



Future of collaborative innovation

Experience report of an SME. Nov 2020



KIRTXTHOMSEN

Too futuristic in 2011

Winner Core77 Design awards 2011:
Speculative concepts/objects

Jury: "... this design proposal was highly
visionary, spoke to a very real issue, and
demonstrated brilliant visual execution"



CORE77
DESIGN
AWARDS

COPEN
HAGEN
DESIGN
WEEK
20
09

INDEX
AWARD
NOMINEE



Selling tickets in 2020



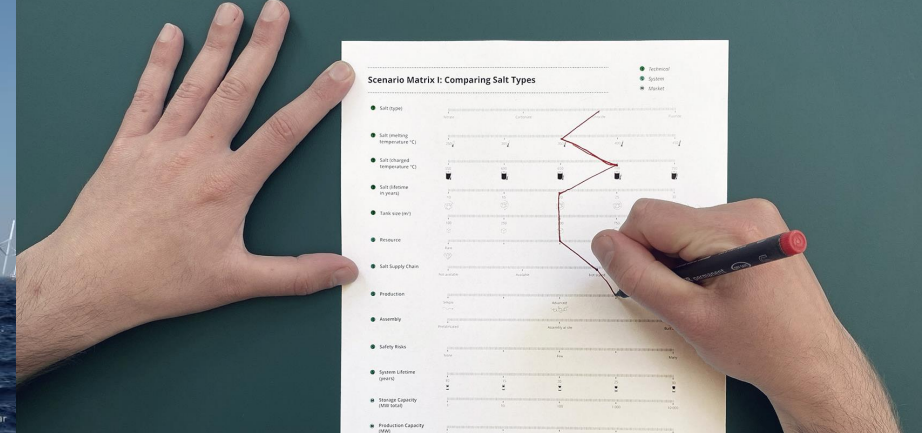
CORE77
DESIGN
AWARDS



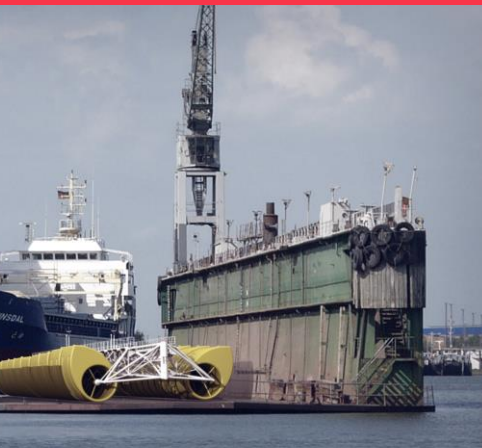


KXT

© Nenuphar



Cleantechxdesign



References

Ørsted

LM WIND
POWER

Bladena
BLADE ENABLER

Adwen

EUROPEAN
ENERGY

BRAMIDAN®

spiri

e-on

FENRIS
MOTORCYCLES

