

# Elugie Power Tower

24/7 reliable, clean, on-site Power

May 2023, IM Investor document

## We are Elugie,

**One of the European pioneers in high temperature fuel cell technology to deliver 24/7 on-site clean power**

- **Started in 2012**, we build up our experience, and a market share of +25% in the EU pioneer market with +500 small SOFC power stations.
- **Due to partnership from 2023** with Bloom Energy (US based fuel cell supplier), we are developing projects with the Elugie Power Tower.
- **Our funding round is to**
  - **build and scale business** to large consumers in Europe.  
Data centres, aluminium factory's,...
  - **Build the team**
  - **Developing IT platform**
  - **Accelerate Business development**
- **Unicorn valuation potential within 5years.**



After 3min Belgium, Colruyt and Elugie active in Hydrogen projects.  
<https://www.youtube.com/watch?v=BP1EDzwAg3E>

# The Elugie Power Tower, Reducing costs, Reducing carbon footprint's and maximise energy efficiency



## The Power Tower and green-gas(E-methane) contracts

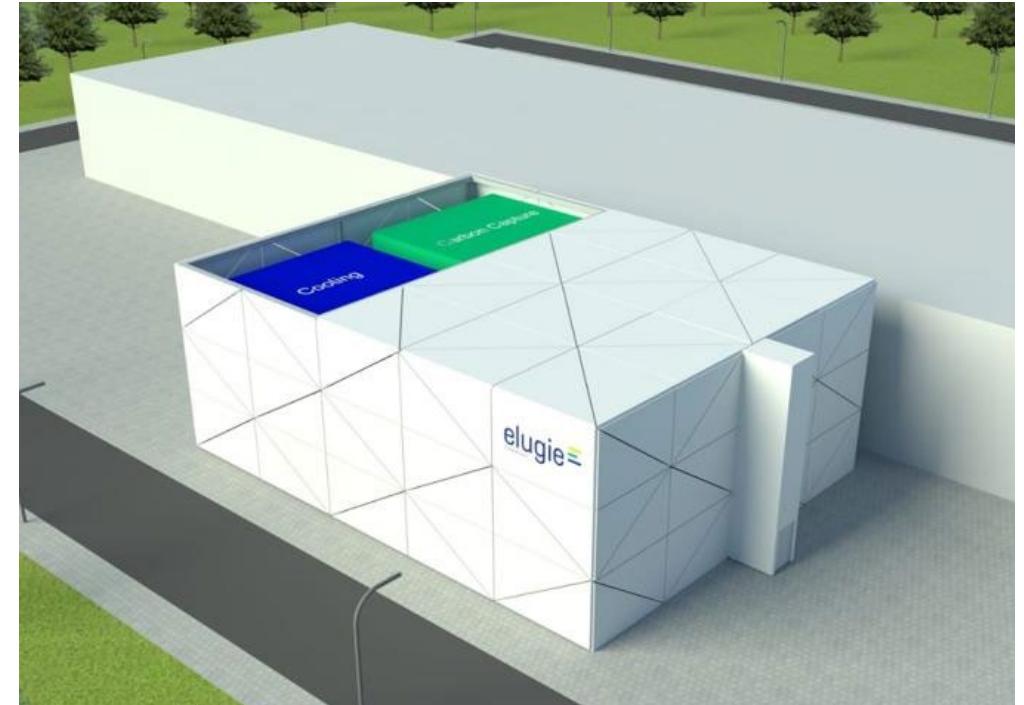
- **Elugie is offering:**  
**1. Renting and Selling Power Towers for:**

- 24/7 On-site Power.
- Maximum redundancy for reliable power.
- Minimising electricity cost -25 to -40%.
- Carbon reduction towards ZERO.  
Starting with Carbon capture + later e-methane.
- Highest energy efficiency in the industry.

### **2. From 2025, Green gas contracting:**

Contracting green methane (Hydrogen in E-methane) from green power to methane developed projects.

- We switch clients easily from electricity from the grid to smart SELF-POWER with Elugie.
- Elugie can rely on +1GW proven base with partner references worldwide due to partnership with Bloom Energy for the EU markets.



# Elugie investment opportunity – executive summary

Business model	<ul style="list-style-type: none"> <li>Sales and building Elugie Power stations: →25-30% Bruto margin, +renting model 6-7% interest.</li> <li>Production/assembly of SOFC, SOEC→30% Bruto margin (from 2027 when Gigafactory is build)</li> <li>Developing and building green power to Methane projects→25%-30% Bruto margin.</li> <li>Sales of Greengas/ balancing services →10-20% bruto margin</li> </ul>
Product	<ul style="list-style-type: none"> <li>Elugie Power Tower 2-10MW, In collaboration with Bloom Energy and Bosch Group with Fuel cell, Carbon Capture, Absorption cooling, 2-10kW systems in collaboration with FCI-Korea, to build further on the BlueGen technology.</li> <li>25 MW electrolyser system for large scale projects.</li> <li>Elugie platform for Carbon reduction reporting, grid balancing services and delivery of green e-methane.</li> </ul>
Market	<ul style="list-style-type: none"> <li>2023-2024 focus on BENELUX,BALTIC states and Poland, later EU market. First data centres , Belgium Defence, and aluminium factory projects in pipeline.</li> <li>2024-2026 Green hydrogen/green methane production in pipeline in collaboration with North African and south EU project developers.</li> <li>Markets with the best business case because: typical high electricity prices, big price spread between power and gas and power balancing opportunities.</li> <li>Countries with incentives towards fuel cell power stations and renewable energy.</li> </ul>
Financing need	<ul style="list-style-type: none"> <li>Elugie is now looking for 10 Mio Euro equity, to strengthen the own capital and build the team to accelerate operations.</li> <li>40 Mio Euro for asset finance of 30MW electrolyser project and renting of Power Towers.(asset finance investors in separate SPV)</li> <li>Supplemented with EU and local subsidies, bank loan.</li> </ul>
Use of proceeds	<ul style="list-style-type: none"> <li>Hire of base team in Riga, project development and project lead team in Belgium.</li> <li>2023-2024: 10 + 30MW of systems including absorption cooling and Carbon Capture(Liquified CO2)</li> <li>2025 First 100MW Power to E-Methane project with co-electrolysis of captured CO2 from Power Towers.</li> </ul>
Long term	<ul style="list-style-type: none"> <li>2030 Target: 1GW power Towers, 2GW green methane projects, 6,5 Bljn CAPEX, +1Bljn Euro need in equity/own capital for Asset finance.</li> <li>Unicorn valuation in next 3-5 years</li> <li>EXIT potential: Integration within utilities or IPO or EverGreen.</li> </ul>



# Elugie is compliant with EU Taxonomie, first calculations with Greenomy Software, advice by Celsia

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- **Compliant, under Blue Hydrogen for projects until 2030**

Example Horisont Energi, blue ammonia production. the plant is not operational yet. Information about alignment is shared in Horisont's Q3 2022 report while more details are expected to be provided in their annual report when that is released. <https://horisontenergi.no/wp-content/uploads/2022/12/Horisont-Energi-Q3-Report-Final.pdf> see p.9

- **Compliant with Elugie projects Green E-Methane from 2025**

The technical screening criteria in the taxonomy for the activity *3.10 Manufacture of hydrogen* states that the lifecycle emissions for the hydrogen must be less than 3t CO<sub>2</sub>e/tH<sub>2</sub>. Here, the technical screening criteria do not distinguish between green and blue hydrogen as long as the emissions are below the limit. It could be that sometime in the future the lifecycle emission criteria will be tightened from the EU's side (all taxonomy activities are subject to regular review and can be amended). Hence, as of now, both green and blue hydrogen can meet the criteria with the only extra criteria for blue hydrogen being that the CO<sub>2</sub> transport and storage activities (5.11 and 5.12) are also aligned. The taxonomy activity *Manufacture of hydrogen* also includes manufacture of hydrogen-based synthetic fuels where e-methane fit's in. For the hydrogen-based synthetic fuels the substantial contribution criteria needed to comply with is life-cycle emissions savings of 70% relative to a fossil fuel comparator of 94g CO<sub>2</sub>e/MJ. The requirement for hydrogen to be aligned with the criteria for climate change mitigation is related to lifecycle emissions. Hence, there is not a requirement that the CO<sub>2</sub> is stored underground to be aligned. However, the lifecycle emissions of the hydrogen or the hydrogen based synthetic fuel need to be below the limit. Hence, the capturing process and the further use in the e-methane need to ensure that the lifecycle emissions are below the limit.

<https://www.insideenergyandenvironment.com/2022/01/new-definitions-for-blue-and-green-hydrogen-the-european-commissions-package-on-hydrogen-and-decarbonized-gas-markets/>



<https://greenomy.io/>



<https://www.celsia.io/>

# Our investment highlights



## Global energy transition creating enormous market potential for Elugie Power Towers

- Powering independence and maximise sustainability for buildings.
- 24/7 - 365/365 electricity production.
- Up to 40% savings in 20 years.
- 43% primary energy savings compared to average EU gas powered stations.
- 50-99% reduction of CO<sub>2</sub>.
- 100% dark green with E-methane (Artikel 9 EU taxonomy)
- Almost zero Nox, No Sox, heavy metals, ozon precursors.



## Proven and scalable technology

- Fuel cells In development since 1993.
- 450M Euro already invested by POSCO/FCI. Gigafactory ready, 250MW large systems in track record.
- +500 systems operational in Belgium by Elugie.
- First Bloom system commissioned at Ferrari in Italy, Bloom has +1GW operational worldwide.
- 800 Bljn operating hours.
- Experienced partners in Carbon capture <http://www.bakerhughes.com>
- absorption cooling. <http://www.thermaxglobal.com>



## Data-driven go-to-market strategy

- Focus on large consumers, Data centres, aluminium industry, ...
- Project development and Sales. Building on references in the market.
- Maximising platform effect by cooperation with existing parties on the market such as energy companies, local installers, distribution grid operators (e.g. Fluvius), transmission system operators (e.g. Fluxys-Elia), local coops, LNG terminals.



## Recurring revenue model

- Sales of the Power Tower trough direct sales and renting models "energy as a service" for 20years.
- Full service and performance contract for 20 years.
- Elugie costumer Platform:
  - Monitoring and energy data service
  - gas/green gas contracting
  - Balancing service



## Experienced management team (\*confidential\*)

- Founder, CEO Ir. Bjorn Van Haver 20-years experience in Renewable Energy.
- GM Ir. Johan Ellegeers, Senior Director Energy services and building teams and projects.
- CTO Ir.Frederic Baert, Senior expert in Platform building with +20 years experience
- CSO Power production; Ir. Jan-Willem Tolkamp +10 years experience in SOFC-SOEC project development
- CSO green methane, Ir. Steven Clauwaert +15years experience as head of trading for gas and oil company

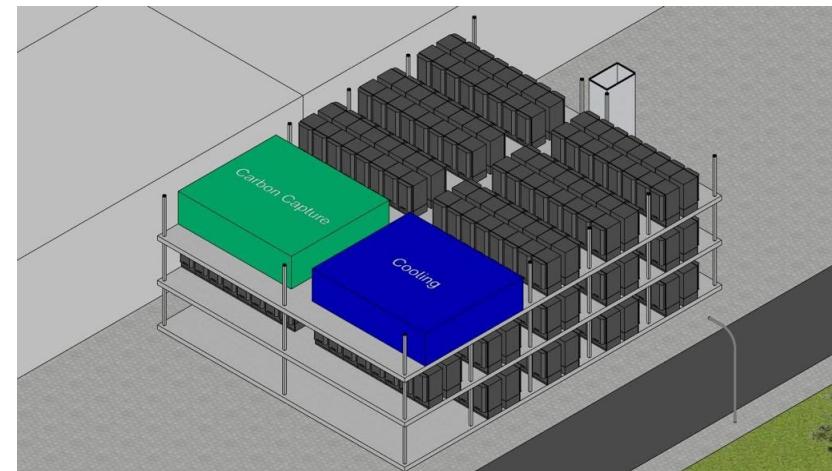
# Main objective: become an EU leader in 24/7 onsite clean power

