

# About Us

Blossom Energy is dedicated to the advancement of cutting-edge nuclear reactor technology.

Our expertise lies in harnessing the power of fourth-generation High-Temperature Gas-cooled Reactors (HTGRs).

Name

Blossom Energy Inc.

Established

January 2022

Headquarters

Roppongi, Minato-ku, Tokyo

Development Site

Mito-shi, Ibaraki-ken

Funding

Over 100 million yen from angel investors and Agency for National Resources and Energy (ANRI)

Pitch

Secured the first-place prize at the ESG TECH PITCH event

Accelerator

Selected for the 6th G-STARTUP accelerator program



# Decarbonization of Heat

**Electricity decarbonization is progressing with the increasing adoption of solar and wind energy.**

**A stable and affordable carbon-free heat solution is necessary due to the reliance of heat demand on fossil fuels.**

# Solution: Problem Resolution through Two Business Expansions

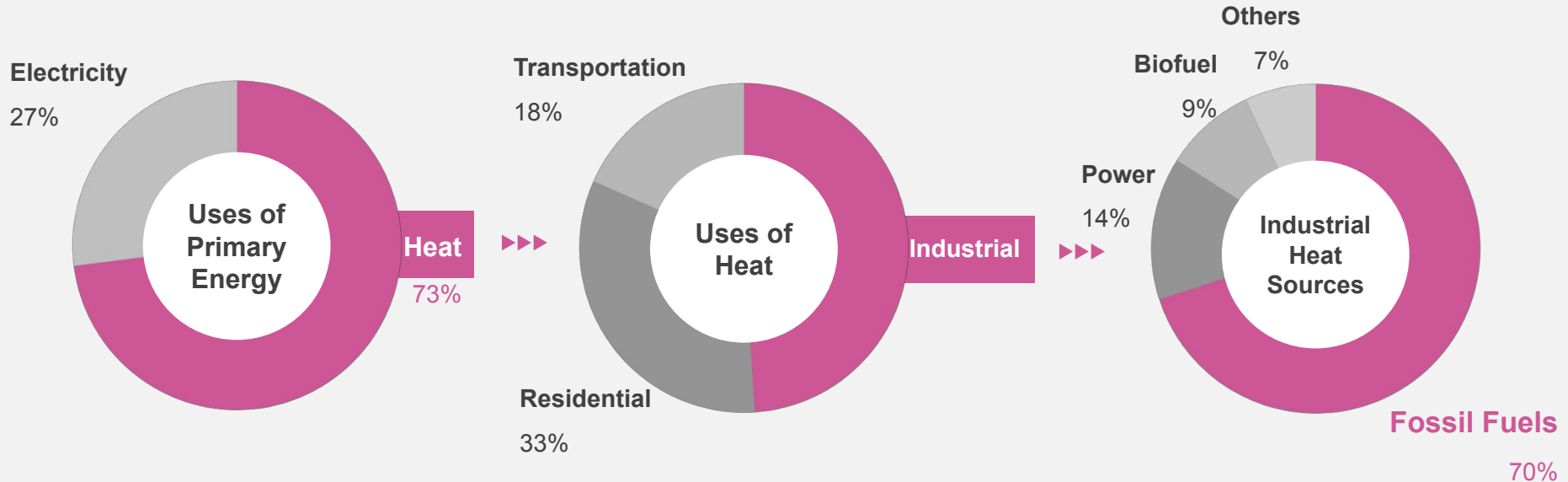


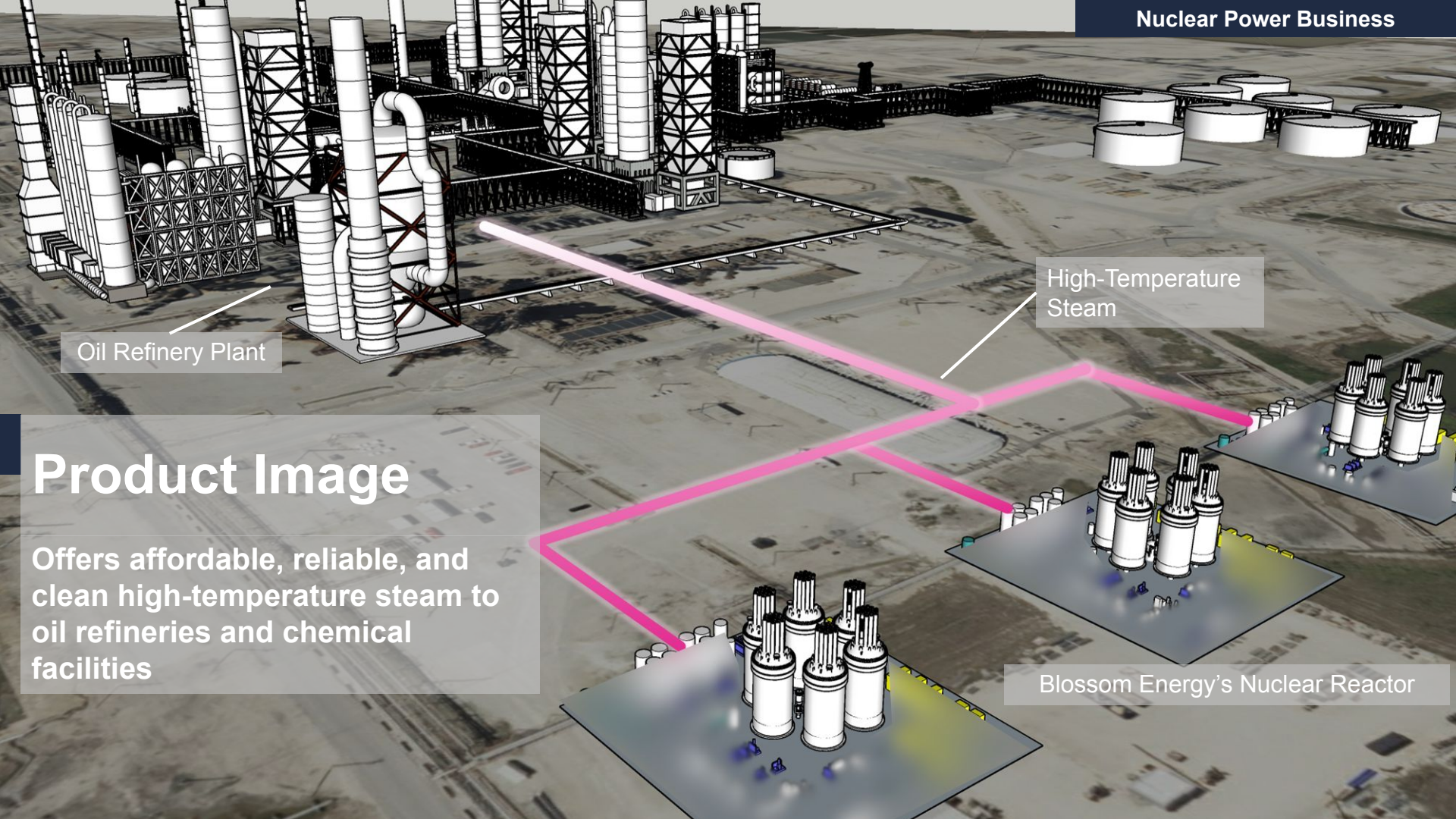
BE will simultaneously pursue two businesses: the nuclear power business aimed at entering the large-scale heat market and the thermal storage business aimed at expanding into the medium and small-scale heat market while aiming for early revenue acquisition.

	<b>Nuclear Power Business</b>	<b>Thermal Energy Storage Business</b>
<b>Market Size</b>	<b>Construction market estimated to be ¥16 trillion from 2030 onwards, with an annual increase of ¥300 billion in the operation and maintenance market</b>	<b>Construction market of ¥20 trillion from 2030 onwards</b>
<b>Target</b>	<b>Large-scale heat consumers</b>	<b>Small and medium-sized heat consumers</b>
<b>Sales Timing</b>	<b>Design business has already begun since 2024</b>	<b>Heat supply business starts from 2025</b>
<b>Key Technology</b>	<b>The most economically efficient cluster-type reactor design technology</b>	<b>High-performance thermal storage material.</b>

# Decarbonizing industrial high-temperature heat

- About 40% of primary energy is used as industrial heat.





Oil Refinery Plant

High-Temperature Steam

Blossom Energy's Nuclear Reactor

# Product Image

Offers affordable, reliable, and clean high-temperature steam to oil refineries and chemical facilities

# Expected Solution

The high-temperature gas reactor, which is Severe Accident Free (SAF) and offers decarbonization solutions, is ideal for large-scale heat-demanding industries such as chemical plants and oil refineries overseas.

