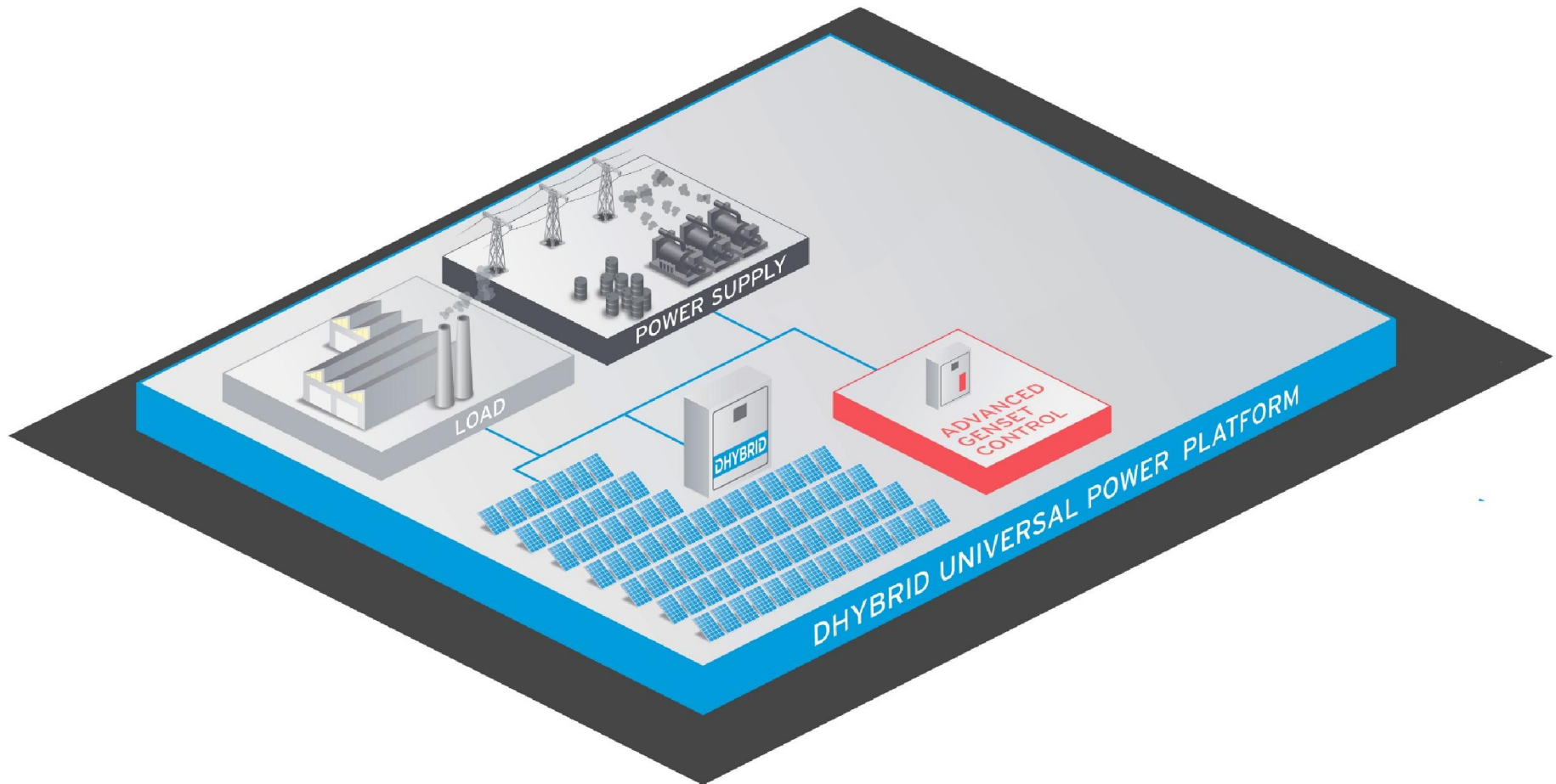
IMPLEMENTATION OF DHYBRID UPP

DHYBRID UNIVERSAL POWER PLATFORM



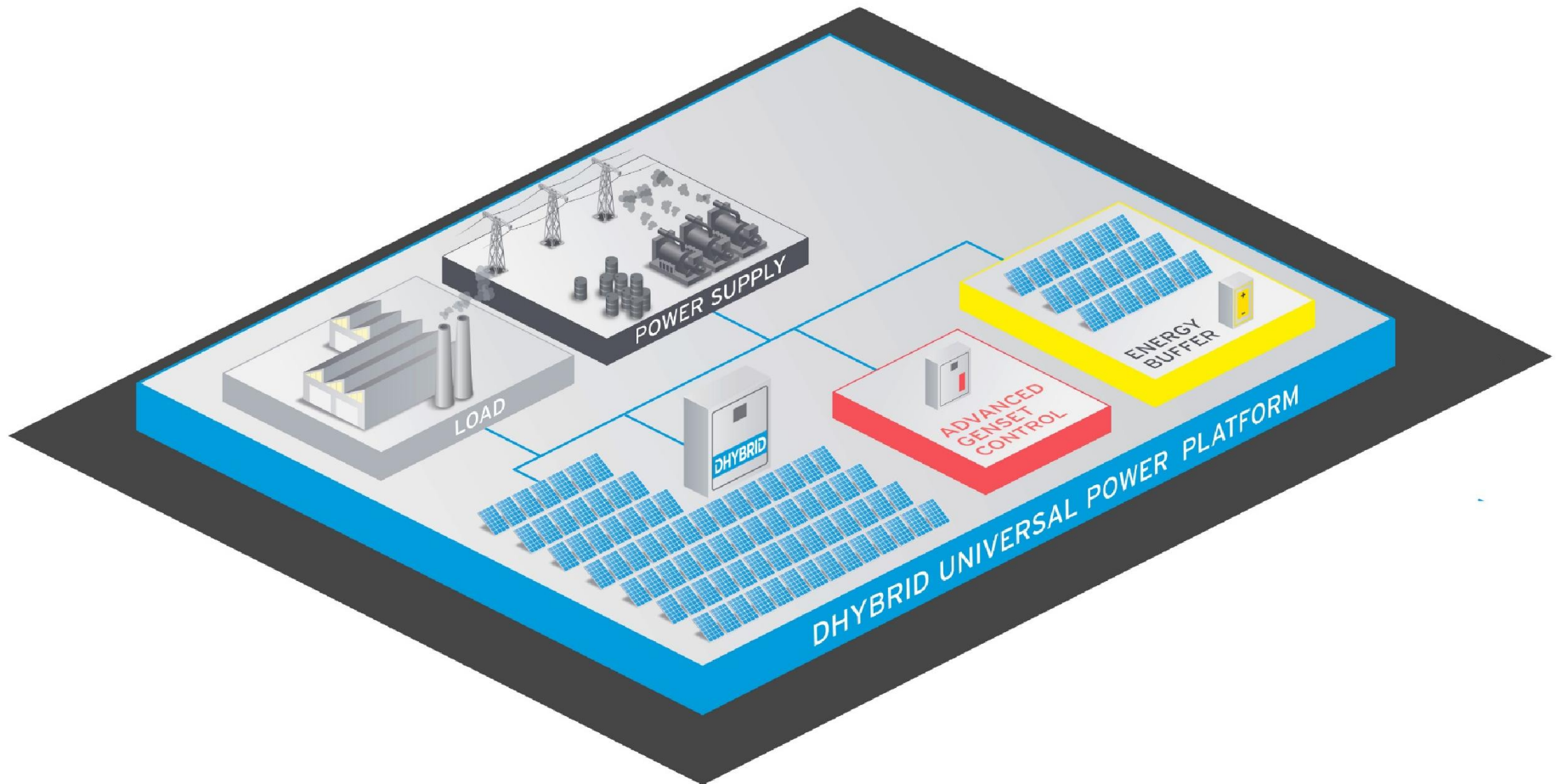
INTEGRATION OF PV

DHYBRID UNIVERSAL POWER PLATFORM



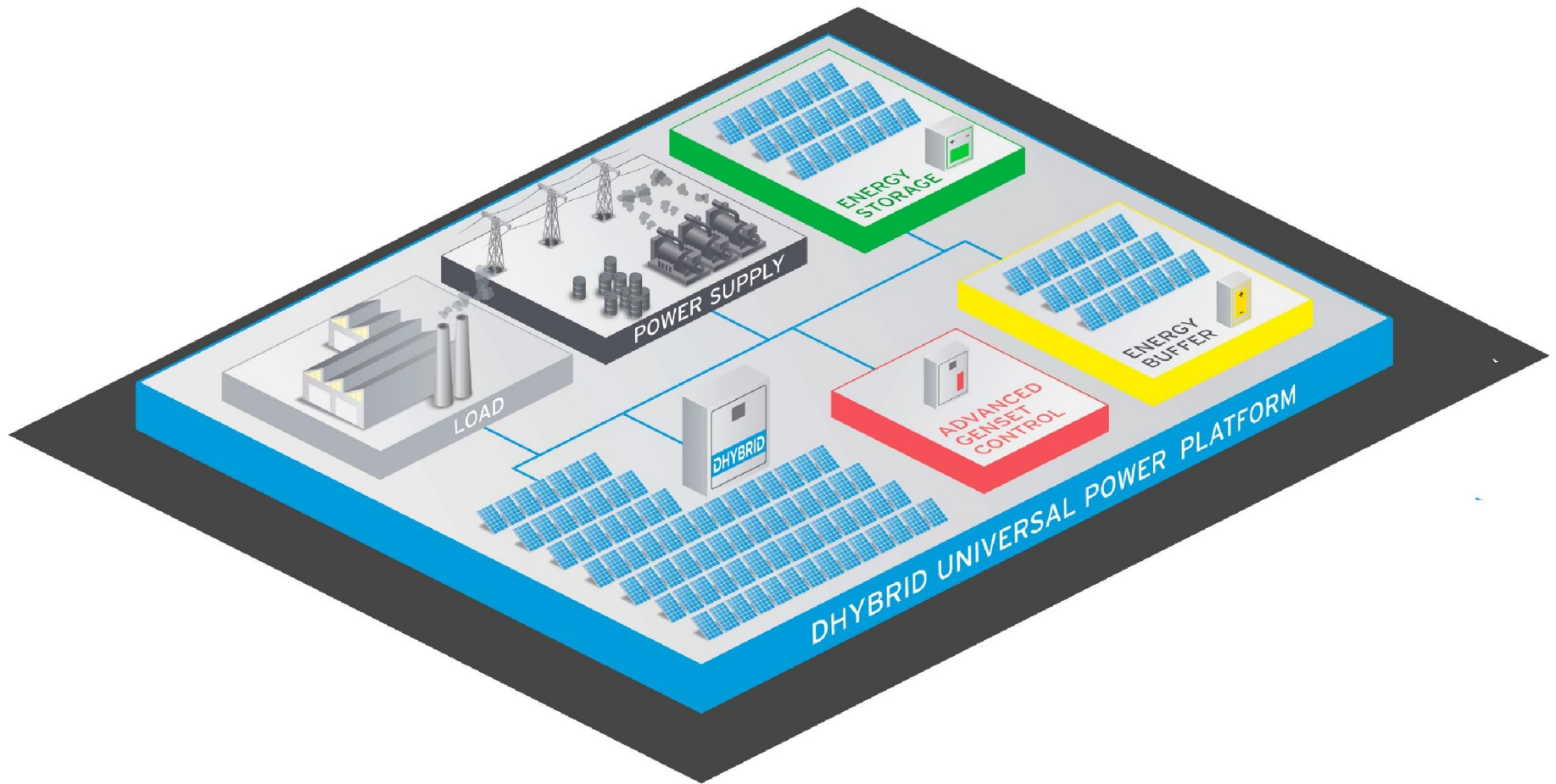
ADVANCED GENSET CONTROL

