OSGE | ORLEN SYNTHOS GREEN ENERGY

MAY 2025

OSGE & BWRX-300 MOST ADVANCED SMR PROJECT IN EUROPE

PRESENTATION FOR:

FISA EURADWASTE 2025

SNETP Forum

01

OSGE – FAST GROWING SMR COMPANY

ABOUT OSGE

NUCLEAR
FUTURE

Synthos Green Energy and ORLEN have formed a JV – **ORLEN Synthos Green Energy** for the deployment of BWRX-300 SMRs designed by GE Hitachi Nuclear Energy - a leading US nuclear company.

VISION
GREEN ENERGY WALL

Driving the development of sustainable power generation through innovative nuclear technologies to ensure continued economic growth and a clean environment for our communities and future generations.

MISSION
NET ZERO NUCLEAR

A leading role in deploying a fleet of Small Modular Reactors as an essential component of the efficient transition to Net Zero energy generation by 2050.

SYNTHOS GREEN ENERGY

Synthos Green Energy (SGE) has been developing the SMR implementation project since 2020, owns the rights to the BWRX-300 Standard Design, and has exclusive rights to implement the BWRX-300 in CEE countries.

SGE is a subsidiary of MS Galleon, which is owned by Michał Sołowow.

MS Galleon has over 30 companies in its portfolioin 6 segments - the companies in the portfolio have sales activities in over 100 countries.

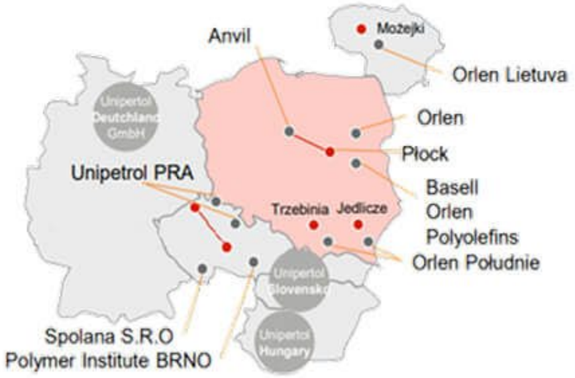
synthos	**N°1** European EPS (expandable polystyrene) producer	**N°2** Global synthetic rubber producer
cersanit	**N°3** largest European producer of ceramic tiles	**N°3** largest European producer of sanitary ware and bathroom furnishings
Barlinek	**N°1** global manufacturer of natural, 3-layer wooden floors	**3** production facilities in Europe
Corab	**N°1** producer and distributor of photovoltaic systems in CEE	**20** countries are supplied from two main factories in Poland

ORLEN

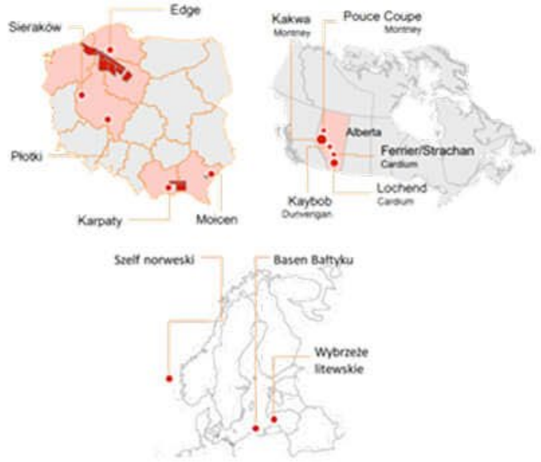
ORLEN Group (which includes ENERGA energy company, Lotos oil company and PGNiG gas company) is the largest company in Central and Eastern Europe. Recent acquisitions have positioned ORLEN as the largest energy group in Central Europe and one of the top 150 companies in the world, with annual revenues of approximately USD 92 billion. The group serves over 100 million customers in Central Europe.

7 REFINERIES IN 3 COUNTRIES, MAX.
CRUDE OIL THROUGHPUT OF 42.6 MT/Y (~860 KBD)

PETROCHEMICAL ASSETS
AND PIPELINES IN 6 DIFFERENT COUNTRIES



OIL AND GAS PRODUCTION IN EUROPE
AND NORTH AMERICA (CANADA)



3 500 FUEL STATIONS
IN 7 COUNTRIES – THE LARGERST RETAIL NETWORK IN CEE

TEAM OF EXPERIENCED INDUSTRY EXPERTS

OSGE consistently builds a team of specialists in key areas for the company's program development, nuclear engineering, safety, licensing, siting and environmental permitting,planning, project management, etc.

Our staff has experience working on nuclear projects in the UK, Finland, Slovakia and the UAE.

OSGE currently employs over one hundred professionals, including individuals with decades of experience in the nuclear power industry (twelve with Ph.D.s)

In line with IAEA guidelines, the company continuously invests in capacity building - in 2024 alone, our employees attended 233 training courses.

OSGE experts actively participate in IAEA, NEA, OECD and WANO committees, working groups, technical workshops and other activities.

WORKING WITH GLOBAL PARTNERS

September 2023

COOPERATION WITH ENEC ESTABLISHED.

We have established a partnership with the Emirates Nuclear Energy Corporation, UAE. ENEC supports and inspires OSGE with its experience in the construction of the Barakah Nuclear Power Plant, which was delivered on time and on budget.

HITACHI in Poland:

- 6000 employees in Poland, 44 000 in Europe
- HQs in Warsaw
- Technology Centre, Research Center in Cracow
- Common Shared Services Center in Cracow
- Engineering Centers in Warsaw and in Cracow

February 2024

THE START OF COOPERATION WITH HITACHI.

OSGE and Hitachi Europe Poland (regional HQ) signed a MoU to formalize and strengthen collaboration with Hitachi Group in non-nuclear technological solutions for SMRs.
This MoU aimed to establish strategic cooperation between OSGE and Hitachi Group, enabling advanced solution development and increasing the local content share in the construction of SMRs. The MoU holistically covers digital solutions, BoP, and gid solutions

OSGE established the following technological Working Groups with Hitachi Europe and Hitachi BUs: IT Infrastructure, IT Application Architecture, Enterprise Asset Managment (EAM), IT Security and Grid Connection.

SUPPORT FROM U.S. FEDERAL LENDING INSTITUTIONS

Letters of Intent with EXPORT-IMPORT BANK OF UNITED STATES (EXIM) and US International Development Finance Corporation (DFC), which are independent US federal lending institutions, were signed on 17 April 2023 at the US Embassy in Poland. EXIM may lend up to USD 3 billion for the construction and deployment of the first two units of the BWRX-300, and DFC may lend up to USD 1 billion.

DFC U.S. International Development Finance Corporation

EXIM EXPORT-IMPORT BANK OF THE UNITED STATES

OSGE: ONE OF THE KEY ENTITIES IN THE EUROPEAN INDUSTRIAL ALLIANCE ON SMRS

Feb., 2024.

The European Commission announced a declaration of support for small modular reactors, recognizing SMRs as a support for the EU's decarbonization efforts.

The European Industrial Alliance on SMRs has been established to facilitate the deployment of the first reactors by the early 2030s.

OSGE is represented on almost all of the Technical Working Groups (TWGs), with the exception of two that are dedicated to technology vendors, where the company's partner, GE-Hitachi, is represented.

An OSGE representative holds the Vice-Chair position in one of the key TWGs, TWG5: Public Engagement.

OSGE's proposal to establish a PWG focused on the BWRX-300 technology has been approved by the EC.

OSGE is leading this PWG, which includes 17 other entities from 10 EU member states and Norway, with additional organizations currently applying.

