



Embracing a changing society: Diversity in construction

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**The future power grid at
a construction site by
Atlas Copco**

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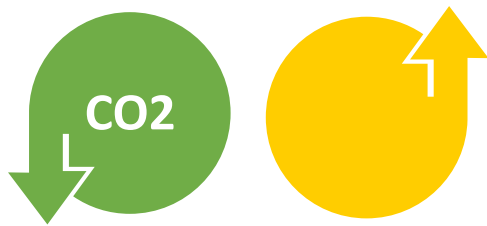
Moving towards



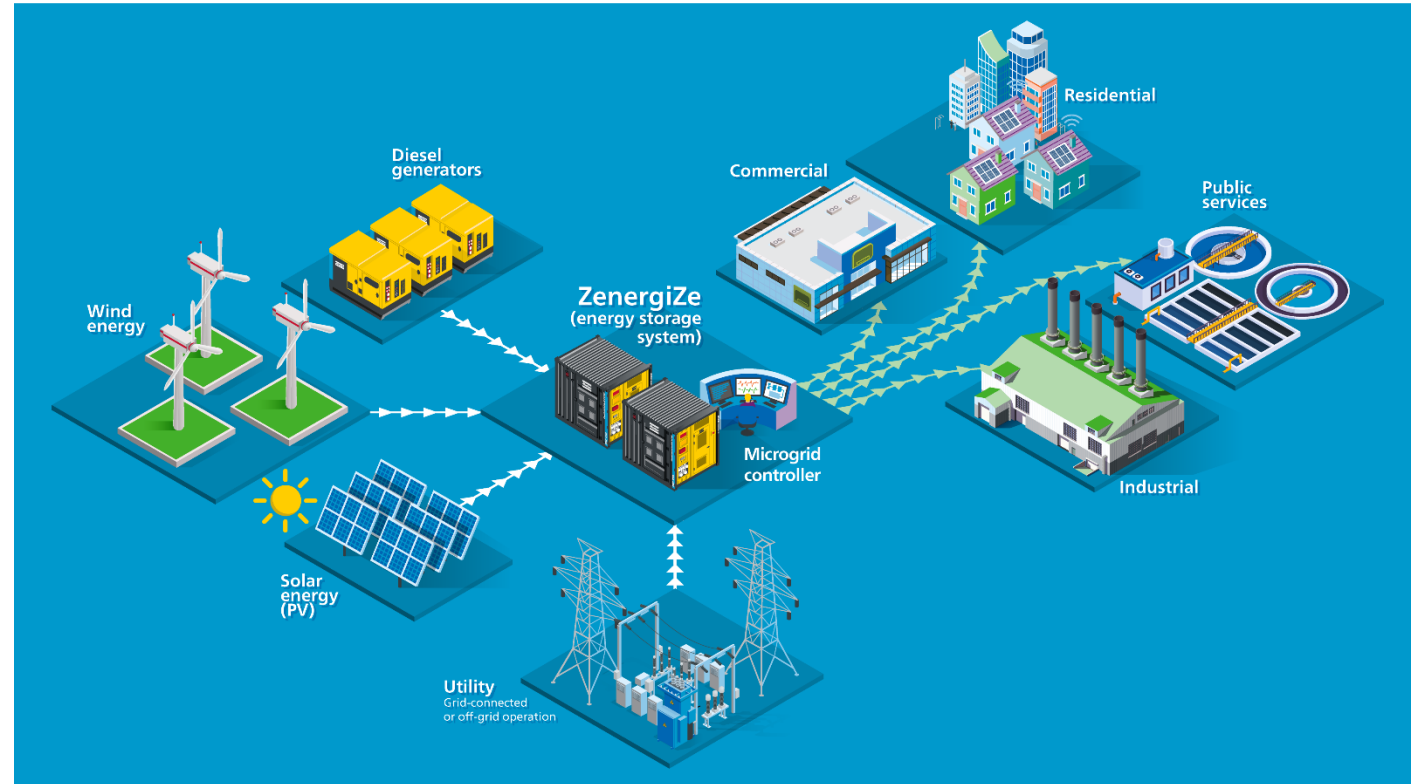
WHY?

Disruptive energy chain era
Generation - many small producers
Transmission - energy storage

Decentralization of the energy
Climate change plan



Smart and digital grids



How to reduce carbon footprint?