seas-nve

Vestas

SWECO

AREVA

ENERGINET

CIEL

eUDP

GAIA SOLAR

norden
Nordic Innovation

Ministry of Environment
and Food of Denmark

VATTENFALL

DTU

CPH
Copenhagen Airports

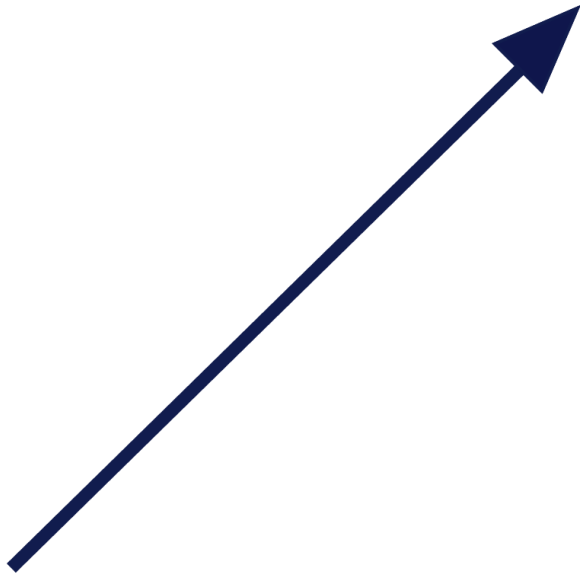
CITY OF COPENHAGEN

DRIVR

clean
INNOVATING GREEN SOLUTIONS

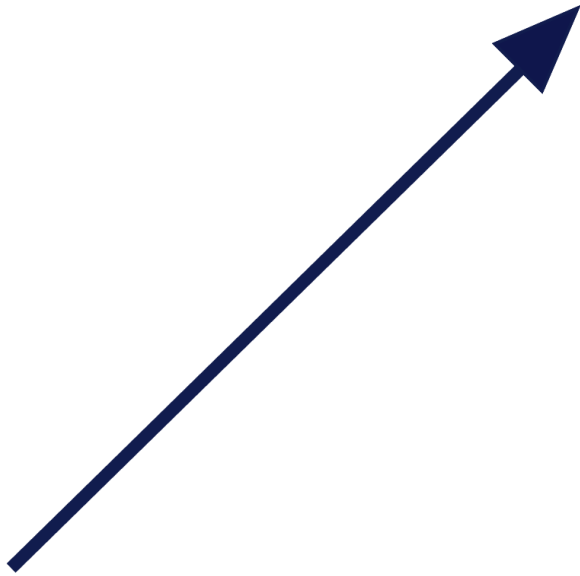
KXT

success in
RxD

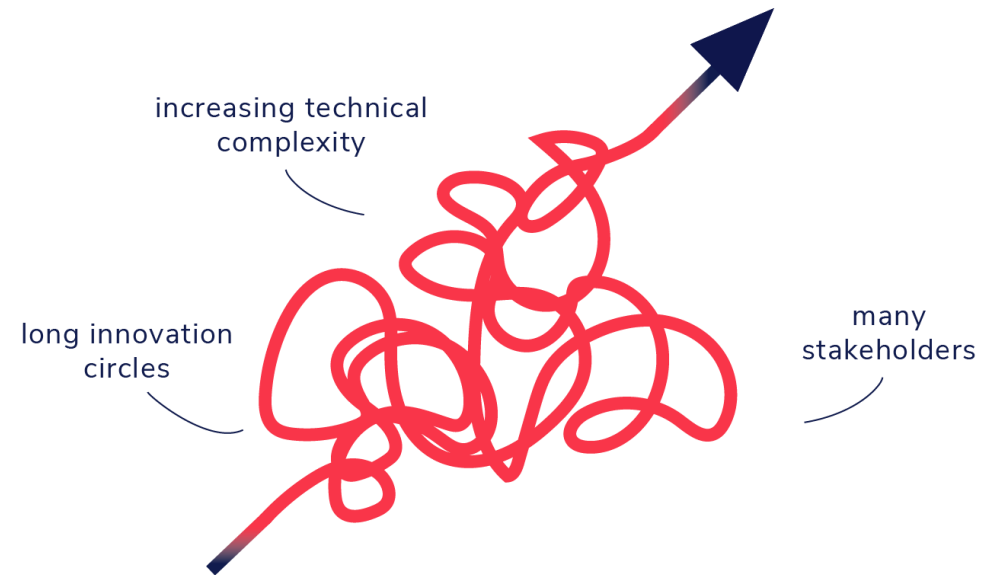


what people think it
looks like

success in
RxD

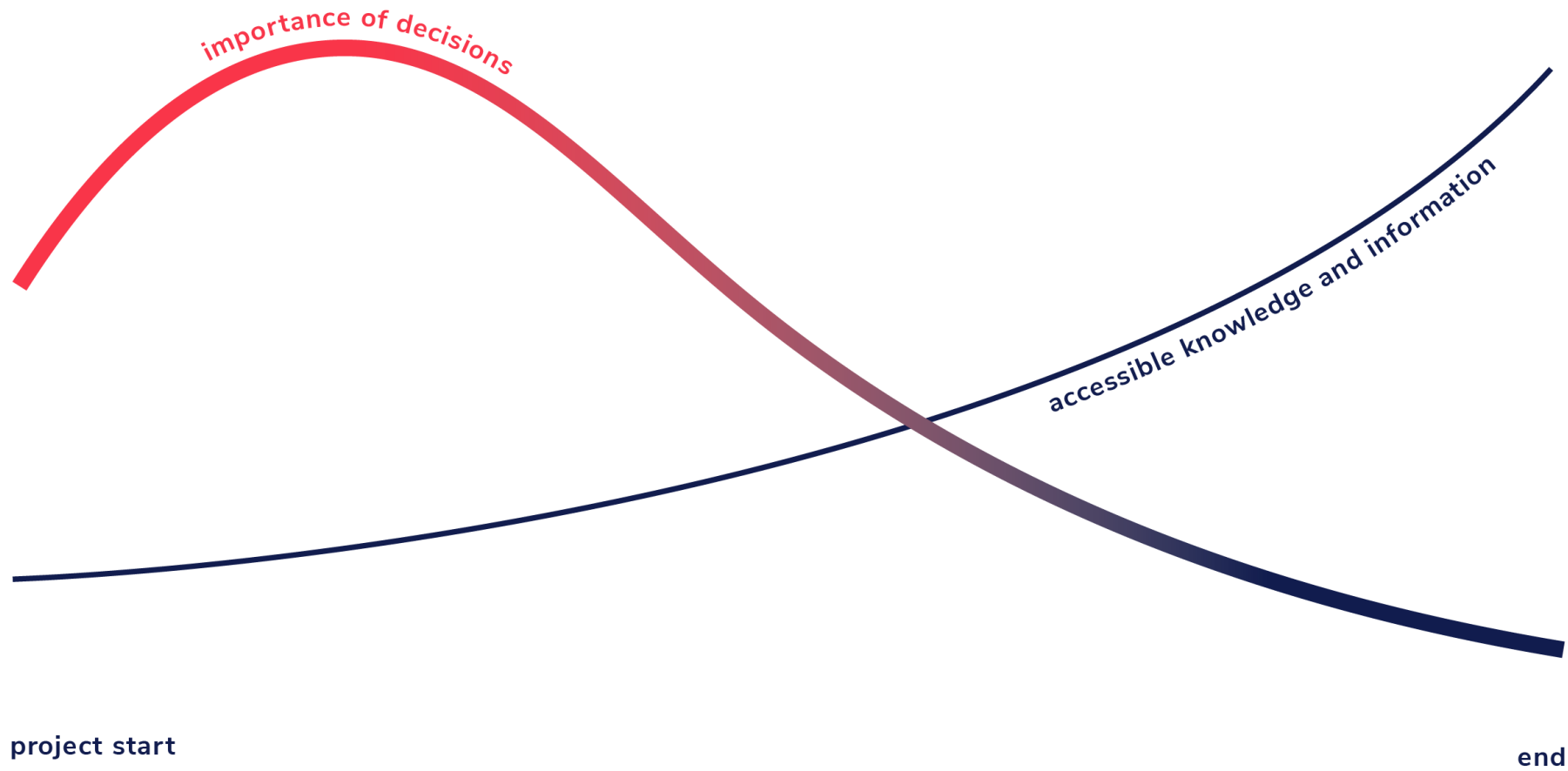


what people think it
looks like

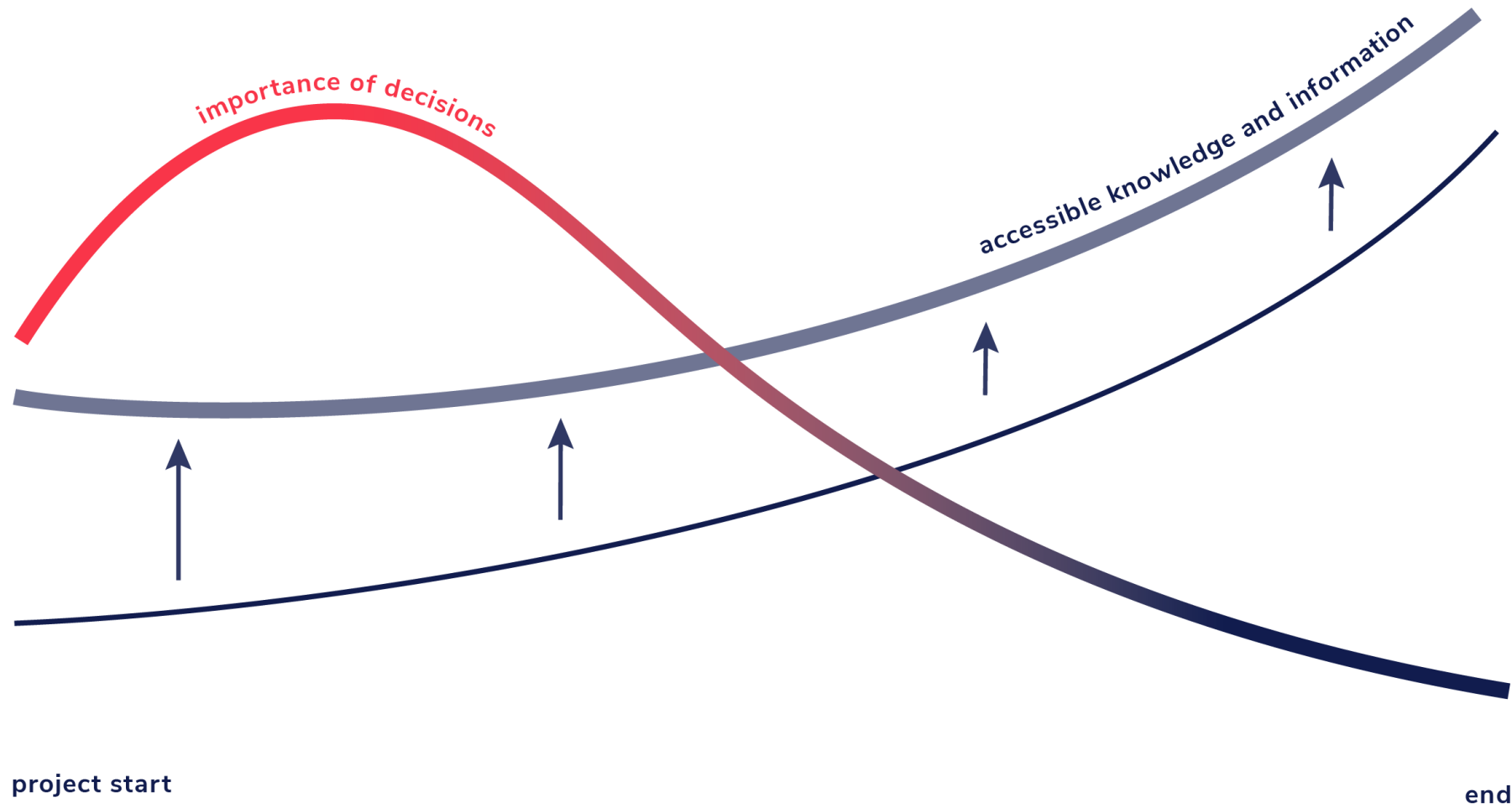


what it actually looks like

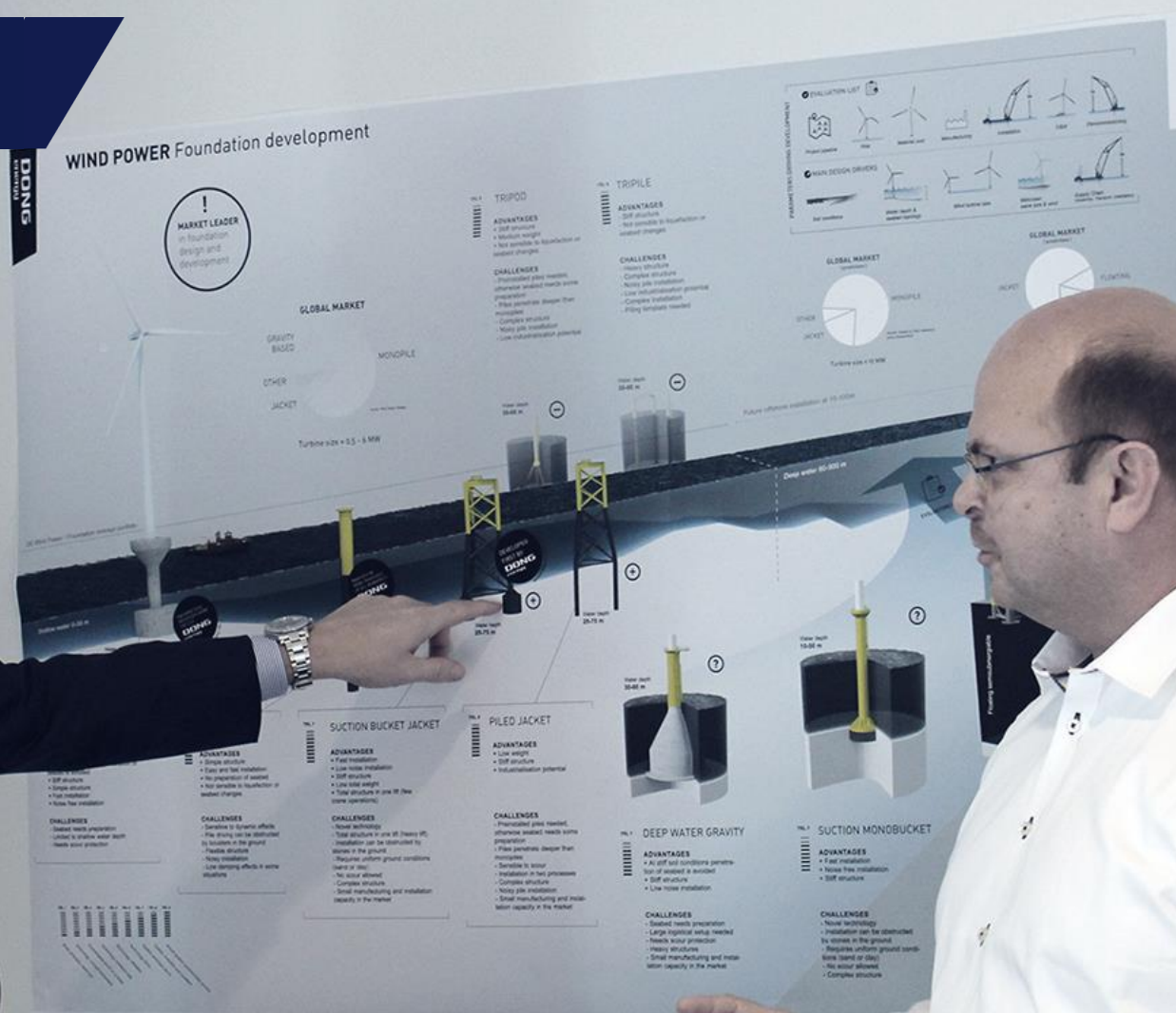
improve
your RxD



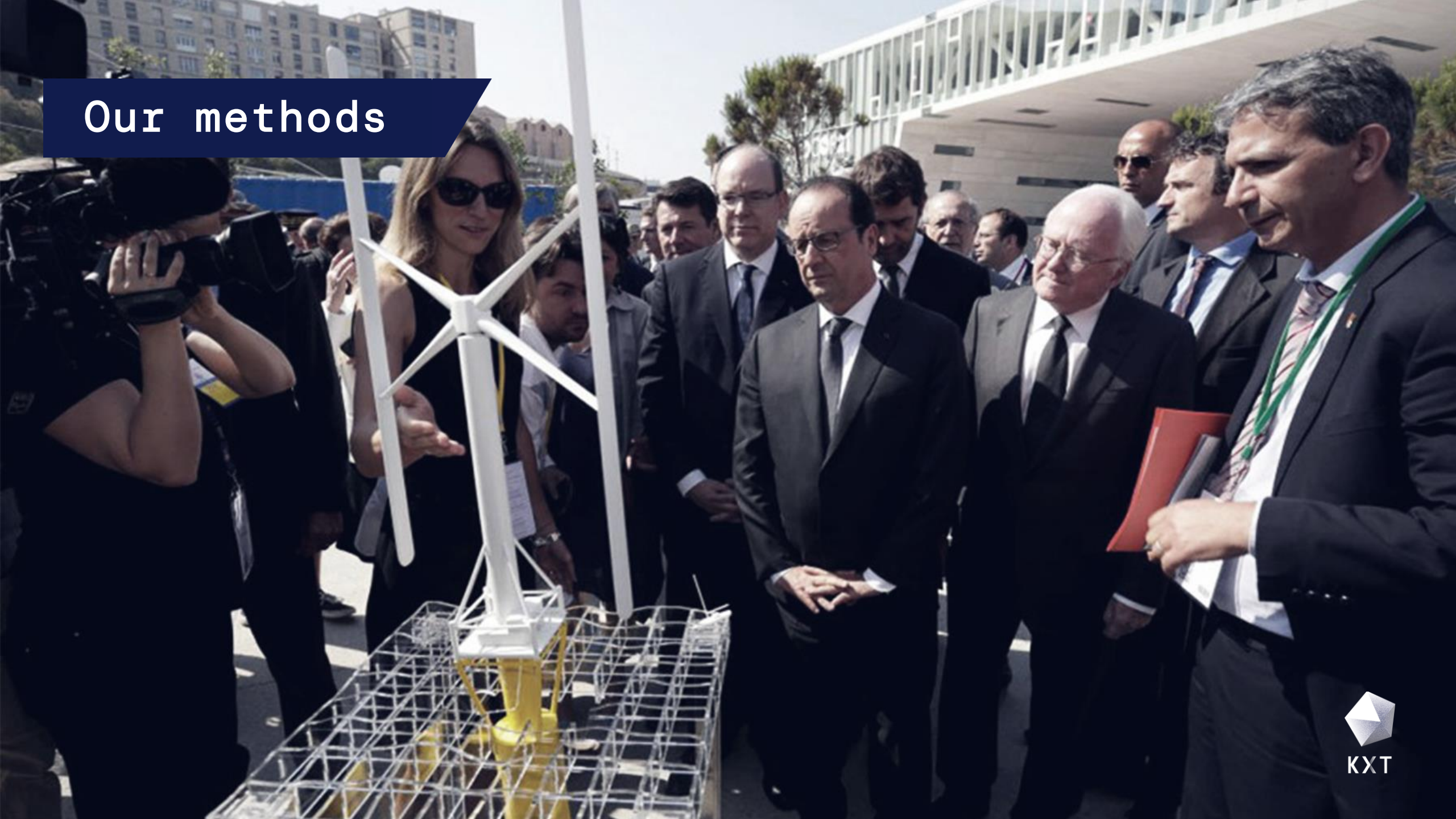