## Short term objectives 2023-2024

- **2023-2024**
  - Sales of 3 Power Towers 30MW, +285M EURO CAPEX,
  - BENELUX, BALTIKS, Poland
  - Selling and Renting power stations to corporate clients to build Elugie REFERENCE BASE
  - FOCUS on Data centers and Aluminum industry
- **2024 (recovering old small business Elugie Belgium)**
  - refurbisch and restart existing BlueGen fleet
  - restart sales to SME's.
- **2025 Green power to E-methane project**
  - 100MW project in Latvia, + 200M EURO CAPEX
  - 100MW project in Dubai, + 200M EURO CAPEX
- **Opening office and service center:**
  - Main office for operations, in Latvia(Riga)
  - Project development office in Belgium(Mechelen)

## Medium- and long-term objectives towards 2030

- **Power Towers:**  
83 Towers or 1GW → 2030 , +3,5Bn euro CAPEX  
(BENELUX, Baltics, Poland, UK, DE)  
-Target: datacenters and Aluminum industry
- **Develop green power to Methane**  
2GW → 2030, +3 Bn euro CAPEX  
-2026: 100MW project in North Africa-South EU  
-2030 2GW project green power to methane



# EU Datacenter Market

- In total, the 10 largest providers and operators of data centres, including:

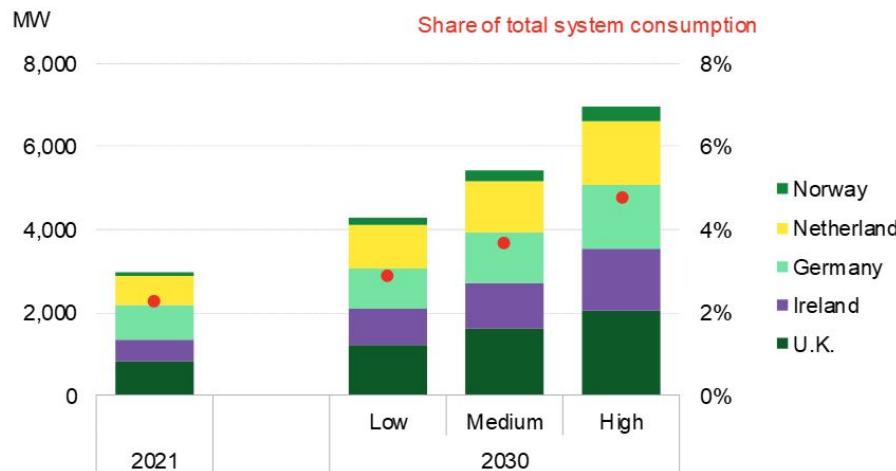
Amazon Web Services (AWS), Microsoft Azure, Google Cloud, Meta Platforms, Equinix, Digital Realty, NTT Global Data Centers, CyrusOne, GDS Holdings, and KDDI's Telehouse, operate over 1,250 facilities around the world.

<https://dgtlinfra.com/top-data-center-companies/>

- Main Markets in EU: Germany, UK, Ireland, Benelux, Norway, +6 GW capacity towards 2030
- Climate neutral datacentres pact 2030



Figure 1: Data center live IT power and share of total annual electricity consumption, five focus countries



Source: BloombergNEF.

## Data Centers - European Markets

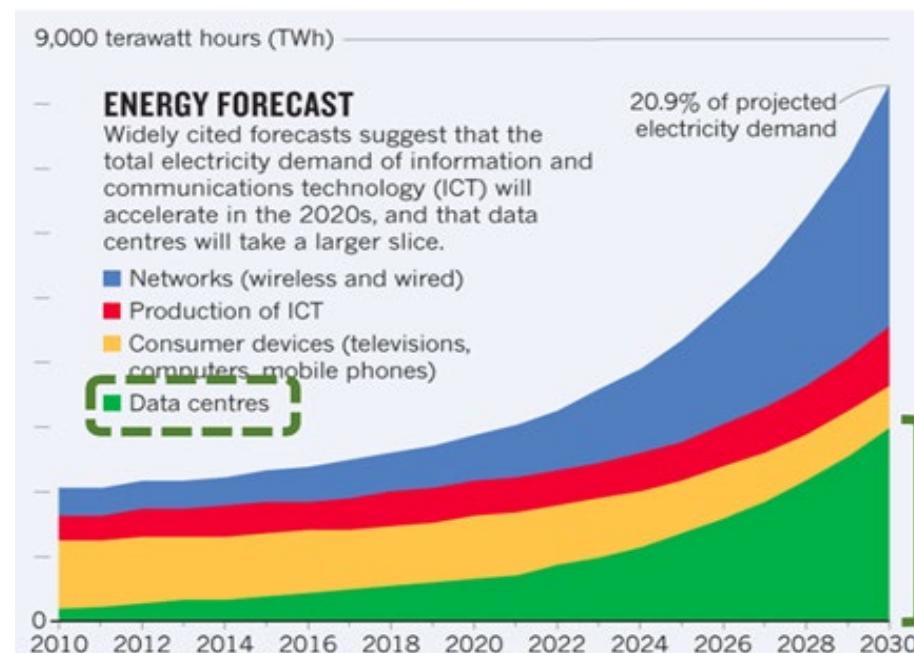
City	Frankfurt	London	Amsterdam	Paris	Dublin
Supply	425 MW	710 MW	390 MW	210 MW	125 MW
Availability	55 MW	175 MW	105 MW	25 MW	10 MW
Vacancy Rate	13%	25%	27%	12%	8%
Construction	235 MW	170 MW	70 MW	75 MW	55 MW
Potential	585 MW	400 MW	395 MW	85 MW	135 MW
Absorption (12M)	75 MW	60 MW	25 MW	18 MW	15 MW
Key Leases by Tenant in 2020	aws Google Cloud	Azure aws	Azure IBM Cloud	Azure aws	Azure TikTok

www.dgtlinfra.com

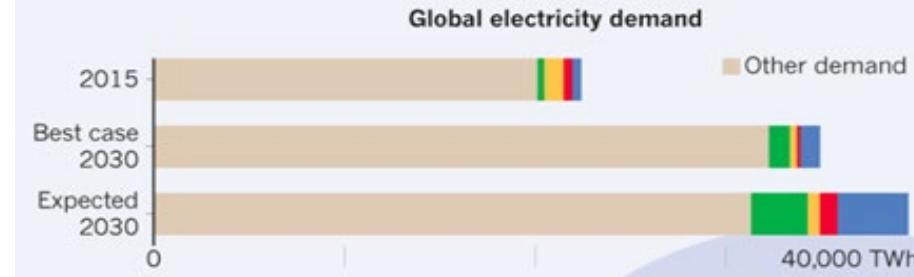
# Global and EU datacenter market potential, strong growth towards 2030



- **Global Market value 517 Billion Dollar by 2030**
- **Datacenters and commercial applications ca. 50% of market**
- **Networks and datacenters, biggest growth of new energy forecast.**



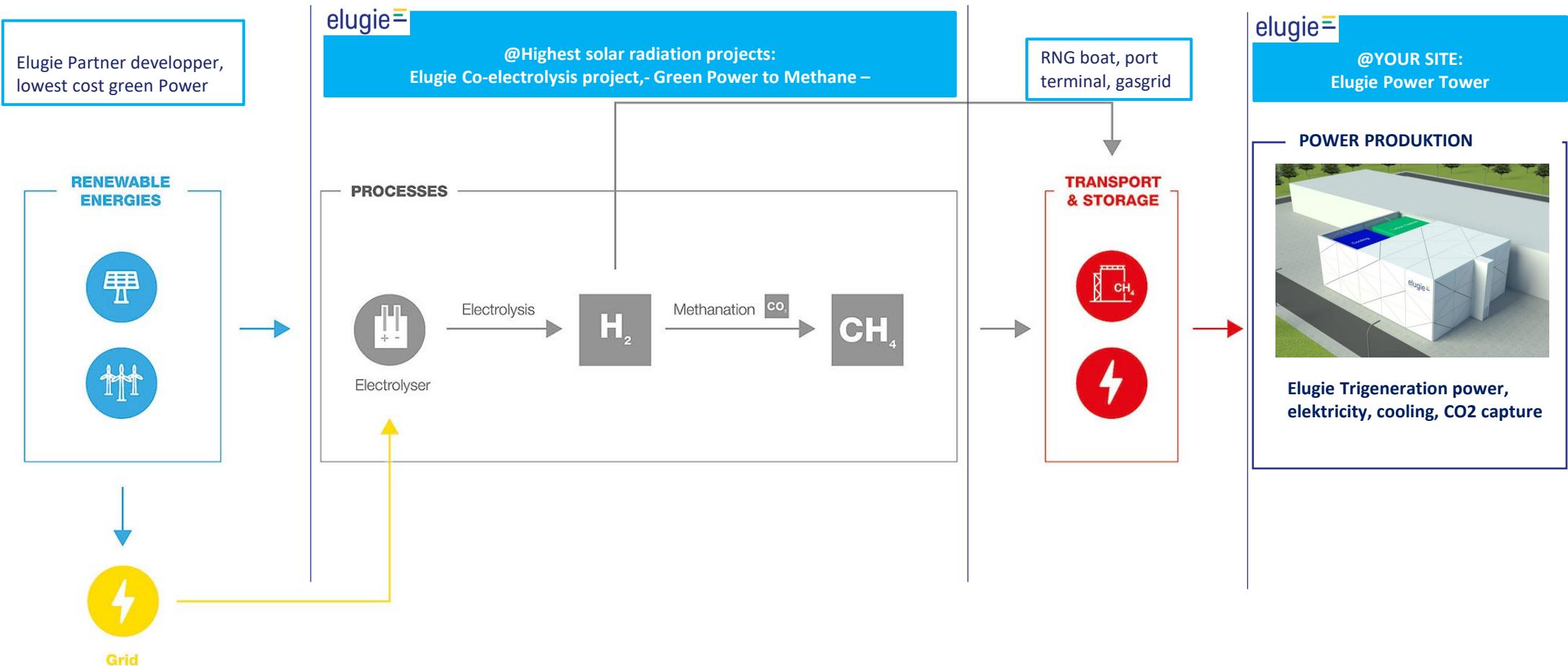
The chart above is an 'expected case' projection from Anders Andrae, a specialist in sustainable ICT. In his 'best case' scenario, ICT grows to only 8% of total electricity demand by 2030, rather than to 21%.