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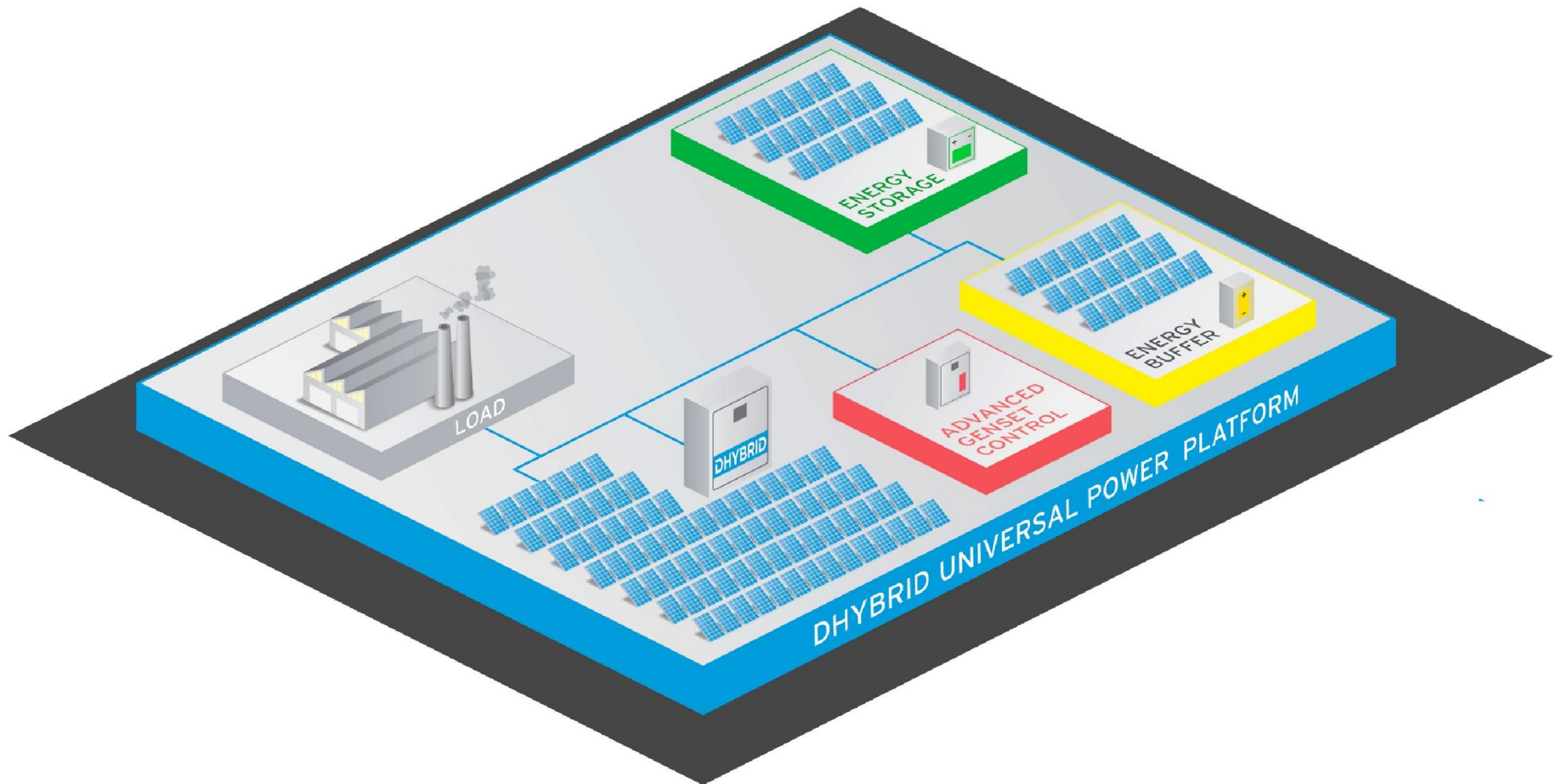
EXTENSION OF PV+ ENERGY BUFFER

DHYBRID UNIVERSAL POWER PLATFORM



EXTENSION OF PV+ ENERGY STORAGE

DHYBRID UNIVERSAL POWER PLATFORM



EXTENSION OF PV+ ENERGY STORAGE

REFERENCES

PROJECT REFERENCES

SUCCESS STORIES

REFERENCES – FACTORY NIGERIA

- ✓ Noodle factory in Kaduna
- ✓ PV-Diesel System: 380 kW/ 1,000 kVA
- ✓ Commissioned: December 2018



REFERENCES – SAFARI LODGE SOUTH AFRICA

- ✓ Luxury Game Lodge in the Kruger National Park
- ✓ PV-Storage System: 350 kW/ 1,000 kWh
- ✓ Commissioned: June 2019



REFERENCES – UTILITY COMPANY SENEGAL

- ✓ 7 Hybrid sites on islands in Senegal wit 2MW
- ✓ Li-Ion battery storage system: 2,000 kW / 2,000 kWh
- ✓ Status: Under Commissioning



REFERENCES – UTILITY COMPANY SOMALILAND

- ✓ 150 kWp PV Capacity
- ✓ Li-Ion battery storage system: 250kW/305 kWh
- ✓ Commissioned November 2017



