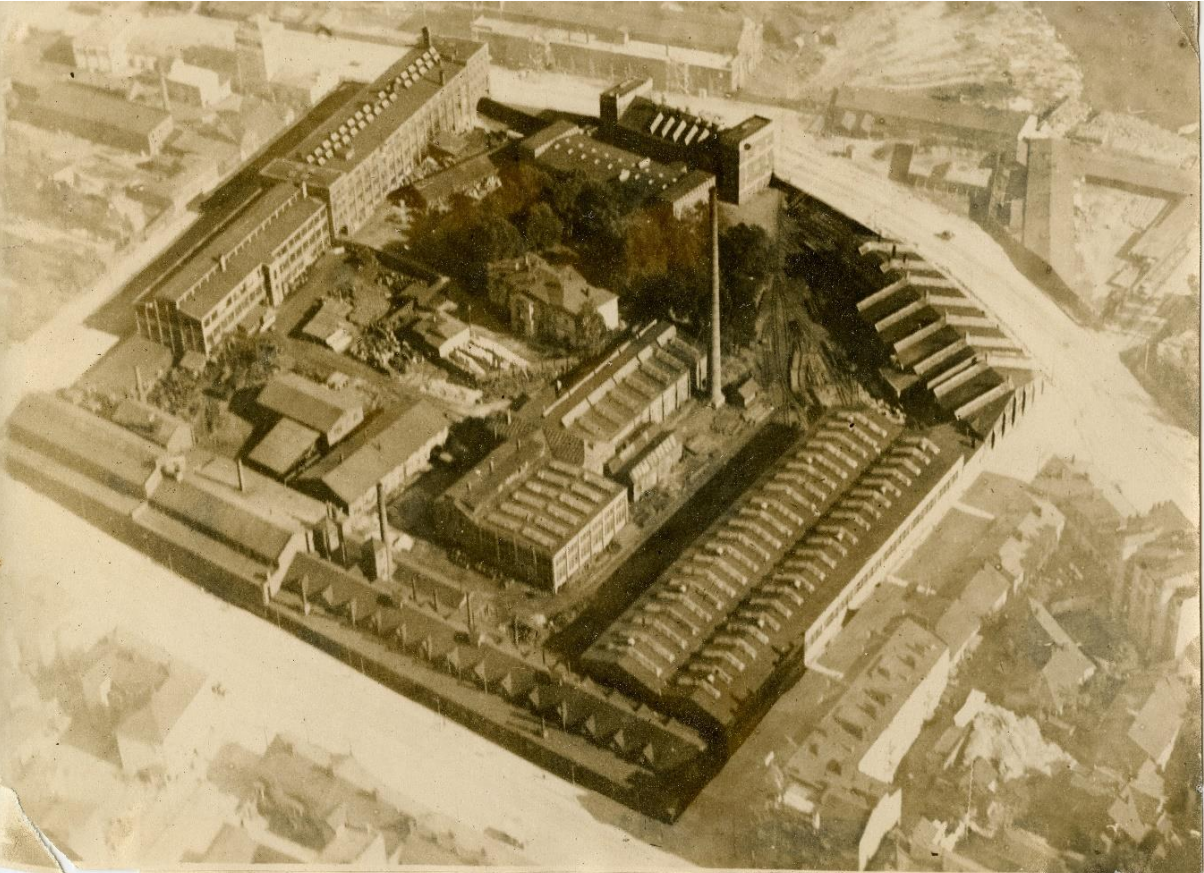


WÄRTSILÄ TOWARDS A 100% RENEWABLE ENERGY FUTURE

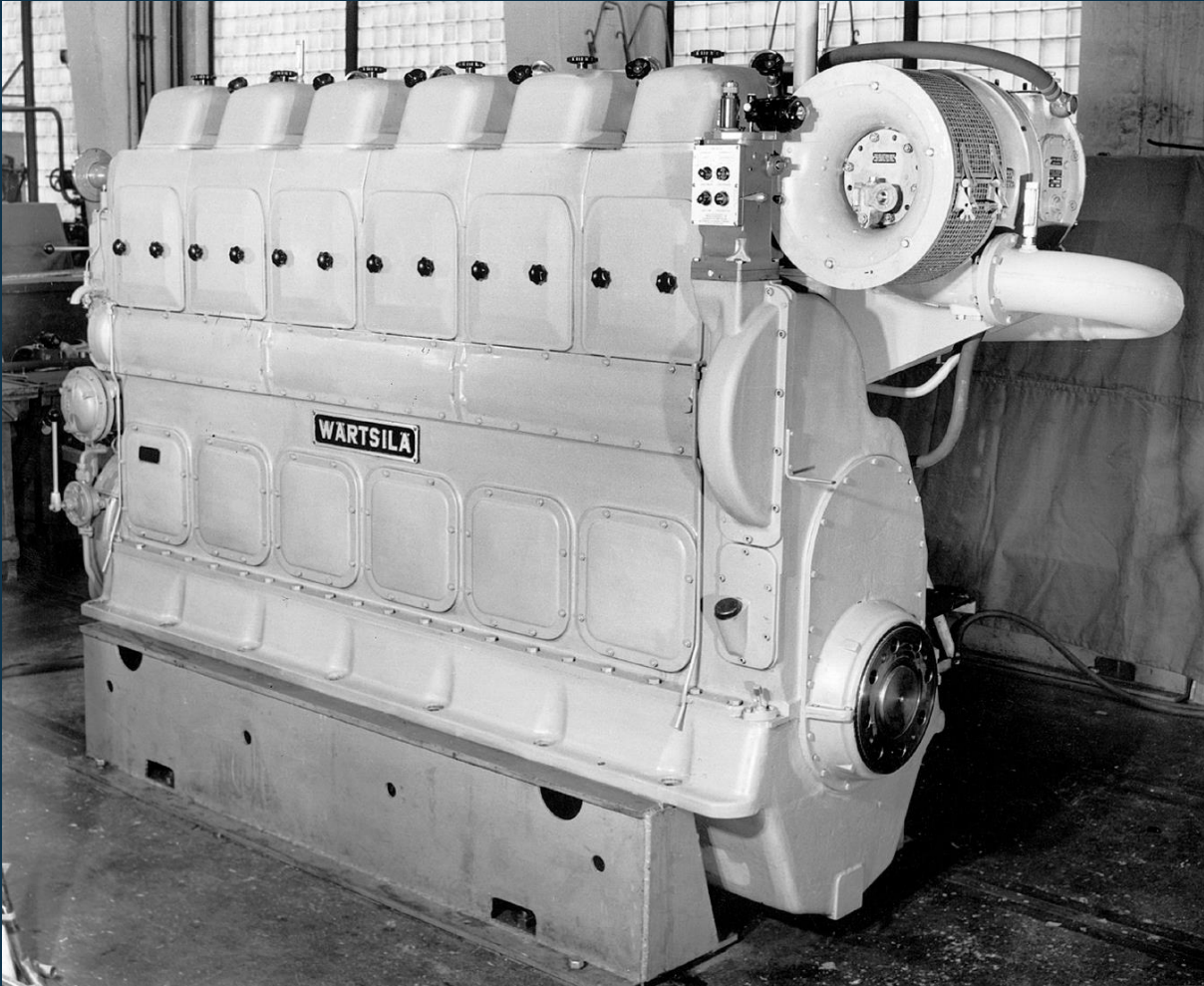
PATRIK FARKAS
MARKET DEVELOPMENT MANAGER

2021.11.10.

STRONG FINNISH ROOTS, GLOBAL PRESENCE



Aeroplan-vy av en del av verkstadsområdet. Osa tehdasaluetta valokuvattuna lentokoneesta. Aeroplan-view of part of the works.



74 GW POWER PLANT CAPACITY IN 180 COUNTRIES



WÄRTSILÄ POWER PLANT FROM THE INSIDE



JORDAN, IPP3 & IPP4 (823 MW)