improve
your RxD



Our methods

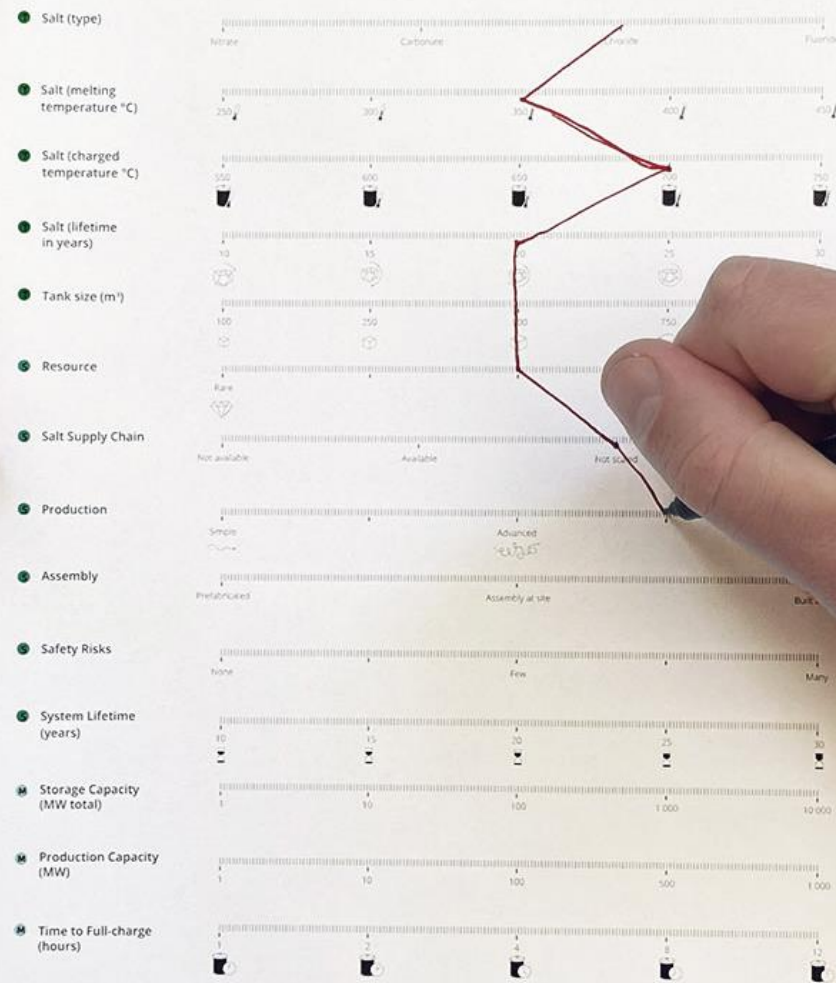


Our methods



Our methods

Scenario Matrix I: Comparing Salt Types

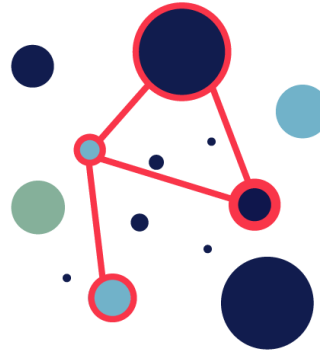


our services



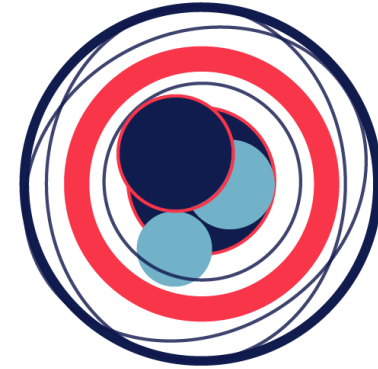
projectxstart

design driver tool
idea bank
requirement matrix
user research
collages



projectxdevelopment

story boarding
concept design
rapid prototyping



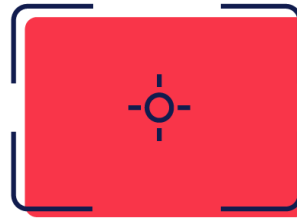
projectxsell

2D/3D animation
infographics
renders
booklets
work instructions
3D prints

six roles to drivexchange



1. brand builder



2. framework maker



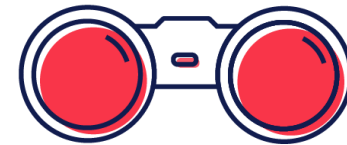
3. visualiser



4. system innovator



5. bridging



6. visionary

HelsinkiHeat2030

Helsinki

Helsinki Energy Challenge



PROSUMER HEAT NETWORK FOR HELSINKI CITY & BEYOND



Initiated by:
Urban Tech
Sweden

Executed by:
urbs.
URBAN SYSTEMS

In collaboration with:
 **Nordic Solutions**
for C40

 Swedish Agency
for Economic and
Regional Growth

ELECTRICITY



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Durable vision Invest

RISK EXPERT:
Jens Peters
Business development
AON



HELSINKI ENERGY CHALLENGE

Creating the future of heating to fight global warming – A solution that significantly affect the cessation of coal use by 2029 and speed up the City of Helsinki's journey to becoming carbon-neutral by 2035.

