U.S. Energy Information Administration

American Samoa Territory Energy Profile

American Samoa Quick Facts

- American Samoa is nearly 100% dependent on imported fossil fuels, including diesel fuel, for electric power generation.
- Electricity prices in American Samoa varied between three and four times the U.S. average during 2014.
- A significant amount of American Samoa's electricity is used to pump and treat drinking water.
- American Samoa Power Authority's (ASPA) largest solar facility, a 1.75 megawatt photovoltaic array near Pago Pago's airport, is expected to offset the ASPA's diesel consumption by more than 175,000 gallons.
- American Samoa Power Authority has set up 11 stations to measure wind speed and is assessing where wind turbines could be built.

Last Updated: April 16, 2015

Data

Last Update: June 18, 2015 | **Next Update:** July 16, 2015

Economy

Population and Industry	American Samoa	United States	Period
Population	0.1 million	311.6 million	2011
Energy Intensity	8,798 Btu per 2005 U.S. dollar	7,328 Btu per 2005 U.S. dollar	2011

Reserves & Supply

Reserves	American Samoa	United States	Period
Crude Oil	0 billion barrels	23 billion barrels	2011
Natural Gas Reserves	0 billion cu ft	305 billion cu ft	2011
Recoverable Coal	--	260,551 million short tons	2008
Production	**American Samoa**	**United States**	**Period**
Total Energy	0 quadrillion Btu	78 quadrillion Btu	2011
Crude Oil	0 thousand barrels/day	8,653 thousand barrels/day	2014
Natural Gas - Marketed	0 billion cu ft	25,319 billion cu ft	2012
Coal	0 thousand short tons		2012

Economy

		1,016,458 thousand short tons	
Capacity	**American Samoa**	**United States**	**Period**
Crude Oil Refinery Capacity (as of Jan. 1)	--	17,823,659 barrels/calendar day	2013
Total Electricity Installed Capacity	*	1,063 million kW	2012
Net Electricity Generation	**American Samoa**	**United States**	**Period**
Total Net Electricity Generation	*	4,048 billion kWh	2012
Petroleum, Natural Gas, and Coal Net Electricity Generation	NA	2,775 billion kWh	2012
Total Electricity Generation from Renewable Sources	0 billion kWh	508 billion kWh	2012
» Hydroelectric	0 billion kWh	276 billion kWh	2012
» Other Renewables	0 billion kWh	232 billion kWh	2012

Production Facilities	**American Samoa**
Major Coal Mines	None
Petroleum Refineries	None
Major Non-Nuclear Electricity Generating Plants	Satala (American Samoa Power Authority) ; Tafuna (American Samoa Power Authority)
Nuclear Power Plants	None

Imports & Exports

Total Imports	**American Samoa**	**United States**	**Period**
Crude Oil Imports	0 thousand barrels/day	9,213 thousand barrels/day	2010
Total Petroleum Product Imports	2 thousand barrels/day	2,580 thousand barrels/day	2010
» Motor Gasoline Imports	*	134 thousand barrels/day	2010
» Jet Fuel Imports	*	98 thousand barrels/day	2010
» Kerosene Imports	0 thousand barrels/day	2 thousand barrels/day	2010
» Distillate Fuel Imports	2 thousand barrels/day	228 thousand barrels/day	2010
» Residual Fuel Imports	0 thousand barrels/day	366 thousand barrels/day	2010
» Liquefied Petroleum Gas Imports	0 thousand barrels/day	179 thousand barrels/day	2010
» Other Petroleum Products Imports	0 thousand barrels/day	1,572 thousand barrels/day	2010
Natural Gas Imports	0 billion cu ft	3,138 billion cu ft	2012
Coal Imports	0 thousand short tons	10,294 thousand short tons	2012

Total Exports	**American Samoa**	**United States**	**Period**

Economy			
Crude Oil Exports	0 thousand barrels/day	42 thousand barrels/day	2010
Total Petroleum Product Exports	0 thousand barrels/day	2,311 thousand barrels/day	2010
» Motor Gasoline Exports	0 thousand barrels/day	296 thousand barrels/day	2010
» Jet Fuel Exports	0 thousand barrels/day	84 thousand barrels/day	2010
» Kerosene Exports	0 thousand barrels/day	1 thousand barrels/day	2010
» Distillate Fuel Exports	0 thousand barrels/day	656 thousand barrels/day	2010
» Residual Fuel Exports	0 thousand barrels/day	405 thousand barrels/day	2010
» Liquefied Petroleum Gas Exports	0 thousand barrels/day	164 thousand barrels/day	2010
» Other Petroleum Products Exports	0 thousand barrels/day	705 thousand barrels/day	2010
Natural Gas Exports	0 billion cu ft	1,619 billion cu ft	2012
Coal Exports	0 thousand short tons	126,720 thousand short tons	2012

