



Electricity Bill Calculator Updates

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2021 SAM Webinars
September 29, 2021

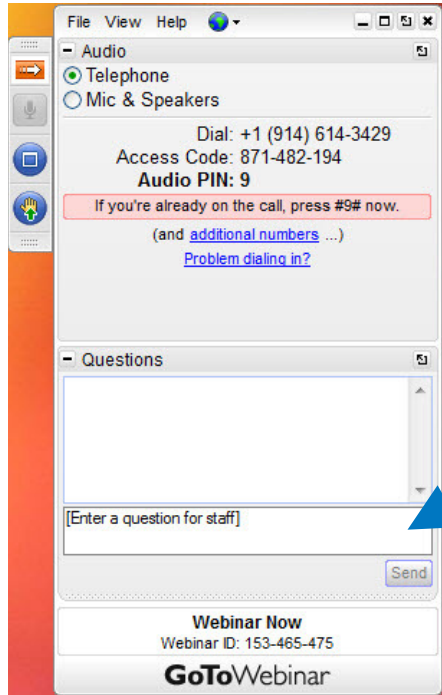
SAM Webinars for 2021

Merchant Plant Financial Model	August 4
Marine Energy Performance Models	August 18
New Battery Model Features	September 1
New Community Solar Financial Model	September 15
Electricity Bill Calculator Updates	September 29

Register for free at: <https://sam.nrel.gov/events.html>

Find webinar recordings at <https://sam.nrel.gov/>

Questions and Answers



Desktop application



Instant Join Viewer

We will either type an answer to your question or answer it at the end of the presentation.

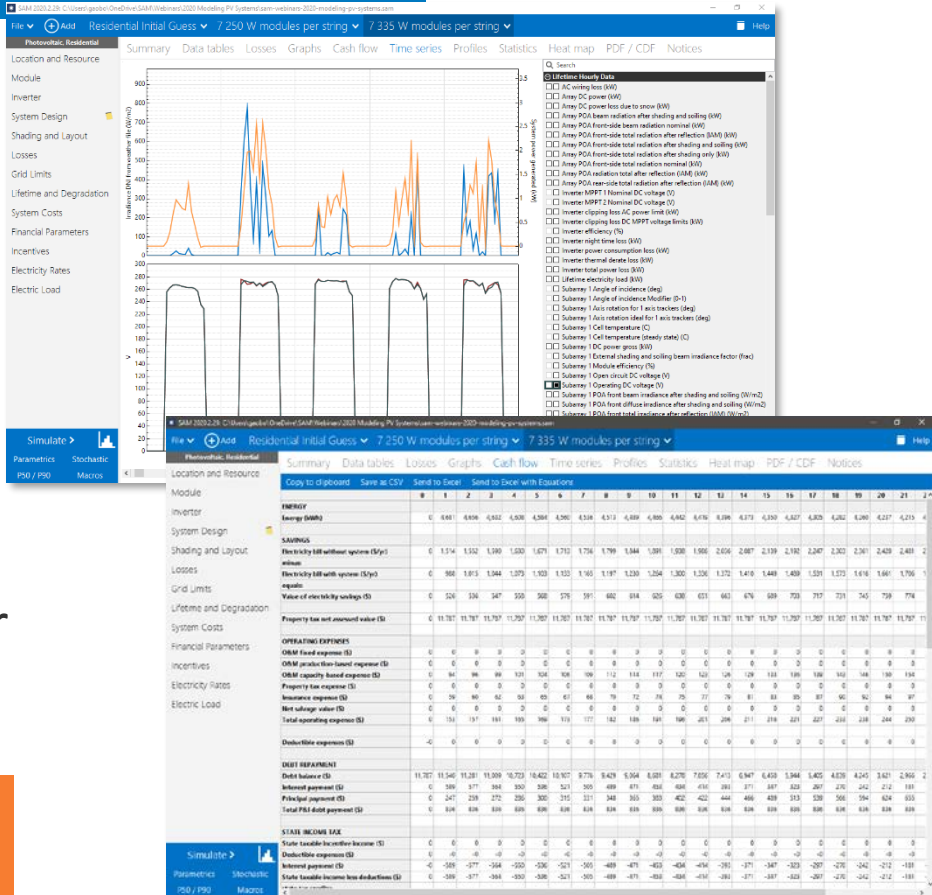
What is SAM?