Heat production in Helsinki 2018



CHP
Heat 430 MW
Electricity 220 MW
Shut down by 2024



CHP
Heat 300 MW
Electricity 160 MW
Shut down by 2029

Heat production in Helsinki 2018

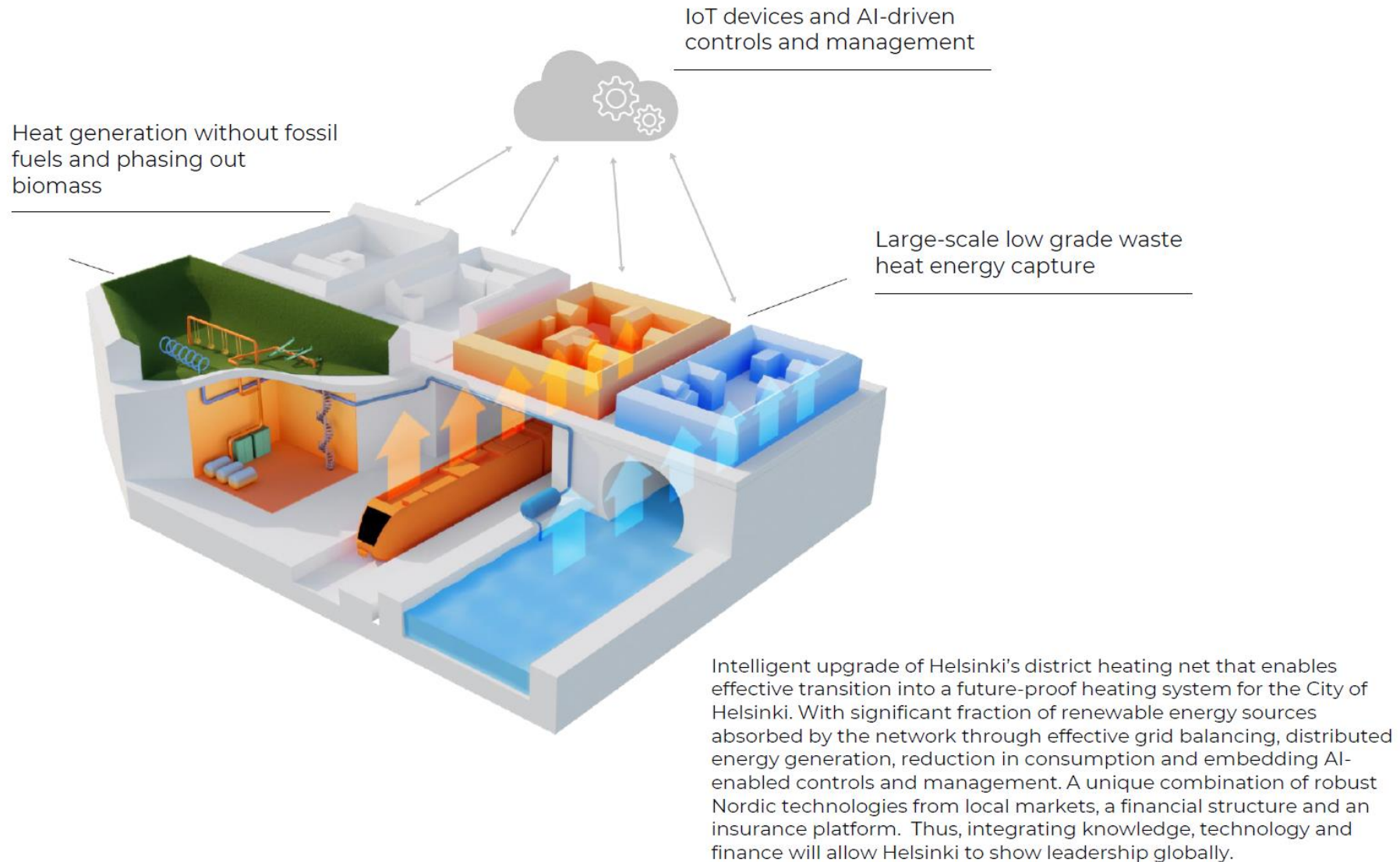


Electricity production in Helsinki 2018



To be replaced fully by 2029, with minimum use of biomass

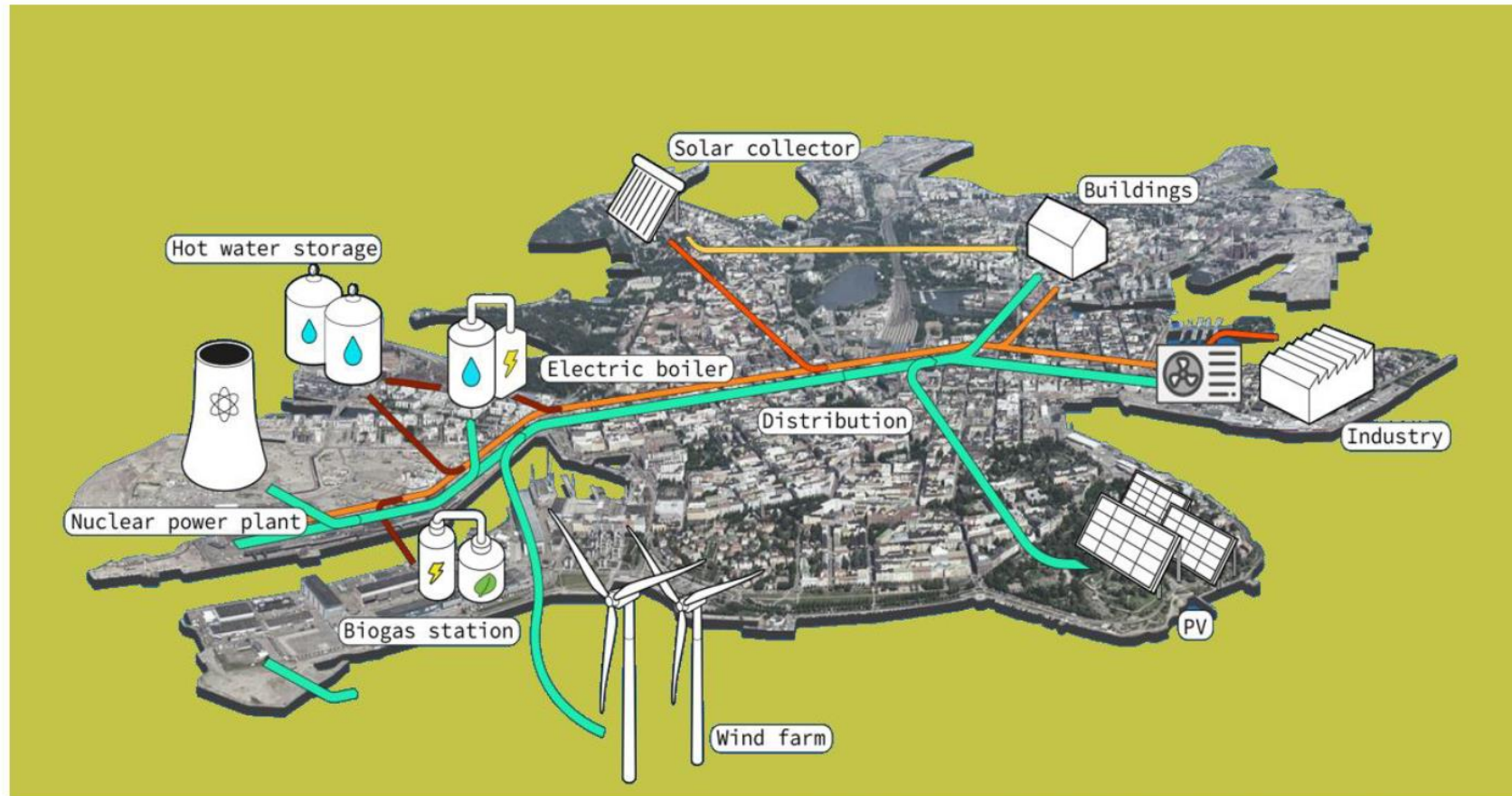
PROSUMER HEAT NETWORK (PHN)



NET ZERO CARBON

NETWORK

Expansion of grid with multiple energy sources and heat storage, integrated by de-centralized system. An upgrade towards low temperature heating connecting heat pumps to end users, that opens for a