Distribution & Marketing	
Distribution Centers	**American Samoa**
Oil Seaports/Oil Import Sites	Pago Pago
Natural Gas Market Centers	None
Major Pipelines	None

Consumption			
per Capita	**American Samoa**	**United States**	**Period**
Total Energy	89 million Btu/person	313 million Btu/person	2011
by Source	**American Samoa**	**United States**	**Period**
Total Energy	*	95 quadrillion Btu	2012
Total Petroleum Products	2.0 thousand barrels/day	19,180.1 thousand barrels/day	2010
» Motor Gasoline	0.4 thousand barrels/day	8,992.7 thousand barrels/day	2010
» Distillate Fuel	1.6 thousand barrels/day	3,800.3 thousand barrels/day	2010
» Liquefied Petroleum Gases	0.0 thousand barrels/day	2,265.3 thousand barrels/day	2010
» Jet Fuel	*	1,431.6 thousand barrels/day	2010
» Kerosene	0 thousand barrels/day	20 thousand barrels/day	2010
» Residual Fuel	0 thousand barrels/day	535 thousand barrels/day	2010
» Other Petroleum Products	0 Thousand Barrels/Day	2,135 Thousand Barrels/Day	2010
Natural Gas	0 Billion cu ft	25,533 Billion cu ft	2012
Coal	0 Thousand Short Tons		2012

Economy			
		889,185 Thousand Short Tons	
Carbon Dioxide Emissions			
by Source	**American Samoa**	**United States**	**Period**
Total Fossil Fuels	1 million metric tons	5,270 million metric tons	2012
Petroleum	1 million metric tons	2,269 million metric tons	2013
Natural Gas	0 million metric tons	1,374 million metric tons	2012
Coal	0 million metric tons	1,656 million metric tons	2012

Analysis

Last Updated: April 16, 2015

Overview

American Samoa, the southernmost territory of the United States, is part of a tropical island chain located about halfway between Hawaii and New Zealand. It consists of the adjacent islands of Tutuila and Aunu'u; the Manu'a group of Ta'u, Ofu, and Olosega; and two coral atolls, Swains and Rose islands. The total land area, 76 square miles, is slightly larger than Washington, DC. Following Polynesian tradition, most land is communally owned by extended families.

The volcanic Samoan Islands chain, which includes both American Samoa and the independent nation of Samoa, lies at the northern end of the Tonga Trench, a highly active seismic zone. The climate is tropical marine, with little seasonal temperature variation. A rainy season runs from November to April, but rain falls throughout the year. The annual average rainfall is about 125 inches at sea level and up to 300 inches in the mountains. American Samoa is home to about 55,000 people. Most of the population lives on the largest island, Tutuila, where the deepwater port of Pago Pago is located. American Samoa's largest industry is tuna canning, which accounts for most of the territory's exports. American Samoa's tuna industry has been shrinking, but a new cannery opening in 2015 may reverse that trend. The territory's other major economic sectors are agriculture and government.

American Samoa depends almost entirely on petroleum imports for its energy needs.

The territory lacks fossil energy resources and depends on imported petroleum products to meet most energy needs. High petroleum product prices are a major concern for the islands' economy, which typically has been more than twice as energy intensive as that of the United States, although per capita energy consumption has been about one-half of the U.S. average. Energy consumption dropped sharply after 2009, when an earthquake and tsunami devastated Tutuila just as one of two canneries was closing, putting one in five island employees out of work. The economy and energy consumption have been slowly recovering.

Petroleum

American Samoa does not produce or refine petroleum. Petroleum products are imported in tankers, which unload at a terminal and tank farm adjacent to the main harbor at Pago Pago. The territory imports distillates, mainly low-sulfur diesel fuel, high-sulfur marine fuel, jet fuel, and motor gasoline. Before the 2009 tsunami, American Samoans typically consumed about one-third more petroleum per capita than the U.S. average. Since 2009, island residents have consumed about 80% as much per capita as the U.S. average.

Natural gas

American Samoa does not produce or consume natural gas.

Coal

American Samoa does not produce or consume coal.