BWRX-300 PROJECT WORKING GROUP MEMBERS

- **OSGE** (Poland)
- **GE-Hitachi Nuclear Energy International branch in Poland** (Poland)

(the remaining companies in alphabetical order)

- **AIC S.A.** (Poland)
- **Blue Bird Energy** (Bulgaria)
- **Bouygues Travaux Publics** (France)
- **CNPSA**** (Romania)
- **Fermi Energia** (Estonia)
- **Equipos Nucleares S.A. (ENSA)** (Spain)
- **HELEN** (Finland),
- **GENUSA*** (Spain)
- **Kärnfull Next** (Sweden)
- **Hitachi Europe** branch in Poland (Poland)
- **Orange Hills Energy*** (The Netherlands)
- **Norsk Kjärnekraft** (Norway)
- **Synthos Green Energy** (Poland)
- **ORLEN** (Poland)
- **Vattenfall AB** (Sweden)
- **ÚJV Řež** (Czech Republic)

BUILDING „GREEN ENERGY SHIELD" WITH THE BWRX-300 TECHNOLOGY

As the most mature SMR technology, the GEH BWRX-300 has the potential to significantly transform the power and heat generation sector in the CEE region (and the UK) in the coming decades.

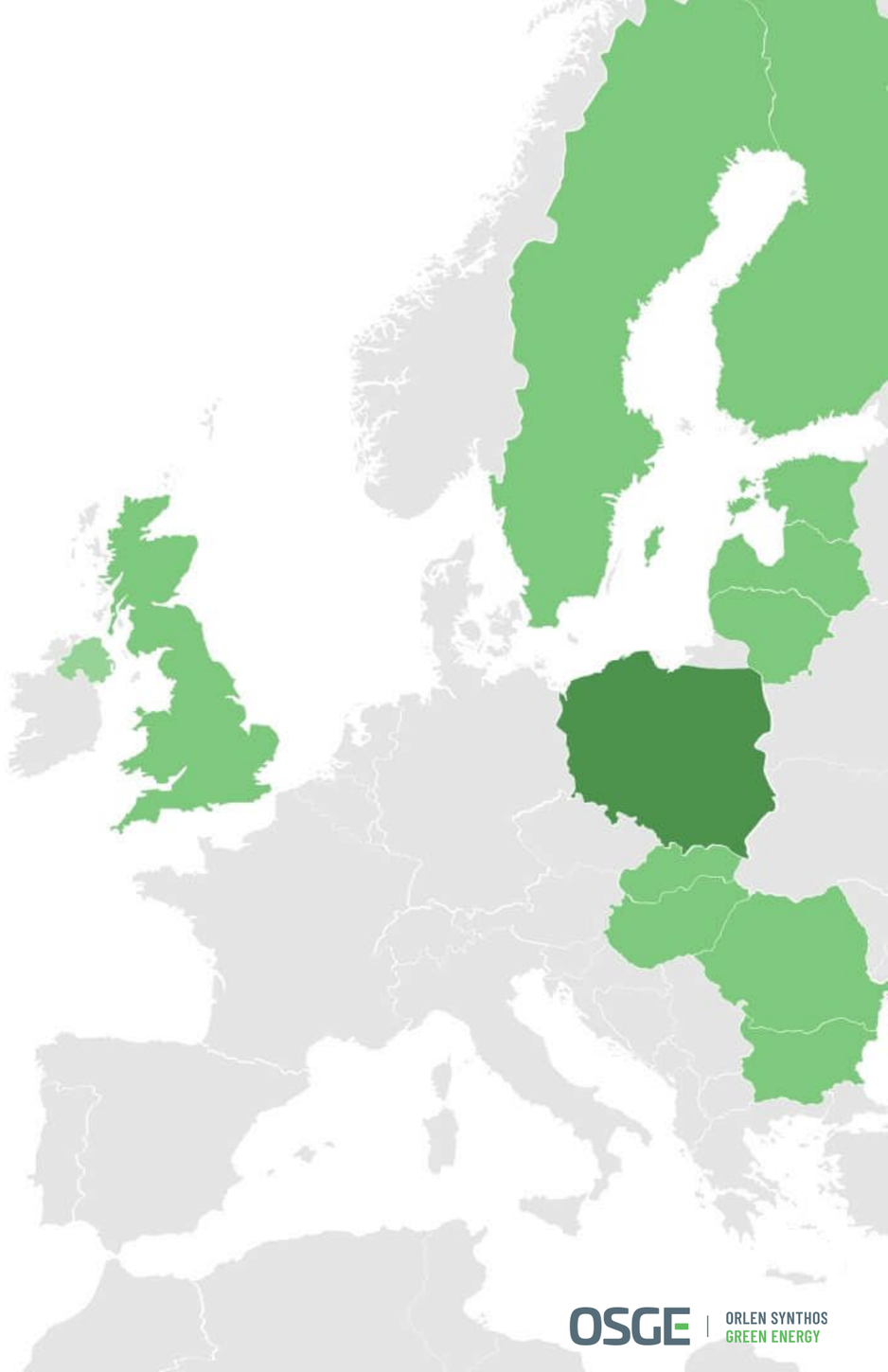
OSGE is working on cooperation with entities from other countries that may benefit from SMRs deployment.

The company's goal is to deploy a fleet of BWRX-300s in CEE. GEH SMR technology is the best solution for the CEE region to generate clean energy, transform district heating systems, and support industrial applications.

There are three markets where the company's activities are currently most advanced: **United Kingdom, Czech Republic, Bulgaria.**

The potential in the UK is estimated at 4-8 BWRX units, while in the CEE region, it is estimated to be at least for 20 units by 2040.

The company is also in preliminary discussions with data center developers in several European countries.



OSGE IN UK & CZECH REPUBLIC

UNITED KINGDOM

1. A special purpose vehicle was established for the UK market and the Future Nuclear Enabling Fund (FNEF) investment agreement was signed.
2. Awaiting the resolution of the GBN TSP process, which is expected to take place between Q1/Q2 2025. Concurrent discussions on the development of SMR projects with the Department for Business and Trade and DESNZ.
3. Completion of Generic Design Assessment (GDA) Step 1 and finalization of GDA Step 2, including confirmation of the final version of the PSAR report for the UK.

CZECH REPUBLIC

1. In May 2023, the Ministry of Industry and Trade published the Czech SMR Roadmap, which includes a plan to deploy approximately 10 SMRs in the Czech Republic.
2. Several meetings were held with representatives of the Czech government.
3. A dedicated special purpose vehiclehasbeen established for the Czech market, and the Security Agreement is currently being negotiated with the Czech government.
4. Interdepartmental negotiations on the financial support system for the implementation of SMRs are underway.
5. A draft amendment to the Atomic Law Act is before Parliament, which contains provisions favorable to the implementation of nuclear technologies other than PWRs.

BWRX-300 IN CANADA: LICENSED IN APRIL 2025 – DEPLOYED BY 2029

30 OCT 2022

OPG submitted an application to the Canadian Nuclear Regulatory Commission (CNSC) for a license to construct the BWRX-300.

