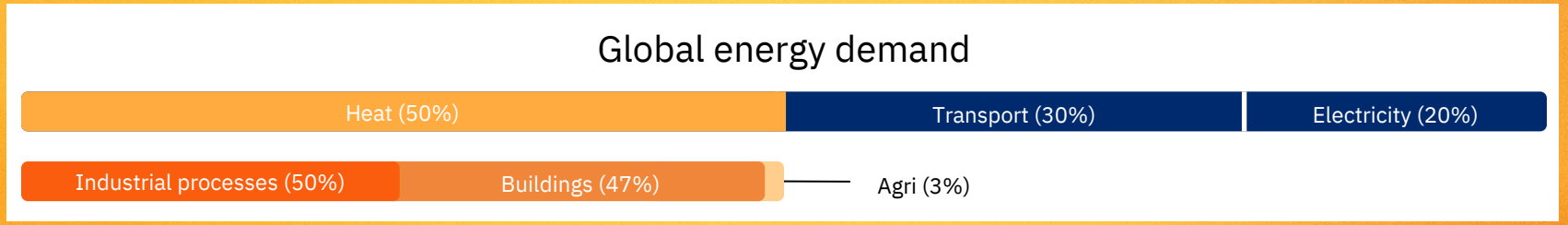
AUGUST 25TH

Kyoto Group First Half Report 2022

KYOTO

Heat accounts for half of global energy consumption



89%

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

40%

of global CO_2 emissions

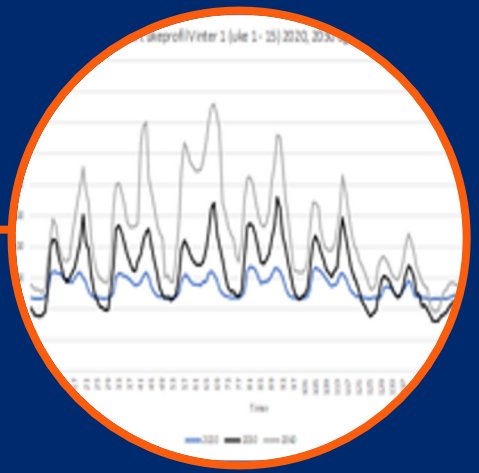
https://iea.org/reports/renewables-2020/renewable-heat

KYOTO

The challenge: increasing price volatility

The world is not on track to limit the rise in global temperature to 1.5° celcius...

Urgent need for energy transition and electrification through renewables



The challenge: increasing volatility

Agenda

- Kyoto's solution
- Financial highlights
- Operational highlights
- Commercial update
- Q&A

