

## **DADOS SOBRE ENERGIA NUCLEAR**

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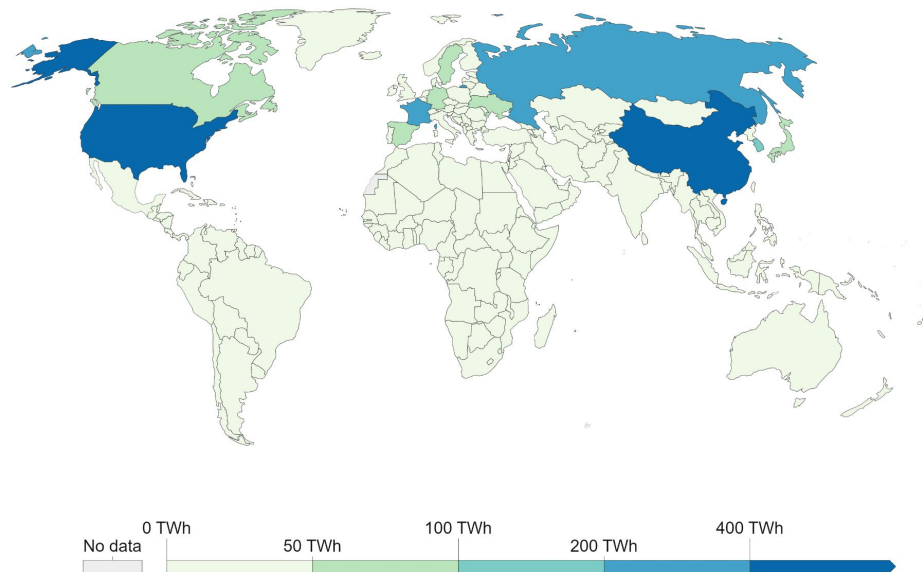
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## Panorama Geral: Geração de Energia Nuclear

- A geração de energia nuclear existe desde a década de 1960, mas teve um crescimento expressivo globalmente nas décadas de 1970, 80 e 90.
- Há uma queda acentuada na produção nuclear após o tsunami de Fukushima no Japão em 2011, já que além do Japão, outros países desligaram as usinas devido a preocupações de segurança.

