

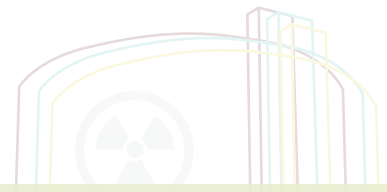
Affordability and Reliability Concerns in Reviving Nuclear Energy

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In February 2022, the Philippine government approved [Executive Order \(EO\) No. 164](#), a policy that paves the way for nuclear power as a potential power source, recognizing it as potentially “reliable, cost-competitive and environment-friendly.” In response to the assertions of EO 164, ICSC raises the following points:

1. Nuclear power is inconsistent with the goals of the Department of Energy (DOE) to modernize the country’s power sector. The anchor of power sector modernization is [flexible and distributed generation](#).

- a. [Hourly loads in the Luzon grid show wide variability](#) – going as high as 11,000 megawatts (MW) during peak hours and as low as 6,000 MW in one day— using data from the [Independent Electricity Market Operator of the Philippines \(IEMOP\)](#). With the Philippines’ variable load profile, [our power sector needs flexible and distributed generation to match the power demand](#).
- b. [Baseload power plants are not compatible with the country’s variable load profile](#). Coal power is inflexible and cannot be regularly ramped up or down without [constantly breaking down as we have shown using actual data from IEMOP starting 2017](#).
- c. [Nuclear power is even more rigid than coal](#), requiring operations on a particularly steady, unchanging level. Based on energy plans at the time, the 300 MW Kalayaan Pump Storage Hydro Power Plant was originally intended to complement the 620 MW Bataan Nuclear Power Plant before it was mothballed.
- d. Consistency is fundamental: the [DOE’s moratorium on greenfield coal \(new coal\) in October 2020](#) was widely applauded because it was the proper response to coal’s [persistent outages](#) (blackouts). This nuclear policy is inconsistent with the moratorium because it enables the most inflexible power source that will likely lead to even more outages.
- e. Moving forward, the Philippines has [an abundance of renewable energy to explore in the form of wind, solar, biomass, geothermal and hydro sources](#). They offer a [complementary mix of generation profiles](#) well suited to the country’s energy demand.



2. The more government insists on welcoming all power generation technologies, the more it must ensure genuine competition.

- a. The reality of local power procurement is that it typically involves a David (distribution utility) against a Goliath (baseload power company). In the rare case that the distribution utility is a MERALCO that is bigger than the rest of the industry, [it can negotiate carve-out](#) clauses that reduce its required offtake during disruptive events such as during the pandemic lockdowns. The Philippine government should make such carve-out clauses mandatory in all power contracts.
- b. A key local regulatory practice that should be abolished is the [“automatic fuel cost pass-through” that places fuel price risk totally on the end-user](#). The recent price hikes in oil and coal highlight what is a regular cyclical pattern in fossil fuel prices.
- c. A truly level playing field is needed for the market to determine the most cost-effective, affordable, reliable, most efficient power arrangements. No bailouts or subsidies, and stranding assets should be 100% borne by the private sector power provider.
- d. When automatic pass through is abolished and when carve out clauses are made mandatory, and so long as the private sector power provider bears all the risks, government can invite all manner of investments, even nuclear and more fossil gas.

*A **carve-out** is a contract provision by which the parties exclude (or carve out) certain claims or remedies from their arbitration clause on a claim-by-claim basis. A claim-based choice is favorable as it enables parties to choose procedures tailored to their individual risks. In the context of PPAs, carve-out clauses permits parties to curtail power (buy less power) from fossil fuel generators under unfavorable conditions (e.g. insecurity of imported fuel supply)*

3. Pretending for a moment there are no legitimate [environmental, safety, and security concerns](#), nuclear power remains far more expensive than intermittent unreliable coal. [A study presented in 2021 by the UP College of Engineering in collaboration with the Management Association of the Philippines considered the refurbishment of the BNPP as a scenario in its Energy System Model for Luzon](#). Its finding is quoted below.

“This scenario investigates the refurbishment of the Bataan nuclear power plant. The 1.15B US\$ refurbishment cost, together with projected nuclear fuel assembly costs derived from the Uranium Marketing Annual Report (IEA, 2019) and Analysis of Uranium Supply to 2050 (International Atomic Energy Agency, 2001), is used in the model. The rest of the assumptions are similar with the baseline scenario.”

“Using these assumptions, the modeling tool does not recommend the BNPP rehabilitation. The capacity expansion plan reverts to the baseline.”

Former Nuclear Leaders: Say ‘No’ to New Reactors

The former heads of nuclear power regulation in the U.S., Germany, and France, along with the former secretary to the UK’s government radiation protection committee, have issued a joint statement that in part says, “Nuclear is just not part of any feasible strategy that could counter climate change.”