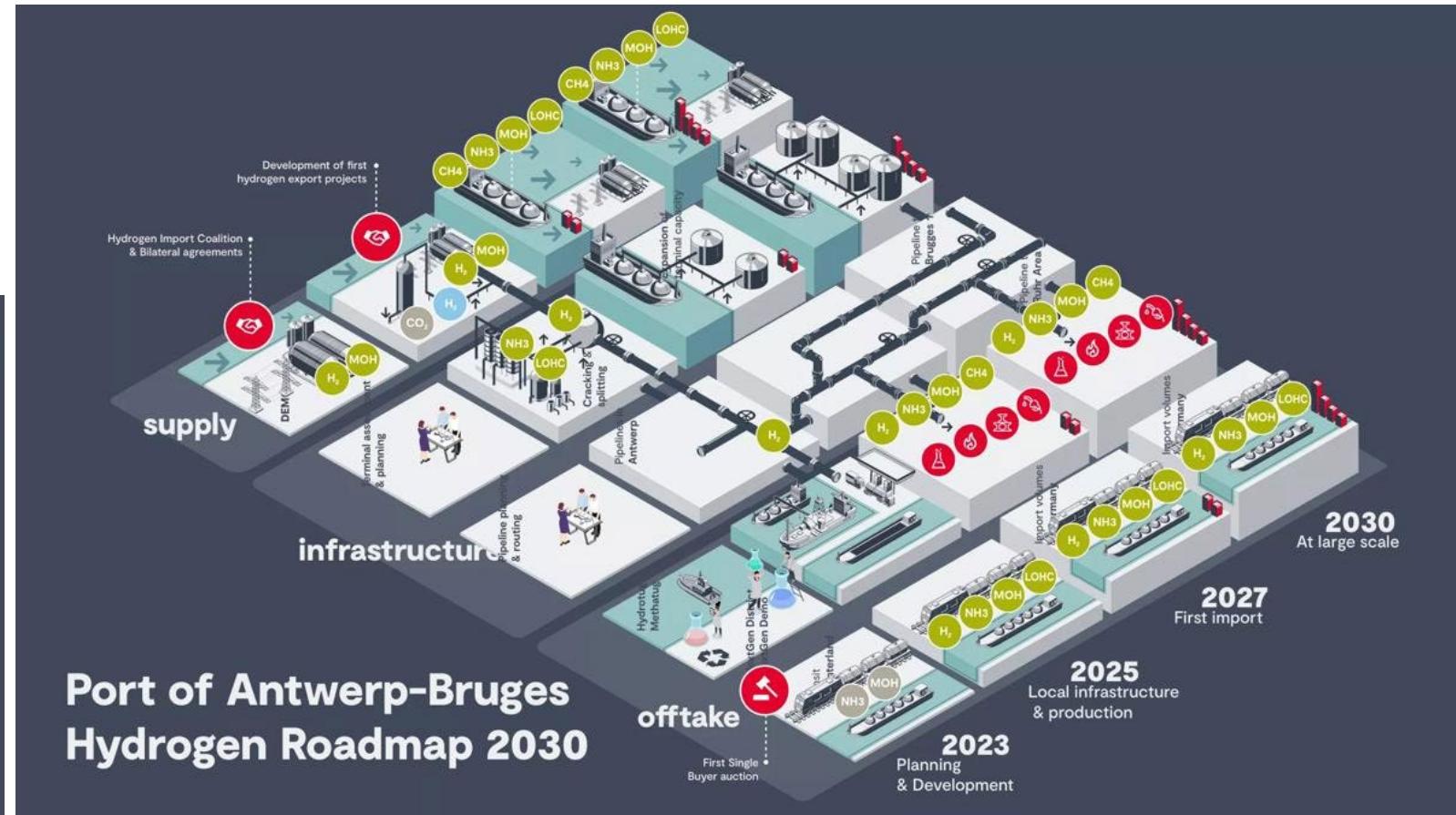
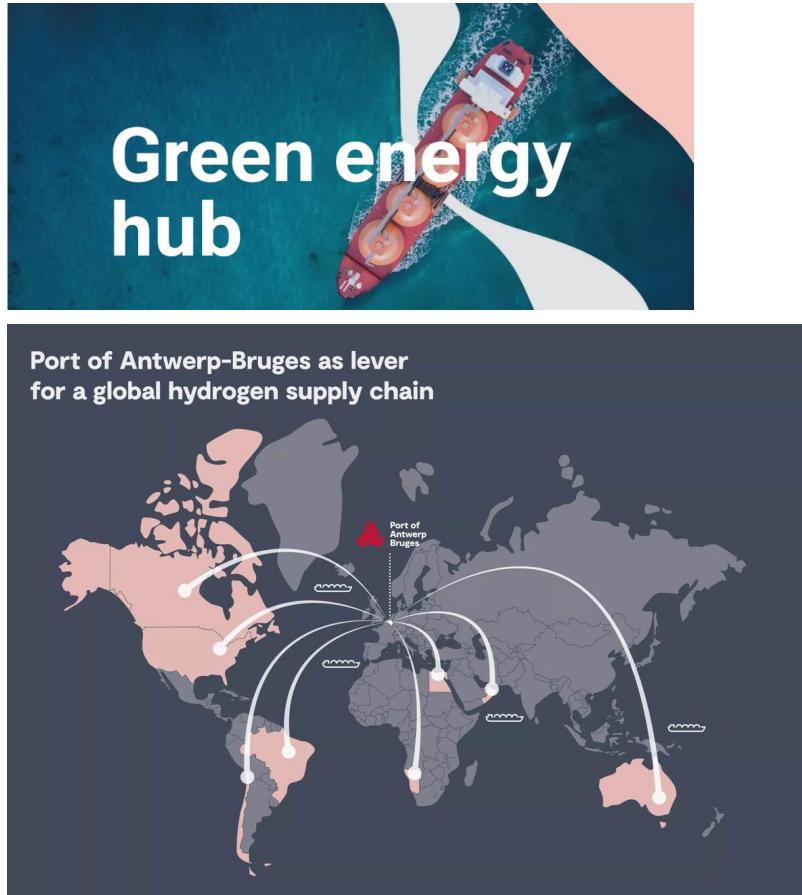
# The Elugie green energy supply chain, green power to e-methane → e-methane to 24/7 green power

- @ your site:
- Through the existing gas grid:
- @ highest solar radiation projects:

Fuelcell power stations to power independence and maximize sustainability.  
 Transport and storage of e-methane to your site  
 Green hydrogen/e-methane production



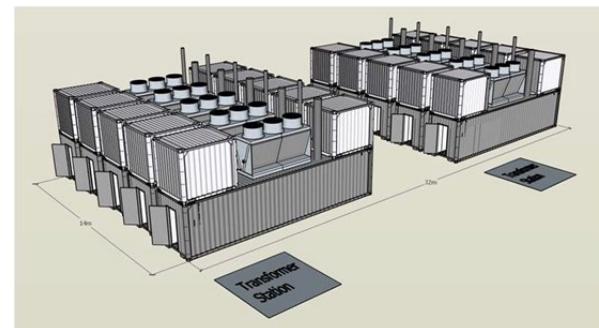
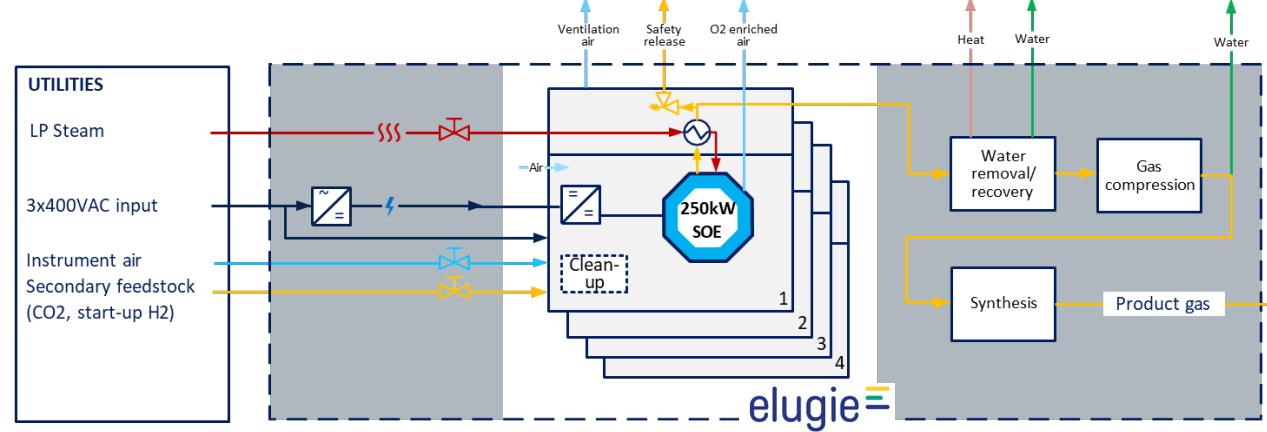
# Elugie wil import green Methane, first volumes in 2025 to port of Bruges



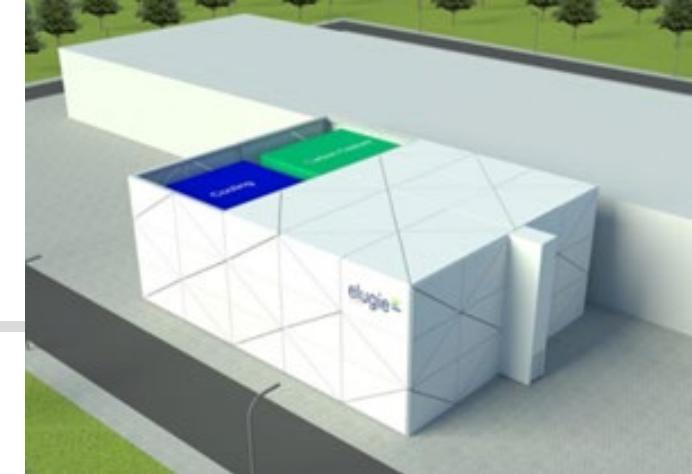
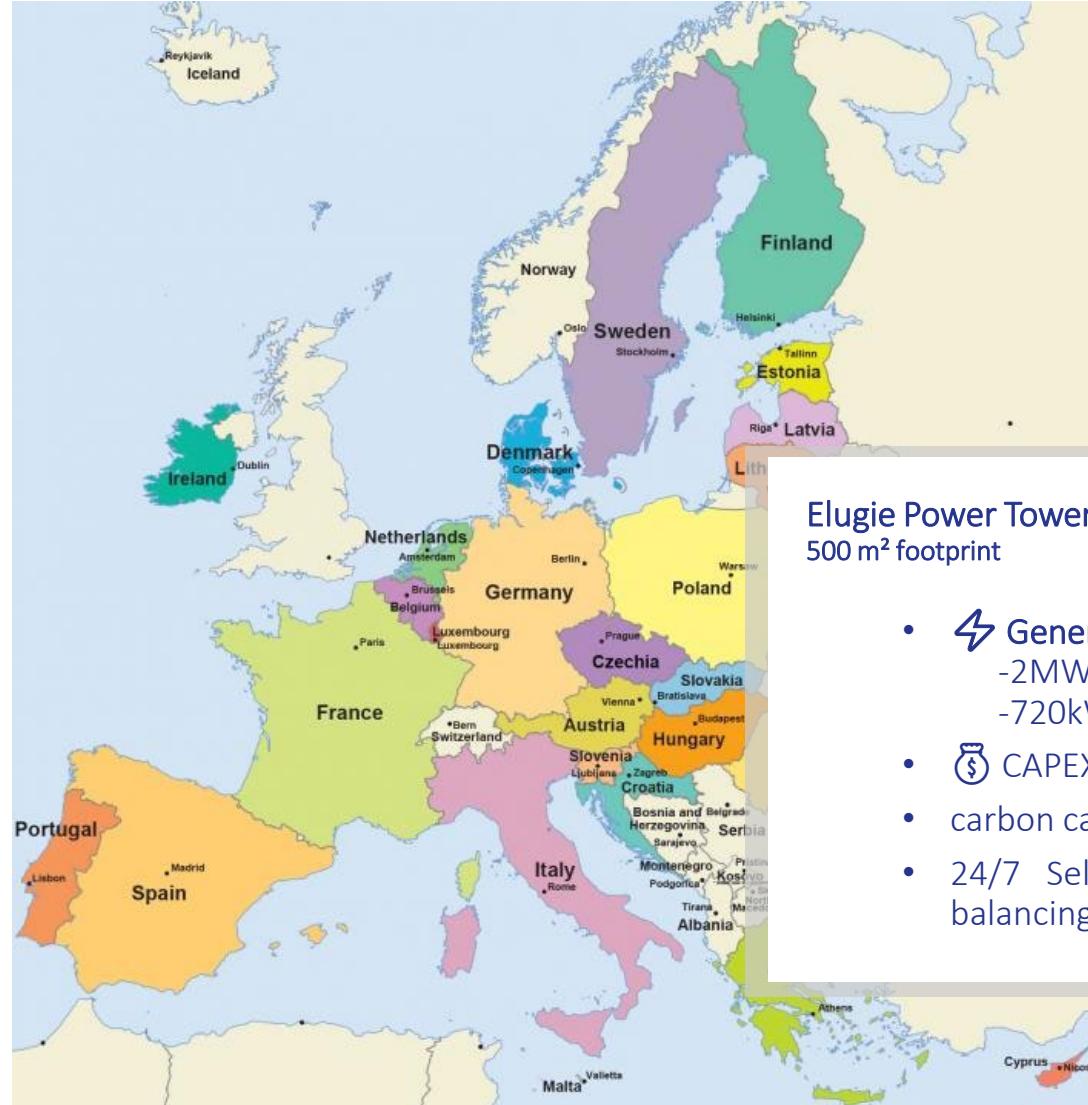
# How can Green E-methane be economically and become reality BIG potential with the highest efficiency technology approach by Elugie

- Lowest baseload PPA for 24/7 green power and steam thanks to combination of CSP and PV: 50 euro/MWh.
- Lowest cost for co-elektrolysis due to highest efficiency +90% of SOEC.
- Highest power density with E-methane and lowest transport cost due to use of existing infrastructure and shipment
- 116 Euro/MWh PPA to client in 2024, 81 Euro/MWh from 2026 and lower pottential

[https://cedelft.eu/wp-content/uploads/sites/2/2021/03/CE\\_Delft\\_190236\\_Availability\\_and\\_costs\\_of\\_liquefied\\_bio- and synthetic\\_methane\\_Def.pdf](https://cedelft.eu/wp-content/uploads/sites/2/2021/03/CE_Delft_190236_Availability_and_costs_of_liquefied_bio- and synthetic_methane_Def.pdf)



# The next big powerplant will be a lot of small ones



- ⚡ Generates
  - 2MW-12MW power,
  - 720kW- 4,2MW cooling
- 💰 CAPEX 17,7-97 Miljn Euro
- carbon capture for CO2 neutral production
- 24/7 Self power, emergency power, smart grid balancing potential.

