American Samoa:

Unlocking Renewable Energy Potential

Located approximately between Hawaii and New Zealand, American Samoa is the only U.S. territory in the southern hemisphere. American Samoa faces similar climate and energy resilience challenges as other Pacific islands: geographic remoteness, dependence on imported fossil fuels, and increased vulnerability to natural hazards like earthquakes, cyclones, and tsunamis.[1] In 2022, the average electricity price for residential customers in American Samoa was approximately 45 cents/kilowatt-hour (kWh)—almost three times the U.S. average of 15 cents/kWh.[2]

Renewable energy represents a small but growing power system contribution, although American Samoa relies almost entirely on imported fossil fuels. The territory possesses substantial solar resources and wind and biomass resource potential. Planned renewable power projects include utility-scale solar photovoltaic (PV) and wind generation with battery storage systems.

Overview

Land area: **76 square miles**[3]

Population *(2020)*: **49,710**[4]

Urban population share *(2023)*: **87.2%**[5]

Median household income *(U.S. dollars, 2019)*: **$28,352**[3]

Gross Domestic Product (GDP) *(2022, est.)*: **$871 million USD**[6]

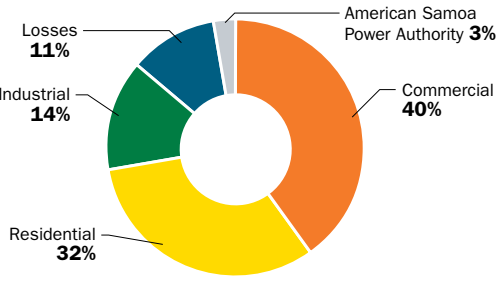
GDP per capita *(2022, est.)*: **$19,700 USD**[7]

Location

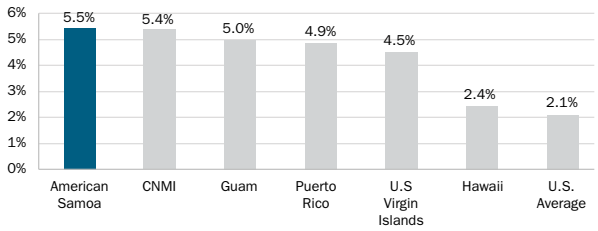
Power Sector

Installed electricity generation capacity *(2021)*:	**50 megawatts (MW)**
Renewable energy installed capacity share *(2021)*:	**11% solar photovoltaics**
Peak demand *(2022)*:	**26.9 MW**
Net generation *(2022)*:	**176,400 megawatt-hours (MWh)**
Total electricity sales *(2022)*:	**151,600 MWh**
Estimated average annual residential electricity spending *(2019)*:	**$1,544 USD**
Average electricity rates *(2024)*:[8]	**$0.40/kWh (residential)** **$0.40/kWh (commercial)** **$0.37/kWh (industrial)**

Electricity Consumption by Sector *(2022) (approximate)*



Approximate Baseline Home Electricity Burdens for U.S. Territories *(2019)*



[1] https://doi.org/10.1016/j.jup.2018.09.005
[2] https://www.eia.gov/electricity/annual/pdf/epa.pdf
[3] https://data.census.gov/profile/American_Samoa?g=040XX00US60
[4] https://www.census.gov/data/tables/2020/dec/2020-american-samoa.html
[5] https://www.cia.gov/the-world-factbook/countries/american-samoa/
[6] https://www.bea.gov/data/by-place-states-territories
[7] https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=AS
[8] Rate data current as of July 2024. For more information and to access updated billing rates, please see: https://www.aspower.com/rates.html.

Targets

50% renewable energy generation by 2025 — 100% by 2040

Transportation Sector

Motor gasoline retail price:[9] *($/gallon 2024)*	**$4.21**
Road diesel retail price:[9] *($/gallon 2024)*	**$4.88**
Clean fuel vehicle diesel retail price:[9] *($/gallon 2024)*	**$4.28**
Registered road vehicles:[10] *(2022)*	**12,100**

Policies, Programs, and Incentives

- Executive Order 019-2021 established the American Samoa Resilience Commission and the Governor's Resilience Office to help coordinate a holistic and comprehensive approach to future planning and development initiatives.
- In 2016, the American Samoa Renewable Energy Committee adopted a goal to meet 50% of the territory's energy needs from renewable resources by 2025 and 100% by 2040.
- A net-metering law was adopted in 2008 to allow small renewable energy generators for on-site use to receive surplus generation credits—limited to 30kW per system and 5% of American Samoa Power Authority's aggregate peak demand.[11]
- In 2007, Chapter 5 of Title 26 American Samoa Code Annotated prioritized energy efficiency and cited the need to develop alternate energy sources and implement energy conservation practices.

Challenges

- Dependence on imported fossil fuels
- Vulnerability to climate change (especially rising sea levels) and destructive natural hazards
- Workforce constraints, especially the limited availability of trained technicians to maintain new energy assets such as batteries and electric vehicles
- Lack of commercially viable geothermal resources
- Siting constraints associated with American Samoa's communal land ownership system.

Opportunities

- Further development of solar power (especially given the success of previous solar installations in American Samoa)
- Incorporating energy storage into PV installations
- Viability of wind power (and the opening of offshore waters around the U.S. territories to wind power development)
- Further exploration of waste-to-energy technical and commercial potential
- Leveraging the advantage of limited on-island range in the transition to electric and hybrid electric vehicles
- Supporting the implementation of energy efficiency and demand management technologies across all sectors (i.e., residential, commercial, industrial, and government).

For Additional Information

Government and Utility

- Territorial Energy Office, American Samoa Government: **https://www.americansamoa.gov/territorial-energy-office**
- American Samoa Renewable Energy Committee: **https://www.aspower.com/ASRenewable.html**
- American Samoa Power Authority: **https://www.aspower.com/**

Renewable Energy, Energy Security, and Resilience

- American Samoa Energy Baseline Report: **https://www.nrel.gov/docs/fy24osti/88856.pdf**
- American Samoa Priority Climate Action Plan (2024): **https://www.epa.gov/system/files/documents/2024-04/american-samoa-pcap.pdf**
- American Samoa Energy Action Plan (2016): **https://doi.org/10.2172/1326893**
- Renewable Energy Strategic Action Plan for American Samoa (2015): **https://prdrse4all.spc.int/system/files/day4_ppa_prsntnstrategicplanning.pdf**

[9] https://odapm.as.gov/opm-aspc
[10] https://www.doc.as.gov/post/press-release-american-samoa-statistical-yearbook-2022
[11] https://www.eia.gov/state/analysis.php?sid=AQ

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