# Europe’s largest blackout sparks renewed debate on nuclear power amidst green energy shift



Last month, millions across the Iberian Peninsula were plunged into darkness in what has been termed Europe’s largest power blackout in decades. This unprecedented event has reignited a fiery debate concerning the continent's renewable energy policies and the place of nuclear power within them. With many attributing the systemic failure to Spain's heavy reliance on green energy sources, the immediate political fallout has thrust nuclear power back into the spotlight as a potential remedy for energy stability.

On the day of the blackout, Spain's energy grid was generating approximately 70% of its power from renewable sources. While this figure underscores the country's commitment to clean energy, it has also raised questions about the reliability of such an energy system when confronted with unexpected challenges. Experts have indicated that the loss of traditional energy sources, particularly large-scale generation capacities like nuclear and coal, can destabilise the grid. Yolanda Moratilla, chairperson of the Committee on Energy and Natural Resources at the Engineering Institute of Spain, remarked that the blackout was "technically highly unlikely" and might never be fully explained, highlighting the risks associated with the ongoing shift away from conventional energy production.

As the dust settles on the incident, political leaders are grappling with the implications of continuing to phase out nuclear energy. Spain's Prime Minister, Pedro Sánchez, steadfastly defended the renewable energy strategy in parliament, categorically stating, “There was no problem caused by an excess of renewable energy.” However, this perspective is not universally accepted. Critics are calling for a reconsideration of the decision to close Spain's seven remaining nuclear reactors by 2035, arguing that such moves could mirror Germany’s recent energy challenges post-nuclear phase-out. Ignacio Galán, chairman of Iberdrola, warned that electricity prices could soar by over 25% if Spain repealed its nuclear commitment, a scenario that could destabilise the energy market further.

The pressures are mounting, especially as demand for energy continues to grow. Proponents of nuclear energy are leveraging this moment to rethink energy policies across Europe. Indeed, nations like Germany, under new Chancellor Friedrich Merz, are reevaluating their nuclear stances. Merz has mocked his predecessors' decision to shutter the last three nuclear plants amidst Europe’s energy crisis, promising investments in new nuclear technologies including small modular reactors (SMRs).

The appetite for a nuclear renaissance isn’t limited to Europe. In Australia, a recent government decision to lift a long-standing ban on nuclear generators has been met with support. The coalition government plans to invest significantly in nuclear projects, aiming to address energy security as global demand surges. Similar discussions are taking place in Taiwan, where voters will soon decide on whether to restart a nuclear reactor shut down weeks prior due to the pressing energy needs of its semiconductor industry.

Furthermore, the United States is witnessing a renewed focus on nuclear energy, particularly as tech giants scramble for reliable energy sources to power AI data centres. Dealings have emerged, like the recent agreement permitting the Three Mile Island site to restart operations, aiming to cater to the growing electricity demands from companies such as Microsoft. Analysts at Goldman Sachs have noted that this demand has led to a proliferation in nuclear interest, with several tech companies actively pursuing contracts for new nuclear capacities.

Despite the renewed momentum for nuclear energy, sceptics remain wary, particularly regarding the management of nuclear waste and the historical pitfalls of budget overruns and delays associated with conventional nuclear projects. Dr Doug Parr from Greenpeace UK cautioned against over-reliance on what he referred to as “nuclear industry spin,” especially considering the lack of operational SMRs to date.

As the discussions around energy transition continue, the pattern emerging is clear: nations grappling with balancing renewable energy aspirations and the need for stable, reliable power sources are increasingly turning to nuclear. The call for action is echoed across political and industrial spheres, with a shared recognition that without reliable base-load power, the continent's energy security remains at serious risk.

In Spain, the reverberations from last month's blackout are yet to fully unfold, but they underscore a pressing reality: navigating the energy transition requires robust dialogue about the future of nuclear energy. While the political landscape shifts and opinions diverge, one thing remains certain—the intersection of political will, public sentiment, and technological innovation will dictate the course of Europe’s energy future.