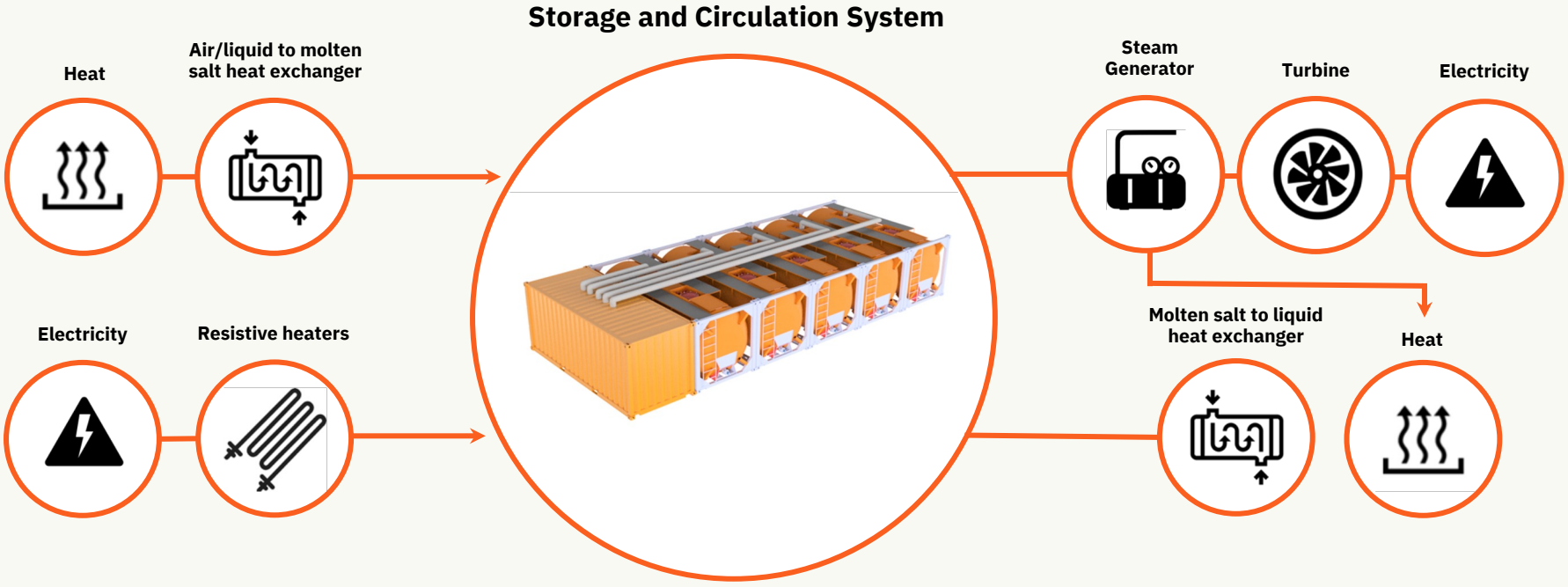
Kyoto’s solution

The Heatcube™

Illustration: Friis & Moltke Architects

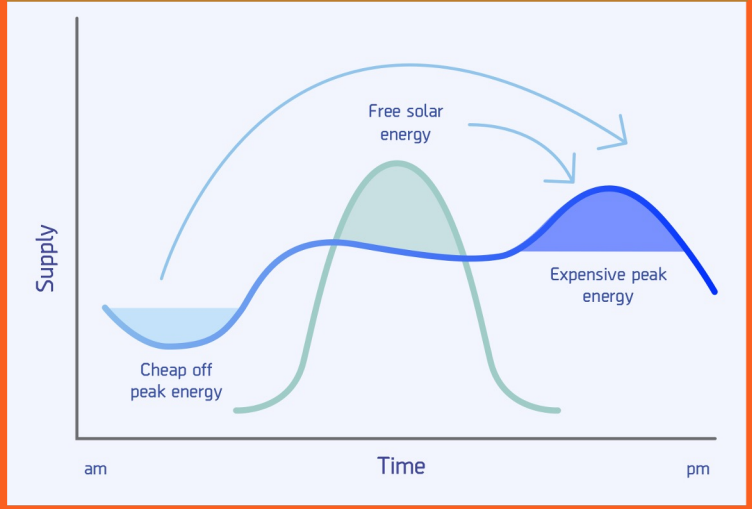
Modular applications of the Heatcube™

Same product, multiple configurations drive flexibility and reduce cost



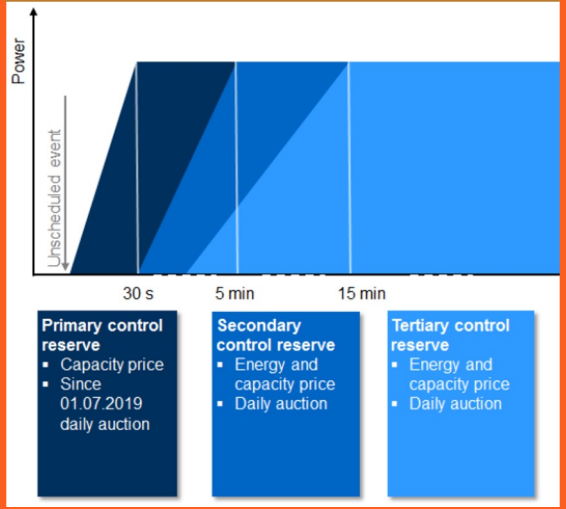
Kyoto's Heatcube™ enables industrial partners to benefit from off-peak electricity prices and from participating in the reserve market

1 Load Shifting



Load Shifting :
- Charging at cheapest hours
- Moving from gas / oil / coal to electricity

2 Reserve Market

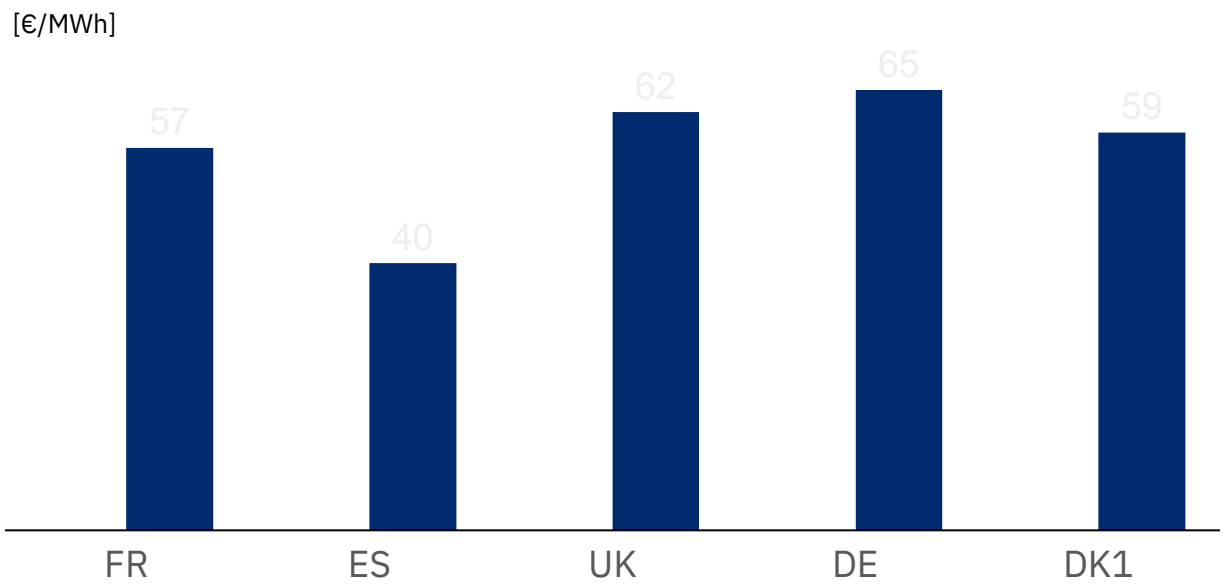


Reserve Market:
- Offer storage to the grid provider and participate in the reserve market

KYOTO

Only looking at load shifting as a value creator: industrial clients can save 40-65 €/MWh by load shifting

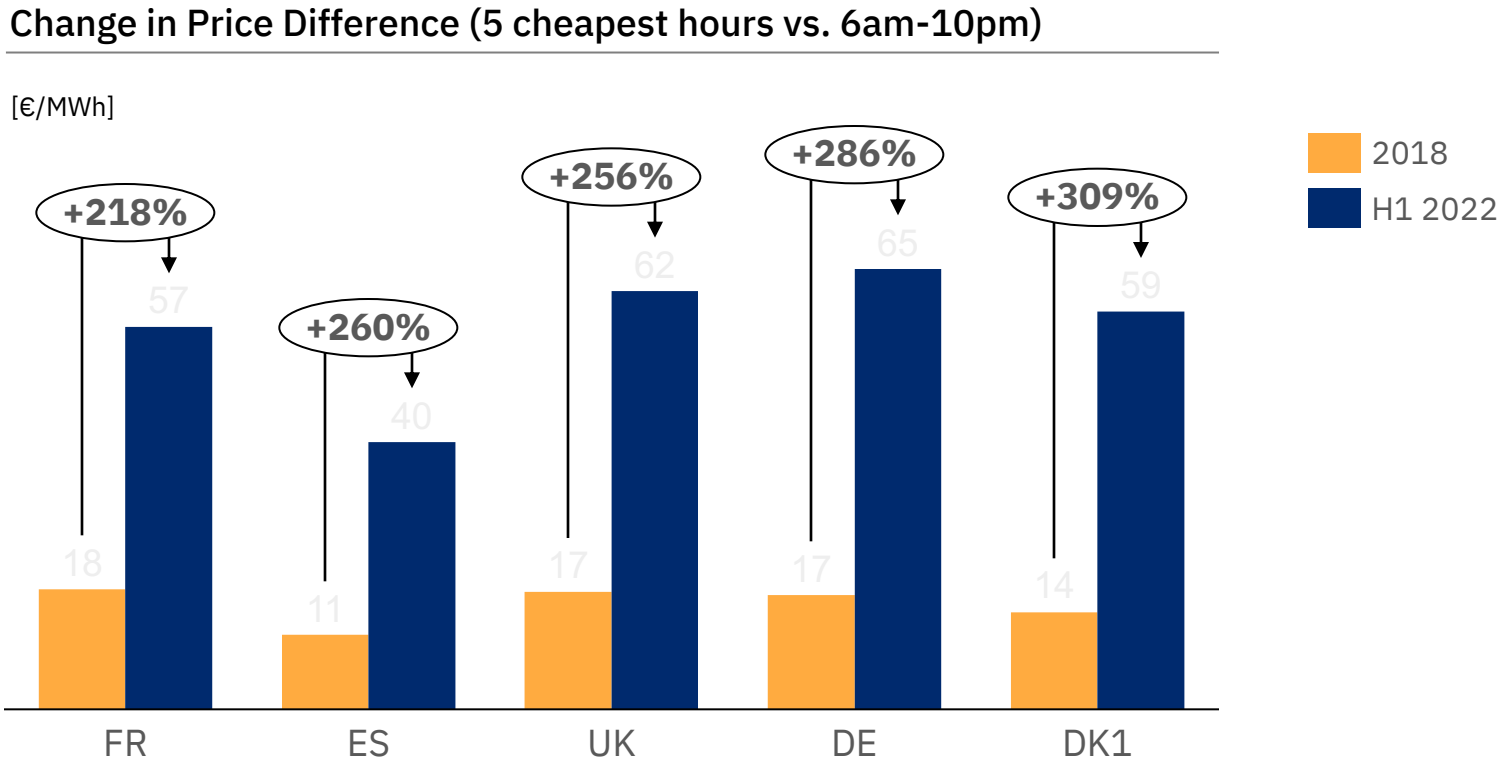
Price difference between 5 cheapest hours and 6am-10pm spot prices (H1 2022)