27 JAN 2023

Signing of the agreement for the construction of the first reactor between OPG, GEH, and the companies SNC-Lavalin (now AtkinsRealis) and Aecon

7 JUL 2023

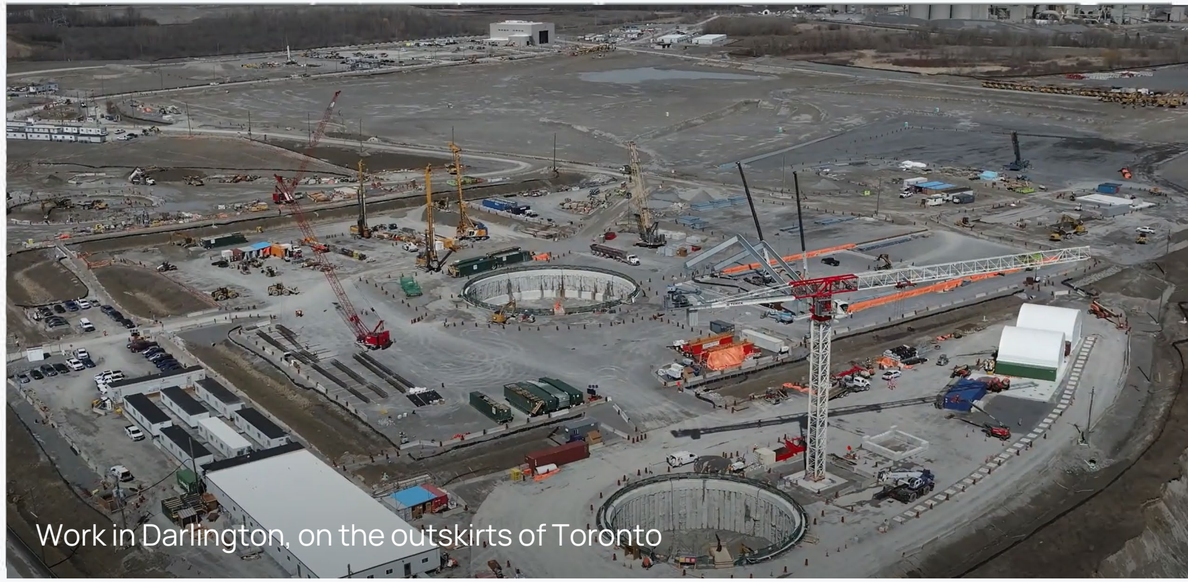
The Province of Ontario and OPG announced that four BWRX-300 reactors will be built at the Darlington site.

4 APR 2025 / 8 MAY 2025

OPG receives construction license from CNSC.
The FID approves by the government of Ontario.

The first BWRX-300 will be commissioned at the Darlington Nuclear Power Plant in Ontario by 2029.

OPG is an energy company owned by the Government of Ontario, with a portfolio consisting entirely of emission-free sources (two nuclear power plants – a total of 10 CANDU reactors, and hydroelectric power plants, including Niagara Falls).



Work in Darlington, on the outskirts of Toronto

BENEFITING FROM THE CANADIAN EXPERIENCE

June, 2023

Building nuclear operator capabilities.
OSGE is expanding its relationship with Ontario Power Generation (OPG) and its subsidiary, Laurentis Energy Partners (LEP). OPG will assist OSGE in building nuclear operator competencies. The agreement was signed on 2 June at the Darlington New Nuclear Project in conjunction with a site visit by the then-Prime Minister of Poland, Mateusz Morawiecki. The partnership covers a range of SMR-related activities, including development and deployment, operations and maintenance, operator training, commissioning and regulatory support.

June, 2024

Signing of cooperation agreements with Aecon and AtkinsRéalis, the companies delivering the world's first BWRX-300 unit in Canada, and a four-party agreement with GE Hitachi, Aecon and AtkinsRéalis.

These agreements and cooperation will provide OSGE with the engineering expertise and construction know-how necessary to develop and build a target model of cooperation with the prospective contractors.

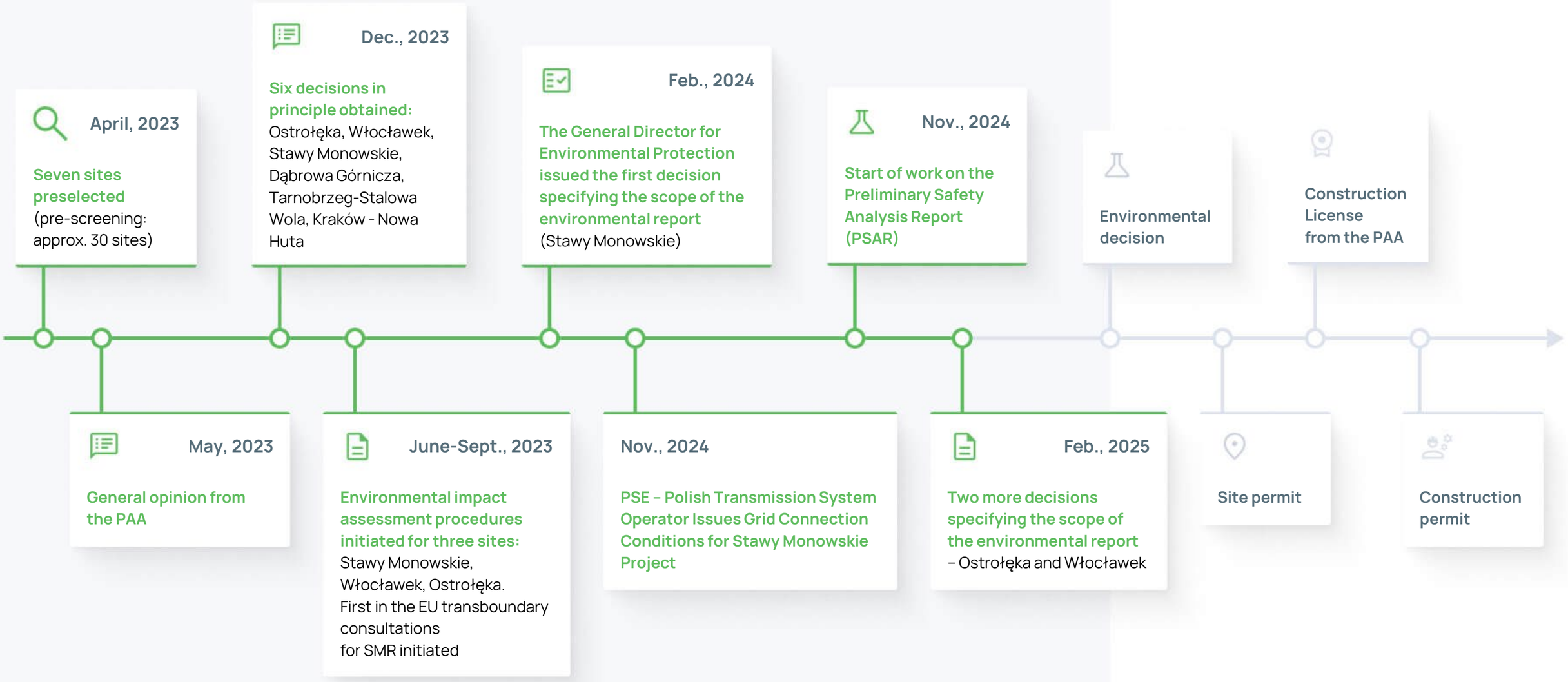
The results of the work will be used by OSGE to prepare the following:

1. Construction license application (CLA),
2. Preliminary safety analysis report (PSAR),
3. Environmental impact assessment (EIA) report,
4. Site Layout.

02

OSGE IN POLAND– ON THE WAY TO THE SMR FLEET

THE PROGRESS WE MADE



SELECTED SITES

The Polish Ministry of Climate, in six Decisions in Principle issued in December 2023, authorized OSGE to deploy up to 24 units of the BWRX-300 in six locations.

Specific location in Warsaw area is under study for deployment of co-generation units. Application for a decision concerning the Warsaw project has not yet been submitted to the Ministry.

LICENSING PROCESS IN POLAND

TRANSBOUNDARY CONSULTATIONS

August 2023

In August 2023, the General Director for Environmental Protection (GDEP/GDOŚ)initiated transboundary consultations related to the OSGE project at Stawy Monowskie in southern Poland, where GEH BWRX-300 will be deployed. This is the first transboundary consultation process for a small modular reactorin Europe.

GDEP/GDOŚ recognizes that consultations with the Czech Republic and Slovakia are grounded. Austria has also expressed its willingness to participate in the consultations, which is allowed underthe Espoo Convention.

DECISIONS IN PRINCIPLE

The Polish Ministry of Climate and Environment issued six decisions-in-principle for the construction of power plants based on the GEH BWRX-300 small modular reactor at six sites. A total of 24 BWRX-300 reactors may be deployed at the sites. The decision-in-principle is the first decision in the process of obtaining administrative permits for nuclear power projects in Poland that an investor can apply for. If granted, it will entitle OSGE to apply for a number of further administrative arrangements, such as a siting decision or a construction license.