prosumers network with re-distribution and reuse of heat within system. Presenting a flexible and adaptive network open for future innovation.



INTEGRATED DECENTRALIZED HEAT
GENERATION
LOW TEMPERATURE HEATING

HEAT GENERATION

PHN has been planned primarily to reduce greenhouse gas emissions. PHN strategy will allow an instant reduction in GHG emissions. Since the solution is sans fossil fuels, heat and electricity are the only distribution mediums.

Heat production
In Helsinki 2018



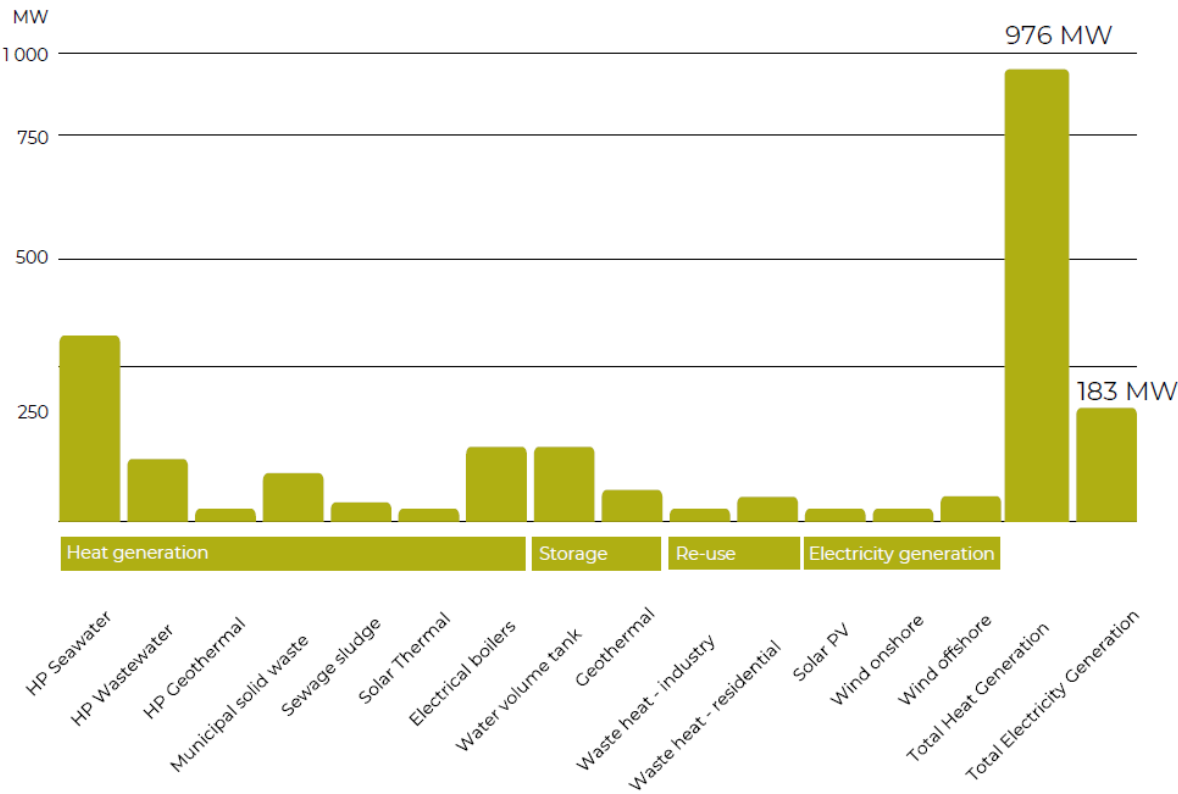
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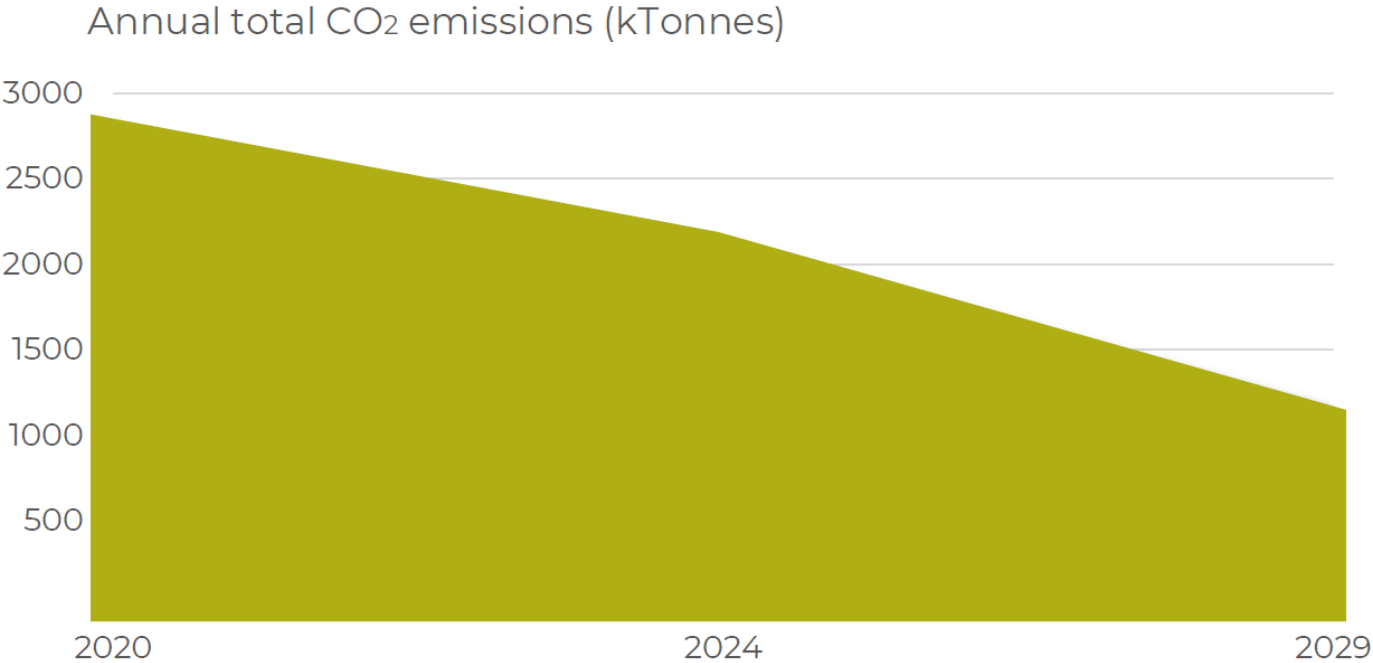