February 2023

# Benefits of Elugie Power Tower for data centres

## On-Site power world-wide highest redundancy and electrical efficiency

### ✓ Minimising costs

- Savings up to +40% in OPEX over 20 years, compared to power from the grid
- +50% equity IRR on CAPEX by self investment by Client.
- Possibility to Rent without investment, ownership for client after renting period

### ✓ On-site independence

- Local production of electricity 24/7 - 365/365
- Self-power, emergency power, smart grid balancing
- AVOID grid CAPACITY, AVOID DIESEL gensets, avoid large battery UPS

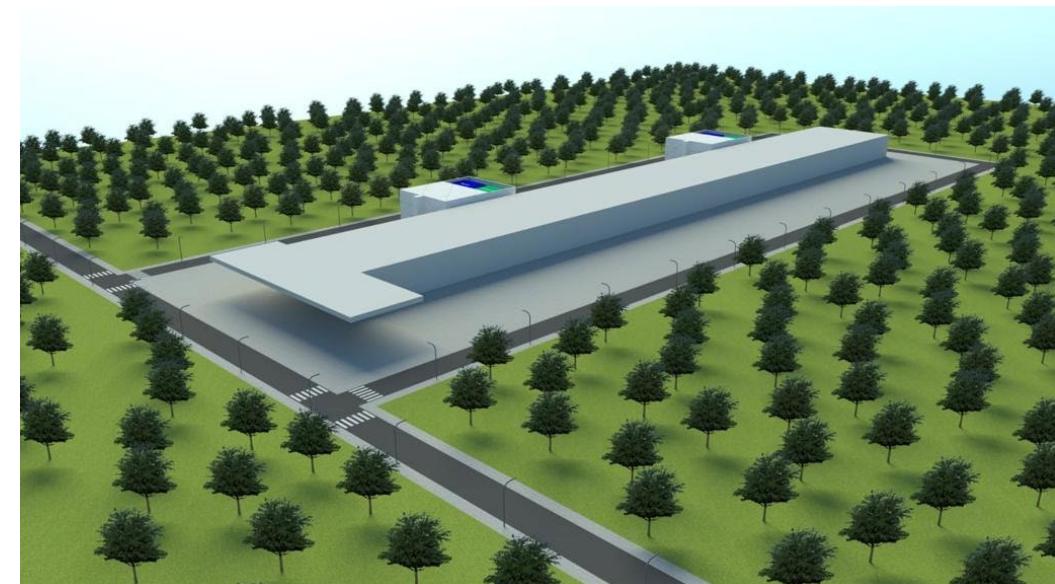
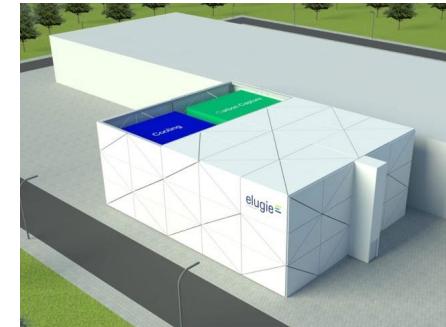
### ✓ Clean Energy

- - 99% Reduction of CO with natural gas and carbon capture.
- - 100% sustainable with Greengas contract.
- - 99% Reduction of NOx, SOx, ozon, heavy metals..

### ✓ Highest efficiency

- - 43% primary energy savings compared to gas fired power stations

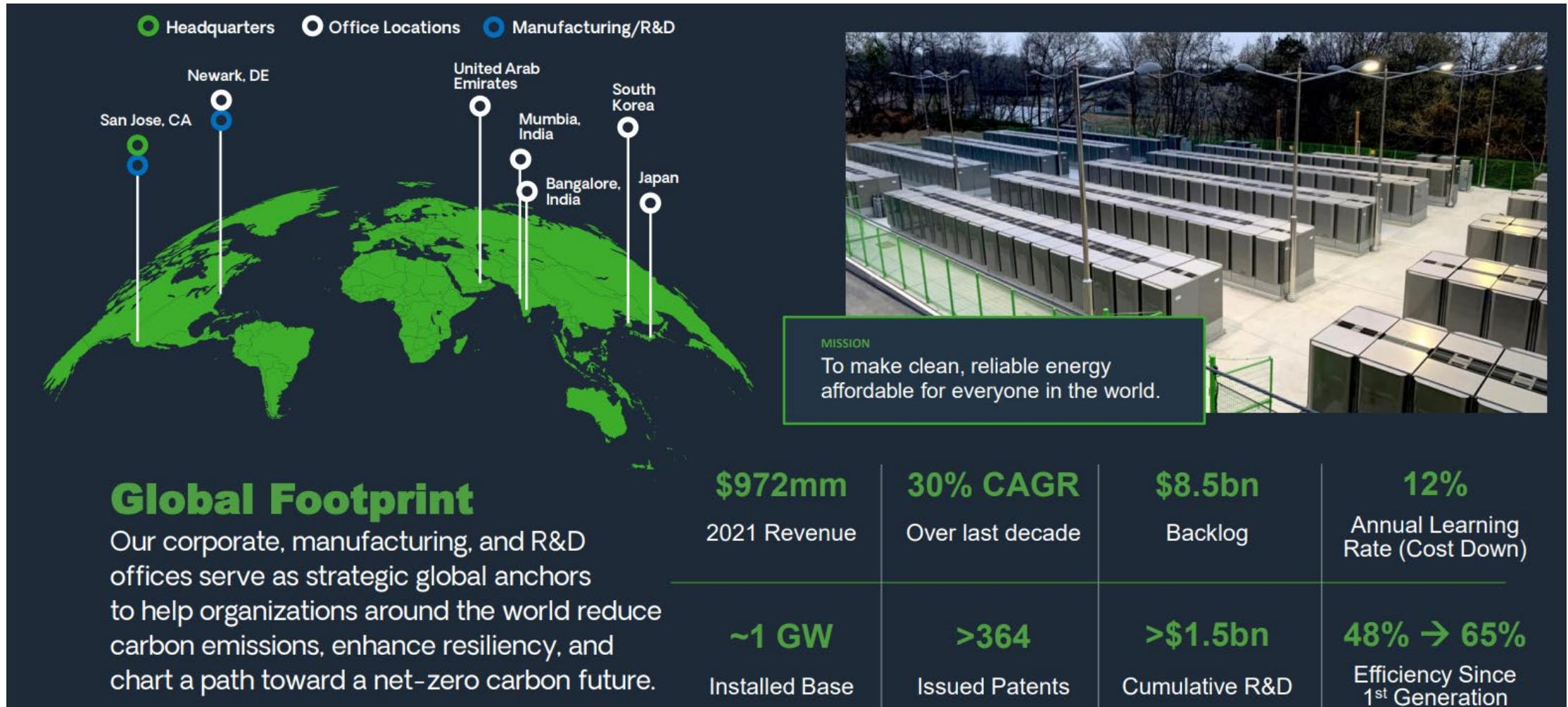
Example 12MW Project case



Gross calculation before taxes and finance						
CAPEX	Savings-CAPEX	Payback time	Average IRR/Y 20year	Project IRR	Equity IRR	
€ 95.343.000,00	€ 205.581.844,95	8,5 year	€ 10.279.092,25	12%	48%	

# Origin of Elugie's power stations, Current partner Bloom Energy

( US based manufacturer)



# Origin of Elugie's power stations, Second SOFC-Supplier Bosch group

( EU based manufacturer)

Elugie has implemented in 2023 first 75kW SOFC system of Bosch in BE project.  
Bosch wil be ready for mass production in 2025.

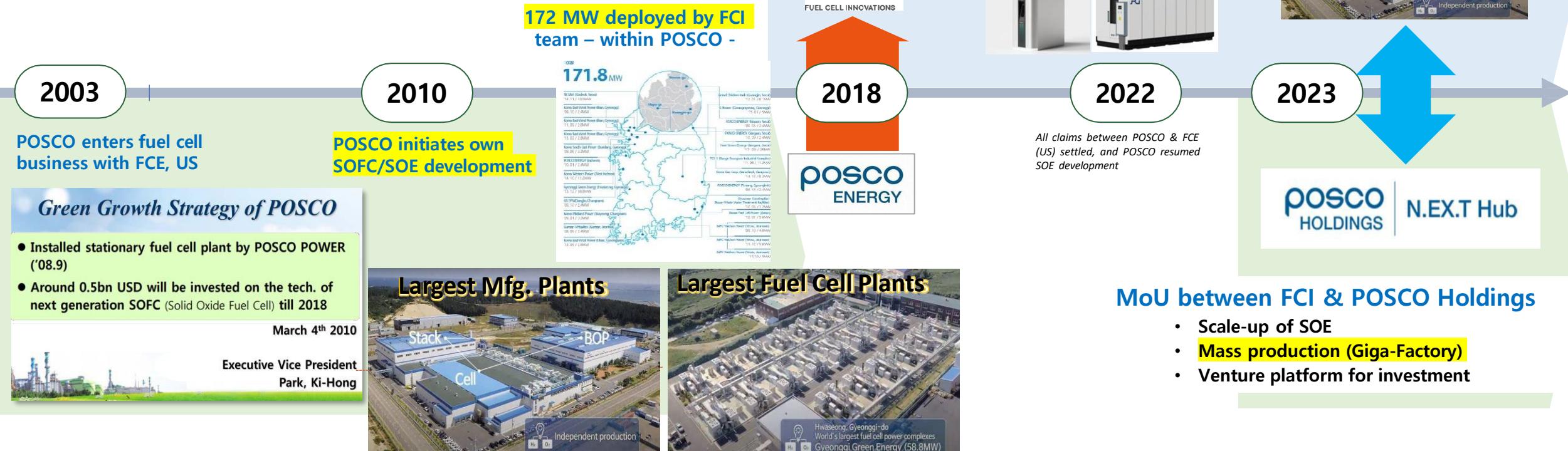


**FCI-KOREA 3th supplier and technology partner to become vertical integrated**

## Technology Development Timeline and Track Record

**FCI took over the long history of SOFC/SOE development of POSCO and commercialized products with improvement.**

- POSCO invested >\$500m in fuel cells until 2017
    - \$250m in R&D
    - \$200m in manufacturing
  - FCI spin-off with SOFC IP in 2018 to commercialize SOFC/SOE
  - FCI & POSCO in collaboration to scale up and mass production of SOE in 2023: FCI plans to renovate POSCO facility for Giga-factory



# Business Perspective of FCI Korea



## Technology (IP Business)

- IP based license and royalty on technology transfer
  - Components technology: Cells, Stacks, Modules
  - Subsystems: HotBox, MBoP, EBoP
- Technology for System Integration
  - Power plant, integrated generator, hybrid systems



## FCI Business Models



## EPC, O&M (Service)

- Project management and EPC for new fuel cell plants
- 172 MW installed base (power plants)
- Upgrade/retrofit/extended LTS business