GENERAL OPINION

May 2023

The first general opinion in Poland was issued by the President of the National Atomic Energy Agency (PAA) for the BWRX-300 SMR reactor. In the document received by OSGE, the Polish nuclear regulator confirms that the design assumptions of the BWRX-300 comply with nuclear safety requirements.

MOST ADVANCED PROJECTS: WŁOCŁAWEK

WŁOCŁAWEK

- Area: 135 ha
- Decision in principle for up to four units (max. 1300 MWe), environmental conditions – potential for up to six units
- Located close to the energy-intensive chemical plant Anwil (ORLEN Group) - high demand for electricity and process steam
- Potential for district heating application

MOST ADVANCED PROJECTS: STAWY MONOWSKIE

STAWY MONOWSKIE

- Area: 70 ha
- Decision in principle for up to four units (max. 1300 MWe)
- Close to Synthos chemical plant - high demand for electricity and process steam
- Potential for district heating application
- Possibility of replacing existing coal-fired power station (owned by Synthos)

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03

TECHNOLOGY

GE – THE MOST EXPERIENCED SUPPLIER OF NUCLEAR TECHNOLOGIES

Success in translating visions into real projects – on time, within budget






OVER 80 YEARS OF NUCLEAR EXPERIENCE AND INNOVATION

1939 – Ge is commited to nuclear physics

1955 – GE Atomic Division is established

1957 – First Vallecitos BWR AEC license

1962 – NPD - full power The first reactor in Canada

1974 – 25th BWR Peach Bottom 3

1986 – 50th BWR River Bend

1996 – 1st Gen III reactor (ABWR) "on time on budget"

2014 – NRC License for ESBWR

2017 – BWRX-300 - the beginning of the project

2020 – NatriumTM*

2021 – BWRX-300 selected by OPG & SGE

2022 – BWRX-300 OPG/GEH - construction contract

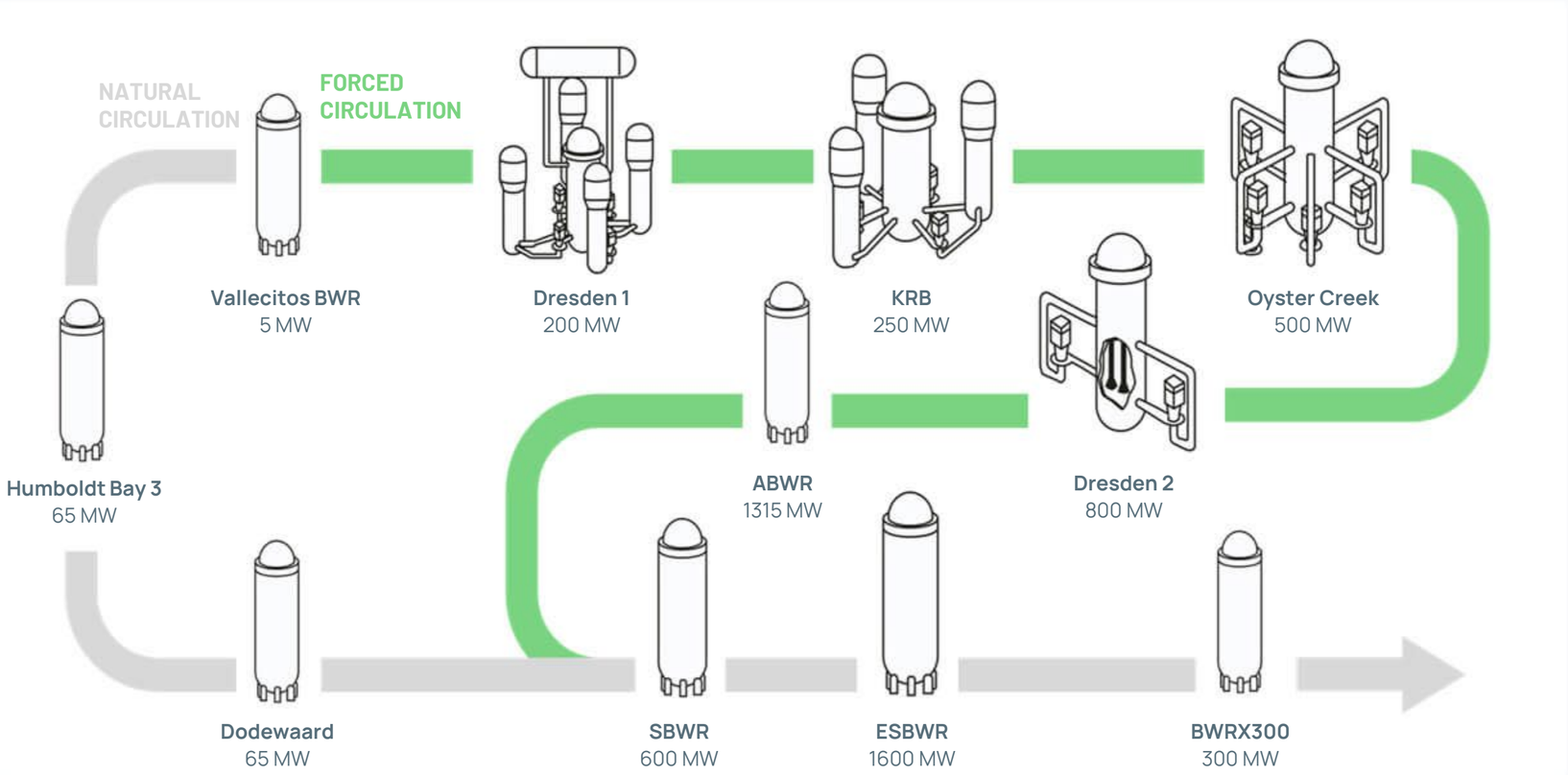
2025 – License to Construct and FID for the first BWRX-300

* Jointly developed technology with TerraPower

67 licensed reactors in 10 countries

60+ YEARS OF EVOLUTIONARY DEVELOPMENT OF THE BWR TECHNOLOGY

- 10th generation Boiling Water Reactor
- World class safety
- Leverages U.S. NRC licensed ESBWR
- Design-to-cost approach
- Significant capital cost reduction per MW
- Capable of load following
- Ideal for electricity generation and industrial applications, including hydrogen production
- Constructability integrated into design



TECHNOLOGY COLLABORATION AGREEMENT

Through a technology collaboration agreement, OPG, TVA and SGE will invest in the development of the BWRX-300 standard design and detailed design for key components, including reactor pressure vessel and internals.

For the first time ever, a Polish company has become party to an agreement for a design for nuclear power plant, while being given an opportunity to actively participate in the design process.

The collaboration and additional funding will ensure that the standard design is deployable in different parts of the world and in multiple jurisdictions.

March, 2023, Washington D.C.

OSGE's shareholder - Synthos Green Energy signed an agreement with TVA, OPG and GEH for the design of a BWRX-300. The company, together with its partners, will invest $400 million in the development of the GEH BWRX-300 technology.

synthos green energy · HITACHI · ONTARIO POWER GENERATION · TVA TENNESSEE VALLEY AUTHORITY

BWRX-300. LICENSING PROCESSES AROUND THE WORLD

1 CANADA

Ontario Power Generation (OPG) submitted application for 'license to construct' to Canadian nuclear regulator, CNSC, in Q4 2022. **The LTC was issued on 4 April 2025.**

2 USA

GE-Hitachi submitted 7 License Topical Reports (LTRs) to the Nuclear Regulatory Commission (NRC) describing the differences between the BWRX-300 and the ESBWR (already licensed reactor) in order to expedite the licensing process.