## Reference Map:

* Paragraph 1 – [[1]](https://news.google.com/rss/articles/CBMioAFBVV95cUxOclFtRHRIYWt2bGl5RjM5SW95bGZHX1pDMHZNaDlFX2VCU3JJbXZhbHZkb04ybk5KNWJvdGR4Tko4X1hZbE42VkdzTzFYTVdIekZGOEZJcXBjamJQZjV0Q2F3ZzkyMlpQYlZDektXRndDT2NzQXpJaXdwR0xPYl9PSTQ5T1I2RHZESy1oMmVnekdVNFFXYWN5NlZ2NThTZWJE?oc=5&hl=en-US&gl=US&ceid=US:en), [[4]](https://www.aa.com.tr/en/europe/iberian-blackout-may-have-been-caused-by-nuclear-phase-out-cyberattack-expert/3553376)
* Paragraph 2 – [[1]](https://news.google.com/rss/articles/CBMioAFBVV95cUxOclFtRHRIYWt2bGl5RjM5SW95bGZHX1pDMHZNaDlFX2VCU3JJbXZhbHZkb04ybk5KNWJvdGR4Tko4X1hZbE42VkdzTzFYTVdIekZGOEZJcXBjamJQZjV0Q2F3ZzkyMlpQYlZDektXRndDT2NzQXpJaXdwR0xPYl9PSTQ5T1I2RHZESy1oMmVnekdVNFFXYWN5NlZ2NThTZWJE?oc=5&hl=en-US&gl=US&ceid=US:en), [[6]](https://www.thecommoditycompass.com/p/europes-largest-blackout-exposes)
* Paragraph 3 – [[5]](https://www.politico.eu/article/nuclear-power-push-europe-spain-portugal-outage-energy-security/), [[3]](https://www.ft.com/content/4224da9e-dbc5-4aec-85b3-1ce793228086)
* Paragraph 4 – [[2]](https://www.ft.com/content/5009e314-fc27-4d7f-8e42-9dbede842991), [[3]](https://www.ft.com/content/4224da9e-dbc5-4aec-85b3-1ce793228086)
* Paragraph 5 – [[7]](https://en.wikipedia.org/wiki/2025_Iberian_Peninsula_blackout), [[4]](https://www.aa.com.tr/en/europe/iberian-blackout-may-have-been-caused-by-nuclear-phase-out-cyberattack-expert/3553376)
* Paragraph 6 – [[6]](https://www.thecommoditycompass.com/p/europes-largest-blackout-exposes), [[5]](https://www.politico.eu/article/nuclear-power-push-europe-spain-portugal-outage-energy-security/)
* Paragraph 7 – [[1]](https://news.google.com/rss/articles/CBMioAFBVV95cUxOclFtRHRIYWt2bGl5RjM5SW95bGZHX1pDMHZNaDlFX2VCU3JJbXZhbHZkb04ybk5KNWJvdGR4Tko4X1hZbE42VkdzTzFYTVdIekZGOEZJcXBjamJQZjV0Q2F3ZzkyMlpQYlZDektXRndDT2NzQXpJaXdwR0xPYl9PSTQ5T1I2RHZESy1oMmVnekdVNFFXYWN5NlZ2NThTZWJE?oc=5&hl=en-US&gl=US&ceid=US:en), [[2]](https://www.ft.com/content/5009e314-fc27-4d7f-8e42-9dbede842991), [[6]](https://www.thecommoditycompass.com/p/europes-largest-blackout-exposes)
* Paragraph 8 – [[3]](https://www.ft.com/content/4224da9e-dbc5-4aec-85b3-1ce793228086), [[5]](https://www.politico.eu/article/nuclear-power-push-europe-spain-portugal-outage-energy-security/)
* Paragraph 9 – [[3]](https://www.ft.com/content/4224da9e-dbc5-4aec-85b3-1ce793228086), [[6]](https://www.thecommoditycompass.com/p/europes-largest-blackout-exposes)
* Paragraph 10 – [[1]](https://news.google.com/rss/articles/CBMioAFBVV95cUxOclFtRHRIYWt2bGl5RjM5SW95bGZHX1pDMHZNaDlFX2VCU3JJbXZhbHZkb04ybk5KNWJvdGR4Tko4X1hZbE42VkdzTzFYTVdIekZGOEZJcXBjamJQZjV0Q2F3ZzkyMlpQYlZDektXRndDT2NzQXpJaXdwR0xPYl9PSTQ5T1I2RHZESy1oMmVnekdVNFFXYWN5NlZ2NThTZWJE?oc=5&hl=en-US&gl=US&ceid=US:en), [[6]](https://www.thecommoditycompass.com/p/europes-largest-blackout-exposes)