Captive business



## Manufacturing & Sales

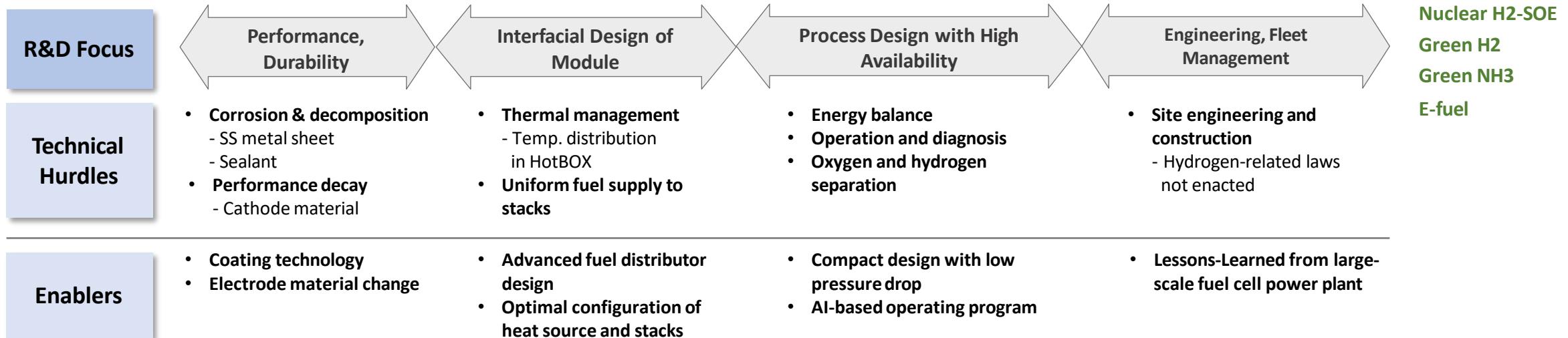
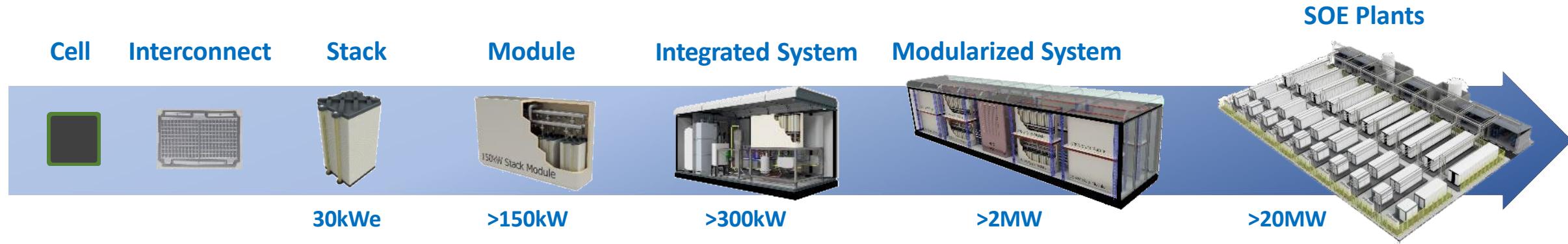
- 290 MW capacity new plants,
  - S-Oil, Samsung, Taqnia Energy (FCI shareholders)
- 7 GW permitted new power plants in Korea (as of 2022E)

Captive business

### Pohang Industrial Park for manufacturing

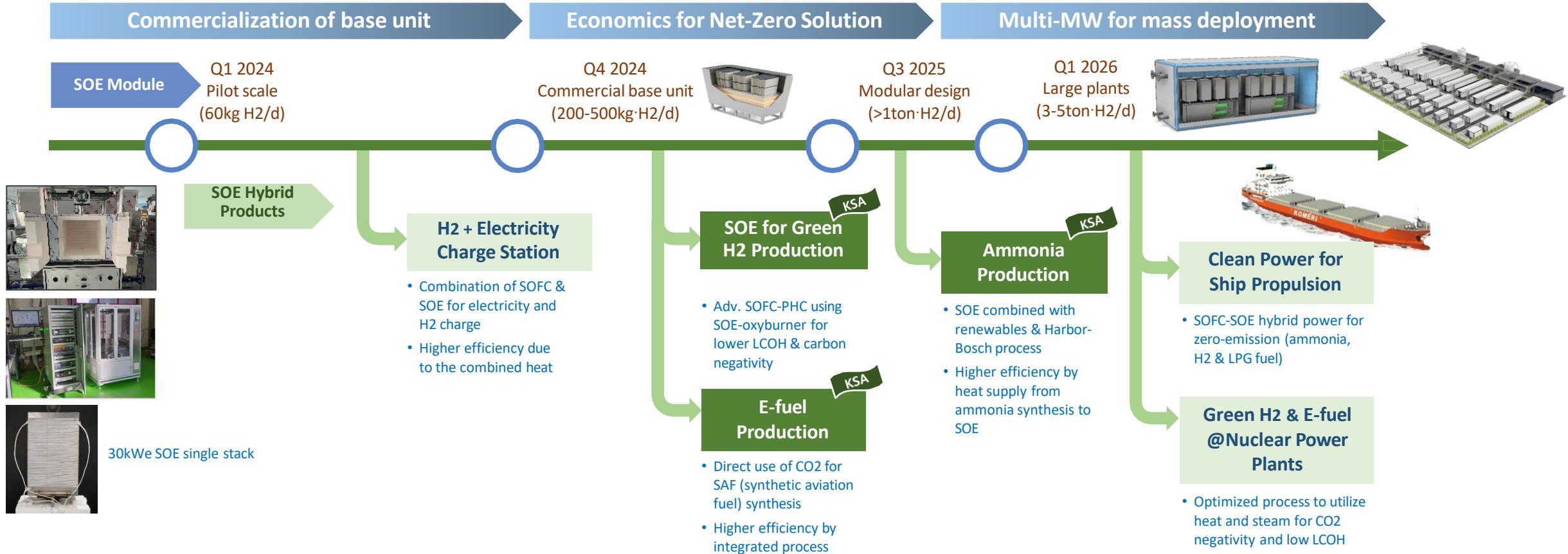


# Strategy for SOE Scale-up



# Roadmap for Green Energy Solutions

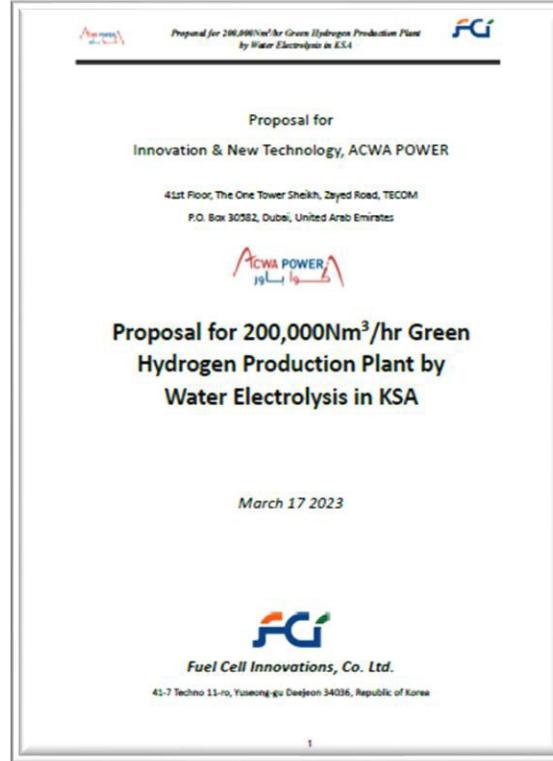
Hybridization of SOE for combined heat cycle, with SOFC, Haber-Bosch, Fisher-Tropsch, nuclear power plants, etc. to provide higher economic value proposition



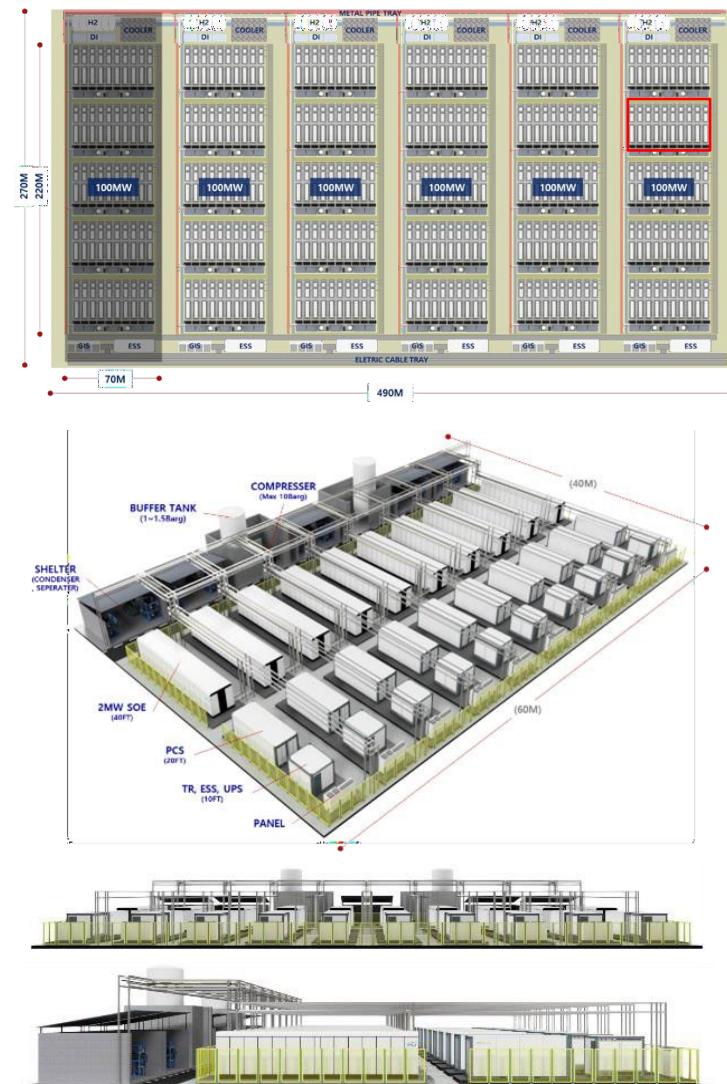
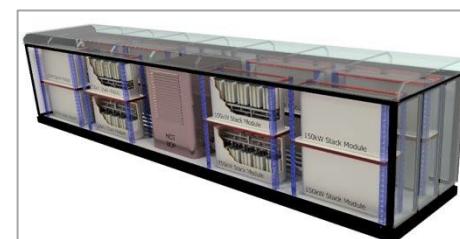
# GW-scale SOE Project to ACWA Power

Project Proposal for 200,000Nm<sup>3</sup>/h green hydrogen production submitted to ACWA Power.

- GW project: 1GW capacity for Alkaline electrolyzer = 660MW capacity for SOE
- Preliminary studies with conservatively applied parameters shows >27% higher IRR.
- Regular technology meetings between FCI and ACWA for co-evaluation



Performance Parameters for 200,000 Nm <sup>3</sup> /hr Water Electrolyzer Plant				
Sl No	Item	Unit	Information	Supplier's Remarks
1	Single Stack Size	MW	0.03	
2	Stacks per module	N/A	60	
3	Stack active area per cell	cm <sup>2</sup>	234	4 cells per layer (81cm <sup>2</sup> x 4)
4	Current Density	A/cm <sup>2</sup>	0.5	
5	Single module size	MW	0.15	5 stacks per module
6	Operating temperature range	degC	700-800	Bolt. End.
7	Current	kA	155	1705 more input
8	Individual cell voltage	V	1.3	1.3
9	Total stack voltage	V	975	975
10	Stack feed nozzle arrangement (Mixed/Separate)		Separate	
11	Single Sub-System Unit Size	MW	24	DC Input (20MW SOE bank)
12	Maximum of Hydrogen gas contained in the subsystem during any number of parts operation	kg	99	20MW SOE bank (per minute)
13	Plant Availability	%	90%	Bolt. End.
14	DC Operating Voltage Range	Vdc	975	975
15	Rectifier AC operating voltage range	Vac	33,000	
16	Hydrogen Pressure at Stack Outlet	barg	-0.04	
17	Hydrogen Pressure at System Outlet	barg	0.5	
18	Oxygen Pressure at Stack Outlet	barg	-0.04	
19	Oxygen Pressure at System Outlet	barg	0.5	
20	H2 Rely at gas separator outlet after demister	%	99.999	
21	H2 Rely with Deoxo purification	%	99	Not necessary
22	O2 Rely at gas separator outlet after demister	%	99	
23	O2 Rely with Deoxo purification	%	99	
24	Water Quality Required - Tap Water	Vendor to provide specified	Attachment	
25	Water Quality Required - Demin Water	Vendor to provide specified	Attachment	
26	ICH Grade for final electrolyte solution preparation	Vendor to provide specified	Not necessary	
27	Water consumption - Tap Water	Nm <sup>3</sup> /h	0.95	Tap water & condensate water reused
28	Water consumption - Demin Water	Nm <sup>3</sup> /h	0.95	
29	Cooling Water	m <sup>3</sup> /h	1,250	1,250
30	Cooling Water Supply Temperature	degC	12	
31	Max Cooling Water Temp approach	degC	8	
32	Cooling Water Supply Pressure	barg	8	
33	Cooling Water Return Pressure	barg	6	
34	Cooling Water - Other Requirements			
35	Hydrogen - Purity	Nm <sup>3</sup> /h	100	
36	Hydrogen - Purity	%	99.999	
37	Hydrogen - Pressure	barg	4	
38	Hydrogen - Requirement Durations	hrs for startup & shutdown	1	
39	Instrument Air Required	Nm <sup>3</sup> /hr	120	During heatup (for 20MW).
40	Instrument Air Quality	%	N/A	
41	Design Conditions			
42	Design Temperature	°C	-20-50	
43	Design Pressure (H2 side)	barg	-0.004	Outlet pressure
44	Design Pressure (O2 side)	barg	-0.004	
45	ICH requirement (100%w/w)	kg	Net necessary	
46	Footprint	m <sup>2</sup>	13,200	20000Nm <sup>3</sup> /hr park
47	System Weight (Dry)	tones	25	20MW SOE unit
48	System Weight (Filled)	tones	25	20MW SOE unit
49	Installation (Outdoor/Indoor)		Outdoor	
50	Certifications related to Stack			