PHN indicative plan to replace Helsinki's coal-fired CHP plants by 2029 (in capacity terms)



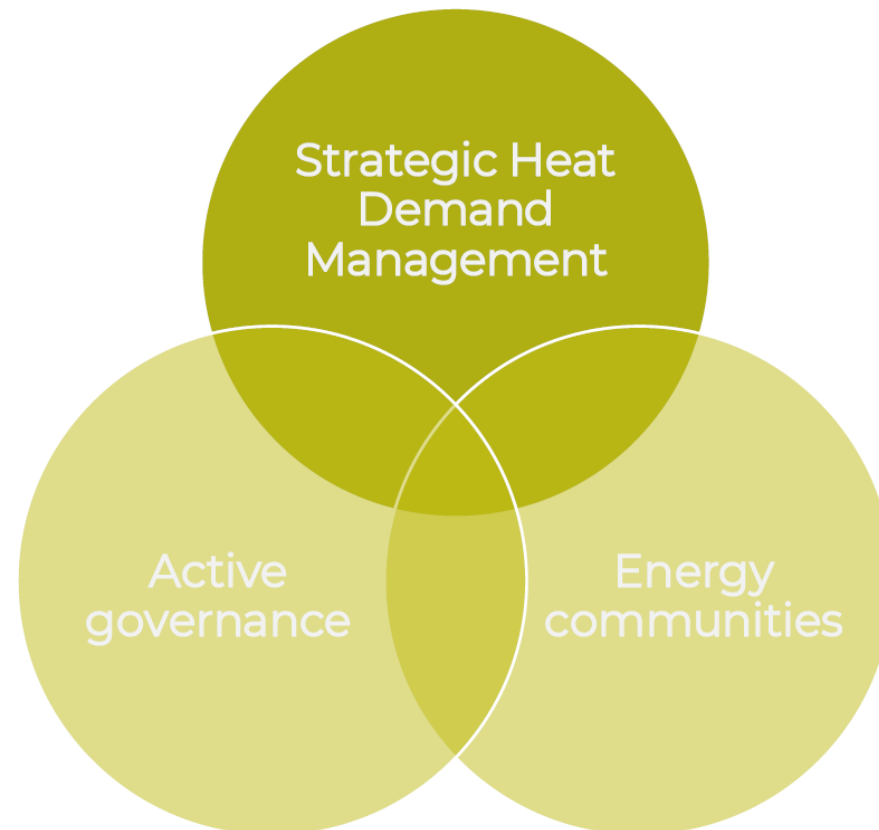
PROSUMER HEAT NET - CARBON FOOTPRINT

Heat Pump - waste water - 149 kT
Heat Pump - sea water - 447 kT,
Heat Pump - geothermal - 30 kT
Waste heat capture via industry - 37 kT
Biomass CHP (for transition) - 417 kT
Solar PV - 7 kT Solar thermal - 37 kT
Electric boilers - 60 kT
Municipal solid waste - 92 kT
Sewage sludge - 36 kT
Wind power onshore - 22 kT Wind power offshore - 56 kT



