

# OPEN100

A PROJECT OF THE ENERGY IMPACT CENTER

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**Energy Impact Center (EIC)** is a US based research institute with the mandate to accelerate the transition to clean energy. Our vision is to significantly expand nuclear energy, worldwide, as a means to decarbonize global energy production and increase access to clean, affordable power.

## **OUR THESIS**

To address climate change, vast amounts of negative emissions will be necessary.

To do this, we need energy that is clean, cheap, and scalable.

Nuclear energy is the only technology capable of meeting these requirements in the the next few decades.

# EIC KEY INSIGHTS

**Cost is driven by speed and risk of construction, irrespective of core technology.**

**Utilizing the standard supply chain de-risks licensing, skills, materials, etc.**

**Designs must fit today's capital, infrastructure, and supply-chain constraints.**



## OPEN100

Integrates the best ideas from across the energy industry to create a new model for project design, construction, and financing for nuclear power plants.

## OPEN100 APPROACH

Integrate the best ideas from across the energy industry to create a new model for project design, construction, and financing.

OPEN100 is designed to be physically smaller and simpler to construct than its 1 GW+ counterparts. As a result, it is:

- *Faster* to deploy,
- Significantly *less expensive* to build,
- Requires *minimal operations*, and
- Maximizes *local industry* involvement.

**OPEN100** replicates key aspects of the most successful past nuclear deployments and right-sizes these designs to match these parameters *without adding any complexity.*

# OPEN100 CHARACTERISTICS

## MODEL SPECIFICATIONS

**Type:** Pressurized Water Reactor, UO<sub>2</sub> pellets <5% enriched

**Operation:** <20 onsite staff, 2-year refueling cycle

**Nominal power:** 300 MW<sub>th</sub> / 100 MWe, >90% capacity factor

**Backend:** Zero emissions, spent fuel stored onsite

**Cooling:** Direct air contact condensers

**Options:** District heating, process steam

## PROJECT DETAILS

**Construction time:** 18-24 months

**Overnight cost:** \$3M/MWe

**Operation & Maintenance:** \$25/MWh

**Effective Cost of Electricity:** \$36/MWh

**Project developer:** Utility or private

**Supply chain:** Regional vendors & sub-contractors

# WHY OPEN SOURCE?

It's good for business and the planet.

OPEN100 serves as a common foundation for future nuclear power deployment by innovating on project financing, planning, and construction to:

- **restore competition** to the supply chain,
- increase **financial transparency**,
- and enable **simultaneous developments**.

These actions enable nations to deliver low-carbon energy at a revolutionary pace and price point.



# THE CONSORTIUM

The Energy Impact Center engineering team collaborates with national labs and industry around the world to continually refine and update the OPEN100 platform.



**framatome**



**SIEMENS**

**Studsvik**

**pillsbury**



**hargrove**

**M** UNIVERSITY OF MICHIGAN



**P** PITTSBURGH TECHNICAL  
Enabling Nuclear Power



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