7200 MW capacity installed in the Middle East at **300+** locations

**Wärtsilä Middle East sales region consist Pakistan, Jordan, Lebanon, Iraq, Afghanistan and Syria*

WOIS - CWA905 - STEC

BYE BYE BASE LOAD

13 14 15 16 17 18 19 20 21 22 23 24
R R R R R R R R R R R R

Amb. temp: 78 °F Plant output: -1 MW A+B Hall: -1 MW C+D Hall: -1 MW

Oct 09 22:11:20

1 day

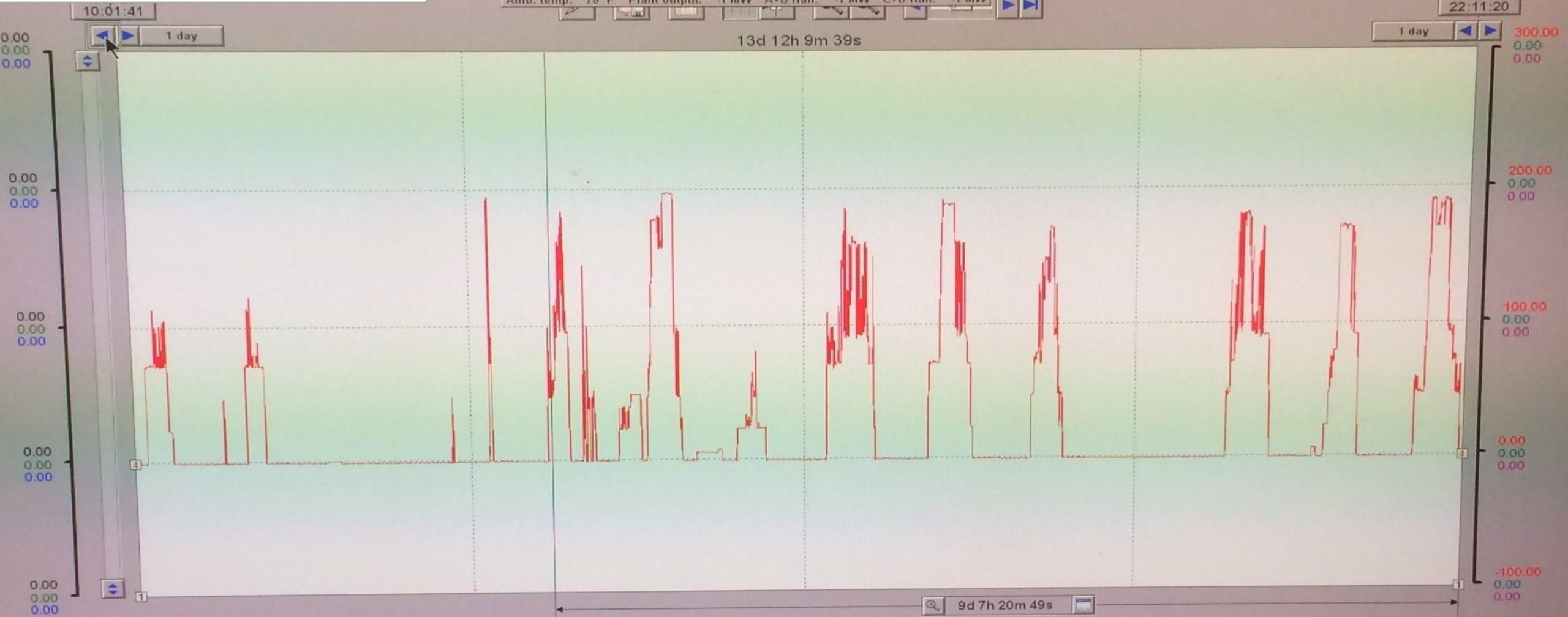
300.00
0.00
0.00

200.00
0.00
0.00

100.00
0.00
0.00

0.00
0.00
0.00

-100.00
0.00
0.00



Sep 30 14:50:31

Oct 09 22:11:20

Show / Hide

<input type="checkbox"/>	BAG191UP01PV
<input type="checkbox"/>	BAG201UP01PV
<input type="checkbox"/>	BAG211UP01PV
<input checked="" type="checkbox"/>	BAG900UP00PV

	Genset 19	PMU, Gen. Active power
	Genset 20	PMU, Gen. Active power
	Genset 21	PMU, Gen. Active power
56.73	Common	Plant output
-0.50		

[MW]

Same measurements, different genset

13	14	15	16	17	18
19	20	21	22	23	24

TOWARDS A 100% RENEWABLE ENERGY FUTURE

We envision a 100% renewable energy future.

Based on our deep understanding and leading position in the energy transition we develop innovative, **value-adding solutions** for our customers' future needs.





ENERGY STORAGE WITH SOPHISTICATED ENERGY MANAGEMENT SOFTWARE



2.2 GWh
STORAGE
FLEET



80+
GEMS
DEPLOYMENTS



200
LOCATIONS



GRACIOSA MICROGRID

Grid control, integration and optimisation

- Developed a full hybrid energy system
- Increased renewable energy penetration from 15% to 65%
- 17,000 liter diesel fuel saving per month