## Overview

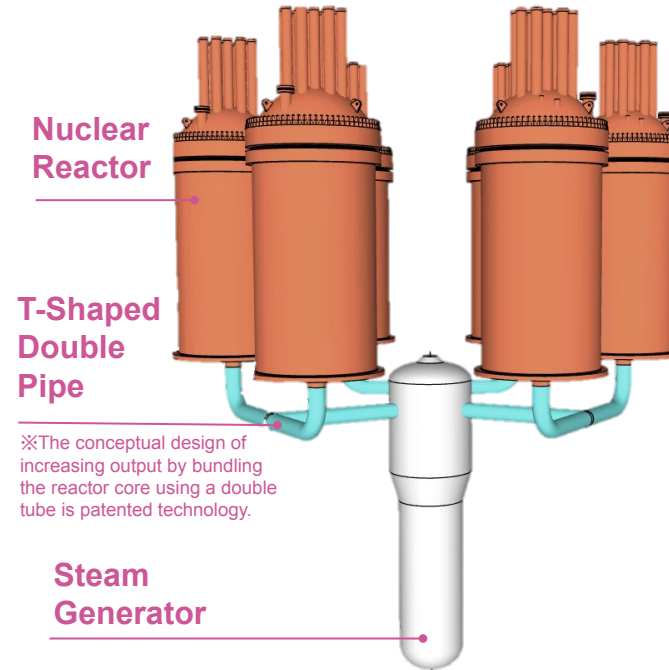
- Patented Cluster-Type High-Temperature Gas Reactors
- Built using established, proven technologies

## Pros

- Commercial reactor designs feasible with minimal development expenses
- Low construction cost per unit of electricity generated



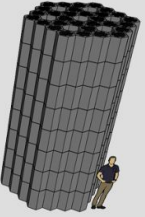
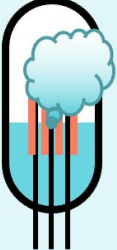
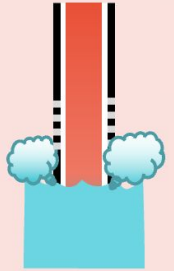

## Business Model

- Consulting Services
- Operations and Maintenance Services



# Technology: What is High-Temperature Gas Reactor? BLOSSOM ENERGY

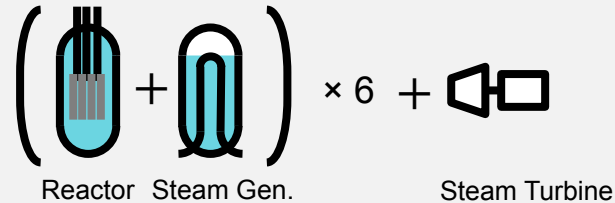
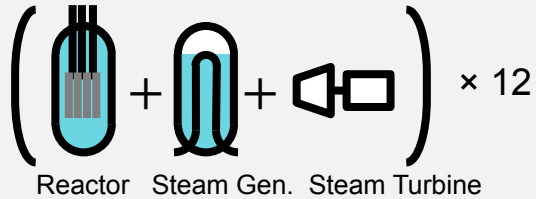
The only nuclear reactor that has not experienced severe accident

	Coolant	Cladding	Structural Material
HTGR	<p>Helium</p>  <p>Stable at all temperature ranges ↓ ✓ Does not cause hydrogen explosions</p>	<p>Ceramic: SiC</p>  <p>High Heat Resistance ↓ ✓ Remains undamaged even in the absence of cooling</p> <p><small>Credit: Idaho National Laboratory</small></p>	<p>Graphite</p>  <p>High Heat Resistance ↓ ✓ Even if the cooling function is lost, it can release heat to the outside.</p>
LWR	<p>Water</p>  <p>Chemical reactions occur with water and metal ↓ ✗ Hydrogen is generated and can cause explosions</p>	<p>Metal: Zirconium Alloy</p>  <p>Chemical reactions occur with water and metal ↓ ✗ Hydrogen is generated and can cause explosions</p>	<p>Metal</p>  <p>Small heat capacity ↓ ✗ Possibility of nuclear fuel melting</p>

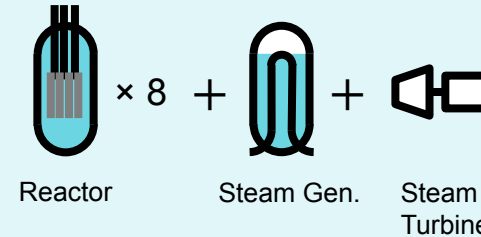
# Difference between SMR and Our System

Cluster-type reactor. The most efficient way to build a large power plant with low development costs.

System of Small Modular Reactor



Our system



- Reactor itself is a proven technology
- Multiple small reactors are constructed to achieve cost reduction through economies of scale.
- Technologically mature steam generators and steam turbine generators are used in a single large unit for high efficiency.

Achieve **scalability and development speed** similar to the proven methods used by a U.S. space venture.