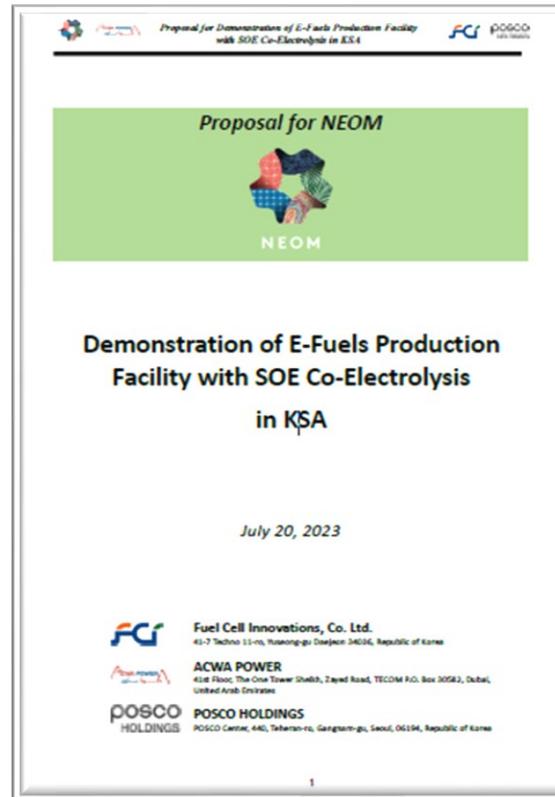


# NEOM Project for SAF Production

FCI received a mandate from Saudi Ministry of Energy for the development of e-fuel production in KSA: MoU in 2022.

- \$14million, 3 years (Q4 2023-2026)
- Commercial unit for SAF production (500L/d/unit)

Collaborative Project with ACWA Power and POSCO Holdings



Technical Specification		
H <sub>2</sub> production	126	kg/day
CO production	790	kg/day
E-fuel production	500~550	L/day
Steam input	~66	kg/h
CO <sub>2</sub> input	~86	kg/h
<b>Power consumption</b>		
- Stack <sup>1)</sup>	~300	kW/h
- System <sup>2)</sup>	370~407	kW/h
<b>Start-up</b>		
- Cold start-time	<1,400	min
- Hot start-time	<10	min
<b>Turn-down ratio</b>		
5~100		%
Foot-print of system	71.25	m <sup>2</sup>

## Power consumption for syngas production

- 1) Stack : ~3.4kWh/Nm<sup>3</sup>
- 2) System (SOE) : 3.85~4.2kWh/Nm<sup>3</sup>



# Products on Deployment

## SOFC Products

Achieving 60% electrical efficiency and long durability for homes, buildings, datacenters, ships and telecoms

- AI-based operation & preventive maintenance
- Diverse fuels and water recovery for MENA products

### RevGEN™-1.5

- 1.5kW<sub>AC</sub> CHP for homes and residential complex with LNG, LPG & Syngas as fuel



### RevGEN™-45

- 45kW<sub>DC/AC</sub> for datacenters, buildings and renewable-hybrids with modulated power



### RevGEN™-240

- 240kW<sub>DC/AC</sub> for datacenters, ships and buildings
- Optimized for MENA climate and safety regulations
- Order starts in Q3, 2024



## SOE-POC



## SOE POC Unit

For project development and scale-up with partners & off-takes

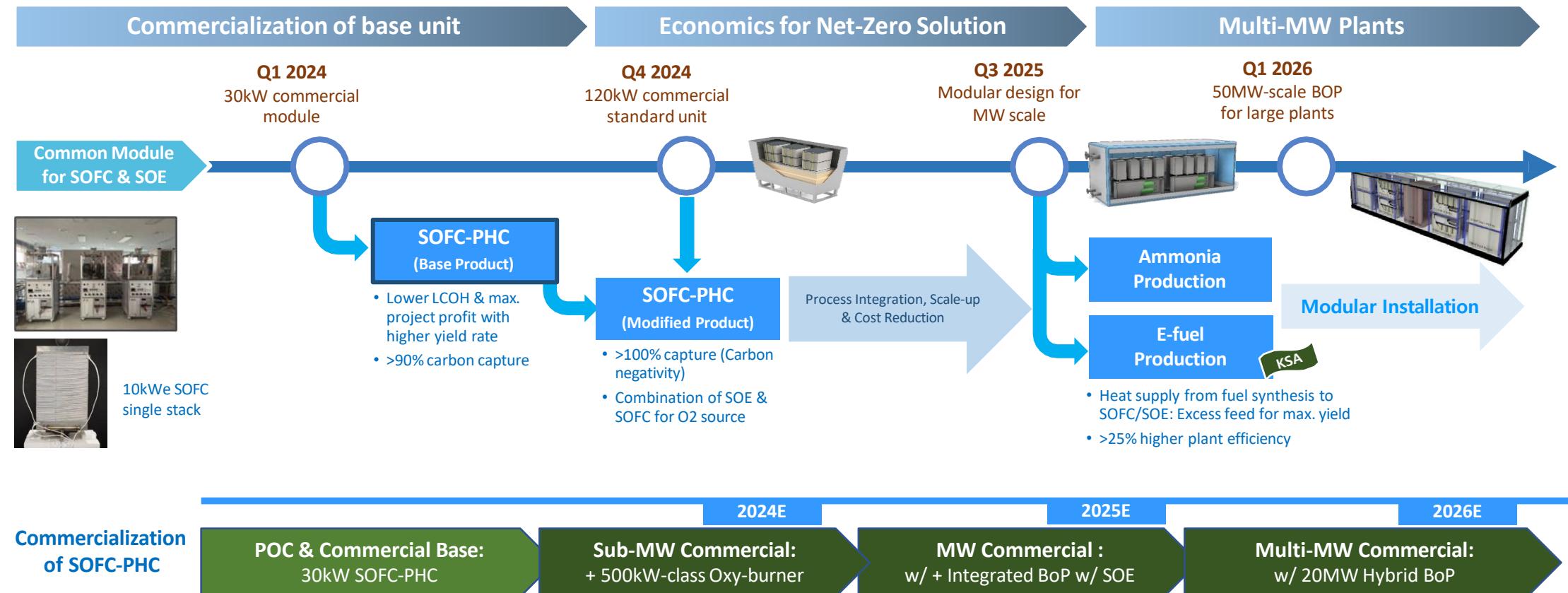
- 5-10kWe SOE (40kg H<sub>2</sub>/d) with 90%+ efficiency
- Visualization of MW-scale product concept
- Industrial operating software for self-diagnosis and fleet management

# Roadmap for Blue Energy Solutions

**SOFC-PHC\*** is a ‘Base Product’ for blue hydrogen production: Hybridization leads the higher efficiency.

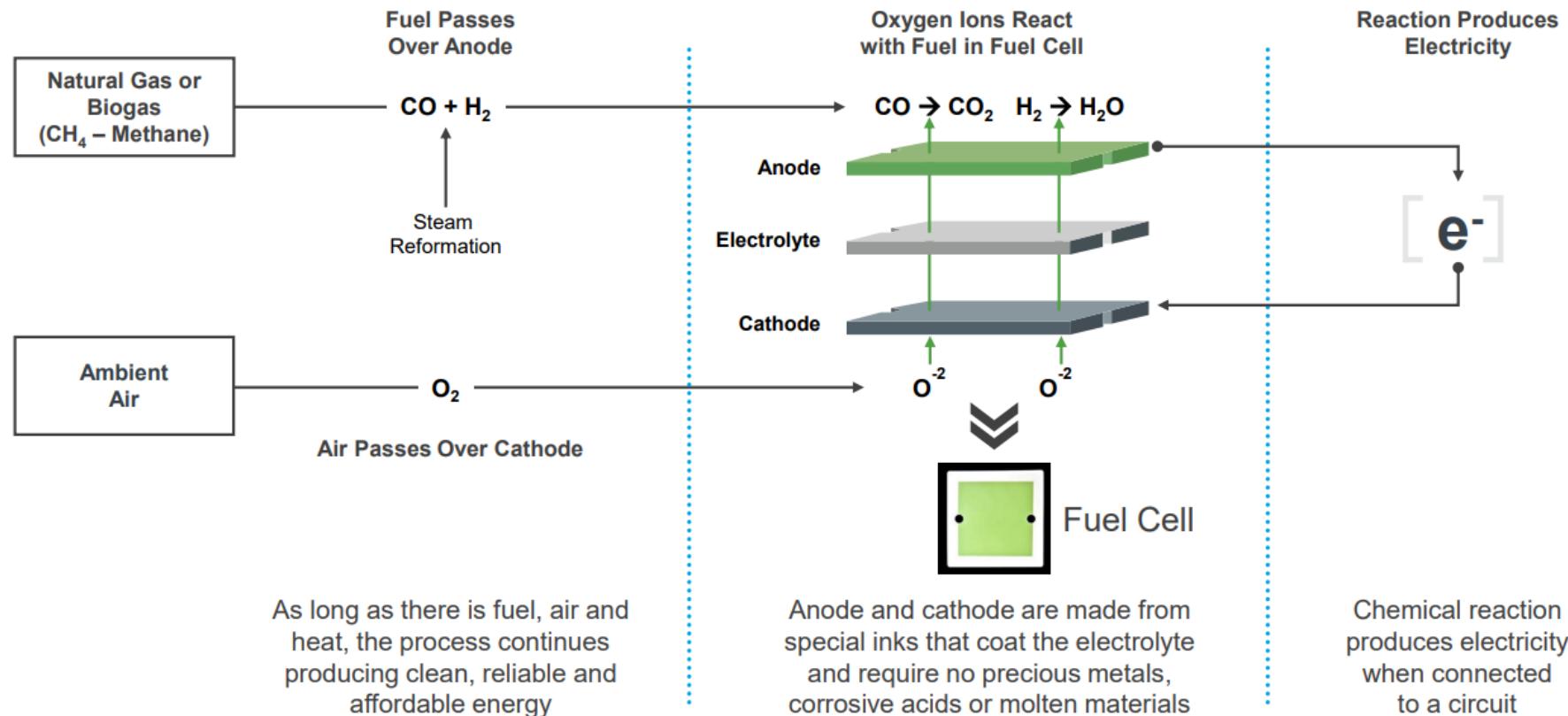
- Application of oxy-combustion to SOFC for the maximal and additional CO<sub>2</sub> capture
- Utilization of exothermic reaction heat from Haber-Bosch or Fisher-Tropsch to increase H<sub>2</sub> yields

\* SOFC-PHC: SOFC for Power and Hydrogen Co-production, Proprietary technology of FCI



# Elugie Fuel cell power station - independent clean electricity

Solid Oxide Fuelcell, how does it work?



# My Elugie software platform for sales and operations

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- ▶ Creates a self-service platform that supports Elugie customers and projects.
- ▶ The goal of the My Elugie platform is to transform into a very much outwards focussed tool with the delivery of extra value to our Clients. (It is not only about the fuel cell.)
- ▶ The platform experience promotes energy freedom and being in control.
- ▶ Carbon reduction reporting in Line with ESG and EU taxonomy.
- ▶ Gas and E-Methane PPA, with clear connection to Elugie E-Methane projects.
- ▶ Grid balancing services in the smart grid of tomorrow.
- ▶ Phased approach of platform functionality.
- ▶ Optimise and atomize operations and procedures with Clients, partners and for internal service teams.