Non-Road Engines
account for 10% of
emissions



ZERO NOISE
EMISSIONS
FUEL CONSUMPTION



The future is Hybrid: From diesel to cleaner solutions



- Making the switch in the customers' mind

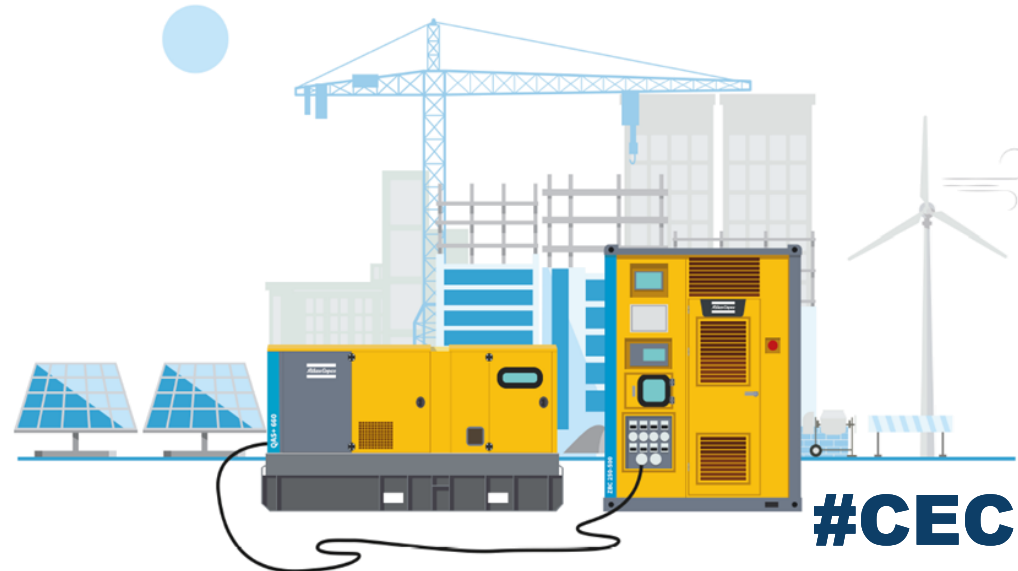
"I use diesel generators as I always did"



"I want clean energy and reduce my operational cost by using Hybrid Power Systems"

- Inefficient low loads management
- High fuel and CO2 emissions
- High OPEX

- Ideal for managing low loads
- Reduce fuel and CO2 emissions (even zero)
- Reduce OPEX
- Plug-and-play solution




















Transforming to Sustainable Energy Solutions

• Power



Atlas Copco portfolio



Main end application	 SMALL TOOL	 TELECOM	 EVENTS	 HYBRID	 CONSTRUCTION	 RECHARGING	 GRID JOBS	 PORTABLE SOLAR PLANT	 CRANES
Power Energy	2000 VA 2000 Wh	15 KVA 60 kWh	45 KVA 60/75 kWh	120 KVA 120 kWh	250 KVA 575 kWh	300 KVA 300 kWh	500 KVA 250 kWh		
Product	 ZBP 2000 230V Q1 2023	 ZBP 15-60 230V Q1 2023	 ZBP 45-60 ZBP 45-75 400/230V Q1 2023	 ZBP 120-120 400/230V Q4 2023	 ZBC 250-575 400/230V Q4 2022	 ZBC 300-300 400/230V Q4 2022	 ZBC 500-250 400/230V Q4 2022		
Energy Management System									