Nuclear power generation, 2021

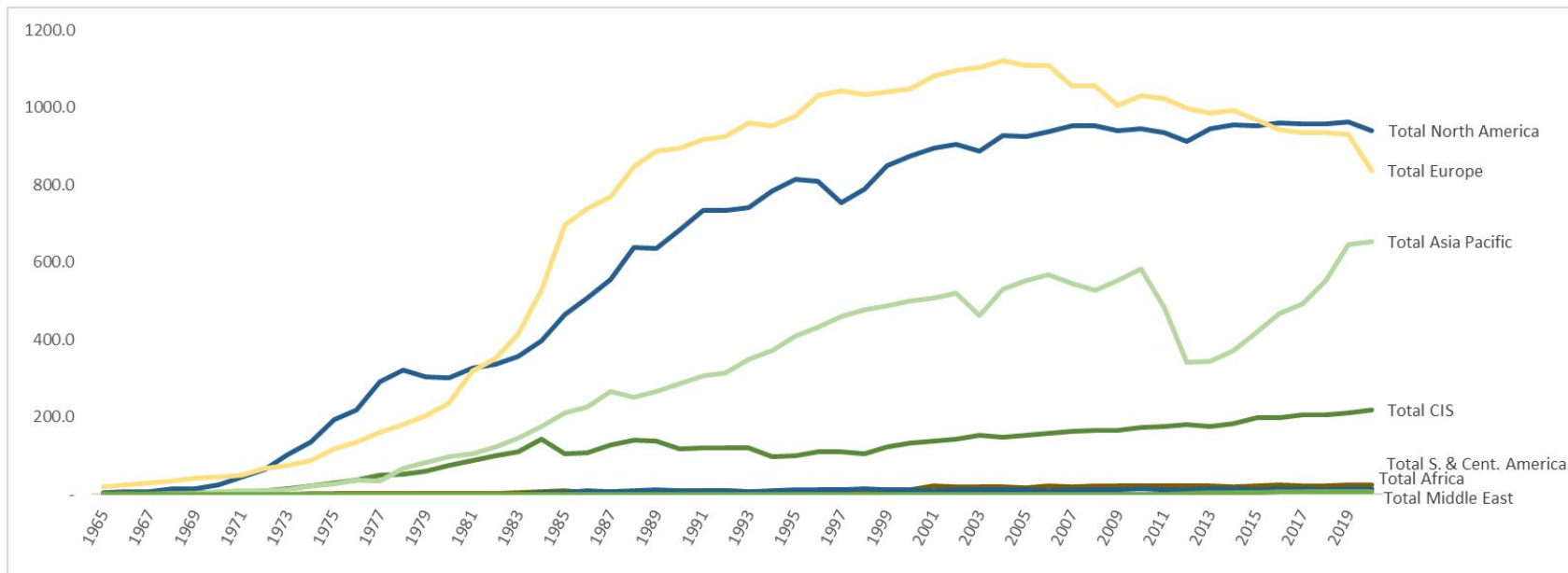
Our World  
in Data



Source: Our World in Data based on BP Statistical Review of World Energy & Ember

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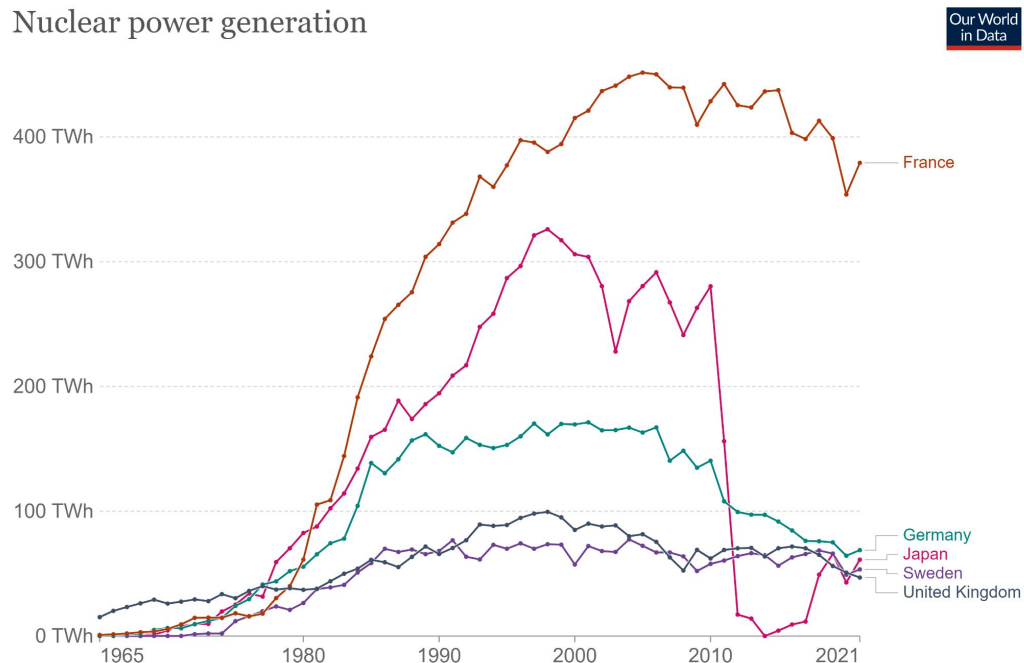
## Geração de Energia Nuclear (em Twh) entre 1965 e 2020 por região no Mundo



Fonte: BP Statistics. Dados divulgados em Julho de 2021. Elaboração Própria. Disponível em<<https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html>>

