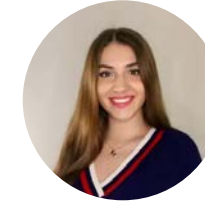


Brazil's Angra 3 nuclear reactor: a political undertaking, not a common good

By Carolina Basso | February 16, 2021



Aerial view of Angra 3 nuclear reactor construction site in 2017. Credit: Agência Brasil



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In 2019 the Brazilian government decided to **resume work** at Angra 3, a nuclear reactor where construction has been essentially dormant for more than three decades. The work was supposed to restart last year, with the reactor entering commercial service by late 2026, but COVID-19 and the quest for private partners to invest in the project have pushed back the schedule.

Brazil currently has two operating nuclear power plants, Angra 1 and 2, that have generated less than three percent of the country's electricity since their commercial launch. So why does Brazil want to resume construction of a third nuclear reactor?

Angra 3 is questionable in economic and energy-related terms. **Studies** have shown that the country can generate electricity much more cheaply by integrating wind power with Brazil's considerable hydropower resources. **Analysts suggest** that this combined system could supply all the electricity the population demands, making any expansion of the nuclear industry sector unnecessary and costly.

The decision to resume construction of the third Brazilian reactor was made by President Jair Bolsonaro, who is committed to expanding the nuclear industry. Bolsonaro's commitment results in part from his close ties to Brazil's Navy, which has historically shaped the nuclear sector and currently dominates the country's uranium enrichment and fuel cycle technology. But this factor alone cannot explain the decision.

President Jair Bolsonaro (fourth from right) and major players in Brazil's nuclear sector at the 2019 inauguration of uranium-enrichment centrifuges that supply fuel for the Angra nuclear reactors. Credit: Marcos Corrêa/Agência Brasil

It is imperative to examine who will benefit from the project, particularly through the kinds of corruption that are endemic in Brazil. Seen in that light, the political push for building Angra 3 would seem to have more to do with money and politics than with providing a public good.

A web of bribes. The Angra 3 project began in the early 1980s, but a number of **administrative and financial problems** slowed construction down, and it ceased altogether in 1986. Then-President Luiz Inácio Lula da Silva revived construction in 2010, but it was again interrupted in 2015 due to the **detection of contractual frauds**. That detection had to do with another important development in Brazilian politics: Operation Car Wash, or *Lava Jato*, in Portuguese.

The Federal Police of Brazil launched the operation in 2014 to investigate an enormous money laundering and embezzlement scheme involving major contractors and several politicians. Amid the whirl of investigations, the police discovered an **elaborate web of bribes in Eletronuclear**, the state-owned electric subsidiary that operates the Angra nuclear reactors. Most of the payoffs pertained to contracts signed in the early stages of the three reactors.

The corruption pattern unveiled by the police demonstrated that the corrupt activity in the nuclear sector was heavily institutionalized and took place out in the open. The actors involved developed a complex mechanism through which government officials worked with private business conglomerates to generate kickbacks worth millions of dollars.

The transactions worked as follows: Brazilian companies like **Odebrecht and Camargo Correa** paid bribes to politicians associated with state agencies (namely, Eletronuclear) to be hired by them or to form partnerships with international companies such as **Techint** to increase their profits. Nevertheless, this scheme needed private intermediaries with vast political connections to jump over bureaucratic obstacles. Therefore, part of the profits collected by the construction companies went to pay these brokers for their work and to bribe public officials. Finally, the kickbacks allowed politicians to finance their electoral campaigns and private interests. The anti-corruption probe **suspended Angra 3's construction and canceled all contracts** allocated to engineering, construction, and electromechanical-assembly companies associated with the nuclear project.

Operation Car Wash's groundbreaking findings unveiled common tactics employed for decades. The investigations were crucial in exposing "the degree to which some policies make no economic sense but are implemented regardless because doing so is in the interest of a few businesses and political groups," a lengthy **report** on nuclear governance in Brazil concluded. The result of that twisted pursuit is uneconomical projects with low regulatory standards for licensing and other policy decisions.

A bad barrel, not just a few bad apples. Additionally, *Lava Jato* revealed that the type of corruption that took place was not just a matter of a few rotten apples, but rather of systemic factors. In other words, replacing individuals will not necessarily change the underlying dynamics generating demand for corruption in the first place. Angra 3 has been and likely will continue to be used as a political tool for money laundering and a vehicle for public authorities to receive tax dollars.

Enter candidate Bolsonaro. The majority of his presidential campaign in 2018 capitalized on the anti-corruption wave generated by Operation Car Wash to gain votes from those outraged by the misconduct detected. Bolsonaro even invited Federal Judge Sérgio Moro, one of *Lava Jato's* main prosecutors, to become his Minister of Justice and Public Safety.

But the reality of Bolsonaro's reign as president has not lived up to his campaign promises, and corruption continues. In April 2020, former judge **Moro resigned**, accusing the president of attempting to interfere in Federal Police investigations. **Experts point** out that Moro's departure crowns a process of politicization of government agencies that fight crime, which runs contrary to the values Bolsonaro endorsed during his campaigning.

A burden on consumers. It is in light of this enduring corruption in Brazil that readers should consider the decision to resume construction of Angra 3. The combination of high costs, doubtful political intentions, and better energy options make it unreasonable to expand nuclear capabilities in Brazil. If decision-makers were truly concerned about the energy demands of the people, they would have invested in alternative systems that are more economical and sustainable. That they have not done so very likely has something to do with opposition from the lobbies of competing energy industries and the interests of political elites who hope to financially benefit from expensive projects like Angra 3.

Corruption in the nuclear industry is a known **international phenomenon**. The **recent scandal in Ohio** illustrates how **the push for subsidies to nuclear plants** is not the result of a real commitment to citizens' energy needs or climate concerns, but a way for energy corporations to maintain overpayments and assure political gains to certain parties. Brazil offers a different model, one that has used new nuclear facilities to generate kickbacks to powerful political and business interests.

Because of this favoring of influence over qualification and fair budgeting, the burden on consumers will continue to grow. Around the world, reactor costs in the nuclear industry tend to be much higher than initially estimated. Angra 3's estimated price **has risen more than \$2.7 billion from 2008 to 2018**. The expensive investment has resulted in the **tariff from the plant doubling** from roughly \$45 to \$90 per megawatt hour. It is past time politicians refrain from overcharging the Brazilian population for their own advantage.