Electricity

Nearly all of American Samoa's electricity is supplied by generators consuming No. 2 diesel fuel. The American Samoa Power Authority (ASPA), a government corporation, owns and operates two generating plants and the electric grid on Tutuila plus two other small generating plants and grids serving the Manu'a group. Total generating capacity is about 40 megawatts, most of it from the Tafuna and Satala plants on Tutuila. ASPA also provides drinking water and wastewater treatment. Pumping, treating, distributing, and collecting water require a significant share of ASPA's electricity. In September 2009, an earthquake and tsunami destroyed the Satala generating plant, reducing generating capacity on Tutuila by half. Generators burning ultra-low-sulfur diesel temporarily replaced those destroyed in 2009, which had used high-sulfur diesel fuel. A 24.5-megawatt replacement Satala plant, with high-efficiency diesel generating sets, is scheduled for completion in 2016.

American Samoans consume one-fourth as much electricity as U.S. consumers but may pay five times as much per kilowatthour..

The residential sector is the largest electricity consumer, using nearly one-third of all power generated on American Samoa. The commercial sector uses almost as much power as the residential sector. The government consumes nearly one-fifth of electricity generated on the islands. Per capita consumption is about one-fourth of U.S. per capita consumption. Electricity cost varies with a fuel surcharge linked to world oil prices. In early 2012, that surcharge brought the average electricity price in American Samoa to nearly five times the average U.S. price; in 2014, the monthly price varied between three and four times the U.S. average.

Renewable energy

With American Samoa's high cost of electricity and geographic isolation, the government has established a Renewable Energy Committee to work with federal experts to bring sustainable renewable energy to the islands. The committee has developed energy strategies to explore wind, solar photovoltaic (PV), and geothermal potential on Tutuila and is also considering the feasibility of supplying the tiny Manu'a islands' grids completely with renewables.

In 2008, American Samoa adopted a net metering law that allows owners of small solar or wind facilities, installed primarily for the consumer's use, to receive credit for excess power sent to the grid. More than 20 government and commercial customers use net metering and account for more than 0.5 megawatt of total load.

American Samoa's renewable energy facilities include a 1.75-megawatt solar PV complex near the Tafuna power station, 41 smaller arrays totaling more than 700 kilowatts on rooftops of government and private buildings, and solar hot water heating for Tutuila's LBJ Tropical Medical Center. The government also offers assistance for residential weatherization. American Samoa is close to the equator, so it has substantial potential to expand use of both solar hot water heating and solar PV.

American Samoa's position near the equator gives it substantial potential to

expand solar energy use.

No commercial-scale wind turbines have been installed in American Samoa, but ASPA has set up measuring stations around the islands to assess wind speeds and is considering potential wind power sites. Earlier measurements indicated limited wind resources around the main island of Tutuila but more potential in the Manu'a islands. Challenges for wind energy include typhoons, social acceptance, and grid stability. To ensure reliability on its small island grids, ASPA is limiting renewable power to 20% of peak demand capacity. American Samoa's communal land ownership structure also makes long-term leasing for larger scale projects a potential hurdle for development.

ASPA is using Organic Rankine Cycle technology to generate additional electricity from waste heat emitted by diesel generators at its Tafuna plant. Preliminary studies indicate potential for energy generation from municipal solid waste on Tutuila and for displacing petroleum-based diesel fuel with biodiesel, although the mountainous terrain limits land available for raising biodiesel feedstocks.