1 MW



4.5 MW

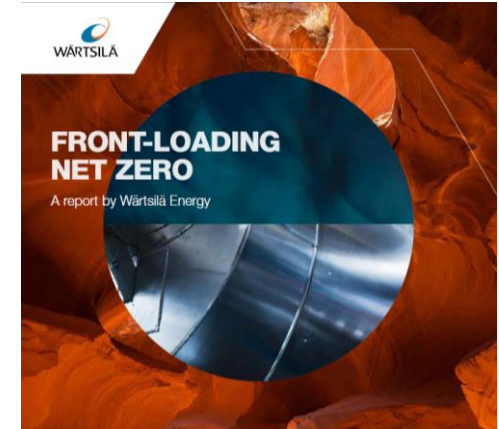
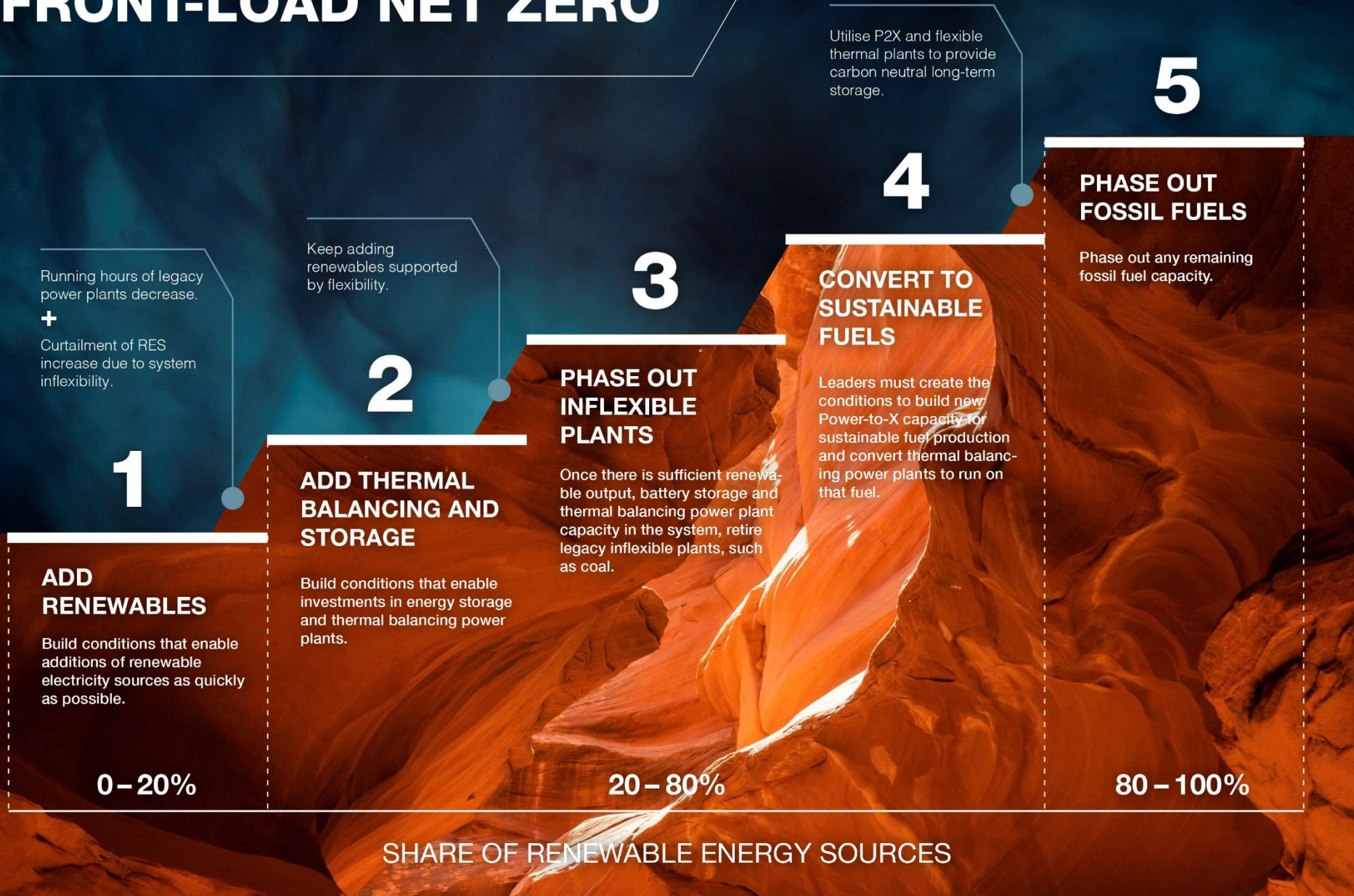


6 MW /
3.2 MWh



Back-up

THE KEY STEPS TO FRONT-LOAD NET ZERO



To illustrate the measures needed for cost-optimal paths to 100% renewable electricity, in this report Wärtsilä has modelled the transition to 100% renewable electricity generation in three key regions: California, India and Germany. They have vastly different socioeconomic dynamics, energy systems, and challenges to overcome, but they are unified in their commitment to transition.

As well as the modelling, this report also includes on-the-ground insights from Wärtsilä's experts on the risks and opportunities facing the following countries through the energy transition: Australia, Chile and UK.

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Front-loading net zero

A report by Wärtsilä Energy
wartsila.com/front-loading-net-zero/

20 YEARS

of researching **hydrogen** as a fuel

Developing the combustion process to burn **100% hydrogen** in **Wärtsilä engines**.

Currently, certain engines can operate with blends of up to **25% hydrogen**

Testing ammonia and methanol for marine engines.

POWER-TO-X

DEMONSTRATION UNIT @ DUBAI EXPO 2020

soletair power

 QPOWER



WÄRTSILÄ