

Cuba**Power-starved Cuba deepens reliance on Chinese solar tech**

Imports of the technology have soared, offering some respite for country that now faces near-total oil blockade



A street in Havana during a nationwide power outage last month. Solar power has become vital as Cuba's electricity grid is increasingly prone to collapse: © Yamil Yage/AFP/Getty Images

Jude Webber in Dublin, **Rachel Millard** in London and **Joe Daniels** in Bogotá

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Cuba is offsetting power blackouts and shortages worsened by Donald Trump's near-total oil blockade with the help of soaring imports of solar technology from China.

Beijing supplied 1 gigawatt of photovoltaic panels to the communist island last year and has promised more support as Cuba seeks to generate 15 per cent of its power from renewables in 2026, according to its [new economic and social plan](#).

Cuba's moribund economy relies heavily on oil imports and its antiquated electricity grid depends on its own meagre fossil fuel production. Chinese solar power has become a lifeline as Cuba's grid became increasingly prone to collapse: last month two nationwide blackouts took place within a week.

Ricardo Torres, a Cuban energy expert at the American University in Washington, said the solar imports "don't depend on a country that is vulnerable to US pressure".

Thanks to Chinese technology, the Caribbean island has 34 solar parks in operation with a capacity of almost 1.2GW, a 350 per cent increase on 2024, enabling Cuba to more than quadruple its proportion of solar-powered generation to around 9 per cent of its total by the end of last year.

Cuba plans to have built 92 solar parks with just over 2GW of capacity by 2028.

"In the last 12 months alone, the government successfully installed 1GW of that — so they're halfway to the target," said Euan Graham, senior analyst at energy think-tank Ember. "A gigawatt is a very significant amount in the system and getting to 2GW would be pretty transformative."

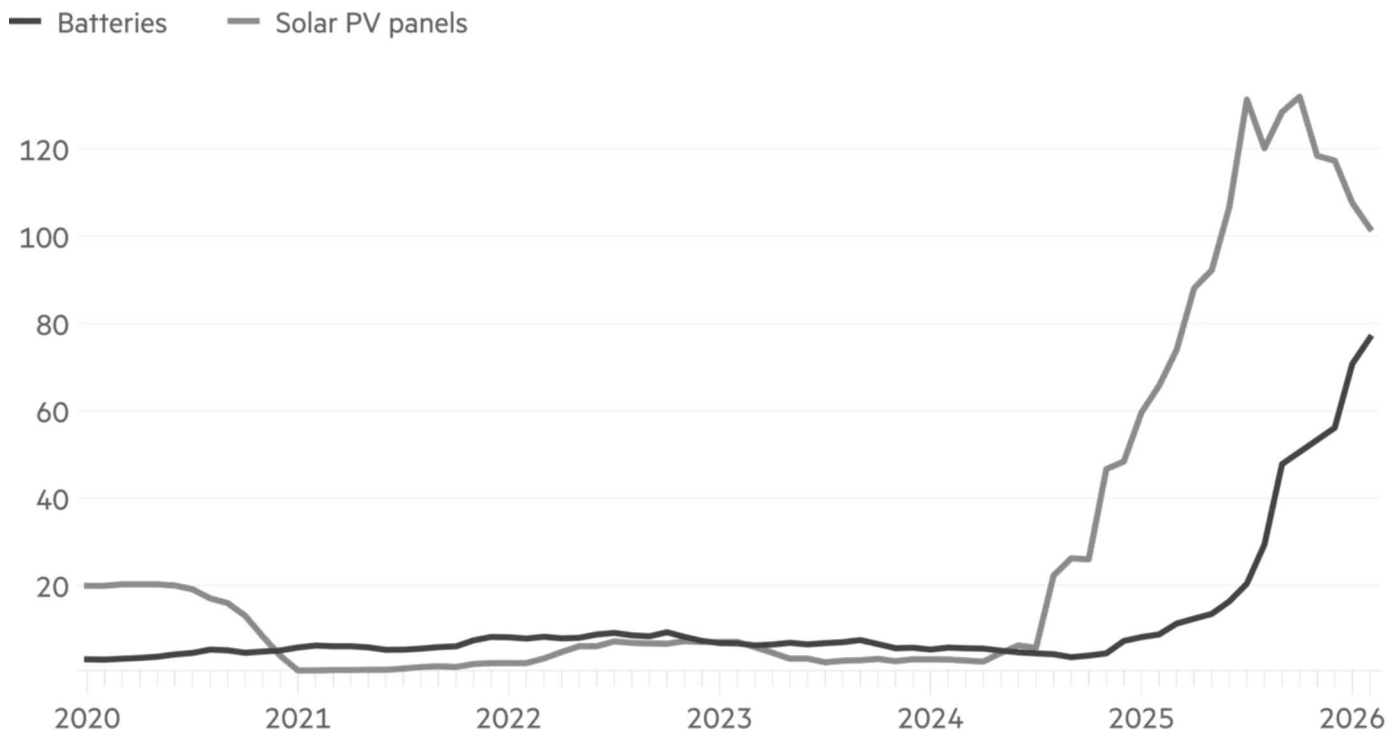
How the regime has funded the Chinese solar equipment remains opaque, although the 2026 economic plan says 320MW of technology was donated by Beijing. Cuba's prime minister, Manuel Marrero Cruz, has said some solar tech was "paid for" with Cuban-produced nickel.