Other Resources

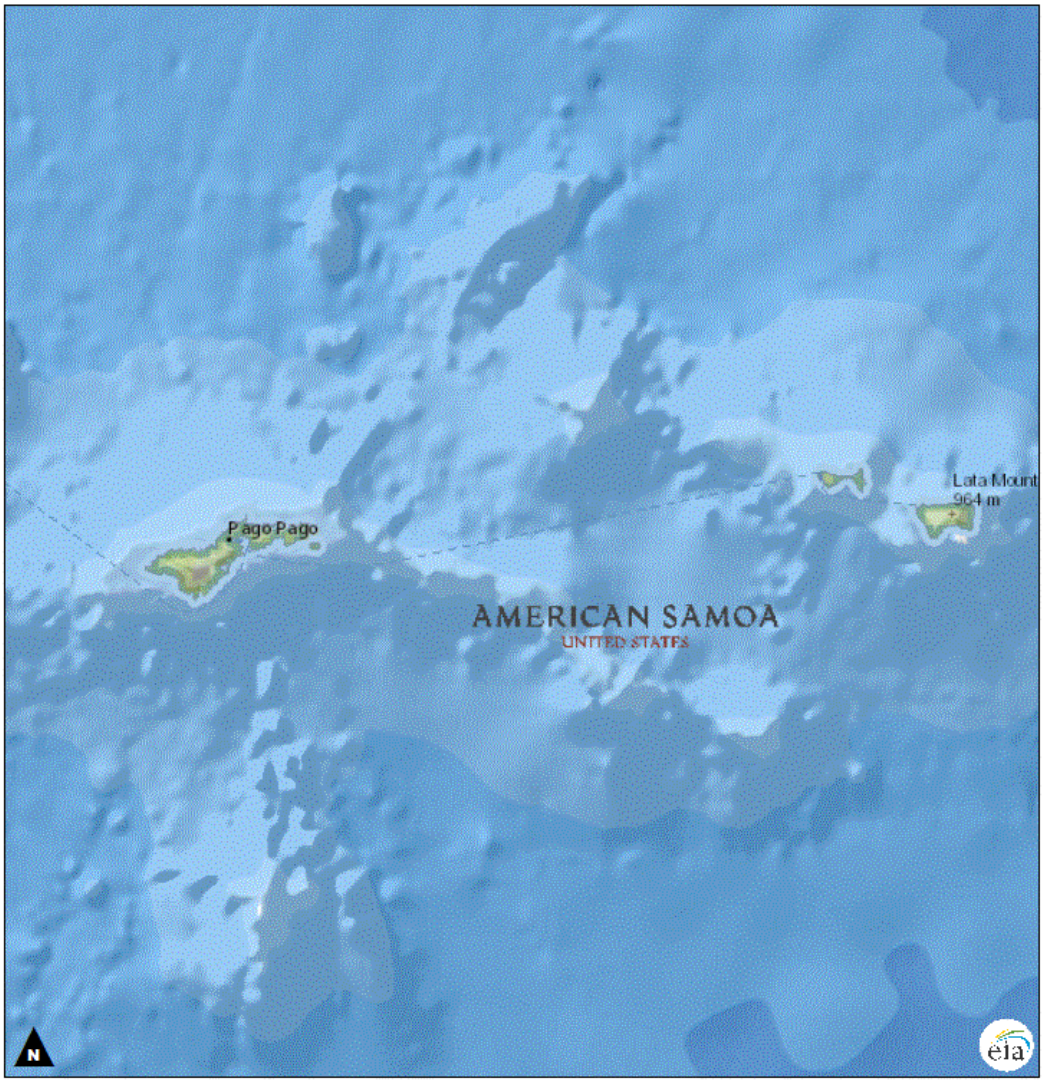
Energy-Related Regions and Organizations

- Petroleum Administration for Defense District (PADD): 7

Other Websites

- Territorial Energy Office, American Samoa Government
- American Samoa Government Environmental Protection
- American Samoa Power Authority
- American Samoa Government
- U. S. Department of the Interior, Office of Insular Affairs, American Samoa
- Alternative Fuels and Advanced Vehicle Data Center - Federal and State Incentives and Laws
- United States Department of Health and Human Services - Administration for Children and Families - Low Income Home Energy Assistance Program
- DSIRE - Database of State Incentives for Renewables and Efficiency
- National Association of State Energy Officials (NASEO)
- National Conference of State Legislatures (NCSL)-Issues and Research - News Highlights: Issues and Research - Energy
- U.S. Geological Survey (USGS) Maps, Imagery, and Publications - Maps
- Bureau of Ocean Energy Management
- National Renewable Energy Laboratory (NREL)-Dynamic Maps, Geographic Information System (GIS) Data and Analysis Tools - Maps

Email suggestions for additional American Samoa website resources to: states@eia.gov.



Grey Base:National Geographic, Esri, DeLorme, NAVTEQ, UNEP-WCMC, USGS,

0 5 10 20 Miles

- Mask
- Surface Coal Mine
- Underground Coal Mine
- Biomass Power Plant
- Coal Power Plant
- Geothermal Power Plant
- Hydroelectric Power Plant
- Natural Gas Power Plant
- Nuclear Power Plant
- Other Power Plant
- Other Fossil Gases Power Plant
- Petroleum Power Plant
- Pumped Storage Power Plant
- Solar Power Plant
- Wind Power Plant
- Wood Power Plant
- Petroleum Refinery
- Strategic Petroleum Reserve
- NGL Market Hub (z)
- Natural Gas Market Hub (z)
- Natural Gas Inter/Intrastate Pipeline (z)
- Petroleum Port
- LNG Import/Export Terminal

http://www.eia.gov/state/