Source: ENTSO-E

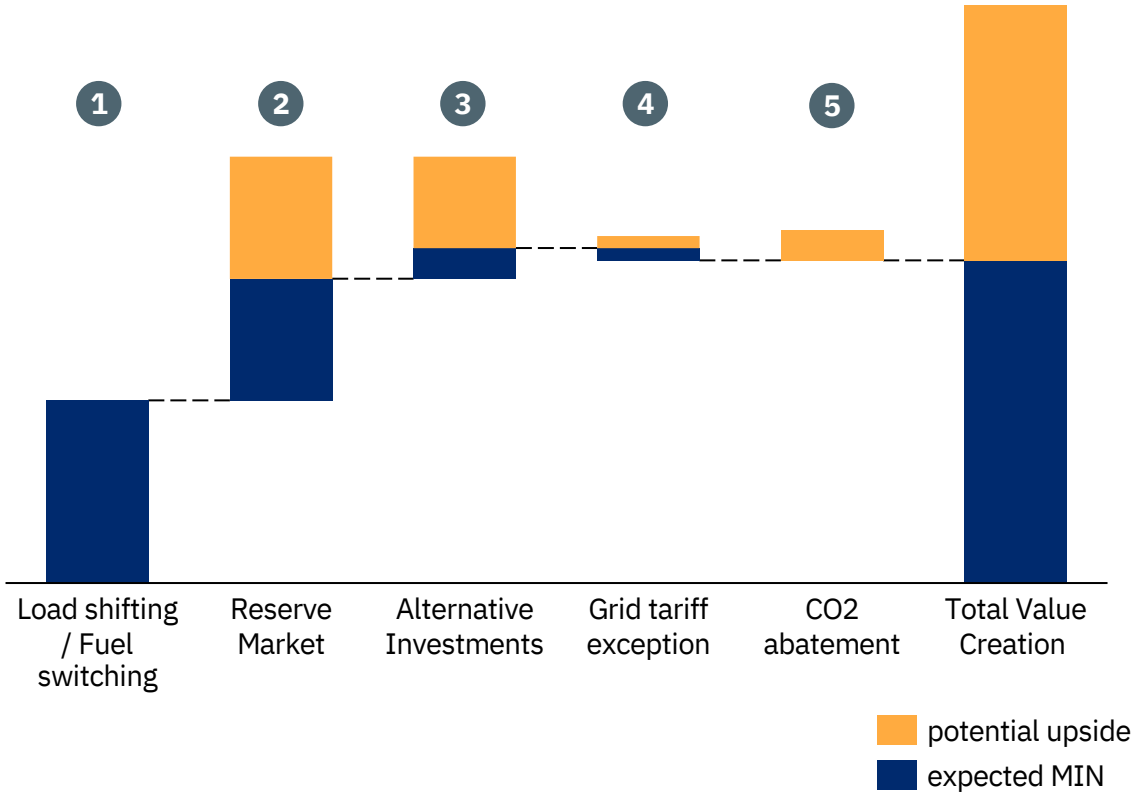
KYOTO

This price difference is now 3-4x higher compared to 2018



Source: ENTSO-E

Breakdown of the entire value creation of the Heatcube™



CONCEPTIONAL

1. **Load Shifting / Fuel switching:**
   - Charging at cheapest hours
   - Moving from gas / oil / coal to electricity
2. **Reserve Market:**
   - Offer storage to the grid provider and participate in the reserve market
3. **Alternative Investments:**
   - No replacement / upgrade investment into current solution
4. **Grid tariff exception:**
   - Now: potentially higher fees due to higher peak demand
   - Later: exempted from tariffs
5. **CO2 abatement:**
   - Value for our client's to source green