REFERENCES – UTILITY COMPANY SOMALILAND

- ✓ 200 kWp PV Capacity
- ✓ Samsung battery storage system: 250kW/256 kWh
- ✓ New electric main distribution panel
- ✓ Synchronization and automation of diesel generators
- ✓ Commissioned November 2017



REFERENCES – UTILITY COMPANY SOMALILAND

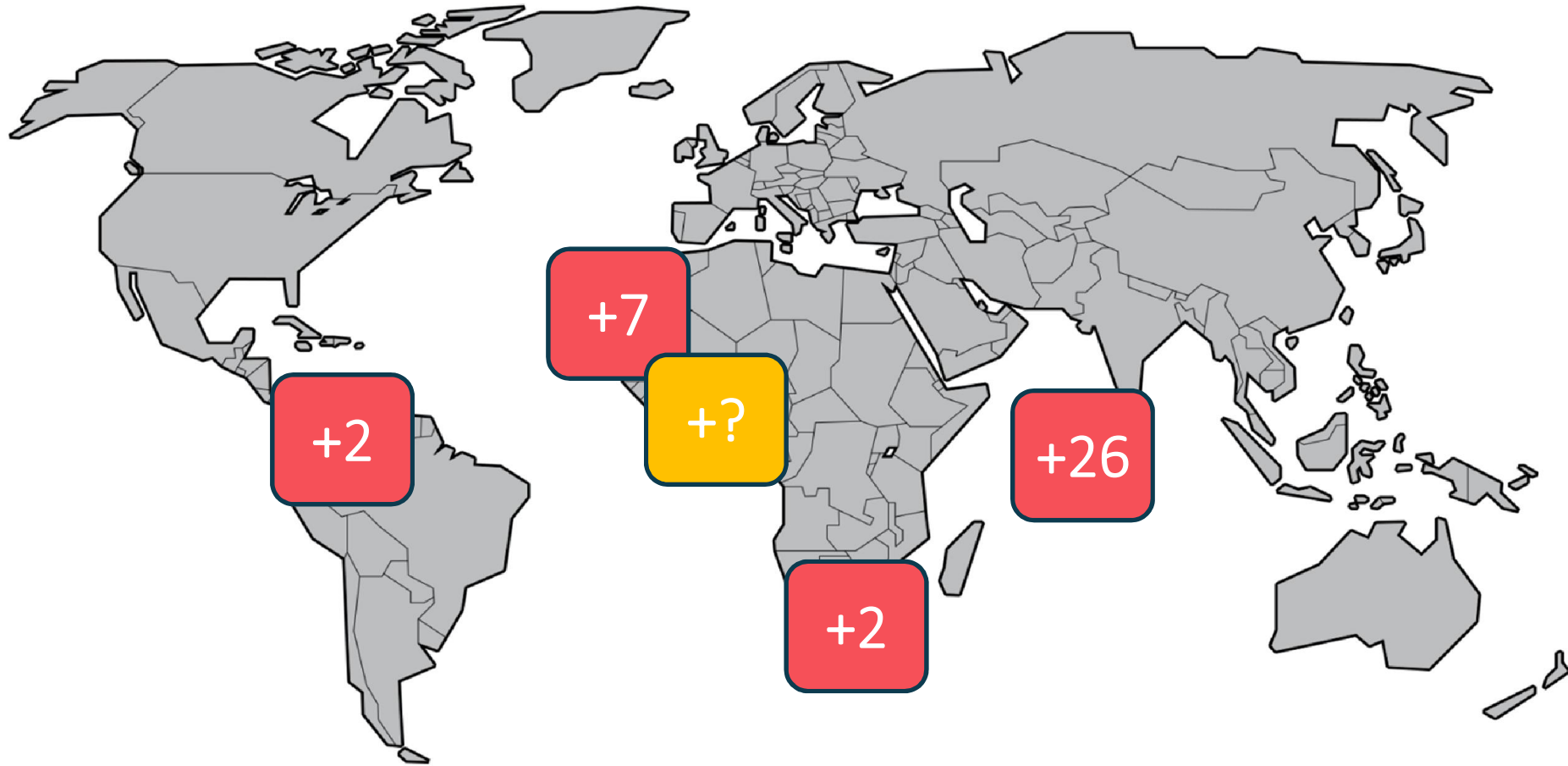


REFERENCES – UTILITY SOMALIA

- ✓ 2500 kWp PV Capacity
- ✓ Commissioned November 2016
- ✓ Fuel Reduction: 1,395,000 Liter per year
- ✓ CO₂ Reduction: 3,600,000 kg per year



