# Millions in Spain and Portugal hit by massive power blackout



Millions across Spain and Portugal experienced a widespread power outage on Monday that plunged much of the Iberian peninsula into darkness, affecting transport, communication, and daily life for hours. The blackout, described by Spanish Prime Minister Pedro Sanchez as a sudden collapse of the power system, saw Spain’s grid lose 15 gigawatts—equating to 60% of national energy demand—in just five seconds. The blackout was unprecedented in scale and impact, with officials acknowledging that they had never before encountered a complete system failure of this magnitude in the region.

The incident disrupted transportation networks, including significant delays and crowding, such as seen in Barcelona's train station where large crowds remained stranded into Tuesday. Communication networks also faltered, compounding the difficulties faced by millions.

Spain’s grid operator, Red Eléctrica de España (REE), attributed the blackout to a “very strong oscillation in the electrical network” that effectively cut the country off from the wider European power system. Portugal’s operator, Redes Energéticas Nacionais (REN), initially suggested that an unusual atmospheric phenomenon in Spain, characterised by extreme temperature variations, might have caused vibrations in high-voltage lines leading to the network failure. However, this explanation met with scepticism from experts.

Dr Jianzhong Wu, professor of multi-vector energy systems at the University of Cardiff, told The Independent he was unfamiliar with the term “induced atmospheric vibration” cited by REN and explained that such a phenomenon could hypothetically involve physical movements of power lines due to rapid atmospheric changes or shifts in electricity demand caused by unusual weather conditions. Dr Wu emphasised that there was not enough information yet to definitively assess the cause of the outage.

A key factor in the event was its geographical extent. The electricity grids of Spain and Portugal are interlinked and also connected to the broader European system, typically providing resilience through cross-border power sharing. However, this interconnectedness can also cause disturbances to disseminate rapidly if a major synchronisation failure occurs. Dr Wu noted how the disruption appeared to have propagated swiftly throughout the Iberian peninsula.

Dr David Brayshaw, professor of climate science and energy meteorology at the University of Reading, elaborated on the network effects saying, “If something on the network— a generator, a power line, or even a large electricity user— suddenly disappears, it creates a supply-demand imbalance, and the system frequency starts to shift. If that shift becomes too large, other components can trip offline, creating a snowball effect that worsens the imbalance and can trigger a major blackout—sometimes within seconds.”

Despite the rising integration of renewable energy sources such as solar and wind in Spain and Portugal’s electricity mix, experts largely dismissed renewables as the cause of the blackout. Daniel Muir, a senior European power analyst at S&P Global, told Politico, “The nature and scale of the outage makes it unlikely that the volume of renewables was the cause.” He highlighted that conventional generation—including nuclear, hydro, cogeneration, and thermal sources—was available to the system operators before the outage.

Dr Keith Bell, professor of electronic and electrical engineering at the University of Strathclyde, said that events on this scale have occurred in various power systems worldwide regardless of their energy mix. “It doesn’t matter where you are getting the energy from, you’ve got to get the engineering right in order to ensure resilient supplies of electricity,” he said.

Alongside technical speculation, unfounded theories emerged suggesting that the blackout might have been caused by cyber sabotage or an attack targeting Europe’s power infrastructure. However, European Commission executive vice president Teresa Ribera dismissed these claims, stating, “There is nothing that allows us to say that there is any kind of sabotage or cyberattack.”

While the blackout is an uncommon event, experts warn it is not impossible and underscores ongoing challenges in maintaining reliable power systems amid growing electricity demand and evolving infrastructure. Dr Bell noted that “system operators and equipment owners try to ensure that such major events don’t happen and to learn lessons when they do, sharing those lessons internationally once investigations have been completed.”

The exact cause of Monday’s Iberian peninsula blackout remains under investigation, with authorities and specialists working to unravel the details to prevent future occurrences. The Independent is reporting on the ongoing developments.

Source: [Noah Wire Services](https://www.noahwire.com)

## References

* <https://elpais.com/internacional/2025-04-29/el-apagon-en-portugal-civismo-de-los-ciudadanos-vulnerabilidad-del-estado.html> - This article reports on the Portuguese government's request for an urgent audit from the European Union Agency for the Cooperation of Energy Regulators to investigate the causes of the massive blackout that occurred on Monday in the Iberian Peninsula. It highlights the vulnerability of critical infrastructures in Portugal, such as hospitals and emergency services, many of which lacked contingency plans.
* <https://www.huffingtonpost.es/sociedad/el-gran-apagon-lupa-linterna-preguntas-respuestas-entender-que-pasado.html> - This article provides an in-depth analysis of the massive power outage that affected Spain and Portugal on April 28, 2025. It details the sudden disconnection of 15 gigawatts, equivalent to 60% of the energy demand, and discusses the government's response, including the creation of an investigation commission and collaboration with European bodies to clarify the events and prevent future incidents.
* <https://as.com/tikitakas/virales/una-estadounidense-ensena-lo-que-pasaba-en-madrid-durante-el-apagon-masivo-nada-mejor-que-beber-en-la-plaza-n/> - This article features a video by an American content creator showcasing the atmosphere in Madrid during the massive blackout. Despite the power outage, citizens gathered in plazas, parks, and terraces, enjoying the sunny weather and each other's company, exemplifying the relaxed spirit of the moment.
* <https://www.reuters.com/world/europe/portugal-recovers-blackout-government-says-2025-04-29/> - This article reports that Portugal has fully restored electricity to its 6.4 million customers following the nationwide blackout that occurred on Monday. It highlights the government's effective response, with all critical services resuming normal operations, including airports, train services, schools, and the health service.
* <https://cadenaser.com/andalucia/2025/04/29/normalidad-en-jerez-tras-el-apagon-radio-jerez/> - This article describes the situation in Jerez after the massive blackout that affected Spain and Portugal on Monday. It details the restoration of the electricity supply, the resumption of train services, and the reopening of schools, despite some persistent issues like ongoing cuts in certain areas.
* <https://www.reuters.com/business/autos-transportation/renault-stellantis-spain-factories-resume-production-after-power-outage-2025-04-29/> - This article reports that Renault and Stellantis have resumed operations at their manufacturing plants in Spain following the significant power outage that affected Spain and Portugal on Monday. It details the efforts made by both companies to normalize operations and restart production with the restoration of power.
* <https://www.independent.co.uk/news/world/europe/what-caused-spain-portugal-power-outage-b2741996.html> - Please view link - unable to able to access data