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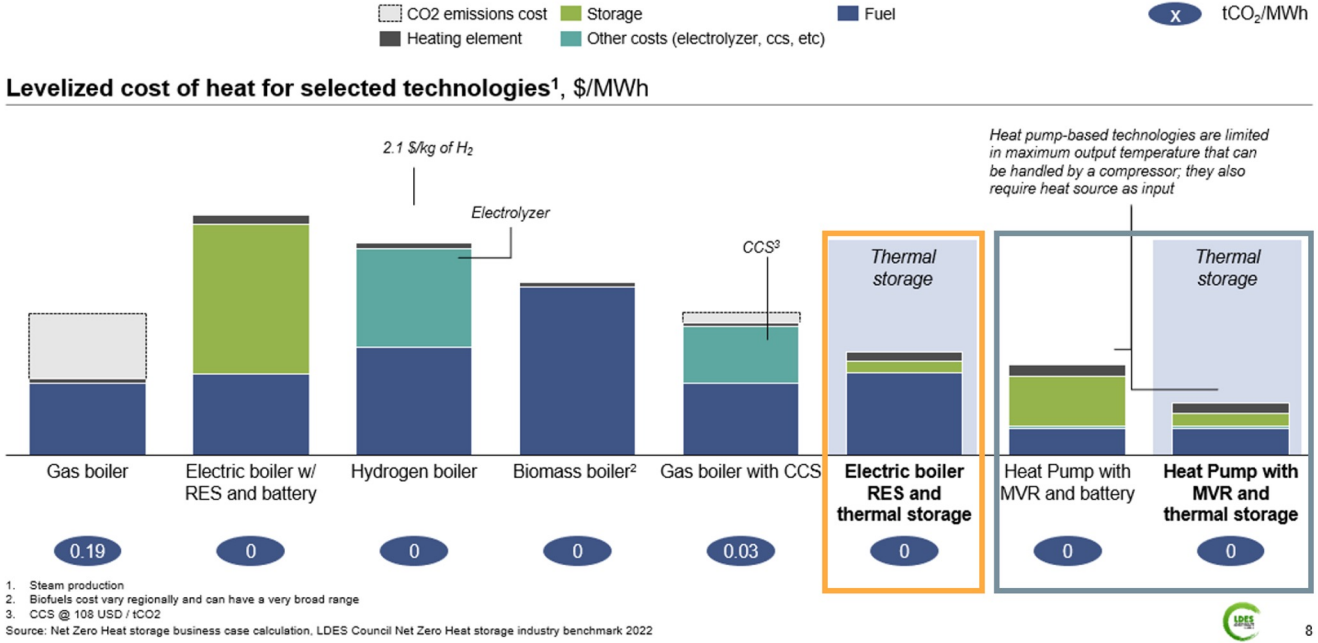
Thermal storage is cost competitive with fossil heat when including carbon tax or at low electricity costs

Reference slide from McK/LDES

McKinsey/LDES: Comparing the LCOH for fossil-based and renewable solutions



1. Steam production
2. Biofuels cost vary regionally and can have a very broad range
3. CCS @ 108 USD / tCO2

Source: Net Zero Heat storage business case calculation, LDES Council Net Zero Heat storage industry benchmark 2022

Heatcube

- Able to serve medium to high temperature industrial heat demand
- Gives access to lowest possible power prices

Heat pump technologies

- Limited in maximum output temperature (low temperature heat)
- Heat source as input

Heatcube™ is the most mature and among the lowest cost solutions based on thermal storage

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H1 2022
Financial highlights

Key financial highlights

Key financial highlights

EUR 1.4m
Investment in Heatcube™ technology

EUR 6.9m
Cash position 30.06.22

EUR -3.0m
Net loss 30.06.22

EUR -3.3m
Cash from operational activities

Changed functional currency from NOK to EUR

The funds has been allocated to:

- Building and installation of Heatcube™ at Nordjyllandsværket
- Organization has tripled during the first half of 2022
- Expansion of footprint, established Kyoto Technology Denmark and in the process of establishing Kyoto Technology Spain
- Acquiring of Mercury Energy in Spain
- Investment in development of next generation Heatcube™

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H1 2022
Operational highlights

Nordyllandsværket Heatcube™ project progress

Building permits received, tanks arrived in Denmark, equipment will arrive within Nov, commissioning Jan 2023

- Slight delay of equipment due to current geopolitical situation but manageable impact.
- Commissioning scheduled for January 2023, vs previously communicated Q4 2022.