Trump vowed in January to impose tariffs on countries supplying Cuba with oil as he seeks to force regime change. The blockade has provoked critical shortages and severe rationing in a country already suffering the effects of decades of US sanctions.

But on March 31 the US allowed a Russian oil tanker to dock, the first crude shipment to the island in nearly three months. Sergei Tsivilyov, Russia's energy minister, said Moscow was preparing to send a second oil tanker to Cuba, according to state newswire Tass.

Chinese solar exports to Cuba soar

Export value, 12-month rolling sum (\$mn)



Source: Ember

Beijing's involvement in Cuba's energy sector is explicitly political: its ambassador to Cuba, Hua Xin, criticised the US energy blockade at a news conference in Havana last month. He said China would boost "co-operation in the new energy sector such as photovoltaics to help Cuba accelerate its energy transition and to ease this complex electricity situation".

But reaching Cuba's solar goals is likely to be costly. Tourism, a key foreign currency earner, was already suffering before the oil blockade and has now virtually ground to a halt.

Cuba previously sold some of the subsidised oil it received from longtime ally Venezuela, but those supplies have stopped since the US seized Venezuelan strongman Nicolás Maduro on January 3.

According to Ember, China shipped \$117mn of solar panels to Cuba last year, up from \$48mn in 2024 and \$16.6mn in 2019.

Imports of battery storage from China also surged to \$56mn worth last year from \$7.3mn in 2024. Some \$15mn of batteries were imported in January this year alone, Graham said.

China has also invested in Cuba directly: Shanghai Electric invested some \$60mn in the 62MW Mariel solar park, the island's first privately owned project, in a joint venture with UK-based Hive Energy, according to Hive chief executive Giles Redpath.

"The Mariel solar park provides up to 10 per cent of Cuba's electricity — it's a very important part of Cuba's grid . . . right now I'm sure it's their cheapest form of electricity," he said.

"The only problem from our perspective is that they're not very good at paying. Or to put it more accurately, they're very good at paying into a Cuban bank account, but you can't then get the money out of Cuba."

Hive has attempted to sell the project, "but obviously you'd struggle to sell a project where you hadn't been paid", Redpath added.

Chinese solar panel donations have included rooftop kits for isolated homes, schools and hospitals. Vietnam has also provided equipment. However, Diario de Cuba, an independent media outlet, reported that the cheapest home solar panel for Cubans to buy costs 100 times the official minimum wage.

"Hardly anyone has them — they're too expensive," said Jorge, an artist, who added private generators were more popular, especially with businesses.

Cuba, which is also building a wind farm with Chinese technology, has set ambitious targets of generating 24 per cent of electricity from renewables by 2030, rising to 40 per cent by 2035 and 100 per cent by 2050.

But Torres noted that solar was "a growing share of a shrinking [electricity generation] pie . . . the proportion is magnified by the contraction in other sources".

Seeking to end the energy blockade, Cuba has begun talks with the US. Under pressure from Washington, it has granted concessions to the country's fledgling private sector, allowing exiles to own and operate businesses. But Havana insists regime change is off the agenda.

Even soaring solar imports cannot offer a quick fix for an economy that was the world's leading sugar exporter 40 years ago, but is now in ruins.

“Every little bit helps,” said Jorge Piñon of the University of Texas at Austin Energy Institute. “But it [solar] is a temporary solution, not the ‘engine’ needed for Cuba to come out of the electricity generation ‘stone age’ and meet the challenge of real economic growth in the 21st century.”

Storage and grid upgrades remain a bottleneck to solar generation.

“Cuba as an island could be entirely run on renewables. They’ve got fantastic results for solar results and they’ve got good wind resource,” said Redpath. “They just have to sort out the economy and the foreign payment system and then investment would rush in.”

Additional reporting by Max Seddon in Berlin

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