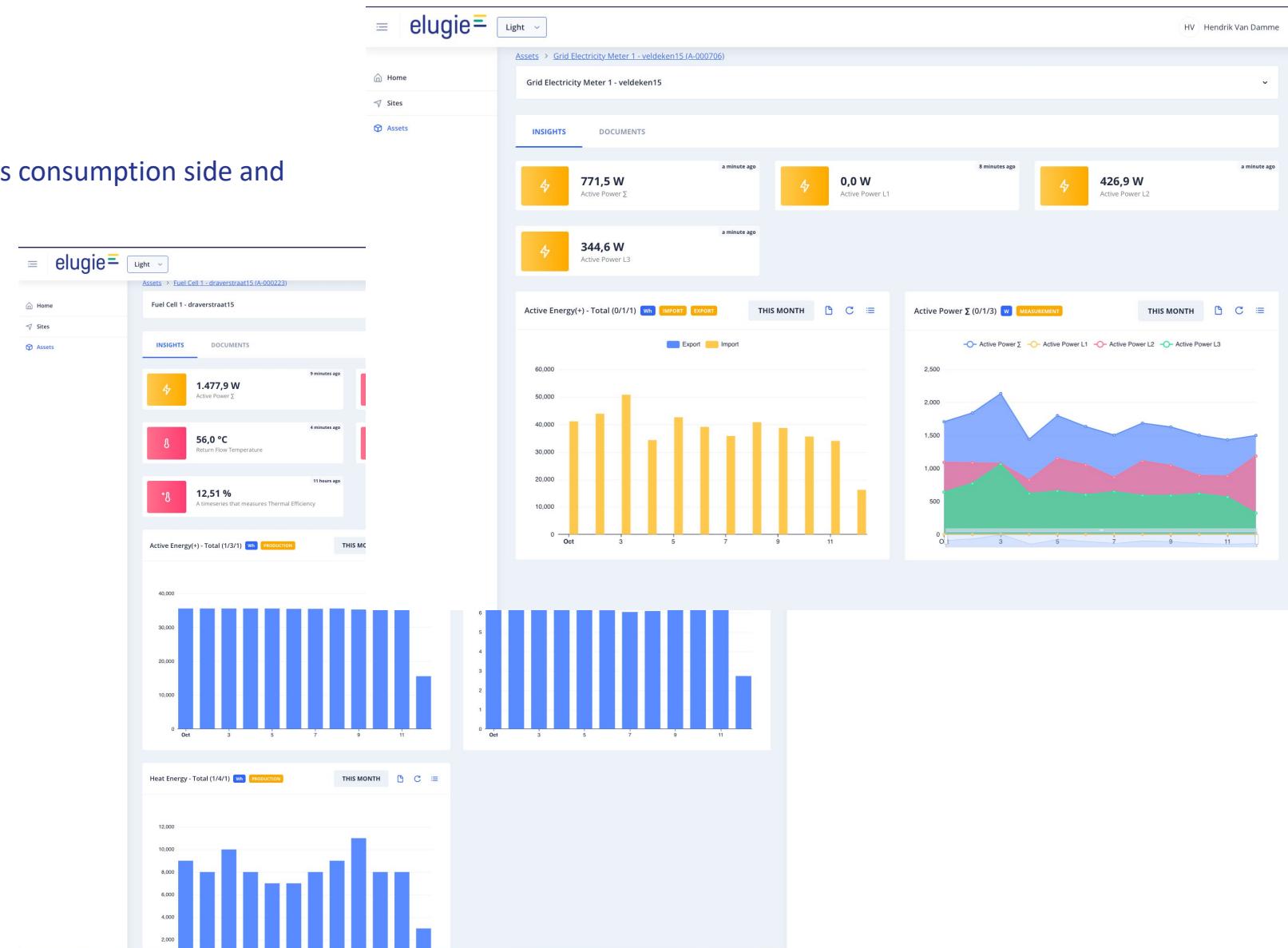
# Elugie platform

Platform for client reporting, Smart grid balancing

- Data visualization of consumption +production
- Demand respond of local consumers
- Peak shaving of local consumption
- Smart grid balancing on day ahead prices, on gas consumption side and electricity grid side.

The screenshot shows the Elugie platform's interface. At the top, there's a navigation bar with 'elugie' and a light mode switch. Below it, a sidebar has 'Home', 'Sites', and 'Assets' sections. The main area shows a map of 'Veldeken15' with a blue location pin. Below the map is a table with tabs for 'INSIGHTS', 'ASSETS', 'SITES', and 'DOCUMENTS'. The 'ASSETS' tab is selected, displaying a list of assets:

Asset Type	Asset ID	Name	Serial Number
Grid Electricity Meter	A-000706	Grid Electricity Meter 1 - veldeken15	1
Gateway	A-000699	Node00142D8076A2	
Fuel Cell	A-000700	Fuel Cell 1 - veldeken15	1
Fuel Cell	A-000701	Fuel Cell 2 - veldeken15	2



# Founded and run by a seasoned industry expert, advised by veterans



**Bjorn Van Haver**

Founder & CEO

- Bjorn founded Elugie in **2012**, in response to the changing political environment and to provide 24/7 clean energy to customers.
- Bjorn (HVAC engineer) has a long career in the energy sector before starting Elugie:
  - 2001 - 2004 Building up BE RE market as engineer @ Izen Energy Systems
  - 2004 - 2006 Sales management BENELUX @ Schüco International KG (Solar)
  - 2007 - 2012 Founder, CEO Solar Spirit  
Developed and built
    - first Solar parks of Benelux (Solar park Middelkerke + Ecopower)
    - first biogas waste to gas project (brewery halve maan)
    - first biomass project with low temp heat grid (Twecom project Bocholt)

## Advisory board

<b>Matt Gray</b>	Former MD Macquarie Bank; currently engaged in Green and Clean Energy
<b>Bart Biebuyck</b>	Former CEO Fuelcells and Hydrogen Joint undertaken FCHJU
<b>Dirk Michiels</b>	Investments across EMEA Former CEO Ferranti Computer Systems
<b>Jan Poppe</b>	Former Head Project Finance Triodos Bank Belgium
<b>Gerrit Verloldt</b>	Managing Director & Partner Econopolis
<b>Frank Wouters</b>	Marketing Strategy expert

# Seasoned management team (confidential)

Committed, onboarding after capital round, long term commitment through B-Shares

(\*Confidential\*)

Johan Elegheert  
GM  
(Belgium)



- Civil engineer with +20 years experience in management, energy service and building projects.
- <https://www.linkedin.com/in/johan-elegheert-2b58379/>
- My experiences go from change management to general management. I like to work hard and have fun in an international environment, using all my talents, and stimulate the development of other people.  
Let us focus on the creation of added value and margin.

Frederic Baert  
CTO platform architecture  
(Belgium)



- Master in ICT, with +20 years experience in software platforms for energy world.
- <https://www.linkedin.com/in/fredericbaert/>
- Leading the ICT Business Unit, ensuring efficient, qualitative delivery of project (fix price, scope, budget) and managed services (co-sourcing/outsourcing).
- Within this role I am strong in end-to-end responsibility for solution development, presales, operations (project & support services) with full responsibility on Strategy, P/L, and people management.

Jan-Wilem Tolkamp  
CSO power production  
(Belgium)



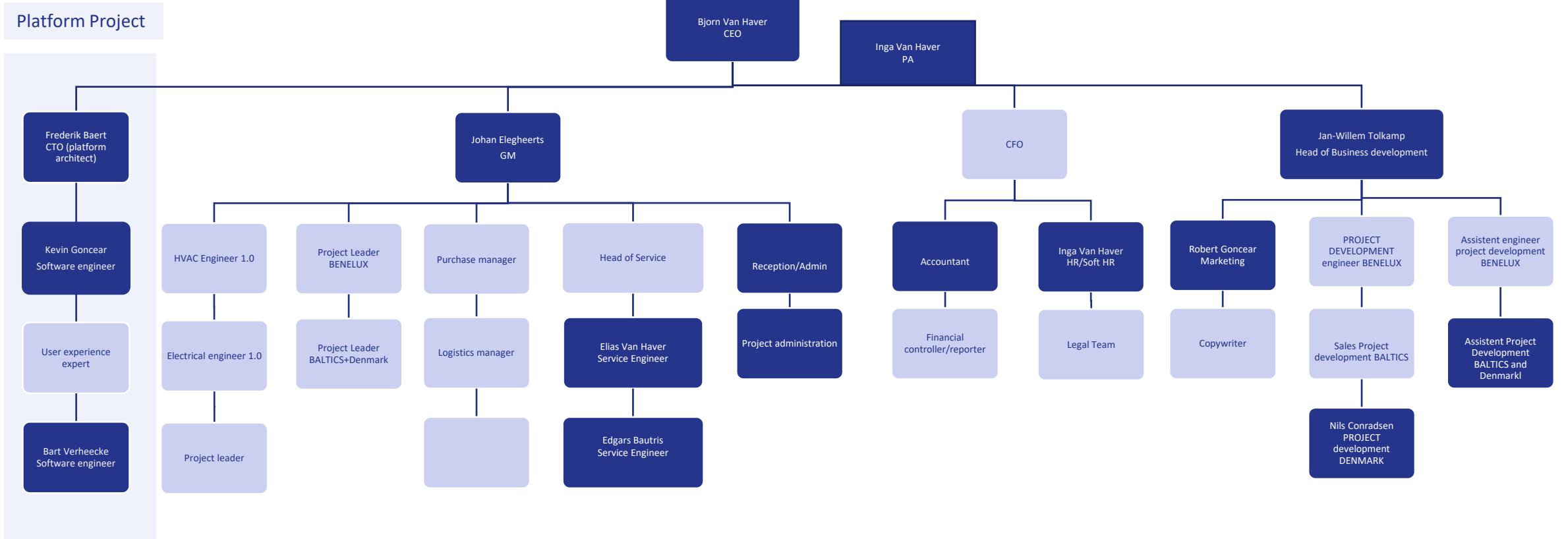
- Master in economics, +20 years experience in Renewable energy and 9 years in SOFC – SOEC technology.
- <https://www.linkedin.com/in/janwilemtolkamp/>
- Market- and Business Development, Sales management, Key-Account management and Strategy, Project manager, high tech environment, Solar energy, Renewable energy. Relation builder, people manager, technical expertise, Creative.

Steven Clauwaert  
CSO green methane  
(Belgium)



- Master in economics, +15 years experience in Trading energy oil and gas with import in west and North EU.
- <https://www.linkedin.com/in/stevenclauwaert/>
- Passionate about business development, trading, energy transition and people. I believe in a dynamic, optimistic team culture that is accountable, open, with enough room to take initiative and where we celebrate success.

# TEAM ready to start operations and growth



# Company Structure

## HQ in Riga(Latvia) and office in Mechelen(Belgium)

### Holding company

SIA Elugie Baltic (Riga-Latvia)

70% Bjorn Van Haver

30% Inga Van Havere

- HQ in Riga (Latvia)

- office in Mechelen (Belgium)

### A series Kapital round:

- 10M Euro .
- Pré money valuation 100M EURO.

### Core activities 2023-20230:

- Project development, Engineering and construction:
  - Elugie Power Tower
  - Elugie E-methane Projects
- Sales/ Renting:
  - Power Towers
  - Elugie platform services, carbon reporting, sales E-methane, grid balancing.

### SPV for Project finance Power Towers BENELUX

Spirit Group bvba (Mechelen-Belgium)

100% Elugie Baltic/Investors

#### Activities 2023-2024:

Buy the ready project from Elugie Baltic, rent to end Client over 8-20years.