Illustration: Friis & Moltke Architects

Leadership established to embark on scale-up phase

Solid industry & scale-up experience

Camilla Nilsson

Chief Executive Officer

Bjarke Buchbjerg

Chief Technology Officer

Tim de Haas

Chief Commercial Officer

Peter Iversen

Chief Manufacturing Officer

Susanne Vinje

Chief Supply Chain Officer

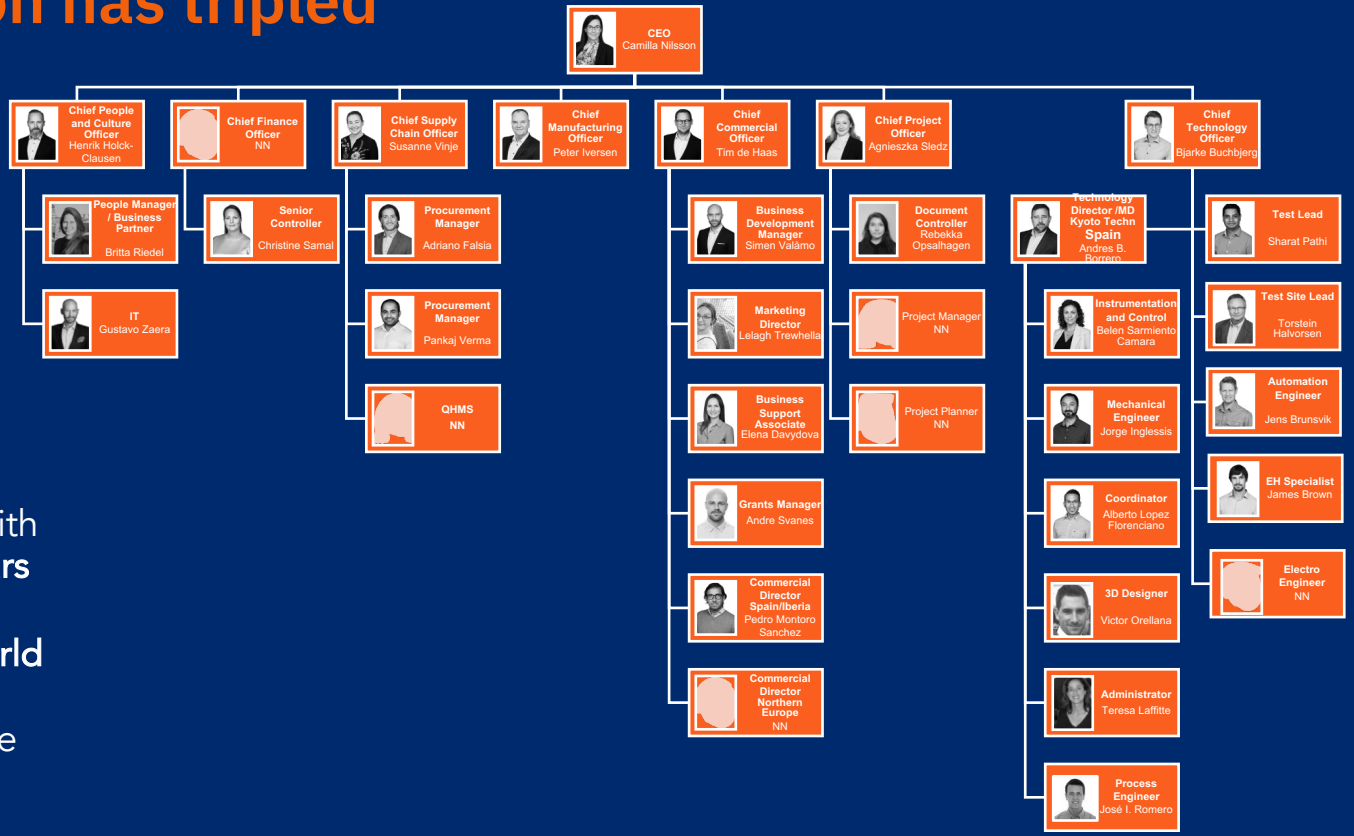
Agnieszka Sleds

Chief Project Officer

Henrik Holck-Clausen

Chief People & Culture Officer

Organization has tripled



29 Employees
spread over
3 Countries divided
on **11 nationalities** with
an average of **13 years**
of experience and
36% females and **world**
leading molten salt
engineering expertize

Supported by post-doc collaboration with the
Royal Instutite of Technology in Stockholm

Established Kyoto Technology Spain

Acquisition of Mercury Energy completed Aug 10th

Serving increasing demand for thermal energy storage in Europe

- Acquisition Mercury Energy enables successful establishment of new business unit in Spain
- Expansion of Kyoto's geographic footprint close to key markets in Europe for rollout of and after-market services of Heatcube™

Strengthening capacity and expertise

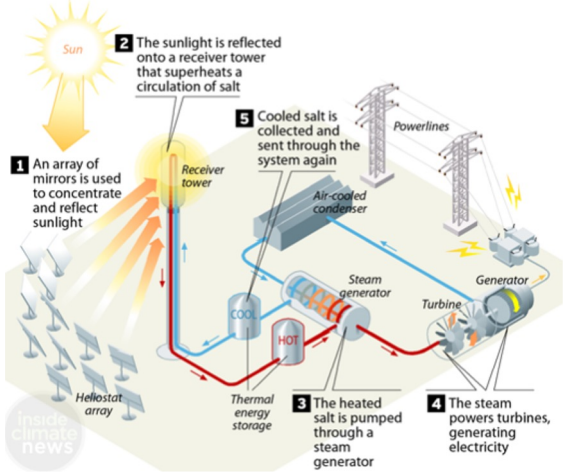
- Mercury Energy brings significant IPR for molten salt thermal energy
- Addition of several molten salt experts to our growing team

Reference of the Kyoto Heatcube™ technology

A Solar Thermal Power Plant is a large facility for energy generation that uses the sun's energy to produce electricity. Many of them can store solar energy in the form of heated molten salt for off-peak hours, allowing for electricity production into the night when the sun is not shining. Molted salt as a storage medium is proven in the world and is used already for more than 20 years.

Solar thermal power stations in the world:
Operational – 57
With a storage capacity – 28
Announced & under construction for future use – 21

Process scheme



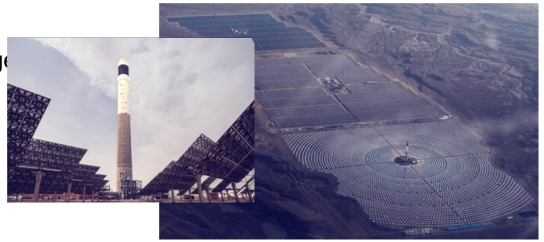
Gemasolar Thermosolar Plant – one of the oldest solar power plants in the world

Nominal Capacity- 19MW CT
Storage capacity - 15h of molten salt storage
The efficiency of the cycle - 40%
Location - Spain, Sevilla
Start of operation – 2011
Achievements:

- Total operation is 6,450 hours at full capacity per year
- Prevention of about 30,000 tons of CO_2 emissions per year.

Noor Ouarzazate Solar Complex - the world's largest concentrated solar panel project
Nominal Capacity - 580MW CT
Storage capacity - 17h of molten salt storage
Location - Morocco
Start of operation – 2016
Achievements:

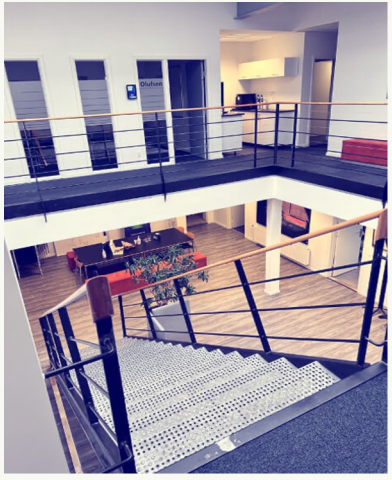
- CO2 reduction – 730,000 tons per year
- Replacing of 2,5 million tons of oil



Kyoto Technology Denmark ApS

Kyoto Technology Denmark established in May 2022

- The country in the world with the highest proportion of wind energy
- Average intraday volatility (lowest 4 hours vs base price) during H1 2022:
  - 59 EUR/MWh in DK1 and
  - 65 EUR/MWh in DK2
- Kyoto´s first revenue generating market (Q1 2022)
- Led by Peter Iversen, 20+ years of significant industrial experience



Peter Iversen

RAMBØLL

MAERSK

KYOTO

Scale-Up + Sciences collaboration with KTH

The Royal Institute of Technology in Stockholm

- A one year post-doc collaboration RIHOND (Renewable Industrial Heat on Demand) was kicked-of in June 2022
- Financed by Kyoto, led by Silvia Trevisan (KTH) and supervised by Bjarke Buchbjerg (Kyoto) and Rafael Guédez KTH)
- Focusing on research and material development for the Kyoto Heatcube™ technology

Long Duration Energy Storage (LDES)

LDES startups

Ambri
AZELIO
Breeze
BRENMILLER ENERGY
cellcube
ceres
ECHOGEN power systems
ENERGYDOME GROUND-BREAKING ENERGY STORAGE
EnergyNest The Thermal Battery company
ENERGY VAULT
ENERVENUE
ENLIGHTEN
eos
ESS INC
e-zinc
LARGO
Form energy
HEATRIX
Highview Power
HYDROSTOR
INVINITY ENERGY SYSTEMS
KRAFT BLOCK
KYOTO
MALTA
MAGALDI
Quidnet Energy
MGA THERMAL
PUMPED HYDRO STORAGE
redflow
Rhe Energise
Rye Development
14
SaltX Technology
Stiesdal
STORWORKS POWER
TORC
VOLTSTORAGE

