## Guam urban energy system



Does Guam have electricity?

Guam is well on its way to achieving a renewable, reliable, and secure electric power system.

How much energy does Guam use?

Conclusion Total energy consumption in Guam has been increasing over the past 12 years. In 2021, the island consumed 241 million gallonsof imported fossil fuels. Of the total energy consumed on the island, less than 4% is supplied by carbon-free renewable energy.

Why is Guam reliant on imported fuel?

With no indigenous fossil energy resources, Guam is reliant on imported fuel for their energy and transportation needs, with most of the imported fuel coming from Asia. The Guam Power Authority (GPA) is a public-power utility and autonomous agency of the government of Guam.

What is Guam's energy policy?

In 2019, P.L. 35-46 raised the RPS to 50% net electricity sales by December 31, 2035, and 100% by 2045. Regulations are described in Guam Code § 8311. GPA's Clean Energy Plan (2022 Integrated Resource Plan) roadmaps a path to 100% clean, reliable, resilient, affordable energy by 2045 and builds upon the 2008 IRP.

How many Customer-Sited distributed energy resource systems are there in Guam?

Over 2,000customer-sited distributed energy resource (DER) systems represent significant assets to Guam's renewable energy (RE) generation. Nearly 22 MW of DER generation capacity accounted for 2.6% of total generation/sales and 23% of total RE generation/sales in 2021 (see Table 6).

What are the five major energy policies in Guam?

These include wholistic energy strategies; grid-tied and distributed renewable energy, energy efficiency and conservation, transportation; climate change and resilience; and equity, workforce, and environmental justice ((Guam Legislature n.d.; United Nations n.d.), unless otherwise noted). This list does not include military related policies.

141,000,000 kWh contracted from KMS each year will produce energy for 14,000 residential customers for an entire year. The solar farm is another important step toward reducing Guam's reliance on imported oil, estimated at 300,000 barrels in the first year. For several years now, GPA has implemented the Energy Sense Rebate

Guam U.S. Department of Energy Energy Snapshot Population Size 165,768 Total Area Size 540 Sq. Kilometers ... Gross Domestic Product (GDP) Per Capita \$35,600 Share of GDP Spent on Imports 53.7% Fuel Imports 6.2% Urban Population Percentage 94.9% Population and Economy Installed Capacity 420 MW RE

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Installed Capacity Share 6% Peak Demand (2018 ...

Along with the transition to island-wide use of renewable energy, GPA is partnering with the Guam Energy Office (GEO), Guam Housing and Urban Renewal Authority (GHURA) and other community partners to increase the number of households to ...

The study, also known as the "Guam 100," will not only set a clear path to achieving 50% electricity purchases from renewable energy by 2030 and 100% by 2040 but will provide the tools to ensure energy system resilience against extreme weather events, improve energy justice, and ...

This profile provides a snapshot of the energy landscape of Guam, an island territory of the United States located in the western Pacific Ocean. Guam s electricity rates for residential customers start at \$0.21 U.S. dollars (USD) per kilowatt-hour (kWh), above the average U.S. rate of \$0.13 USD/kWh.1,2 Like

The Guam Power Authority's Clean Energy Master Plan (CEMP) is a comprehensive plan for transitioning Guam from legacy fossil fuel fired generation to renewable energy and non-greenhouse gas emissions electric energy supply. The Clean Energy Master Plan is a living document and is continuously being updated.

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The goal of Guam100 is to inform the transformation of Guam's power system to equitable, resilient, and affordable 100% renewable energy while enhancing the reliability of the current grid. Guam100 takes an energy-justice-centered approach to its work that will engage local stakeholders to drive research teams and NREL analysis.

o For the Guam community, the concerns include high costs of electricity, power factor issues, and frequent rotating outages . o Guam's exposure and vulnerability to extreme tropical storms is a regular threat. Damage from Typhoon Mawar in 2023 has reduced available power capacity and delayed construction of a 198MW base load power plant.

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