



Green Energy Available for Everyone

KYOTO Capital Markets Day

November 25, 2021, 13:00 – 16:00

Video

Agenda

- 1. Welcome
- 2. Kyoto on a page
- 3. The Heatcube
- 4. Operational update; projects & near-term pipeline

Break

- 5. Aurora Energy Research
- 6. Mid- to long-term market opportunities

Break

- 7. Ramping up to secure growth
- 8. Q&A



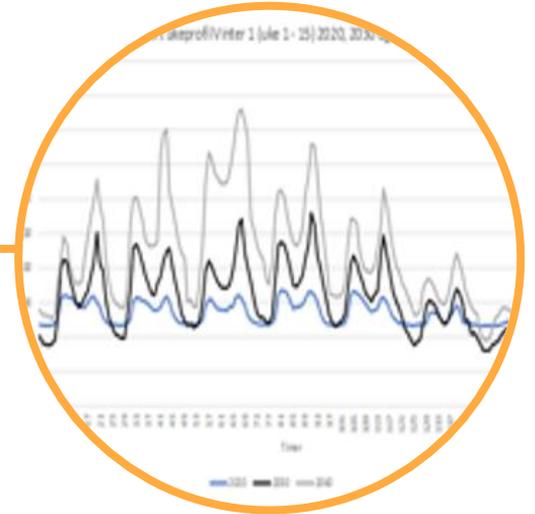
The challenge: Decarbonization of industry through electrification



CO₂ is cooking the planet

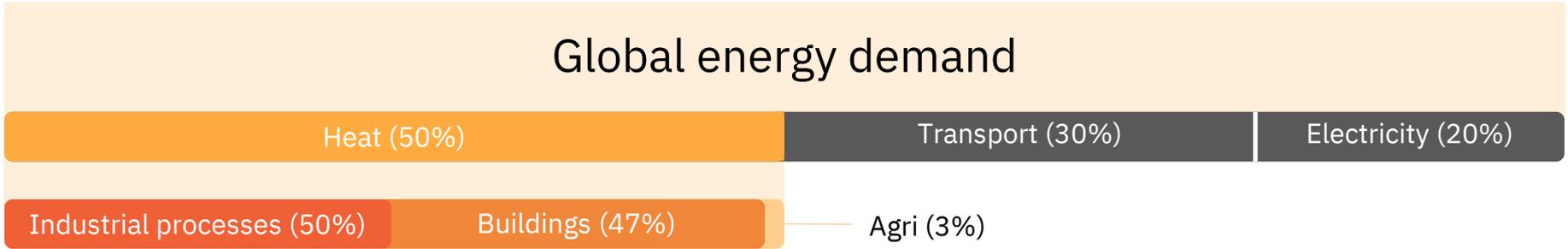


Electrification through renewables



The challenge:
increasing volatility

Heat accounts for half of global energy consumption



89%

of heat produced by fossil and non-renewable fuel sources make up

40%

of global CO₂ emissions

Kyoto on a page

Founded in

2016

Listed on Euronext
Growth in 2021

Employees



12 full-time
employees

Located in



Lysaker, Norway

Scaling up



Aiming to become a
billion NOK revenue
company

Board of directors with significant industry experience



Eivind Reiten
Chairman

Several board positions,
Ex CEO Hydro,
former Minister & State Secretary



Arne Erik Kristiansen

Former Chairman, co-founder Kyoto, Partner Synergos & Advisor Asiju Invest



Ivar Valstad

Senior Advisor
Corporate Development
Norsk Hydro ASA



Thorleif Enger

Several board positions,
Ex CEO Yara



Hans Olav Kvalvaag

SVP
New Ventures Scatec Solar



Pål Selboe Valseth

Several board positions,
CEO Valinor

Management team with solid industry experience



**Christopher
Kjølnér**

CEO



**Camilla
Nilsson**

CFO



**Bjarke
Buchbjerg**

Interim
CTO



**Peter
Iversen**

Interim
Procurement
Manager



**Gustavo Z.
Holo**

Products
& IT



**Trude H.
Shelby**

Interim
People &
Culture



Kyoto Purpose

Green energy available for everyone

7 AFFORDABLE AND
CLEAN ENERGY



9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



KYOTO

Accelerating the shift to renewable energy through providing reliable thermal energy storage with thermal batteries