ONGOING PROJECTS



CONTACT



DHYBRID ENERGY SOLUTIONS ISLANDS - RESORTS - INDUSTRY

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REFERENCES

INTERNATIONAL CASES

REFERENCES – HOTEL RESORT THAILAND

- ✓ Luxury hotel “The Racha” on the island Ko Racha Yai close to Phuket
- ✓ 85 luxury villas located on the island
- ✓ High ecological & environmental responsibility for architecture and development



REFERENCES – HOTEL RESORT THAILAND

- ✓ Integration of solar PV hybrid system with 250 kWp capacity
- ✓ Commissioned April 2016
- ✓ Fuel Reduction: 120,000 Liter per year
- ✓ CO₂ Reduction: 295,000 kg per year



REFERENCES – HOTEL RESORT THAILAND



REFERENCES – HOTEL ISLAND MALDIVES

- ✓ 700 kWp PV Capacity
- ✓ Commissioned December 2016
- ✓ Fuel Reduction: 347,000 Liter per year
- ✓ CO₂ Reduction: 896,000 kg per year



REFERENCES – HOTEL ISLAND SEYCHELLES

- ✓ 100 kWp PV Capacity
- ✓ Commissioned June 2018
- ✓ Fuel Reduction: 42,000 Liter per year
- ✓ CO₂ Reduction: 105,000 kg per year

Denis
PRIVATE ISLAND
SEYCHELLES



REFERENCES – HOTEL ISLAND MALDIVES

- ✓ 340 kWp PV Capacity
- ✓ Commissioned December 2017
- ✓ Fuel Reduction: 161,000 Liter per year
- ✓ CO₂ Reduction: 376 kg per year



REFERENCES – HOTEL ISLAND CARIBBEAN

- ✓ Hotel and private property island in the Caribbean
- ✓ Local energy generation with diesel generators
- ✓ 100 villas and 2 hotels located on the island

Mustique



REFERENCES – HOTEL ISLAND CARIBBEAN



REFERENCES – HOTEL ISLAND CARIBBEAN

- ✓ 1 MWp PV Capacity
- ✓ Commissioned September 2015
- ✓ Fuel Reduction: 490,000 Liter per year
- ✓ CO₂ Reduction: 1,200,000 kg per year

Mustique



REFERENCES – 2017 EXTENSION HOTEL ISLAND CARIBBEAN

- ✓ 1.7 MW PV capacity
- ✓ DHYBRID UPP Smart-Grid control system
- ✓ PV hybrid desalination plant
- ✓ TESLA battery storage system: 500 kW / 1 MWh
- ✓ Commissioned October 2017



REFERENCES – GARMENT INDUSTRY THAILAND (ROI ET)

- ✓ 680 kW PV Capacity
- ✓ Garment production site
- ✓ Commissioned December 2017
- ✓ Energy Reduction: 986,000 kWh per year
- ✓ CO₂ Reduction: 690,200 kg per year



REFERENCES – GARMENT INDUSTRY CAMBODIA

- ✓ 370 kW PV Capacity
- ✓ Garment production site
- ✓ Commissioned September 2017
- ✓ Energy Reduction: 562,143 kWh per year
- ✓ CO₂ Reduction: 439,313 kg per year



REFERENCES – MINE INDIA

- ✓ 2.8 MW PV Capacity
- ✓ Iron ore mining application
- ✓ Commissioned April 2017
- ✓ Fuel Reduction: 1,300,000 Liter per year
- ✓ CO₂ Reduction: 3,180,000 kg per year



REFERENCES – BREWERY NAMIBIA

- ✓ 1.1 MWp PV Capacity
- ✓ Commissioned October 2013
- ✓ Project awarded with the “Industry Excellence Award” of Namibia
- ✓ Energy Reduction: 1,500,000 kWh per year
- ✓ CO₂ Reduction: 1,100,000 kg per year



Namibia Breweries Limited



REFERENCES – SHOPPING MALL MAURITIUS

- ✓ 1.2 MWp PV Capacity
- ✓ Integration of centralized air-conditioning system for thermal storage
- ✓ Commissioned March 2015
- ✓ Fuel Reduction: 520,000 Liter per year
- ✓ CO₂ Reduction: 1,270,000 kg per year

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