## Geração de Energia Nuclear: países selecionados

Nuclear power generation



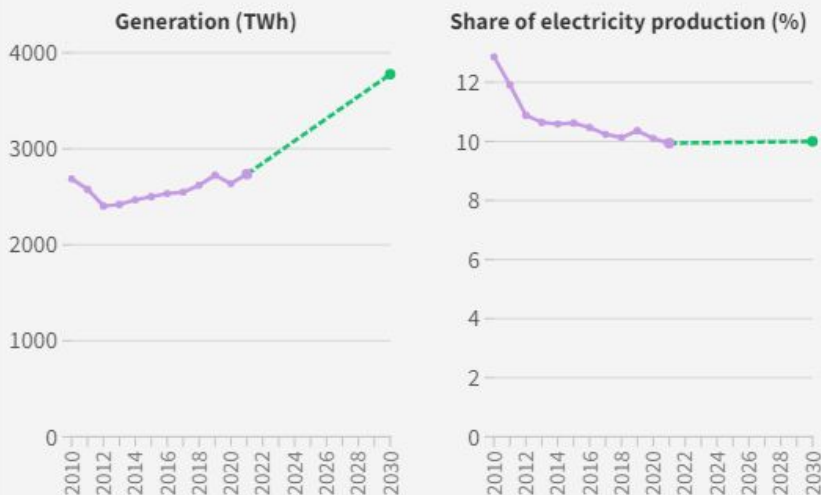
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# Geração de Energia Nuclear e Proporção na geração de eletricidade

## Global nuclear generation

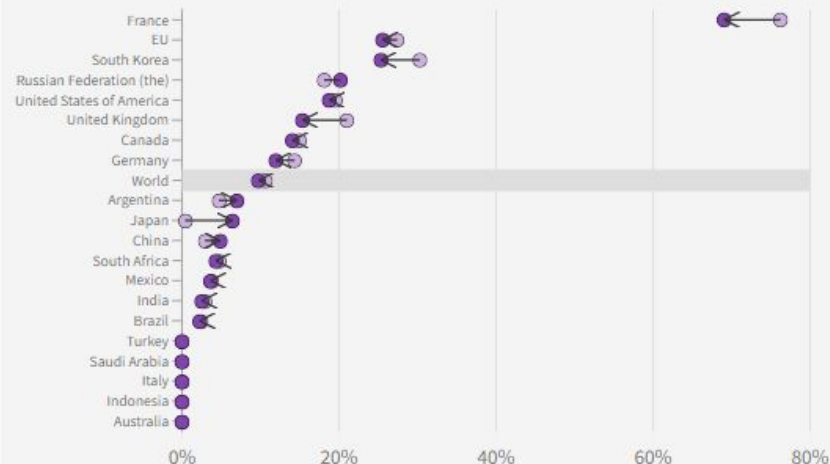
■ Historic (2000-2021) ■ IEA 1.5 degree pathway to 2030



Source: Ember's Global Electricity Review 2022. IEA Net Zero by 2050 report

## Nuclear share of electricity generation for G20 countries

Year ● 2015 ● 2021



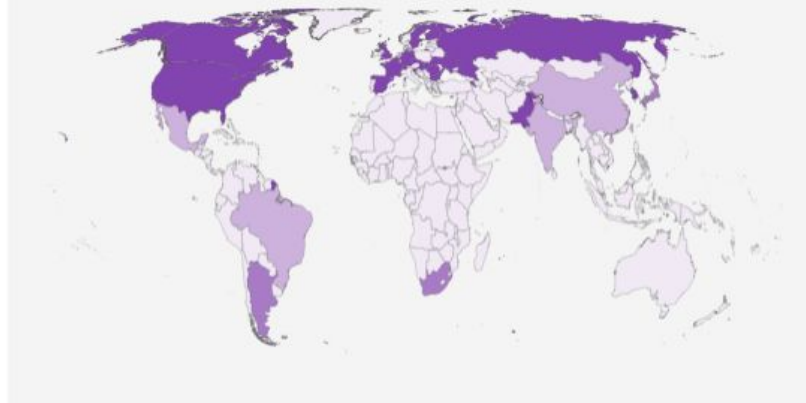
Source: Ember's Global Electricity Review 2022