Joint Assessment: The licensing of the BWRX-300 technology is the subject of a cooperation establishedbetween the regulatory authorities of the USA, Canada and the UK. It is aimed at improving the licensing process for BWRX-300. The Polish nuclearregulatoryauthority also participates in this cooperation as an observer.

3 UK

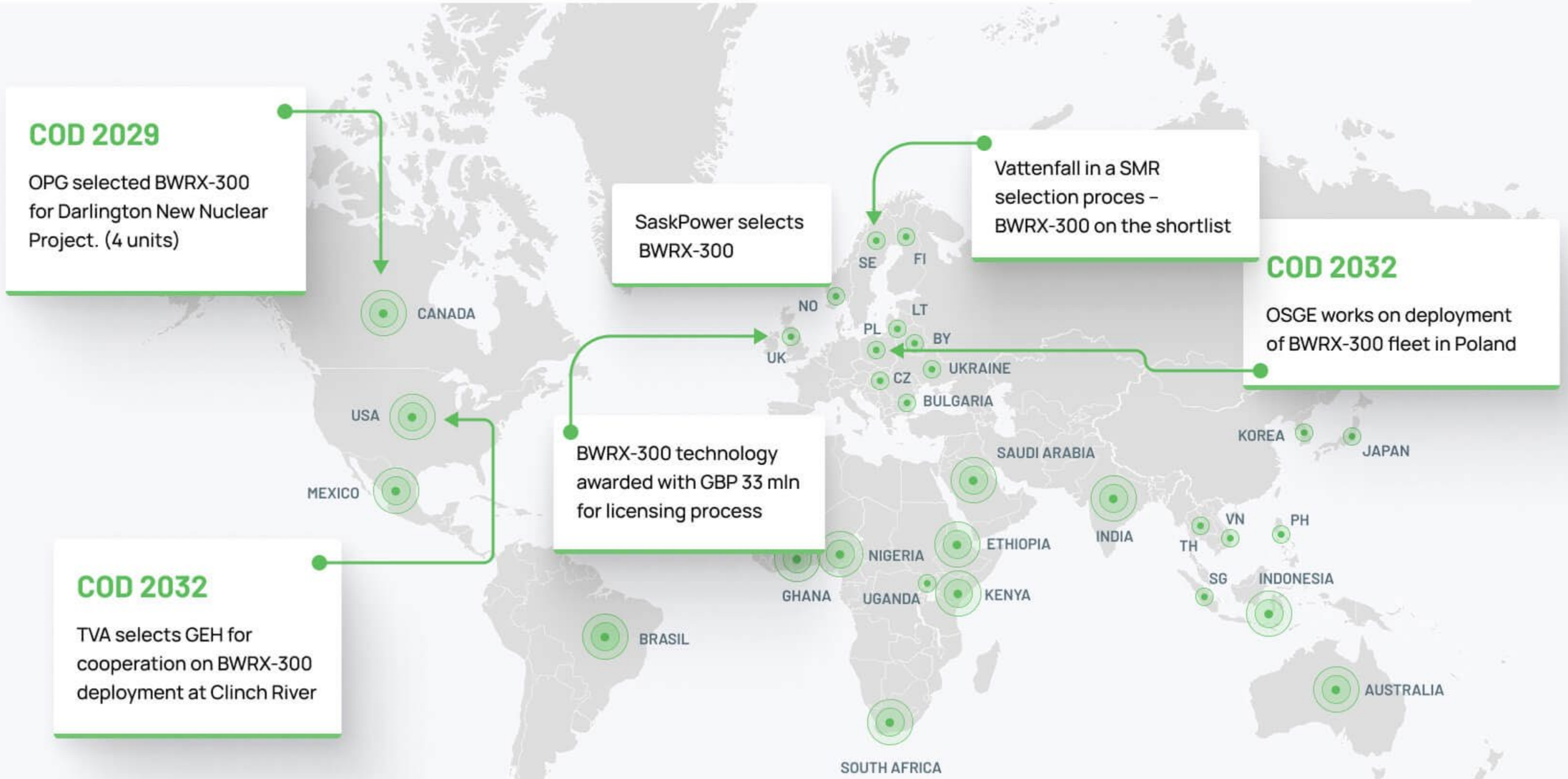
In **January 2024, UK regulator initiated a two-stage GDA** for GEH's BWRX-300 design following a readiness review of GEH's application to the Department of Energy Security and Net Zero. The GDA helps ensure that a proposed reactor design can be constructed, operated, and decommissioned according to safety, security, and environmental protection standards required in the United Kingdom. GEH's UK-based team is supported by OSGE, an investor and developer specializing in SMRs.

3 POLAND

May 2023. The **first general opinion in Poland** was issued by the President of the National Atomic Energy Agency (PAA) for the BWRX-300 SMR reactor.In the document received by OSGE, the Polish nuclear regulator states that the design assumptions of BWRX-300 comply with nuclear safety requirements.

GROWING GLOBAL INTEREST AND MOMENTUM (GEH DATA)

...6 OF 7 CONTINENTS ...~30 COUNTRIES



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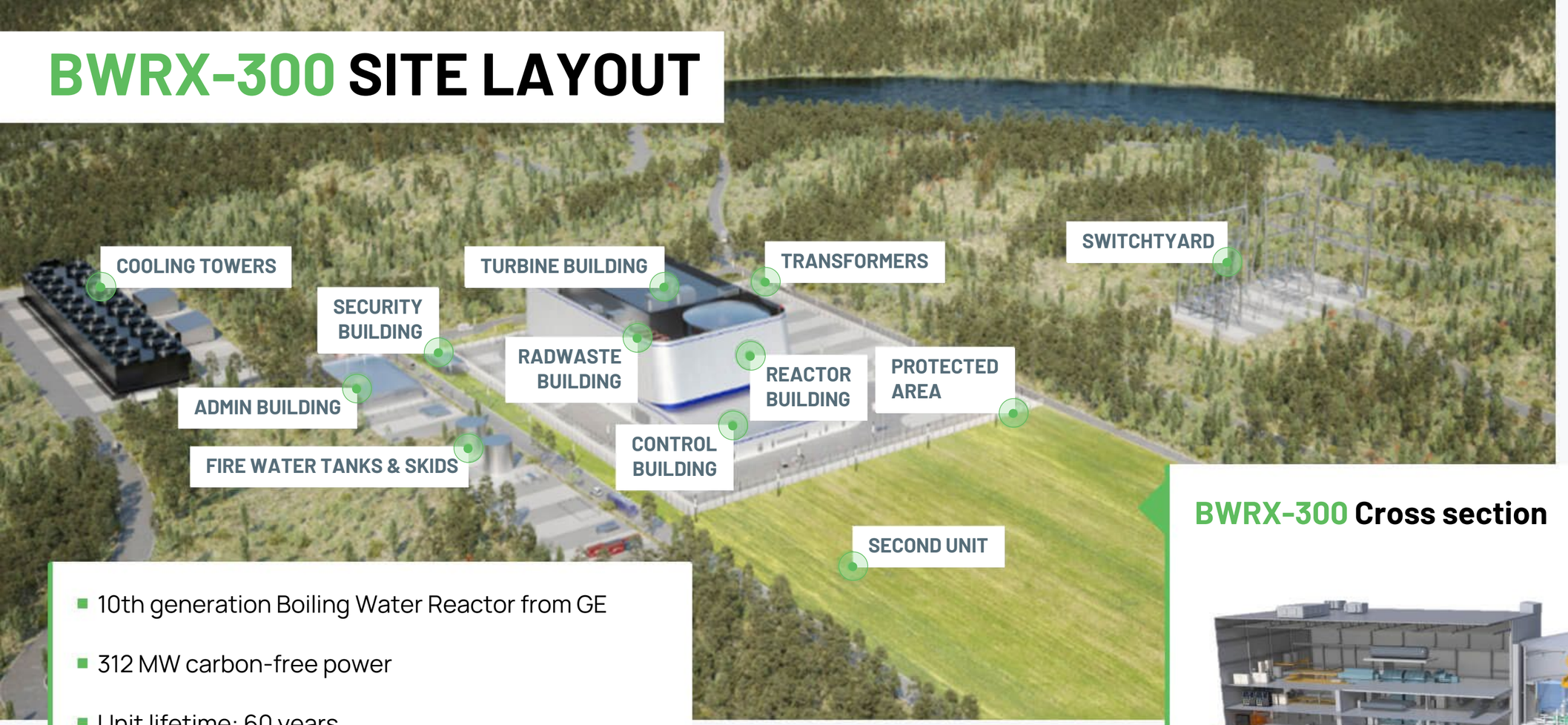
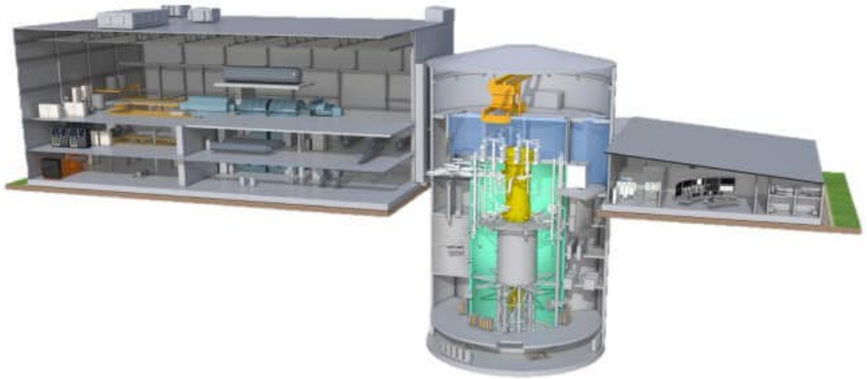
BWRX-300 ADVANTAGES