Anchors

Industry and services customers

COMPASS
EGA
RioTinto
Google
Microsoft
SOUTH32

Capital providers

Breakthrough Energy
quinbrook infrastructure PARTNERS

Equipment manufacturers

Baker Hughes
ALFA LAVAL
INNIO
Sumitomo SHI FW
VOITH
SIEMENS energy

Low-carbon energy system integrators & developers

bp
corre energy
greenko
NEOM نيوم
Ørsted
Reliance Industries Limited
TotalEnergies

Membership overview as of July 13 2022

Upcoming:
Release of Report
"Net Zero Heat"
at COP27 in
Sharm El Sheik,
Egypt
Nov 6th-18th

The LDES Council is an independent body with its own governance structure, with the mission to accelerate energy decarbonization through the scale-up of LDES

Kyoto selected Top 50 Impact Companies in Nordics 2022

To be presented in Copenhagen Sep 14th-15th

THE ONE INITIATIVE

IT'S ALL ABOUT CONNECTING THE RIGHT ONES

The One Initiative is a bold ambition.

We believe, that it is possible to use the forces of the market as a powerful driver towards a sustainable future. We want to make it happen.

United Nations' figures show, that it is possible to achieve the 17 global sustainable development goals by 2030 if roughly one percent of global investments are invested in sustainable solutions.

That's a lot of money – yes. But it is also just *one* percent. We just need to invest a *little* bit less in consumption and a *little* bit more in solutions.

That's why our ambition is to identify, analyze and mature the most promising solutions of tomorrow and connect them with one percent of the capital of today.

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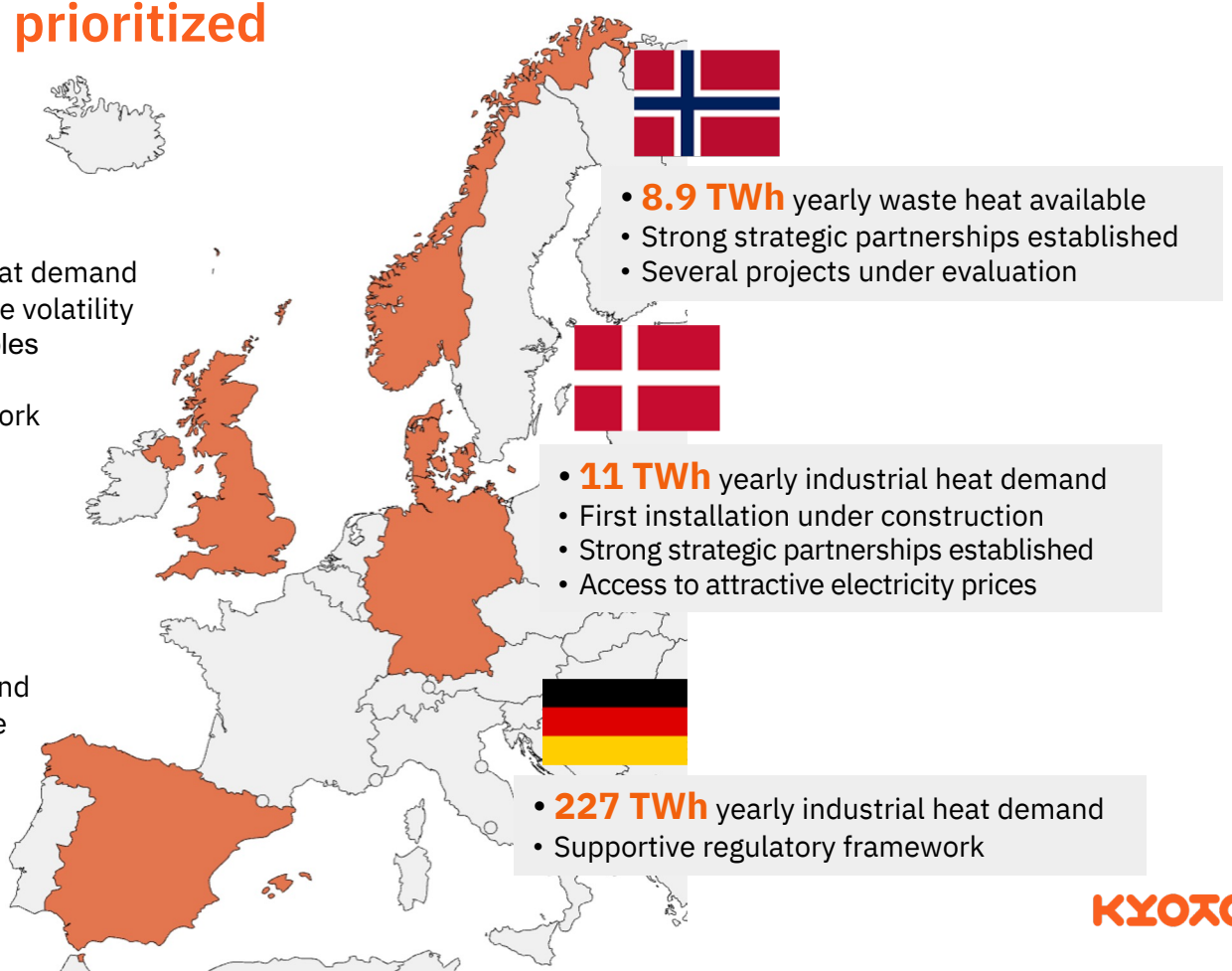
H1 2022
Commercial highlights

Based on market potential and market environments, key markets have been prioritized



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

- **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

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

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

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Kyoto Group offers the Heatcube™ with two commercial models

A

Heat as a Product (HaaP)

Traditional Product Sale

- EPC or direct sales
- Support and service agreements with customers
- One-time payments

B

Heat as a Service (HaaS)

Heat Sales to Customers

- Heat purchase agreements (HPA)
- Operated by Kyoto
- Recurring stable, long-term revenues