## Proporção da utilização de energia nuclear em eletricidade

### Share of nuclear in electricity mix

2021 data used where available, else 2020

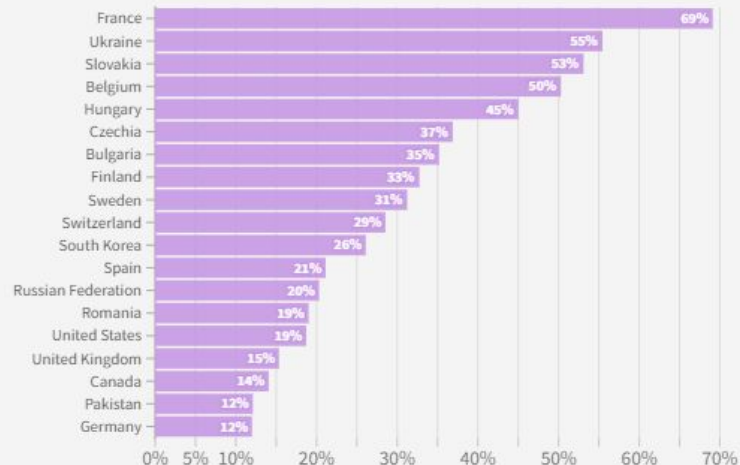
0-2% 2-5% 5-10% 10-100%



 A Flourish map

### Which countries have the highest nuclear share of electricity generation?

2021 data used where available, else 2020



Source: Ember's Global Electricity Review 2022

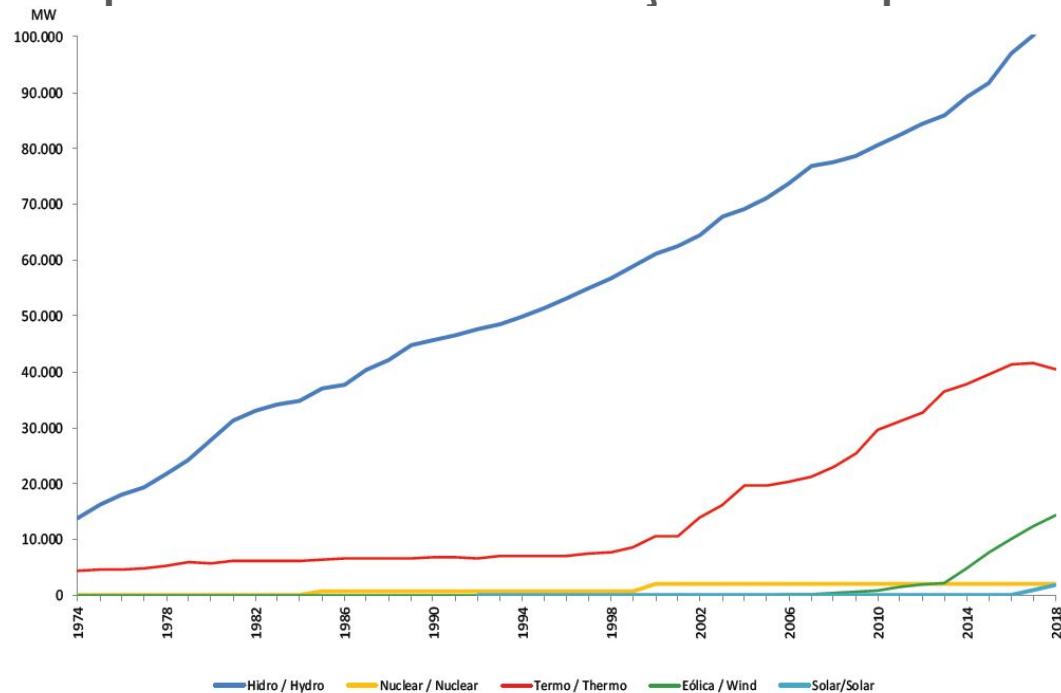
Note: Countries with populations less than 3 million in 2021 were not included in this ranking.