Center piece in the construction site of the future



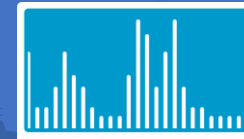
With small grid available



Up to 80kW



Variable loads:
Peaks of 300kW



Mobile solar
plant 75kWp



as backup



ESS 575kWh



Z Charger
160kW

Electric driven



Battery driven

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Cases around the world

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CHAMONIX 2023

Telecom



Hybrid with solar

Construction/ noise reduction



Energy Booster

Tunneling/Mining



Metropolitan

Construction/Electric motors



Utilities



Charging station



Construction-Crane



Hybrid grid job



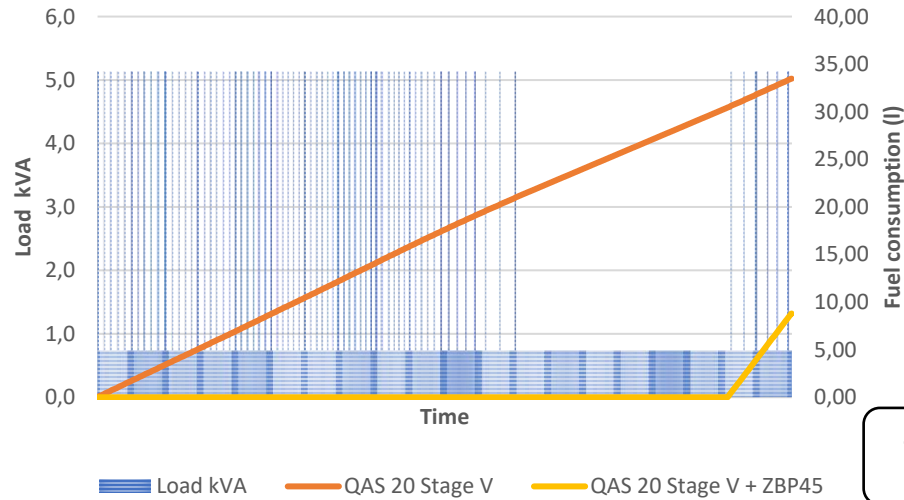
Shipyard hybrid



Case study: Telecom, low loads

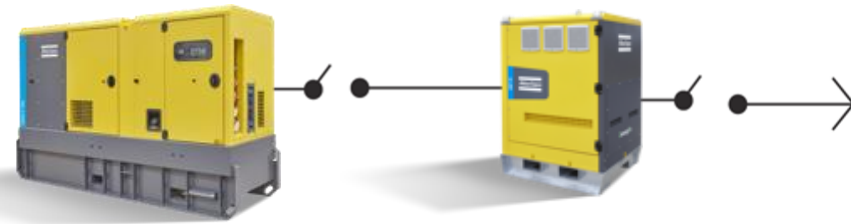


- Below 5kW loads, monitoring 1 day, full working period 100 days

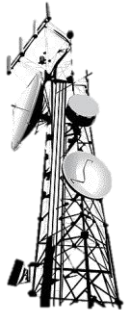


30-45kWh per day

Same size generator is considered for stand alone and hybrid calculations (20kVA)



Loads: construction site, telecom or events



74%
6,5 tons

LESS FUEL & CO2 emissions

85% vs 9%

GENSET Average load

91%
2.100h

GENSET running hours saved

1 cycle Per day

HIGH Productivity long life



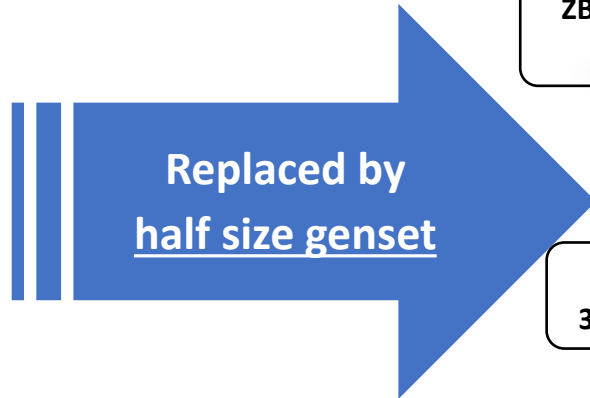
Case study: Construction site with cranes



- Below 4 working days with 400kW max peak



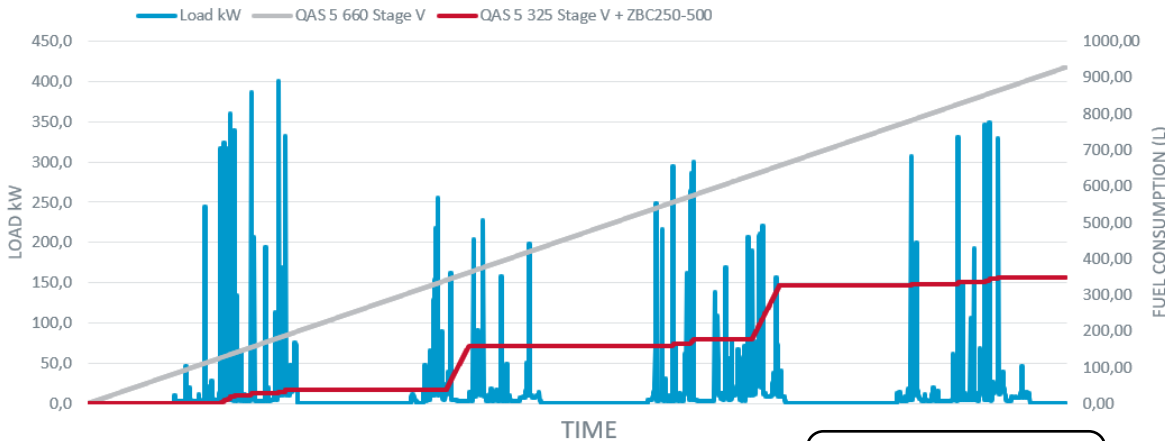
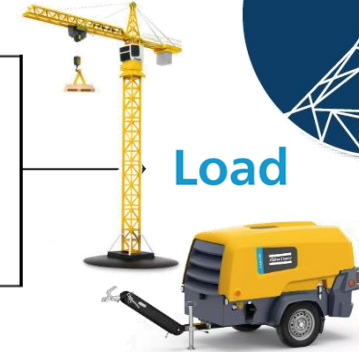
QAS 660
660kVA/520kW