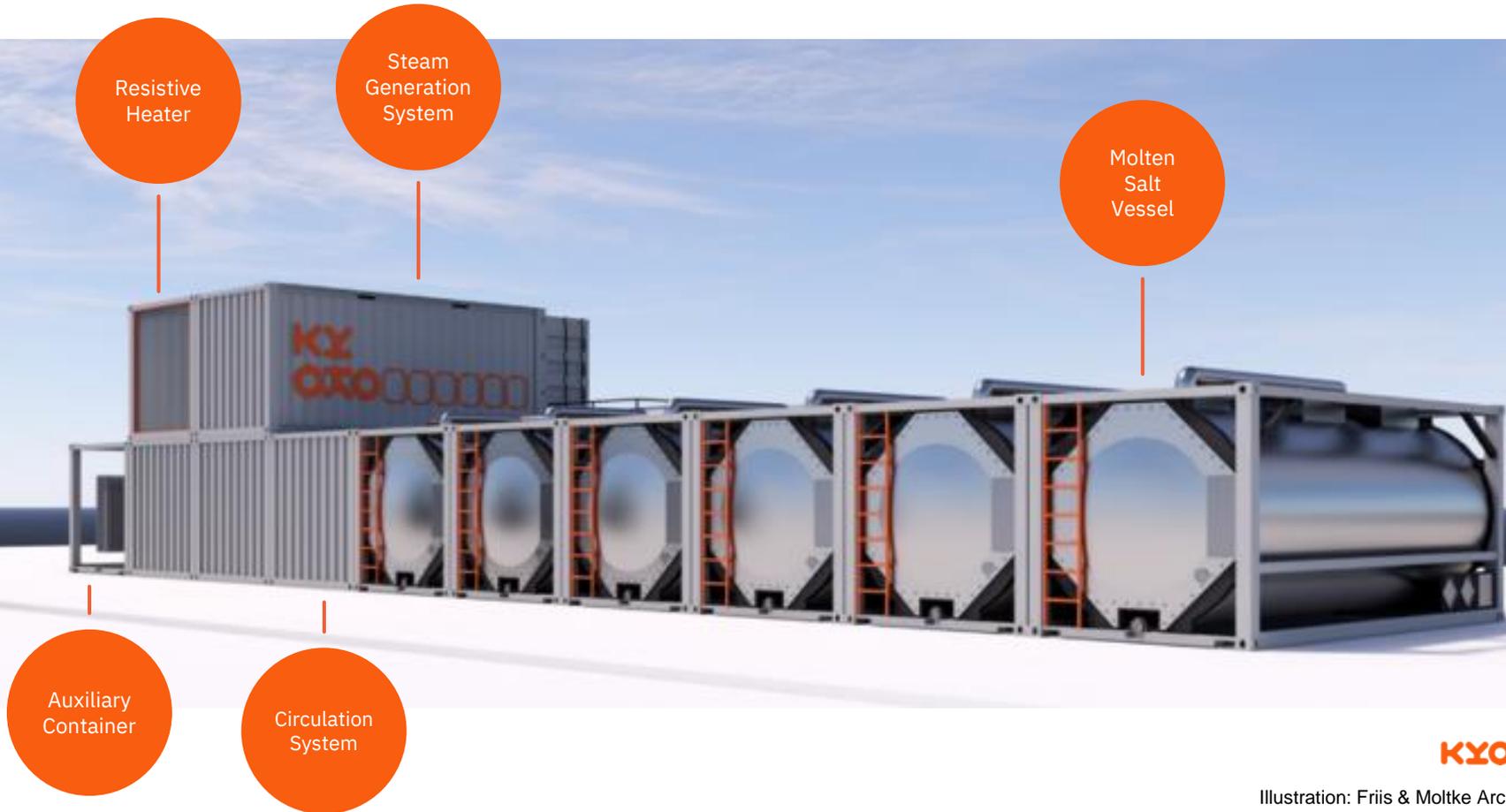


The Heatcube stabilizes renewable energy and makes the energy mix **greener**



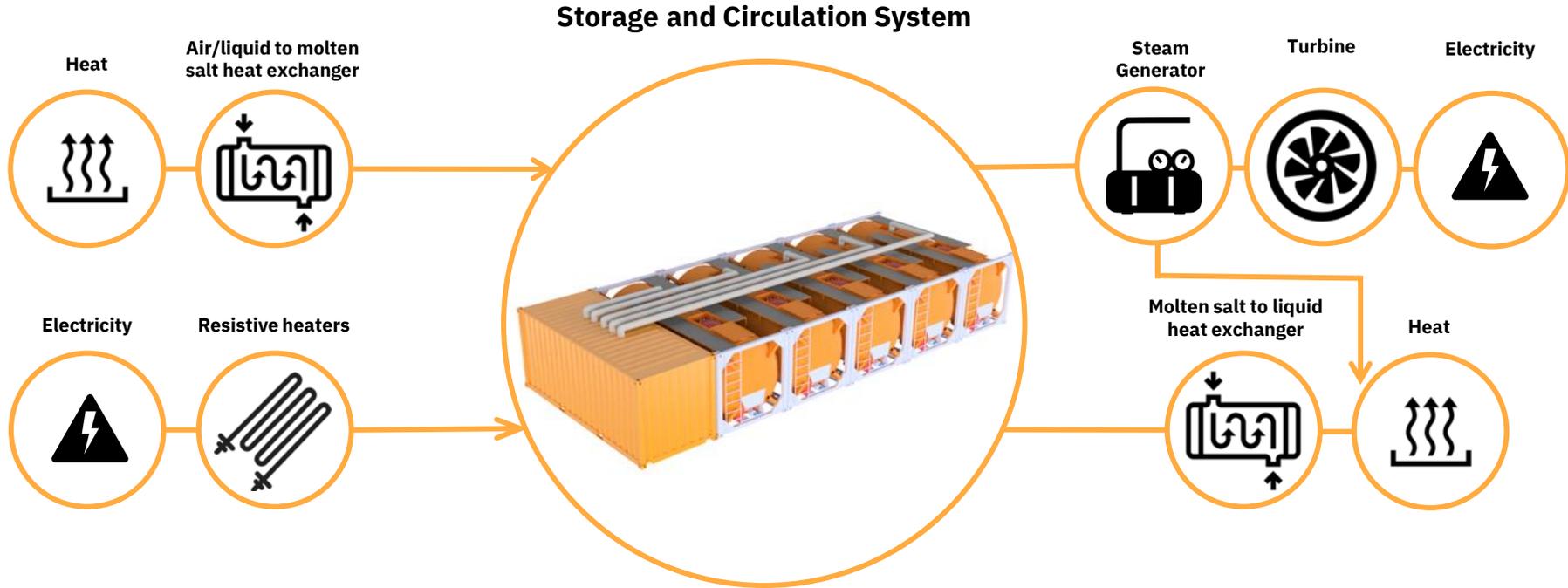
The Heatcube

The technology: The Heatcube



Modular applications of the Heatcube

Same product, multiple configurations drive flexibility and reduce cost



Developing next generation Heatcube



Pilot

- Technology verification
- Test site for R&D



Generation 1

- First full scale proof of technology
- First commercial product



Generation 2

- Major technology improvement
- Designed for Manufacturing & Assembly

Heatcube base configuration

The Heatcube can be configured to meet customer's needs, one base configuration is:

- Charged by electricity in 5 hours during the night
- Deliver 5MW steam for 12 hours during the day

12MW

Charge
capacity

60MWh

Storage
capacity

5MW

Discharge
capacity





Operational update: projects and near-term pipeline

Pilot Heatcube

Accelerated to become sandbox for next generation Heatcube

- Confirmed the design for the first installation (NJV)
- Optimal environment for further technology development
- Testing on component and sub-system level, currently testing various pumps for the circulation system
- Run by experienced staff
- Short travel distance to Hønefoss from office in Lysaker



Nordjyllandsværket (NJV): Phasing out coal in Denmark

- Coal fired plant providing 1.4 TWh of heat and power per year
- Committed to phasing out coal by 2028
- Will save 400 000 tonnes of coal equivalent to 1 million tonnes of CO₂
- Representing a significant portion of Denmark's CO₂ emissions
- Installing Heatcube as part of verification program for new technologies to enable the transition

"Aalborg Forsyning wants to play a central role in the development and testing of new, green solutions.

The Heatcube will be the first installation in our green test center, so this is a key milestone for both us and for Kyoto Group."

Jesper Høstgaard-Jensen, COO Aalborg Forsyning.