The System Advisor Model

Free computer software developed and distributed by the U.S. Department of Energy's National Renewable Energy Laboratory

Calculates:

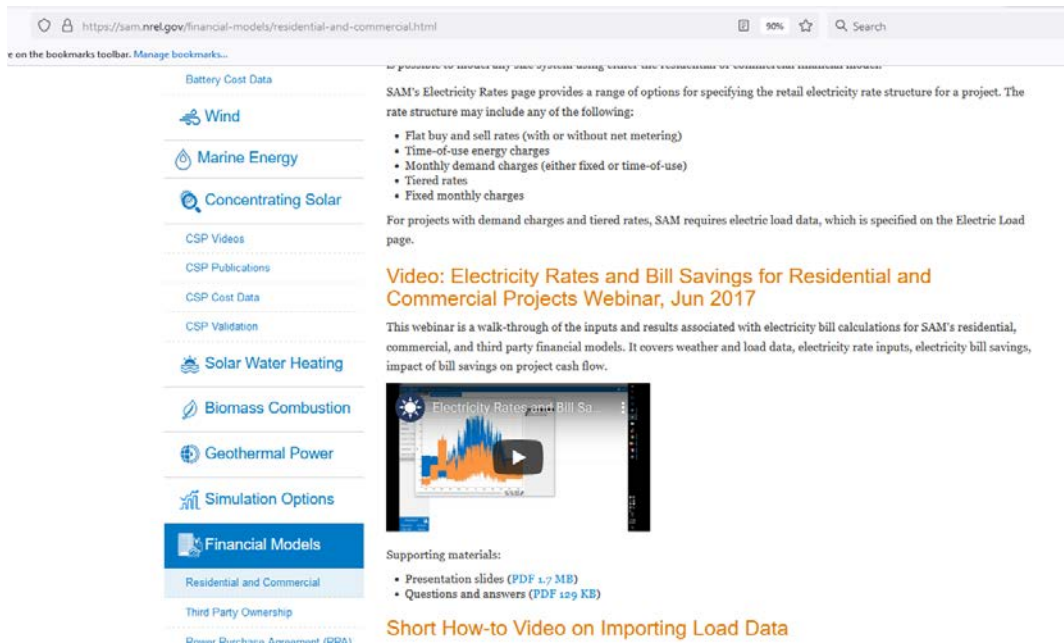
- A power system's energy output
- A power project's cash flow over years of operation



"Introduction to SAM 2020.2.29"
<https://sam.nrel.gov>

Previous Webinar

- Residential and commercial financial models: <https://sam.nrel.gov/financial-models/residential-and-commercial.html>



The screenshot shows a web browser window displaying the SAM website's "Financial Models" page. The URL in the address bar is <https://sam.nrel.gov/financial-models/residential-and-commercial.html>. The page features a left-hand navigation menu with various energy-related categories, with "Financial Models" highlighted in blue. Under "Financial Models", "Residential and Commercial" is selected. The main content area includes a section titled "Electricity Rates" with a list of rate structures: Flat buy and sell rates, Time-of-use energy charges, Monthly demand charges, Tiered rates, and Fixed monthly charges. Below this is a video player with the title "Video: Electricity Rates and Bill Savings for Residential and Commercial Projects Webinar, Jun 2017". The video player shows a thumbnail with a bar chart and a play button. Below the video, there are "Supporting materials" listed: "Presentation slides (PDF 1.7 MB)" and "Questions and answers (PDF 129 KB)". At the bottom of the page, there is a link for "Short How-to Video on Importing Load Data".

https://sam.nrel.gov/financial-models/residential-and-commercial.html

Battery Cost Data

Wind

Marine Energy

Concentrating Solar

CSP Videos

CSP Publications

CSP Cost Data

CSP Validation

Solar Water Heating

Biomass Combustion

Geothermal Power

Simulation Options

Financial Models

Residential and Commercial

Third Party Ownership

Electricity Rates

SAM's Electricity Rates page provides a range of options for specifying the retail electricity rate structure for a project. The rate structure may include any of the following:

- Flat buy and sell rates (with or without net metering)
- Time-of-use energy charges
- Monthly demand charges (either fixed or time-of-use)
- Tiered rates
- Fixed monthly charges

For projects with demand charges and tiered rates, SAM requires electric load data, which is specified on the Electric Load page.

Video: Electricity Rates and Bill Savings for Residential and Commercial Projects Webinar, Jun 2017

This webinar is a walk-through of the inputs and results associated with electricity bill calculations for SAM's residential, commercial, and third party financial models. It covers weather and load data, electricity rate inputs, electricity bill savings, impact of bill savings on project cash flow.

Supporting materials:

- Presentation slides (PDF 1.7 MB)
- Questions and answers (PDF 129 KB)

Short How-to Video on Importing Load Data

Outline

- 1 Summary of Residential and Commercial Financial Model**
- 2 Open EI Utility Rate Database**
- 3 Energy Charges**
- 4 Metering and Billing Options**
- 5 Demand Charges**
- 6 Billing Demand for kWh/kW Energy Charges**
- 7 Questions and Answers**

Distributed Generation Options

Name	Accounting	Compensation timing	Outputs
Net energy metering	kWh, monthly	Annual True-Up (single credit)	Cumulative credit for true-up (kWh) Annual true-up payments
Net energy metering w/ \$ credits	kWh, monthly	Monthly	Net metering credit
Net billing	\$, hourly	Monthly	Net Billing Credit
Net billing w/ carryover	\$, hourly	Annual True-Up	Net Billing Credit Net annual true-up payments
Buy all / Sell all	\$, hourly	Monthly	Buy all sell all sales to grid

Upcoming Features

- Fall release: Demand charge ratchets
- Full list: “Electricity rates” filter on GitHub

Thank you!

www.nrel.gov

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