ZBC 500/250
250KWh



QAS 325
325kVA/260kW



300-400kWh
per day

<p>55% 8 tons</p> <p>LESS FUEL & CO2 emissions</p> <p>CO2</p>	<p>89% AVG load 93% less RH</p> <p>GENSET Health point</p>
<p>50%</p> <p>DOWNSIZE</p>	<p>0,7 cycle Per day</p> <p>HIGH Productivity long life</p>



Long lifetime of ESS

10 - 20 YEARS OF ASSET
LIFE (7000 CYCLES)(*)

Long lifetime of Generator

5 – 10 EXTRA YEARS OF LIFE
(HYBRID SAVES REDUCES
GENERATOR RUNNING TIME BY AT
LEAST 50%)

High resale value

DOWN TO 70% SOH ESS STILL
KEEP 40% OF ITS INITIAL
INVESTMENT

Lower fuel and oil consumption so big emissions reduction

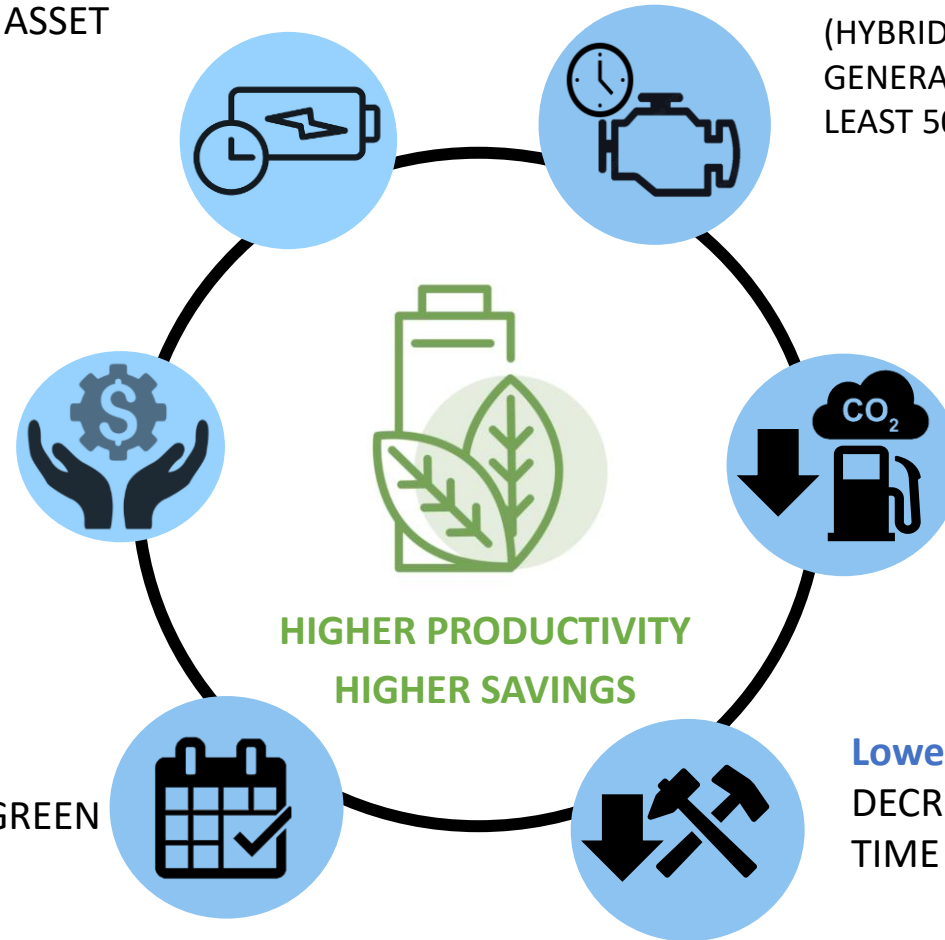
30 TO 80% DEPENDING ON
APPLICATION
(AVERAGE LOAD ID 20-30%)


Higher utilization

COMPLIANT WITH GREEN
PROJECTS

Lower service

DECREASE ON GENERATOR RUNNING
TIME UP TO 50%- EXTENDED SERVICE



A woman wearing a white hard hat, safety glasses, and a high-visibility orange and yellow safety vest over a white shirt. She is wearing black gloves and is looking intently at a piece of industrial equipment. The background is a blurred industrial environment with warm lighting.

**Thank you for your
attention!**

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