First commercial Heatcube contract with Aalborg Forsyning

Delivering Battery-as-a-Service to Nordjyllandsværket power plant

2019: Nordjyllandsværket to establish green test center



2020: Dialogue on design concept and configuration of Heatcube



2021: Kyoto and engineering partners begin construction



Nov 2021: Signing ceremony at Nordjyllandsværket



2020
Dialogue initiated

2020/2021
Concept
Development

2021
Basic & Detailed
Engineering

2021
Public Procurement
process

2021
Contract signed

KYOTO

Near-term prospects

Maturing multiple industrial prospects in Europe

- Metal industry: Heat supply and preheating
- Metal industry: Pre-heating & waste heat recovery
- Energy industry: Electrification of steam generation to phase out gas
- Metal industry: Waste heat recovery and electricity generation





Aurora energy research



**Mid to long-term
market
opportunities**

Opportunity pipeline: market potential in key markets

> 400 TWh, EUR 41 billion



- **8.9 TWh** yearly waste heat available
- Strong strategic partnerships established
- Several projects under evaluation



- **11 TWh** yearly industrial heat demand
- First installation under construction
- Strong strategic partnerships established
- Access to attractive electricity prices



- **98 TWh** yearly industrial heat demand
- Significant and increasing price volatility
- Speedy expansion of renewables
- Attractive electricity prices
- Supportive regulatory framework



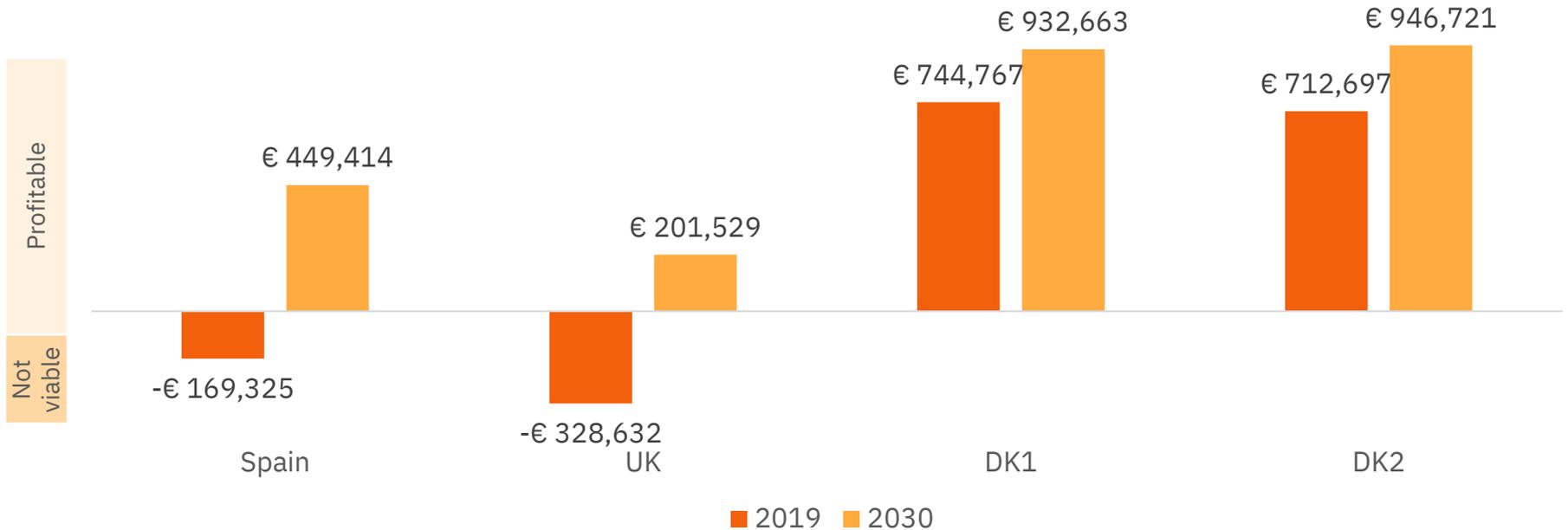
- **227 TWh** yearly industrial heat demand
- Supportive regulatory framework



- **100 TWh** yearly industrial heat demand
- Strong strategic partnerships established
- Access to world-class TES* expertise
- Significant & increasing price volatility
- Speedy expansion of renewables
- Attractive electricity prices
- Supportive regulatory framework