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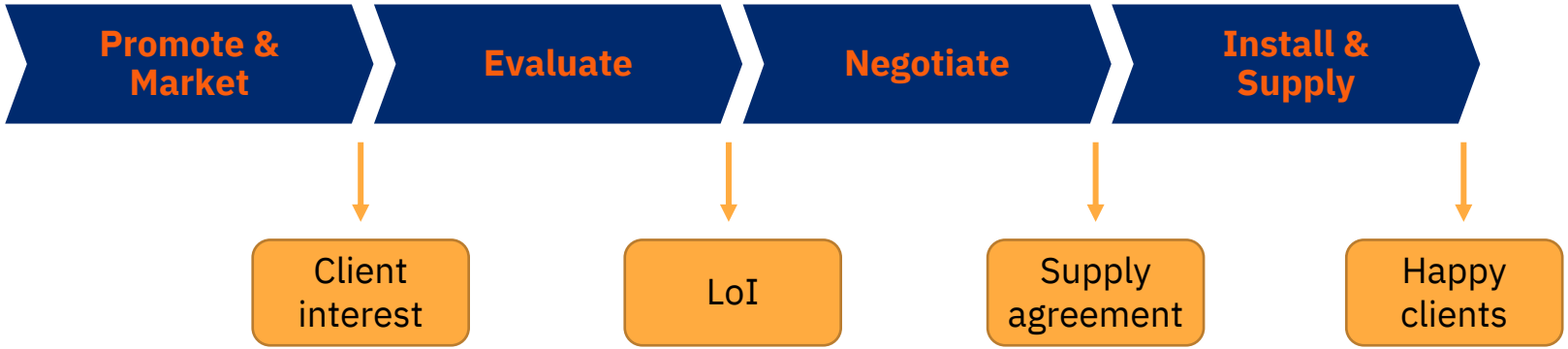
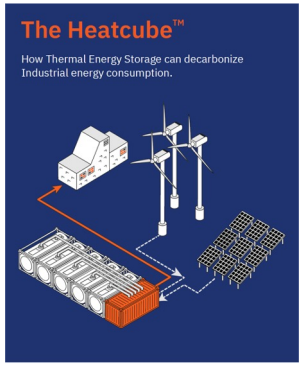
Kyoto currently strengthens the commercial team to adequately respond to the increased market demand





Current focus:

- Expand the commercial & project team to respond to market's demand
- Increase awareness of Heatcube™ as solution in the energy transition
- Shorten the sales cycle with advanced marketing and networking
- Provide solution offering to interested clients
- Finalize supply agreements

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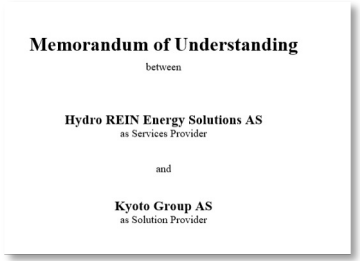
Kyoto Group & Hydro REIN sign MoU to develop combined renewable energy & thermal energy storage solutions for industrial players

REIN Hydro + KYOTO™

- Agreed on a joint go-to-market approach to industrial clients:
  - Hydro REIN offers guaranteed renewable energy
  - Kyoto Group's Heatcube™ offers renewable heat
  - Kyoto Group will co-design the solution and participate in serving the clients
- Target of 3 to 5 pilot and commercial projects over the next two years with identified clients

- **Guaranteed renewable energy and heat on demand**
- **For industrial clients to decarbonize and optimize both their energy consumption and heat demand**



Memorandum of Understanding

between

Hydro REIN Energy Solutions AS
as Services Provider

and

Kyoto Group AS
as Solution Provider

KYOTO

Kyoto Group AS and Glomma Papp AS have signed a Letter of Intent (LoI)

Status:

- Technology and benefits of Kyoto's Heatcube™ have been discussed and evaluated for several months

Now:

- Entering into negotiations of supply agreement

Goal:

- Commissioning during the summer of 2023

Background on Glomma Papp:

- Designing, developing, and manufacturing packaging and display solutions for business markets since 1931
- Glomma Papp AS's vision is to inspire and improve

Glomma Papp®
emballasje og display

"This is further proof of our commitments to sustainability and to reducing CO2 emissions from our processes and actively being a part of the green transition for the corrugated industry. Kyoto's Heatcube™ offers an interesting potential for us [...]"

John Stevenson,
Technical Manager at Glomma Papp AS

KYOTO

The Heatcube™ creates value and supports the decarbonization for industrial players in various industries

Paper, pulp and print

Heat is used to dry the pulp and heat the calendar rolls. It is also needed for recycled newsprint, specialty papers and packaging.

Chemical and petrochemical

Most of the heat is used for ammonia production by steam reforming of natural gas, steam cracking of naphtha and steam cracking of gas oil.

Food

Cooking, preheating, washing and pasteurization are the main areas for heat demand. A big share of energy is also used for refrigeration.

Iron and steel

Steel production requires very high temperatures to heat and melt iron ore. We can save a lot of energy by pre-heating the production parts.

Non-metallic minerals

Most of the heat demand in the sector comes from cement production and requires temperatures of over 400°C.

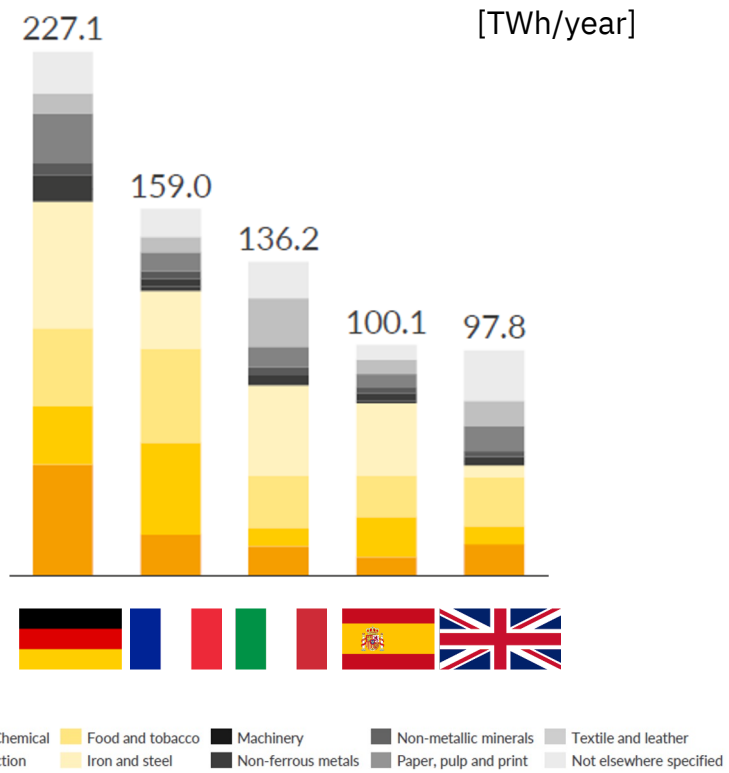
Non-ferrous metals

Heat is used almost entirely in specific electrical processes. It is required mostly in the aluminum, copper and zinc production.