BWRX-300 SITE LAYOUT



- 10th generation Boiling Water Reactor from GE
- 312 MW carbon-free power
- Unit lifetime: 60 years
- Availability factor: 92-95%
- Construction phase: 24 (NoAK) - 36 (FoAK) months
- Ideally sized for coal-2-nuclear

BWRX-300 Cross section



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BWRX-300 – A CUSTOM DESIGN FOR ENERGY TRANSITION

Ideal for electricity generation and industrial applications, including hydrogen production, desalination and district heating

TECHNOLOGY PROVIDER

- US company with **70 years of experience** in nuclear power, 67 reactors operating in 10 countries. It is 10th generation boiling water reactor (BWR)
- History of delivering reactors projects on-time and on-budget
- Leverages existing supply chain and off-of-the-shelf components
- GE and HITACHI – large foreign investors in Poland, a basis for building a supply chain in Poland, local content

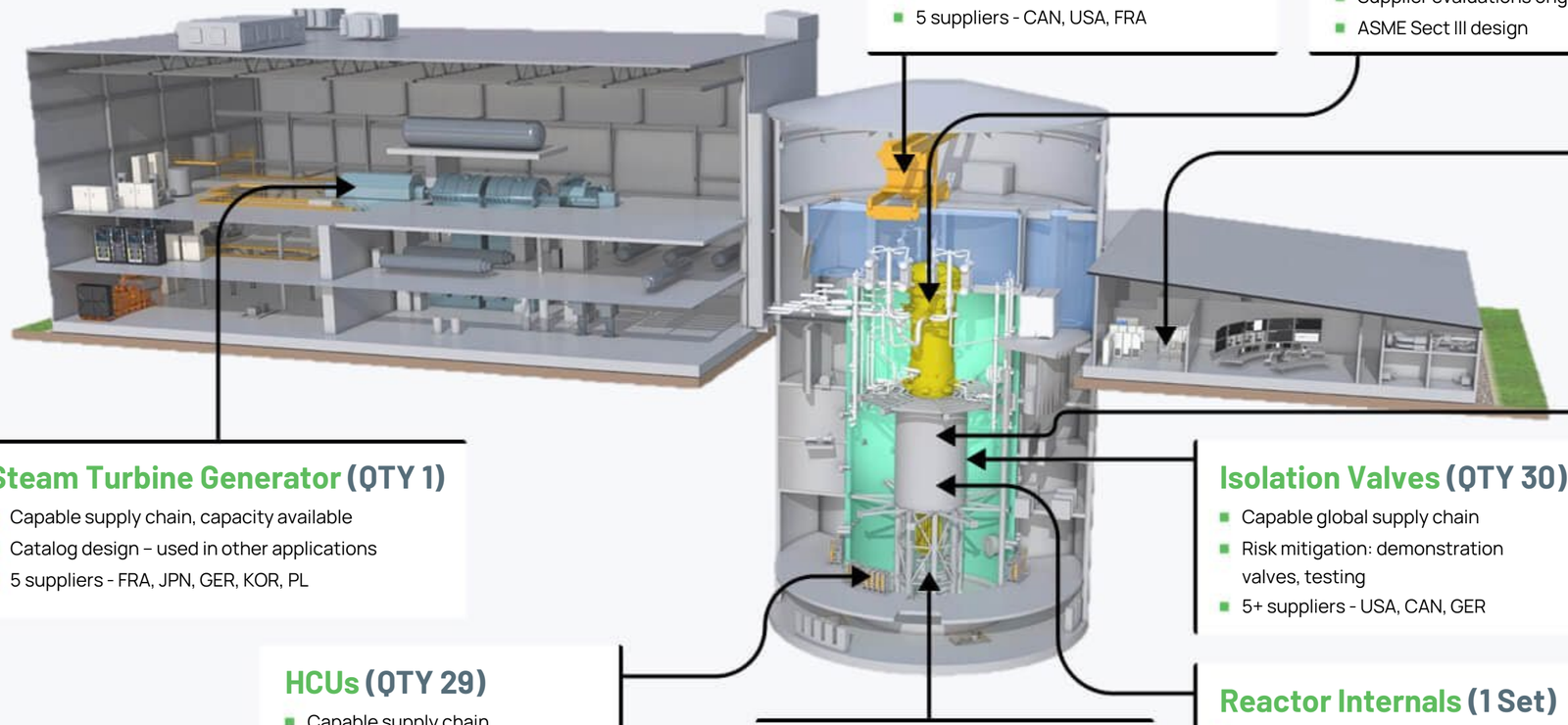
DESIGN

- BWRX-300 – **III+ generation reactor** based on proven technologies, including solutions licensed by the NRC (ESBWR)
- **Licensed GNF2 fuel** – no risk related to licensing process, security of supply, manufacturing in the US and Europe (Spain)
- Easier to license and deploy (both from perspective of local regulator and investor) than IV generation technology

PROJECT MATURITY

- **The world's first BWRX-300** under deployment in Canada (FOAK)
- The first BWRX-300 in the EU will be deployed in Poland (NOAK). It will draw on the Canadian experience, allowing more efficient implementation of the investment
- In many aspects, **BWRX-300 bases on currently available solutions** which do not need to be designed from scratch and certified

EXISTING SUPPLY CHAIN FOR MAJOR COMPONENTS



Refueling Machine (QTY 1)

- Capable supply chain
- DfM review engagement
- 5 suppliers - CAN, USA, FRA

I&C (Safety Class)

- No anticipated constraints
- Supplier evaluations ongoing
- ASME Sect III design
- 5+ suppliers - USA, CAN, ESP
- Prototype of similar design built

I&C (Safety Class)

- DCIS = Distributed Control and Information System with 3 systems: RPS, DPS, ATS
- Mix of GEH (Numac, Mark VIe) and supplier technologies

Steam Turbine Generator (QTY 1)

- Capable supply chain, capacity available
- Catalog design – used in other applications
- 5 suppliers - FRA, JPN, GER, KOR, PL

RPV (QTY 1)