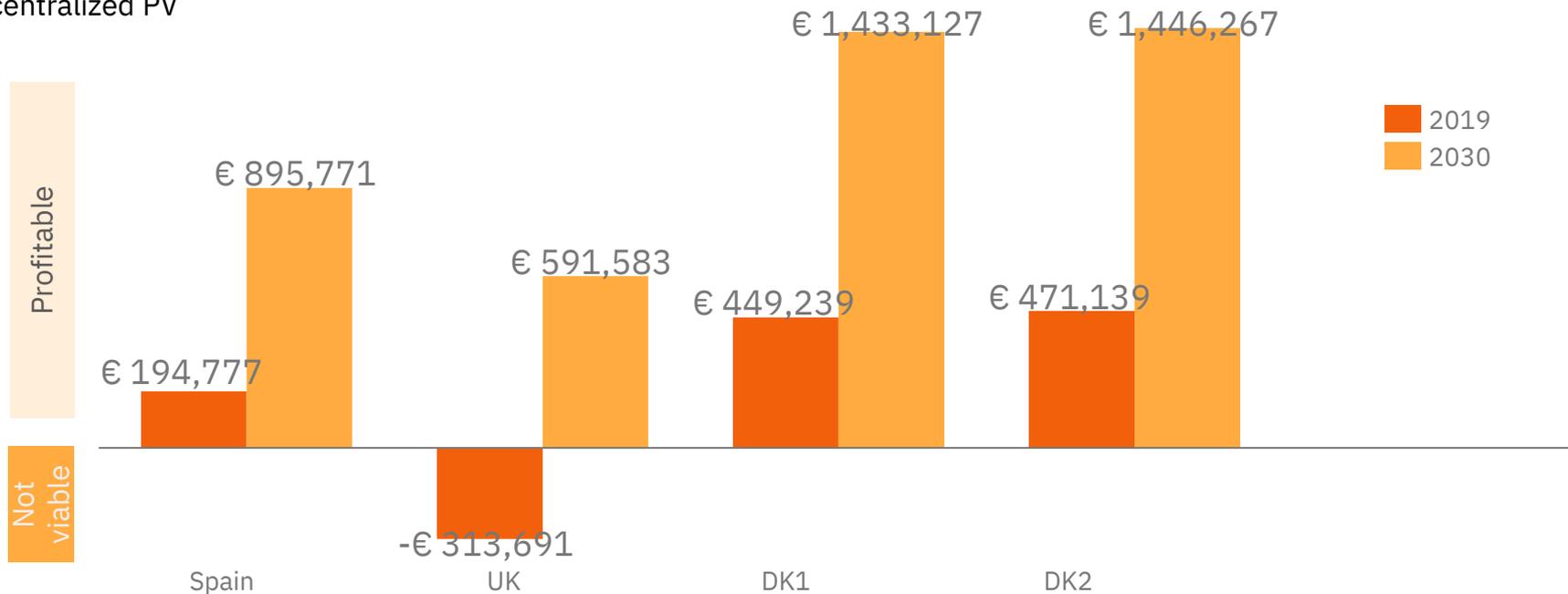
Already out-competing heat produced from gas in Denmark

Case 1: Annual savings per country in configuration 1: 12 MW charging, 60 MWh storage, 5 MW discharge, charged with electricity from the grid



Charging by decentralized PV is improving the case further

Case 2: Annual Savings per country in Configuration 1: 12 MW charging, 60 MWh storage, 5 MW discharge, charged with decentralized PV