KYOTO

To increase the awareness and knowledge about the potential of electrification of industrial process, the report is accessible here:

Industrial heat demand in....



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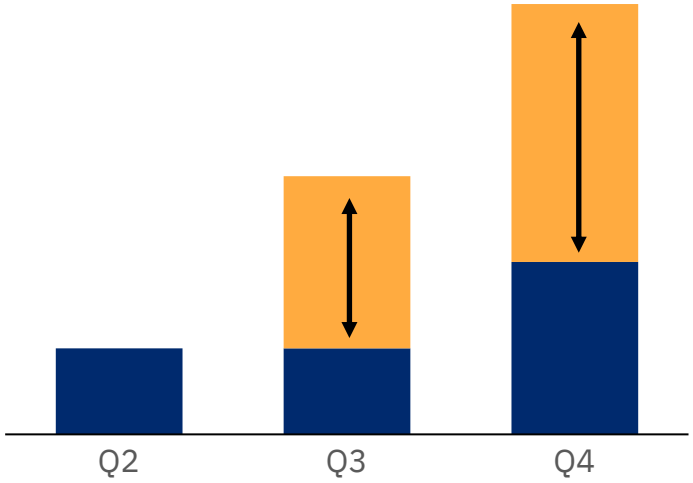
Kyoto Groups receives continuously increasing requests and projects to sign 5-10 LoIs during 2022...

Projected LoIs during 2022



- Negotiating and signing 5-10 LoIs
- Entering into final negotiations of supply agreements
- Securing installations of several Heatcube™ during 2023

.... to support the industry decarbonizing their heat demand, lowering their energy expenditures and securing steady supply

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Capital Market Day
October 27th 2022
SAVE THE DATE

@Klimahuset, Oslo | In-person & Virtual Event

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

Appendix

KYOTO


Kyoto Group AS
Making green energy available for everyone
7 AFFORDABLE AND CLEAN ENERGY
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
KYOTO

P&L

All figures in EUR (unaudited)

	Note	H1 2022	H1 2021
OPERATING INCOME AND OPERATING EXPENSES			
Employee benefits expense	1	1 196 580	694 829
Other expenses	1	1 847 915	900 655
Total expenses		**3 044 495**	**1 595 484**
Operating profit		**-3 044 495**	**-1 595 484**
FINANCIAL INCOME AND EXPENSES			
Interest income from group companies		47	0
Other interest income		322	3 988
Other financial income		19 678	2 959
Other interest expenses		2 166	478
Other financial expenses		2 381	977
Net financial items		**15 500**	**5 492**
Net profit before tax		-3 028 994	-1 589 993
Income tax expense		0	0
Net profit after tax		**-3 028 994**	**-1 589 993**
Half-year result	**3**	**-3 028 994**	**-1 589 993**

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Balance sheet

All figures in EUR (unaudited)

	Note	30.06.2022	30.06.2021
ASSETS			
Non-current assets			
Intangible assets			
Research and development	8	4 396 222	1 034 525
Deferred tax assets		0	507 568
Total intangible assets		**4 396 222**	**1 542 093**
Property, plant and equipment			
Equipment and other movables	8	8 235	8 378
Total property, plant and equipment		**8 235**	**8 378**
Non-current financial assets			
Investments in associated companies	2	5 414	0
Other long-term receivables	6	73 831	372 816
Total non-current financial assets		**79 245**	**372 816**
Total non-current assets		**4 483 702**	**1 923 288**
Current assets			
Debtors			
Other short-term receivables	6	306 049	356 887
Receivables from group companies	7	9 881	0
Total receivables		**315 931**	**356 887**
Cash and cash equivalents	4	6 859 973	15 621 769
Total current assets		**7 175 904**	**15 978 656**
Total assets		**11 659 605**	**17 901 944**

	Note	30.06.2022	30.06.2021
EQUITY AND LIABILITIES			
Equity			
Paid-in capital			
Share capital	3	25 290	24 835
Share premium reserve	3	10 141 129	16 105 268
Other paid-up equity	3	328 078	1 040 903
Total paid-up equity		**10 494 497**	**17 171 006**
Total equity		**10 494 497**	**17 171 006**
Liabilities			
Other non-current liabilities			
Other non-current liabilities	9	231 918	235 949
Total non-current liabilities		**231 918**	**235 949**
Current liabilities			
Trade payables	6	357 878	353 612
Public duties payable	6	189 856	86 834
Other current liabilities	6	385 456	54 542
Total current liabilities		**933 190**	**494 988**
Total liabilities		**1 165 108**	**730 937**
Total equity and liabilities		**11 659 605**	**17 901 944**

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Cash flow

All figures in EUR (unaudited)

	H1 2022	H1 2021
CASH FLOW FROM OPERATING ACTIVITIES		
Profit/loss before tax	-3 028 994	-1 589 993
Impairment of fixed assets	0	2 949
Change in accounts payable	-348 516	63 514
Change in intercompany balances	-99 458	0
Change in other accrual items	207 365	92 903
Net cash flow from operating activities	**-3 269 603**	**-1 430 626**
CASH FLOW FROM INVESTMENT ACTIVITIES		
Investments in subsidairies	-5 414	0
Payments to buy intangible assets	-1 377 768	-530 771
Net cash flow from investment activities	**-1 383 182**	**-530 771**
CASH FLOW FROM FINANCIAL ACTIVITIES		
Change in convertible debt	0	-221 202
Proceeds from equity	21 522	17 122 507
Sale of own shares	0	649 899
Purchase of own shares	-22 962	0
Currency adjustments	-258 594	-784
Net cash flow from financial avtivities	**-260 034**	**17 550 420**
Net change in cash and cash equivalents	-4 912 819	15 589 022
Cash and cash equivalents per 01.01.	11 772 792	32 746
Cash and cash equivalents per 30.06	**6 859 973**	**15 621 768**

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
- LCoS < 20 EUR/MWh
- CapEx < 40 EUR/kWh
- A billion NOK revenue company

LCoSC = Levelized cost of Storage Capacity

KYOTO