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## Bibliography

1. <https://news.google.com/rss/articles/CBMioAFBVV95cUxOclFtRHRIYWt2bGl5RjM5SW95bGZHX1pDMHZNaDlFX2VCU3JJbXZhbHZkb04ybk5KNWJvdGR4Tko4X1hZbE42VkdzTzFYTVdIekZGOEZJcXBjamJQZjV0Q2F3ZzkyMlpQYlZDektXRndDT2NzQXpJaXdwR0xPYl9PSTQ5T1I2RHZESy1oMmVnekdVNFFXYWN5NlZ2NThTZWJE?oc=5&hl=en-US&gl=US&ceid=US:en> - Please view link - unable to able to access data
2. <https://www.ft.com/content/5009e314-fc27-4d7f-8e42-9dbede842991> - The International Energy Agency (IEA) chief, Fatih Birol, criticised Europe for its reliance on Russian gas and turning away from nuclear power, calling these 'historic monumental mistakes'. These decisions have caused Europe to lag behind China and the US in clean technology manufacturing due to stringent regulations and higher energy costs. Europe has successfully reduced its dependence on Russian gas, shifting to wind power and increasing LNG imports from Norway and the US. However, nuclear power remains a contentious issue within the EU, with countries divided on its necessity. To recover, Birol emphasises the need for a new industrial master plan. Additionally, the EU faces challenges in maintaining support for its ambitious climate goals amidst rising security concerns and upcoming elections. Danish climate minister Dan Jørgensen stressed the importance of integrating climate policy without harming competitiveness, employment, or increasing inequality.
3. <https://www.ft.com/content/4224da9e-dbc5-4aec-85b3-1ce793228086> - Iberdrola's executive chair has warned electricity prices could jump by more than 25 per cent if Spain repeats the 'big mistake' made by Germany of shutting down its nuclear power plants. Ignacio Galán told the Financial Times the Spanish public would pay much higher prices and get a less reliable system if Madrid proceeded with ... . He said there was a need for 'pragmatism' from policymakers, noting that the ... 'Can we as Europeans be in ... ?' Galán said in an interview. 'The Spanish will pay for [closing ... .'
4. <https://www.aa.com.tr/en/europe/iberian-blackout-may-have-been-caused-by-nuclear-phase-out-cyberattack-expert/3553376> - A massive power outage that hit nearly all of Spain and Portugal on April 28 may have been caused by a cyberattack or the country’s withdrawal from nuclear energy, according to a top Spanish energy expert. Yolanda Moratilla, the chairperson of the Committee on Energy and Natural Resources at the Engineering Institute of Spain, said the failure, which left around 60 million people without power for 10 hours, was 'technically highly unlikely' and might never be fully explained. 'This event was unprecedented in Europe,' she said, noting that it marked the first time the continent experienced zero electricity production for an extended period. Spanish Prime Minister Pedro Sanchez and the national power grid operator REE have not provided a timeline for determining the cause. The European Commission’s Energy Union estimates it could take up to six months. Moratilla said the government and REE had previously claimed that such a blackout in Spain was impossible, but the April 28 incident proved otherwise. She said she had warned of this risk due to Madrid’s plan to shut down all nuclear power plants. She argued that Spain’s power grid depends on the rotational inertia provided by large steam turbines, typically in nuclear, hydro, coal, and gas plants. But with coal phased out and limited hydro capacity, shutting down nuclear plants has left the country reliant on combined-cycle gas plants, which she said are not enough to stabilise the system.