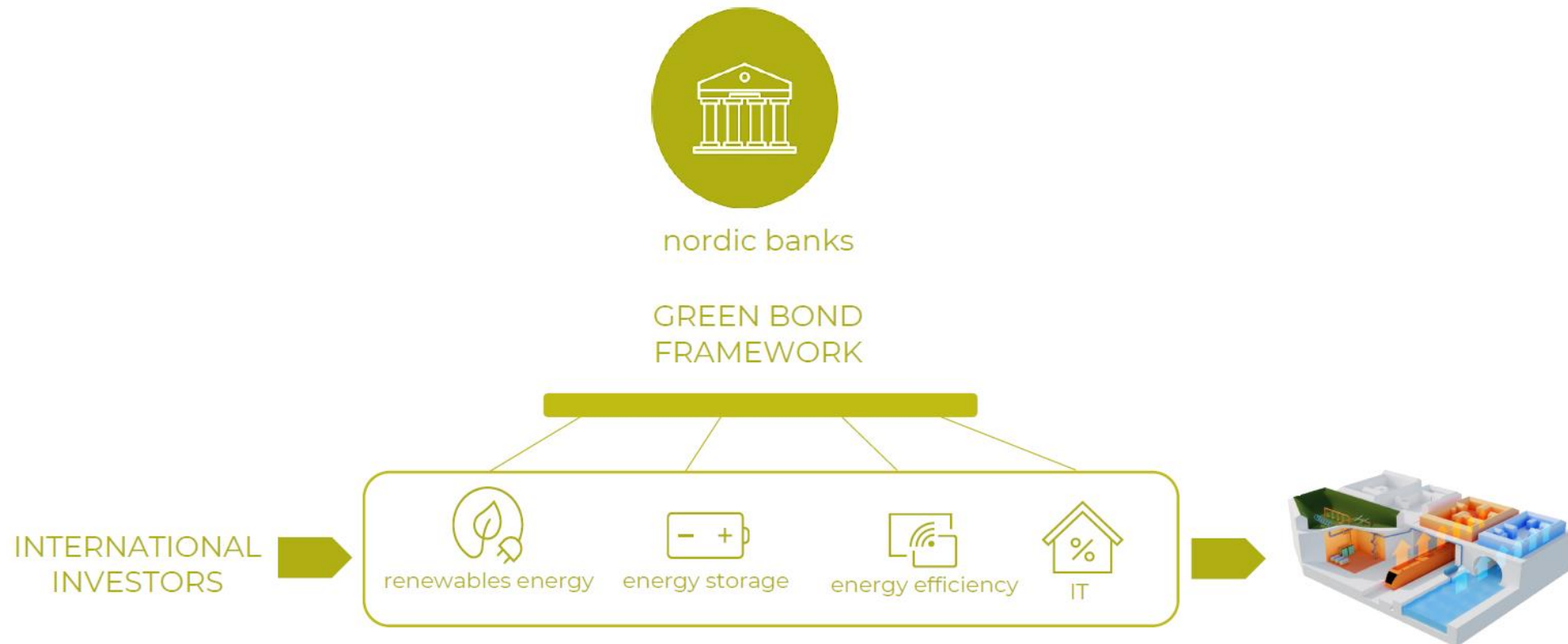
REGULATING HEAT DEMAND

PHN incorporate digital platform for demand side analysis and visualization, a cost-effective solution to reduce heat consumption and will further include a citizens-driven innovation platform, to create/manage testbeds/demos for sustainable solutions, engage the local community and cooperate with local business, universities, research organizations in partnership with Helen.



FINACIAL STRUCTURE

PHN strategy is to engage international investors using Nordic banks for the fulfilment of the solution, to utilize best in class capital and mobilize private investments in public infrastructure, to create a true Public-Private Partnership (PPP). Financial structure innovation will allow cost-effective capital to flow in the infrastructure, for investors to partake in the development of a grid that is flexible and scalable. This is created by multiple investment alternatives within the umbrella fund, to suit needs for different investors and their mandates. A green bond framework to meet most stringent demands on the infrastructure. To engage and reach investors, a virtual visualization of the Plan, technologies and financial platform, for investors to truly see and understand their investment.

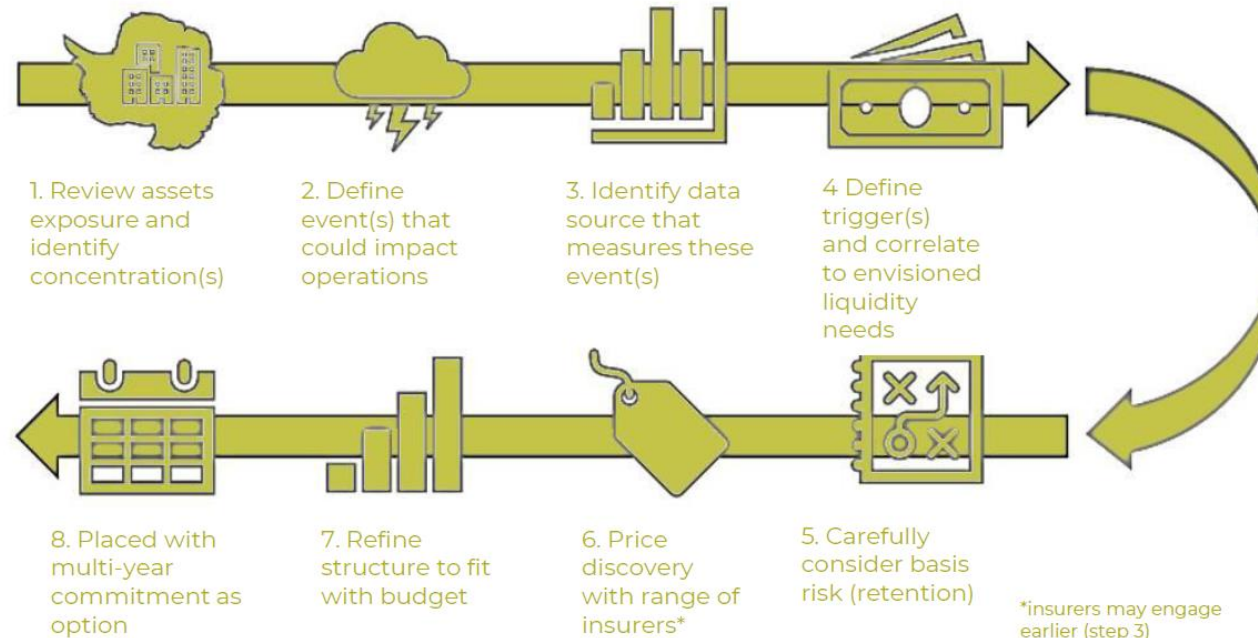


RISK INSURANCE PACKAGE

Traditional risk transfer solutions are being challenged and expected to do more, faster, when loss-events occur. Solutions are expected to provide cover beyond physical damage and cover any economic interest arising out of the event. In a more censored world where more independent data is collected and quantify then ever before an opportunity exists to leverage this data in structuring parametric solutions. In 2020 the opportunity exists for risk managers to complement their insurance placements with parametric solutions in order to maximize the competitiveness of the business. Having strong liquidity, with flexibility on where it gets applied, post-event will be an enabler for the overall business.

Steps to successfully structure & place a parametric solution

Upfront investment in structuring enables fast settlement should even occur



PROSUMER HEAT NETWORK

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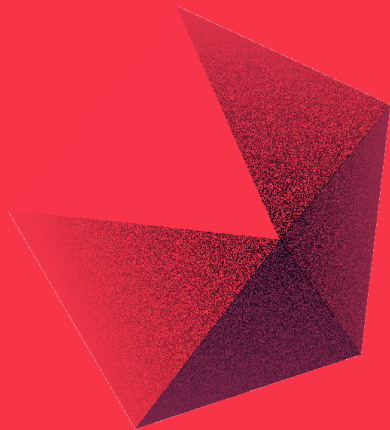

Swedish Agency
for Economic and
Regional Growth

ELECTRICITY



Takeaways

- Many partners, all new, difficult virtual
- XXL solution
- + Meet new people/companies
- + One facilitator & clusters **bridges (solved.fi)**
- + New partnerships across borders
- + Solution can be used elsewhere
- + PR upside



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