**Project finance:** 25% own Kapital/75% Bank finance/EIB finance. For each region, Baltics+poland, UK, DE wil come seperate SPV's

### SPV for Project finance E-methane Projects

100%, Elugie Baltic/Investors

#### Activities 2025:

Buy the ready project from Elugie Baltic, Sell PPA contracts for e-methane to Elugie platform

**Project finance:** 25% own Kapital/75% Bank finance/EIB finance. For each region, Baltics, Saoudi Arabia, Israel wil come seperate SPV's

# Elugie is a frontrunner in renewable energy

2007 - 2012

2012 - 2022

2023- 2024

2025 - 2030

## PRODUCT OFFERING

### Solar Spirit

Sales & installation of **solar** installations and heat pumps

- EPC contractor for Solar parcs, biomass, biogas projects
- Sales, installation & maintenance

## BUSINESS MODEL

- Exclusive partnership/distributor of Kyocera, Mitsubishi
- Direct sales and installation by staff and subcontractors
- Production of different aluminium Solar constructions.

## ORGANIZATION

- Belgian based, 1 office
- 35 employees

## FINANCING

- Auto financed

### Elugie 1.0

Sales & installation of residential **hydrogen** systems for generation of electricity

- Fuel cell power stations for residential and SME use
- Sales, installation & maintenance

- Procurement of power stations from CFCL(2012-2015) and Solid Power (2015-2020)
- Direct sales
- Installation and maintenance by own staff

- Belgian based office
- 7 employees

- Bank debt
- 870k euro Subordinated debt

### Elugie 2.0

Sales, installation, service of 325kW –Multi MW Fuel cell Power stations for generation of electricity

- Fuel cell power stations E32 to Multi MW, including Absorption cooling and Carbon capture.
- Sales, engineering, installation, maintenance.

- Procurement of power station that is already in mass production with +1GW build and now +1GW per year production capacity.
- Experienced partner for Adsorption cooling.
- Experienced partner for Carbon capture.

- Baltics Based office(Riga)
- Belgium Based office (Mechelen)

- 10 Mio Euro Equity, Capital round
- 40Mio Euro Equity for asset finance
- 10 Mio Euro Bank loan

### Elugie 3.0

Sales, renting and installation of **Power** stations and development of **green** power to Methane large scale projects

- Development of 1GW power production capacity.
- Development of 2GW Power to Methane projects.

- Baltics Based office(Riga)
- Belgium Based office (Mechelen)

- Auto financed thanks to income
- 5 Bljn Euro Equity for Asset finance
- +700 Mio Euro Equity/own capital for Asset finance

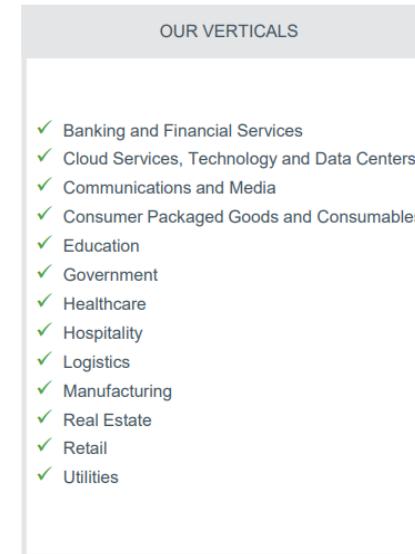
# Reference base

- +25% Market share with +500 small scale SOFC power stations by Elugie 2017-2022 Operations
- +1GW Energy large scale systems installed world wide, strong base to Rely on with Partner Bloom.
- First 1MW installation comissioned at Ferrari headquarters in Italy

## BLUE CHIP CUSTOMERS ACROSS VERTICALS



Including 25 of the Fortune 100 and 42 of the Fortune 500



06.01.2023, comissioning first EU system at headquarters Ferrari-Italy

# Elugie Pipeline,

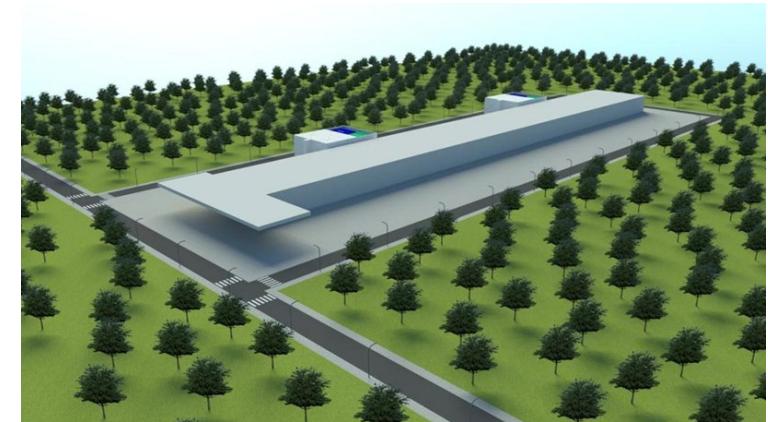
strong focus on datacenters first, later commercial and industry applications, best value proposition

Elugie sites									
2023-2024 Pipeline									
Customer	Type of Sales	No. of Server(s)/Site	Total Capacity (MW)	CAPEX	Expected Deal Close	Expected ExW date	Solution	Product shipment timeline (FCA port)	
Defense Belgium	renting 8 years	1	0,078	€ 650.000,00	ORDER	end may 2023	CHP/Primary power	end of may 2023	
Profel	renting 20 years	6	1,95	€ 11.190.000,00	30 may	Q4	CHP/Primary power	End of oct 2023	
Google BE DEMO	Investment	44	14,3	€ 90.000.000,00	April	Start okt 2023	CHP/Primary power	okt/23	
Google BE DEMO part 2	Investment	44	14,3	€ 90.000.000,00	june 2024	start okt 2024	CHP/Primary power	jan/24	
Datacenter Poland-Atman	Renting 20 years	44	14,3	€ 90.000.000,00	30 july	start 2024	CHP/Primary power	Q3 2024	
<b>TOTAL 2023-2024</b>		<b>138</b>	<b>44,85</b>	<b>€ 281.840.000,00</b>					
<b>PLAN 2023-2024:</b>		<b>75</b>	<b>24</b>	<b>€ 153.375.000,00</b>					
<b>Potential: Elugie of market volume Europe towards 2027</b>									
Potential datacenters BENELUX	Renting 20 years	220	71,5	€ 449.900.000,00			CHP/Primary power		
Potential datacenters BALTICS	Renting 20 years	44	14,3	€ 89.980.000,00			CHP/Primary power		
Potential datacenters Poland	Renting 20 years	110	35,75	€ 224.950.000,00			CHP/Primary power		
Potential datacenters Germany	Renting 20 years	352	114,4	€ 719.840.000,00			CHP/Primary power		
Potential datacenters UK	Renting 20 years	352	114,4	€ 719.840.000,00			CHP/Primary power		
<b>TOTAL 2027</b>		<b>1078</b>	<b>278,85</b>	<b>€ 2.204.510.000,00</b>					
<b>PLAN 2027</b>		<b>455</b>	<b>147,875</b>	<b>€ 930.475.000,00</b>					

# Elugie-pipeline 2023 for On Site Power

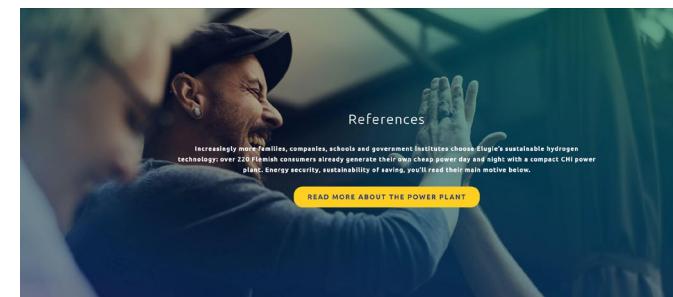
## Data centre-Belgium

- Letter of intend to build first 2 x 12MW project ASAP for datacenter in Belgium.
- 190 Mio Euro CAPEX for Q4 2023-2024
- Go from VP datacentre , strong relation with Director EU responsible for building datacenters in EU.
- Total potential EU= 500MW in next 5 years, +3 Bljn CAPEX.



## BELGIUM Defense- Belgium

- Order, for building 100kW project for Belgium Defense Safraanberg.
- To build in mai 2023.
- CAPEX 675K EURO, renitn over 8 years tto TPF utility's



# Elugie-Potential and pipeline for e-methane



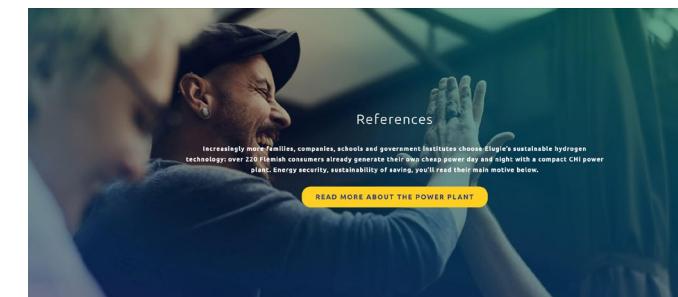
- agreement for Study with Dubal holding and Green Energy park Kirk
- Study by end Q2 to build 1GW green hydrogen with DEWA/MASDAR
- CAPEX +1,5Bljn Euro SOEC
- PPA by Solar PV + Solar SCP



- Elugie intends to build first 100MW demo green power to Methane
- Timing 2025
- CAPEX +200 Mio Euro
- PPA by Solar+ offshore wind+hydropower



- Potential to partner with Infinity to develop first 100MW demo green power to Methane.
- Location: Egypt or Mauritania
- Extension X GW project
- PPA green Power by Infinity, Offtaker Elugie projects in EU.
- Transport by existing LNG shipping and infrastructure.



# Elugie growth path

Incorporation of Elugie and installation of the first fuel cell system in BE (exclusive partnership with CFCL-AUS)



First SME and residential installations

CFCL taken over by CCTC(China) and Solid Power(Italy) Elugie enters in exclusive partnership with Solid Power

First growth – reference projects local governments, 50 projects installed base +100 stations



Elugie wins Belgium environment and energy award

- Elugie BE - 126 stations 1.5kW
- My Elugie platform
- Elugie runs break even

- 1GW power production
- 2GW power to Methane
- +5bln turnover

103Power stations installed

- 100MW power Towers BENELUX, BALTICS, DENMARK, Poland
- 100MW Power to Methane project
- Ready to scale to 2030 Targets in EU

Build first 10MW projects, strong reference base

2012

2013

2015

2016

2017

2018

2019

2023

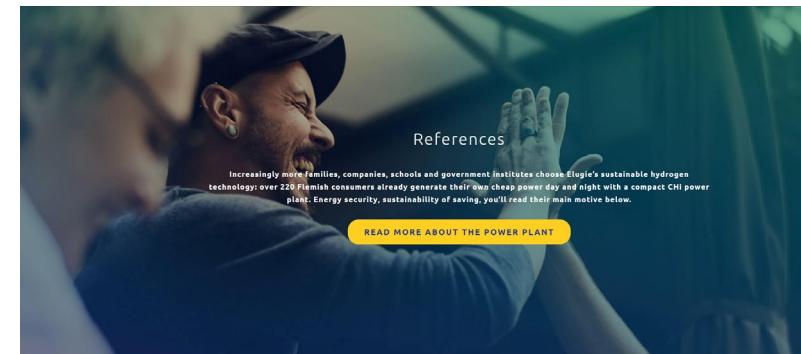
2025

2030

# Elugie-position

...

- **Manny very enthusiastic references (+500) small single stack fuelcell systems.**  
+1GW references or +3000 large scale systems by Bloom.  
-PROVEN REFERENCE BASE-
- **Impressive project pipeline in Multi MW scale, for Data centre, Profel, aluminium industry, Defence project...**
- **Front Runner in the EU market**, well known by the industry.
- **Strong knowledge, team and partnerships** to Build further on +10years of experience in high temperature Fuelcell systems.
- **Elugie is ready to scale on-site clean and independent energy.**  
your energy, our future



# Investment Summary 2023-2024, Serie A

---

- 10 Mio Euro equity investment into SIA Elugie Baltic.
  - Scale sales volume and open the market awareness in the BENELUX, BALTICS, POLAND, Germany,... first projects with Data centres and industry
  - Build strong team and management, to run to targets of 1GW onsite power and 2GW green methane projects.
  - 5M to invest in Elugie Baltic for scaling team and structure( expenses decided by the board)
  - 5M to invest in FCI-Korea Equity (5%).
- Big UPLIFT in value with Series B capital round:
  1. by adding margin on sales of building E-methane projects
  2. Sales and margin on E-Methane.
  3. Production with Gigafactory.



elugie



MY ENERGY FREEDOM