### **Nuclear Power Development in 2019**

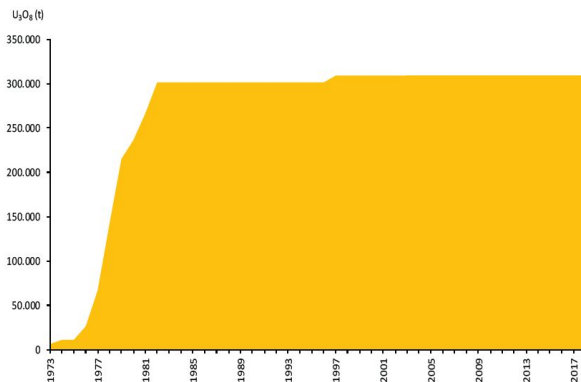
- At the end of 2019, 443 nuclear power reactors were operational, with a total net installed power capacity of 392 GW(e).
- In addition, 54 reactors with a total capacity of 57 GW(e) were under construction.
- Six new nuclear power reactors with a total capacity of 5 174 MW(e) were connected to the grid, and 13 reactors with a total capacity of 10 196 MW(e) were retired. Construction began on 5 new reactors that are expected to add a total capacity of 6 021 MW(e).
- Compared with 2018, total electricity production from all energy sources increased by 1.3% and electricity production from nuclear power reactors increased about 4%, reaching 2 657 TW·h.
- Nuclear power accounted for 10.4% of total electricity production in 2019, an increase of 0.2 percentage points from the previous year and the first increase since 2015.

## Panorama Brasileiro

### Capacidade Instalada de Geração Elétrica por fonte

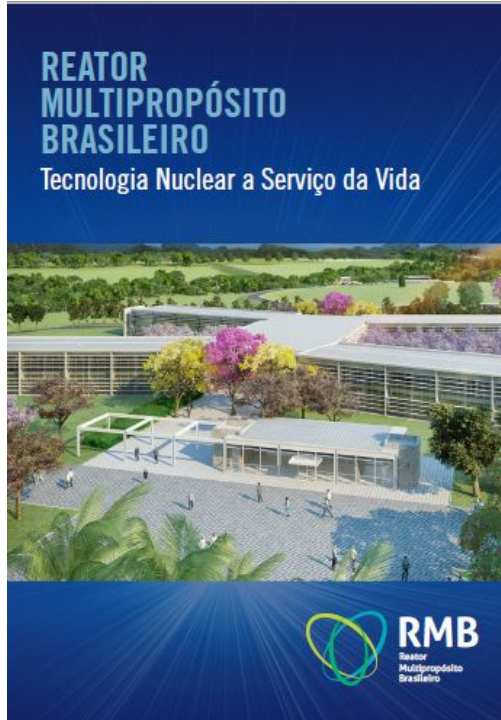


### Reservas de Urânio no Brasil





## Panorama Brasileiro



O Reator Multipropósito Brasileiro é um reator de pesquisa com diversas finalidades: produção de radioisótopos para uso na medicina e na indústria; teste de materiais e **combustíveis nucleares para reatores de potência**; utilização de feixe de nêutrons para pesquisa científica e tecnológica em diferentes campos da ciência; análise por ativação neutrônica; produção de traçadores para aplicação em pesquisas na agricultura e meio ambiente; formação e treinamento na área nuclear nas suas diferentes modalidades e usos.

# Towards Enhancing the Sustainability of Nuclear Energy: Conference on Fast Reactors and Related Fuel Cycles Starts

Jeffrey Donovan, IAEA Department of Nuclear Energy  
Nicholas Watson, IAEA Department of Nuclear Energy

APR  
19  
2022



## Related stories



Nuclear Power Human Resources Emerges as Key Topic at Annual IAEA Gathering

Reatores rápidos são uma tecnologia inovadora que extrai muito mais energia do urânio e recicla o lixo nuclear repetidamente, permitindo um ciclo de combustível nuclear totalmente fechado.

**OBRIGADO**

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