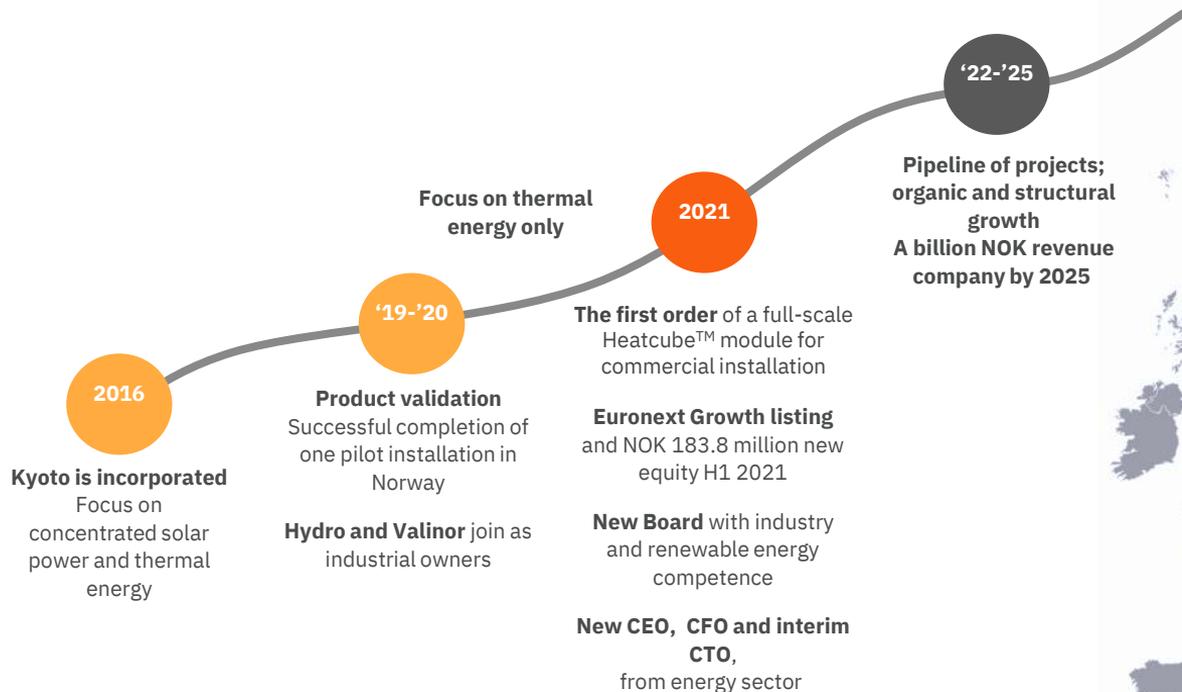




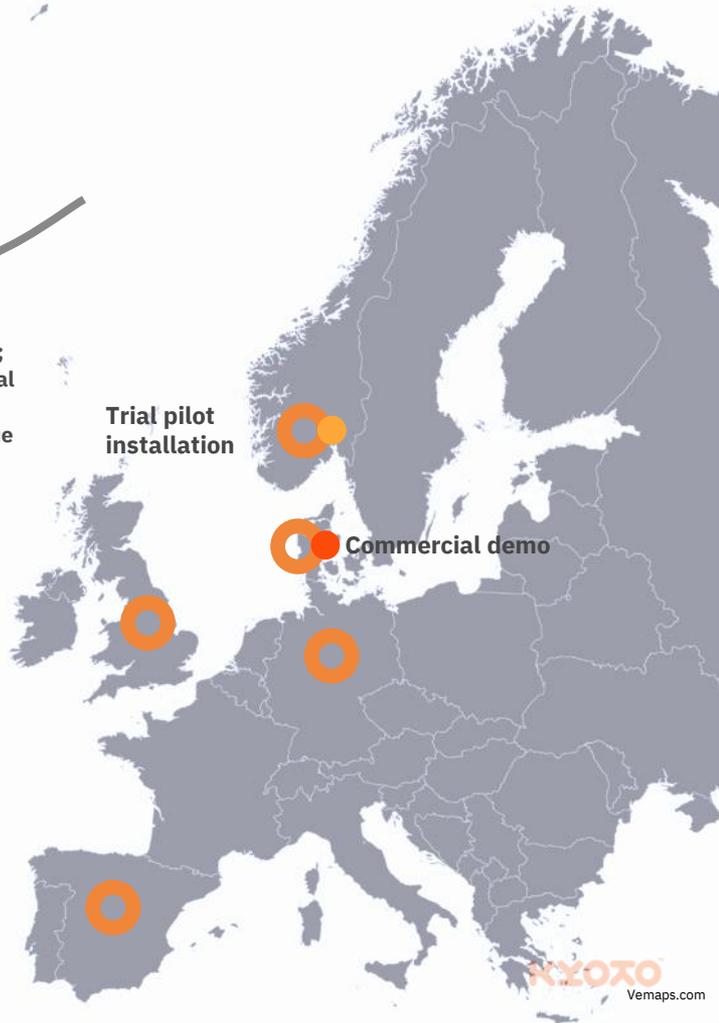
Ramping up to secure growth

From start-up to scale-up

Kyoto today



 Mid-term project opportunities



Strong position in competitive landscape

Centralised
(Utility scale,
large size)



Decentralised
(Off grid,
small size)