- Small experienced supply base; investigating add'l (USA & global)
- 3 suppliers - USA, ESP, CAN
- RPV design PO placed for OPG
- Suppliers currently fabricating SG's

Isolation Valves (QTY 30)

- Capable global supply chain
- Risk mitigation: demonstration valves, testing
- 5+ suppliers - USA, CAN, GER

HCUs (QTY 29)

- Capable supply chain
- No anticipated constraint
- 5+ suppliers - USA, CAN, JPN, GER

Reactor Internals (1 Set)

- Existing supply chain
- 5+ suppliers - JPN, USA, ESP, CAN
- US suppliers supporting IB

RPV Forgings (QTY 11)

- Capable supply chain, capacity available
- Early engagement on fixtures, first articles
- 5+ suppliers - ITA, JPN, UK, USA
- Forgers supplying SG forgings

FMCRDs (QTY 57)

- Constraints anticipated
- Evaluating additional supply chains
- Risk Mitigation: Test facility capacity; long lead material purchase
- 2 suppliers - JPN, USA

05

POLISH ENERGY MARKET OUTLOOK

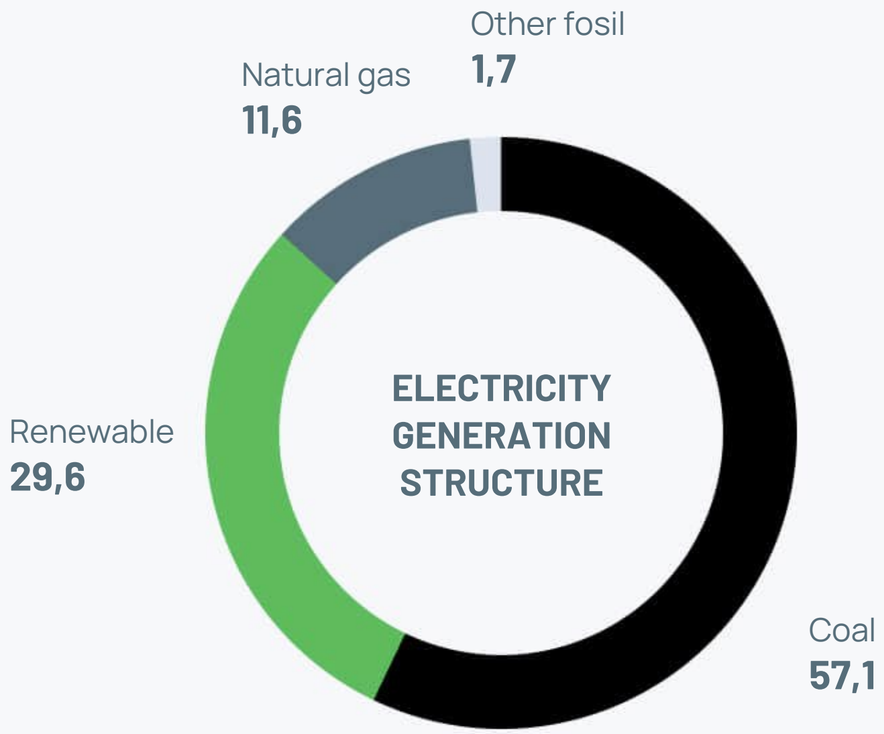
POLISH ENERGY SECTOR IN 2024

Electricity production in Poland is based mainly on hard coal and lignite.

Mid-size coal units dominate the Polish energy system.
200+ smaller, mostly coal units must be replaced in coming decades.

The Polish Transmission System Operator estimates that **by 2040 there will be a shortfall of approximately 18 GW of stable generation capacity.** OSGE's own analyses indicate an even larger gap – over 21 GW.

Representatives of the Polish government responsible for strategic energy infrastructure estimate that **by 2040 Poland should have about 12 GW of nuclear power capacity** to ensure stable energy supply.



* Coal refers to power generation from hard coal and lignite.
** Renewable energy refers to power generated from biomass, wind, and solar.

DEMAND FOR ENERGY WILL GROW IN COMING DECADES

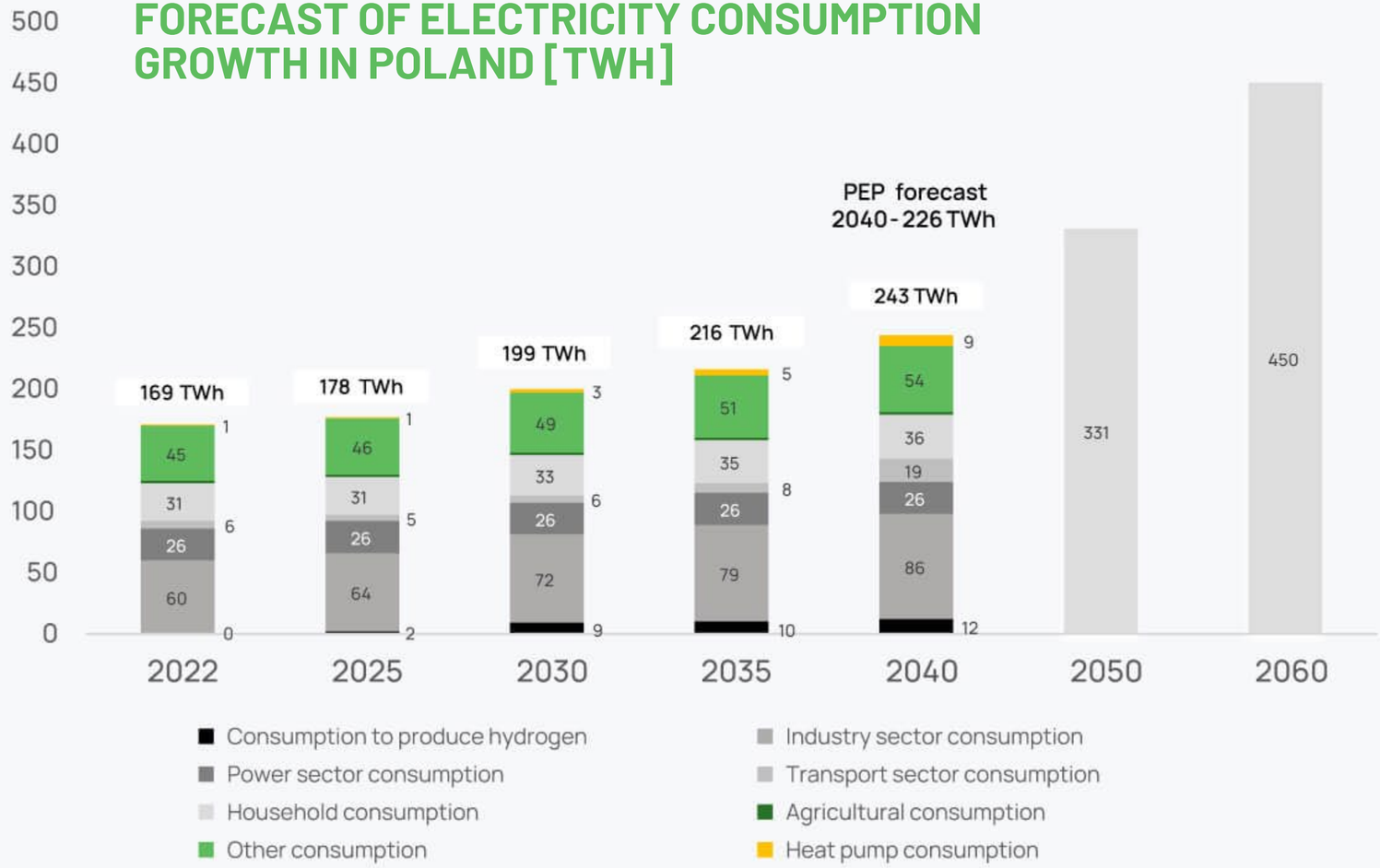
PwC estimates that electricity demand will grow by an average of **2% per year between 2021 and 2040.**

7 sector were included: **industry, energy, transport, agriculture, households, heat pumps and other consumption.**

The main determinant of the increase in demand for electricity in Poland will be the increase in demand from the **industrial sector,** the consumption of which is correlated with economic growth.

