

Data set for “Historical construction costs of global nuclear power reactors”

Please read the full paper and supplementary information for details on how this data was acquired and standardized. Use of this data set is permitted as long as it is properly cited in any publication:

Lovering, J. R., Yip, A. & Nordhaus, T. Historical construction costs of global nuclear power reactors. *Energy Policy* **91**, 371–382 (2016).

Some variables were originally sourced from the IAEA’s Power Reactor Information System (PRIS) database, and more information can be found for individual reactors on their website: <https://www.iaea.org/pris/>

Variables

- *Country*: Where the reactor was constructed and operated.
 - *CA* –Canada
 - *DE* –Germany. Note that all of Germany’s reactors were constructed before Reunification in 1990. We were not able to acquire costs for reactors completed in East Germany, although six were built.
 - *FR* –France
 - *GB* –Great Britain. We have incomplete data for Great Britain.
 - *IN* –India
 - *JP* –Japan
 - *KR* – Republic of Korea, or South Korea
 - *US* –United States of America
- *Reactor_Name*: The official name of each reactor, used to identify each in the IAEA PRIS database. If the name has a numeric signifier at the end, it is one of several reactors at a single site, which may or may not be of an identical reactor model.
- *Constr_Year*: From the IAEA PRIS database, “The date when first major placing of concrete, usually for the base mat of the reactor building, is made. From this date the reactor is considered to be under construction.”
- *Grid_Connect_Year*: From the IAEA PRIS database, “The date on which the plant is first connected to the electrical grid for the supply of power. After this date, the plant is considered in operation.”
- *Comm_Op_Year*: From the IAEA PRIS database, “The date when the plant is handed over by the contractors to the owner and declared to be officially in commercial operation.

- *Type*: Classification of power reactors by coolant and moderator material, defined as:
 - BWR -- Boiling Light-Water-Cooled and Moderated Reactor;
 - FBR -- Fast Breeder Reactor;
 - GCR -- Gas-Cooled, Graphite-Moderated Reactor;
 - HTGR -- High-Temperature Gas-Cooled, Graphite-Moderated Reactor;
 - HWGCR -- Heavy-Water-Moderated, Gas-Cooled Reactor;
 - HWLWR -- Heavy-Water-Moderated, Boiling Light-Water-Cooled Reactor;
 - LWGR -- Light-Water-Cooled, Graphite-Moderated Reactor;
 - PHWR -- Pressurized Heavy-Water-Moderated and Cooled Reactor;
 - PBMR -- Pebble Bed Modular Reactor;
 - PWR -- Pressurized Light-Water-Moderated and Cooled Reactor;
 - SGHWR -- Steam-Generating Heavy-Water Reactor.
- *NSSS*: The designer of the Nuclear Steam Supply System, which consists of a nuclear reactor and all of the components necessary to produce high pressure steam, which is used to turn the turbine for the electrical generator.
- *Capacity_MW*: This is the net power output of the reactor based on the original design, defined by IAEA PRIS as: “The original Design Net Capacity (electrical power) is the unit electrical output after deducting the self-consumption power assumed by the original unit design, no matter if it has ever been routinely achieved during operation. This value does not reflect possible power changes during subsequent operation.”
- *cumMWcountry*: This is the cumulative deployed nuclear power capacity, measured in megawatts, at the start of construction of the reactor.
- *cumNumcountry*: This is the cumulative number of deployed reactors at the start of construction of each reactor.
- *cumMWglobal*: Using the full IAEA dataset for civilian nuclear power reactors, this metric measures the cumulative global deployed nuclear power capacity at the start of reactor construction.
- *cumNumglobal*: Same as above, but for cumulative global number of reactors deployed.
- *OCC*: Our measure of Overnight Construction Cost, in standard units of 2010USD per kilowatt of capacity.
- *Note*: Additional comment on each reactor, different for each country. Note might be the reactor series, whether the reactor was imported or domestic design, or other distinguishing information.