5. <https://www.politico.eu/article/nuclear-power-push-europe-spain-portugal-outage-energy-security/> - While investigators are still scrambling to understand what caused the problem, finger-pointing has erupted over whether Spain's reliance on green energy is somehow at fault. More precisely, critics have questioned whether a lack of round-the-clock generators, which bring stability to the grid, contributed to the incident. Experts are divided over whether more nuclear power would have made a difference — or if the outage is indicative of deeper issues in Spain's power system. But that hasn't stopped the EU's staunchest nuclear backers from pushing their favourite hobby horse. 'All countries need more baseload,' Busch said in the interview, referencing the minimum amount of power needed to meet consumer demand for power, usually via predictable generators like coal and nuclear. Sweden has become one of the bloc’s more vocal nuclear proponents under its current government, which is pushing to expand its atomic fleet. 'The whole of the EU should not make the Spanish mistake' of not having enough baseload supply, Busch told POLITICO. Her comments come as recriminations circulate over Monday’s outage, which left at least five people dead. On Wednesday, Spanish centre-right opposition politicians called for an independent parliamentary probe and hit out at Madrid’s government-appointed grid operator chief, Beatriz Corredor.
6. <https://www.thecommoditycompass.com/p/europes-largest-blackout-exposes> - As the share of inertia-less generation increases, the system becomes less capable of managing sudden frequency changes—which are key to maintaining grid stability and avoiding widespread outages, also known as blackouts. Conventional power plants—particularly those powered by nuclear, coal, gas, or oil—naturally stabilise the grid through their large rotating masses. This inertia reserve acts as a shock absorber during disturbances, buying critical seconds for system operators to react. Without it, even minor disruptions can escalate into grid collapse within one or two seconds. The blackout’s effects were not limited to the Iberian Peninsula. France, still operating a large fleet of nuclear power plants, experienced the same frequency swing. However, its reactors’ inherent inertia absorbed the disturbance passively and immediately—preventing a wider collapse. Without this buffer, the blackout could have spread across Europe, including Germany, the Benelux countries, and beyond. This event exposes a growing systemic risk. Countries like Germany, the Netherlands, Belgium, Denmark, and the UK have significantly reduced their grid inertia by phasing out nuclear and other conventional baseload plants. Their grids are now similarly exposed to the kinds of disturbances seen in Spain and Portugal. Without sufficient inertia reserves, frequency fluctuations can become uncontrollable—posing a clear threat to energy security. European policymakers and voters must now confront a critical truth: the ongoing energy transition—while aimed at meeting EU climate goals—has introduced structural vulnerabilities into the grid. Without the reintroduction of large-scale, inertia-providing generation—preferably nuclear—Europe’s synchronized electricity system remains dangerously exposed to future blackouts.
7. <https://en.wikipedia.org/wiki/2025_Iberian_Peninsula_blackout> - The exact cause of the blackout remains under investigation, but it has prompted discussion about the stability of electricity systems with high shares of variable renewable energy. Early analysis suggests the blackout is unlikely to have been caused by Spain's high share of renewable energy; however, it has highlighted the need for continued investment in power grid stability and resilience as Spain and other countries transition toward higher shares of renewable energy. At the time of the incident, solar energy accounted for approximately 59% of Spain's electricity supply, with wind providing around 12%, nuclear 11%, and gas 5%, according to The Independent. The initial fault is believed to have originated in Extremadura, a region that hosts a large proportion of Spain's solar farms, hydroelectric facilities, and the 2 GW Almaraz Nuclear Power Plant, Spain's most powerful nuclear power plant. Some political groups, including the Spanish far-right Vox party, attributed the blackout to over-reliance on renewables and called for a more diversified energy mix.