PwC estimates the potential of annual electricity consumption in Poland in 2050 and 2060 at ~331 TWh and ~450 TWh, respectively.

FORECAST OF ELECTRICITY CONSUMPTION GROWTH IN POLAND [TWH]



BWRX-300 – A SOLUTION TO TRANSFORM THE POLISH DISTRICT HEATING MARKET

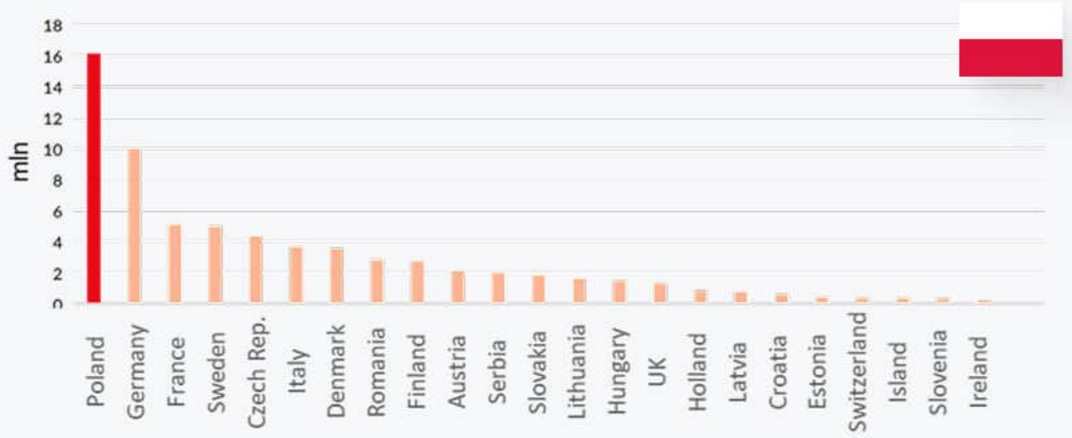
Over **16 mln Poles** are connected to district heating systems. Warsaw has the largest district heating network in Europe.

55,200 MWth of installed capacity have licensed heat producers in Poland (399 entities), with 11 companies generating 33% of the volume. 51% of units are >100 MW.

51% of units are >100 MW.

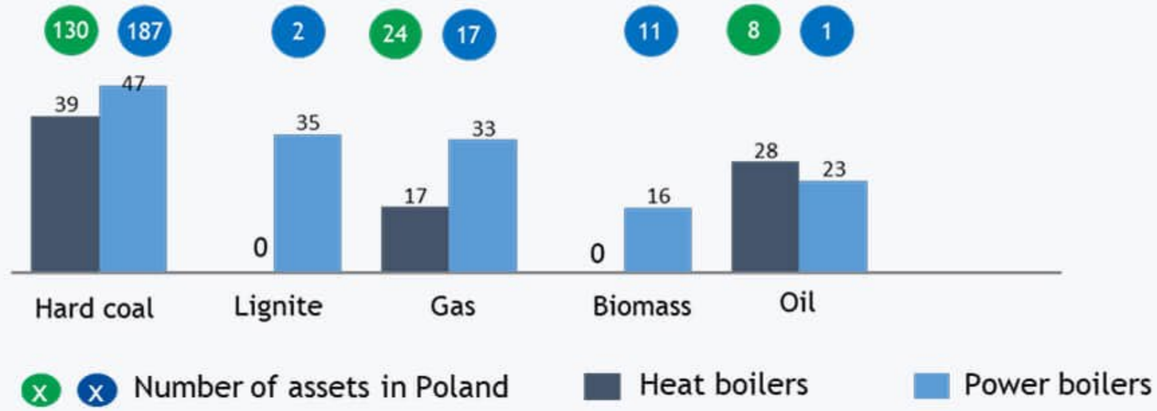
72% of heat energy is produced from coal. In the coming years, the sector will need to undergo a profound transformation.

Gas is no longer an option and large-scale nuclear power plants will not be adequate to meet the demand for heat in Polish cities.



COMMERCIAL DISTRICT HEATING ASSETS ARE AGING AND NEED TO BE REPLACED

Average age of generation assets (years)



SMRS IN POLAND? BRING IT ON!

A PUBLIC OPINION POLL CONDUCTED BY IBRIS, CAPI, +2,000 RESPONDENTS

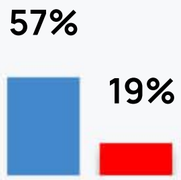
Nearly **60%** of Poles believe that the country needs to deploy SMRs, while only 15% of respondents do not see such a need.

Support is even higher among citizens of most of the cities selected as candidate sites for such projects.

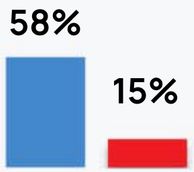
Additionally, according to the latest government polls, **92,5 %** of citizens support the implementation of nuclear energy in Poland.

The survey clearly shows that SMR technology should be developed to start the energy transition before the large-scale nuclear power plant program.

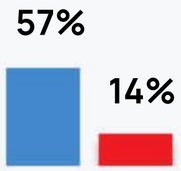
In your opinion, are modern nuclear power plants safe?



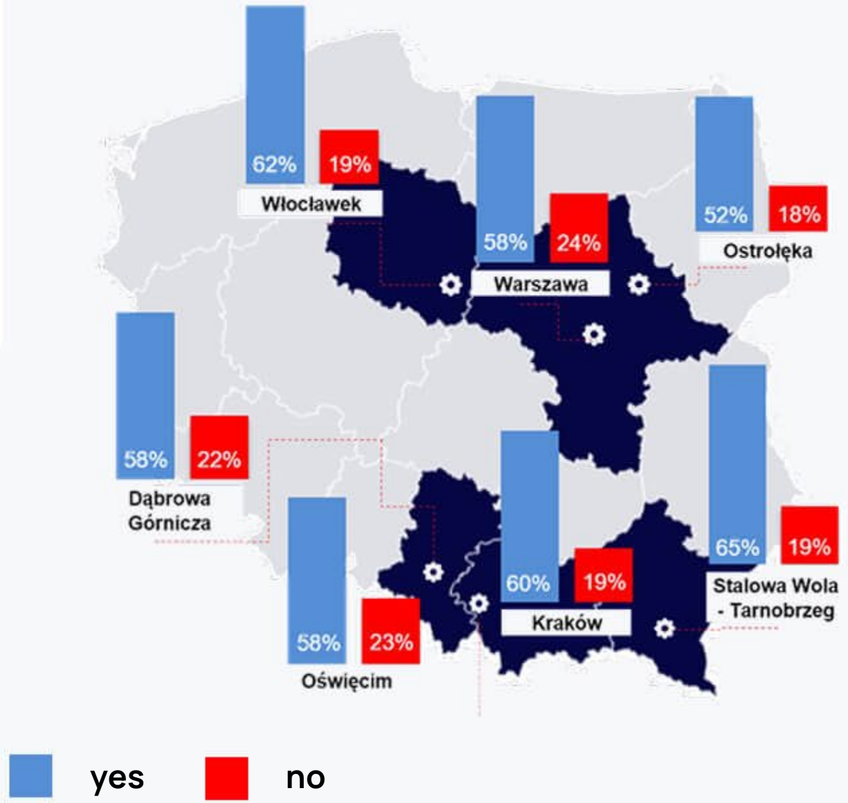
Do you think that Poland needs to build several smaller nuclear power plants in different locations?



Poland should start the energy transition with the deployment of SMRs so that they are built as soon as possible.



If you could pay less for energy, would you support SMR construction in your neighbourhood?



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