Several, primarily
bio-based
systems with
"storage" included



Heat

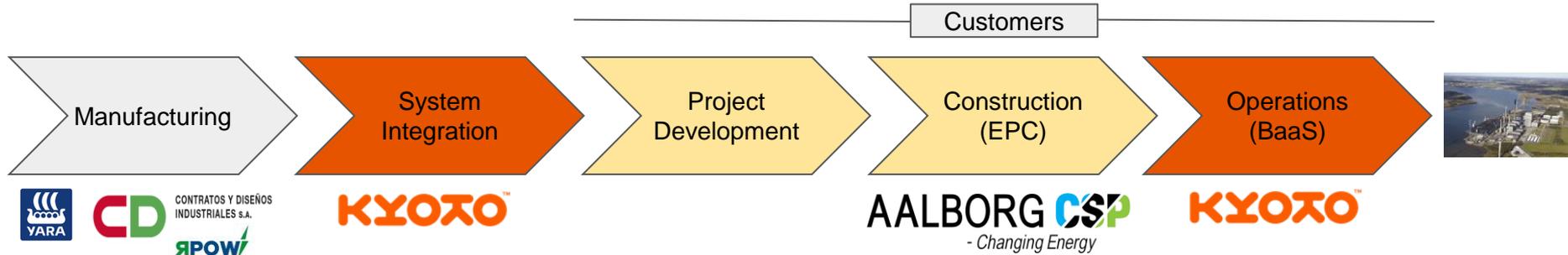
Power

Kyoto position

- Proven technology (CSP)
- Modularized, fit for purpose in industrial context (size vs capex/opex)
- Offer the highest temperature among thermal / medium sized offerings
- Around 5 years payback time with optimal configuration (2025 target)
- Already out-competing heat produced from gas in strategic countries
- Strong focus and solid experience in integrating variable renewable sources

Kyoto positioning in the value chain

Strong partners and strategically positioned



Manufacturing

- Kyoto does not own manufacturing capacity, systems are specified as system integrators (solution engineering)
- Proprietary designed products manufactured on Kyoto specifications and sourced by Kyoto to key partners
- Off the shelf manufactured by multiple existing companies purchased at market terms

Project Development and Construction

- First 1-2 years Kyoto targets to develop all projects and manage EPC as a Build-Own-Operate structure
- Long term project development and EPC may be executed through partners & JVs close to individual markets
- Construction activities will be outsourced locally

Customers

- Short term all sales as a service (BaaS)
- Long term Kyoto also intends to sell through development partners and EPCs
- Kyoto will always own systems engineering as well as operational responsibility of the storage system (The EMS)

Scaling up to meet increasing demand

New offices at Lysaker



Doubling the organization (to 25 FTEs) before year-end 2021



Moving into commercial phase

Clear strategy for long-term development of Kyoto

- Full focus on delivering the first Heatcube to NJV in Denmark with expected operations early next year
- Progressing leads in key markets in Denmark, Spain, UK, Germany and Norway
- Scaling organization organically and structurally to execute on growth strategy
- Developing next generation Heatcube Designed for Manufacturing and Assembly
- Strengthening network of strategic alliances into key markets

Targeting electrification of industrial heat at 200C to 500C temperatures

Key opportunities in the market for heat and energy

- Electrification of Industrial heat demand in chemical & petrochemical and construction industries
- Waste heat recovery in aluminum, iron and steel industry
- Pre-heating industrial processes in iron and steel industry
- Generation of electricity from waste heat recovery
- Utilizing market fluctuations by providing stabilizing activities

Key developments towards 2025 targets

2021

- Pilot test finalized and converted to R&D center
- First commercial order signed
- IPO
- Doubling of organization
- 2022 pipeline maturing

2022

- First commercial installation
- Signing of several commercial orders, with large industrial companies
- Doubling of organization
- Explore M&A opportunities and financing

2023 - 2024

- Strong foothold in all strategic markets established
- Accelerating industrialization of the Heatcube
- Developed next generation Heatcube Designed for Manufacturing and Assembly
- Continued growth and expansion of the organization
- Increasing focus on profitability, approaching break even

2025

- Several hundred batteries installed
- >GW and several GWh available
- Solid profitability
- LCoSC < 20 EUR/MWh
- CapEx < 40 EUR/kWh
- A billion NOK revenue company

KYOTOTM

We disconnect the time power is made, from when it is used



Q&A



Appendix