

ABOUT

OPEN100 is the world's first open-source blueprint for nuclear power plant deployment. The online platform serves as a repository for engineering schematics, construction schedules, and financial models. The project takes the engineering behind the most successful nuclear energy deployments in history to create the foundation a new generation of power plants that are easier and more cost-effective to build. The OPEN100 public model aligns technology startups, engineering firms, utilities, and capital around a common framework.

The Energy Impact Center's vision is to encourage nuclear energy deployment as a means to rapidly decarbonize global energy production and increase access to clean, affordable power.

Founder: Bret Kugelmass

Year Established: 2017

Offices: Washington, DC & Atlanta, GA

OPEN100



MODEL SPECIFICATIONS

Type: Pressurized Water Reactor, UO₂ pellets at sub-5% enriched

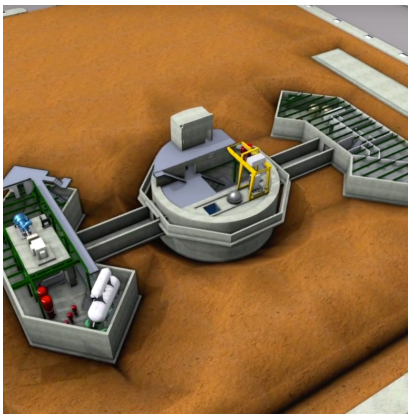
Operation: Less than 20 onsite staff, 2-year refueling cycle

Nominal power: 300 MW_{th} / 100 MWe, greater than 90% capacity factor

Backend: Zero emissions, spent fuel stored onsite

Cooling: Direct air condensers

Options: District heating, process steam



PROJECT DETAILS

Construction time: 1.5 to 2 years

Overnight cost: \$300 Million

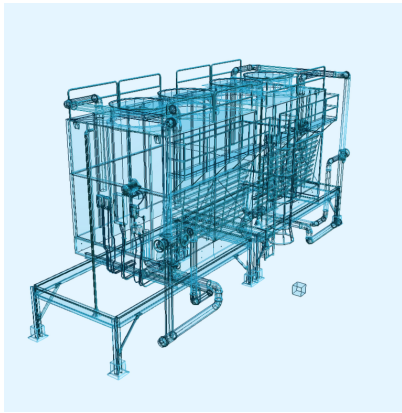
Operation cost: \$10/MWhr

Electricity cost: \$36/MWhr

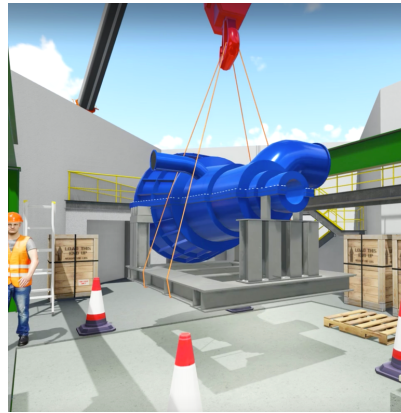
Project developer: Utility or private

Supply chain: Regional equipment vendors and constructors

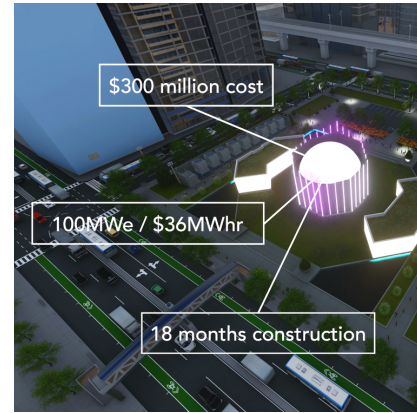
AREAS OF INNOVATION / DELIVERABLES



Engineering: Downloadable 3-D CAD models are available for the majority of the power plant, including buildings, site layout, large components, and some subassemblies. Phase one drawings are intentionally abstracted to encourage collaboration with utilities, vendors, and other stakeholders. As the project evolves, alternate versions for individual components, 2-D sketches, as well as detailed plant P&ID diagrams, will be made available.



Construction: To deliver the time savings and efficiencies crucial to unlocking cost savings and de-risking capital investments, OPEN100 establishes a construction timeline that matches those of comparably-sized industrial projects. Specific targets hold project managers accountable, set participant expectations, and provide greater transparency for subcontractors.



Economics: Plant design is driven by economics and market requirements to achieve scalable global implementation. The model sets a total project cost of \$300 million to access traditional project financing. The output of \$36/MWhr is competitive with generation from fossil fuels in virtually all markets. The 100MWe size can be incorporated into most grids currently operating thermal power generating assets without modification.

LICENSING & SECURITY

NNSA Approved: OPEN100 documents are published under the purview of the National Nuclear Security Administration (NNSA) of the U.S. Department of Energy (DOE), as exempt from export control.

NRC Basis: The engineering basis was informed by NRC Final Safety Analysis Report (FSAR) documents for early PWRs (see [adams.nrc.gov](https://www.adams.nrc.gov)).

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STAKEHOLDERS

The OPEN100 model caters toward key stakeholders:

- Next-generation reactor designers
- Component vendors
- Utilities Investors
- Government regulators

The OPEN100 project provides a foundation for rebuilding nuclear power's primacy as the world's largest source of zero-carbon electricity while innovating the financing, planning, and construction of new projects.

THE TEAM

EIC's team is committed to delivering decarbonizing the global economy using nuclear energy at a revolutionary pace and price point.

The Energy Impact Center is responsible for the foundational concept, engineering, stakeholder engagement, marketing, and platform management of the OPEN100 project. EIC has partnered with national laboratories and industry partners to validate and improve the technical and economic accuracy of the model.

CONTACT

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