



What products are available for utilities to share solar energy data with customers?

An Ask E Source answer

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November 29, 2018

Q: What are some creative ways to share solar energy information with customers?

A: We're aware of a few sensors that provide real-time information on the solar power generated from panels. You can pair these sensors with other compatible devices using a web service to provide audio or visual signals about the solar power. And there are other devices that monitor real-time energy consumption using smart meter data that can be programmed to monitor solar power generation.

Pairing devices with IFTTT to monitor solar production

Examples of products that connect to either the main circuit breaker or solar panels and provide real-time energy information are [Smappee Infinity](#), [Sense](#), and [Neurio](#) (**Figure 1**). When paired with [IFTTT](#) (If This, Then That)—a web service to design your own “applets” (programs)—these devices can communicate with another IFTTT-compatible device to provide an audio or visual signal based on your solar energy production. IFTTT provides a channel to create your own recipe for combining two devices that otherwise can't communicate with each other. However, there may be a lag of up to 15 minutes between compatible devices because the signal has to first go to the IFTTT cloud. We recommend experimenting to determine whether the delay is within acceptable limits.

Figure 1: Solar power-monitoring devices

These devices provide real-time information on solar energy production.

Smappee Solar



Source: Smappee

Sense



Source: Sense

Neurio



Source: Neurio

We've gathered some examples of how you could use these devices together to provide binary feedback:

- *Visual color-changing lamps.* You can pair these sensors with a color-tunable lamp, which will change colors depending on the solar power generated: red for no power, amber for low power, and green for

sufficient power. [ORBneXt](#) and [LIFX](#) are two color-changing lamps that can be connected to the sensors through IFTTT. (See the FastCompany article [This Monitor Shows You Exactly How Much Power Each of Your Gadgets Is Sucking from the Grid.](#))

- *Audible signals.* Voice-controlled devices such as Amazon's Alexa are also compatible with IFTTT and can be programmed to give an audible message about the solar power.

You can find information about other IFTTT-compatible devices in the CNET article [Connect with These 35 IFTTT-Friendly Smart Devices.](#)

Modifying devices to monitor solar production

A fun way to provide information would be with Talkie by Toymail. You can program the sensor to notify the Talkie toy when the solar panels aren't producing power.

There are other devices that aren't compatible with IFTTT but could work with the sensors with some modifications.

- [Smart Wi-Fi Alarm Siren](#) can connect with other smart devices and may be used to sound an alarm when the solar panels aren't generating power.
- A fun way to provide information would be to use [Talkie by Toymail](#), an interactive toy designed to send or receive messages over Wi-Fi through a mobile phone. You can program the sensor to notify the Talkie when the solar panels aren't producing power.

Programming devices to display solar production

Several devices show real-time energy consumption in the house using a separate screen. Some of them also provide visual cues by changing lamp color for excess energy use. You can program these devices to track solar energy production.

- [HolHom](#). This is a home energy controller with a built-in thermostat that connects to the home's smart meter. LEDs display current electricity pricing, turning orange or red at higher prices.
- [EMU-2 Energy Monitoring Unit](#). This display from Rainforest Automation can monitor peak demand using a green, amber, and red traffic light.
- [Glow](#). This sensor monitors energy usage and sends the information wirelessly to the unit to provide visual feedback. If energy consumption increases, the lamp turns amber or red. If energy is being used efficiently, the lamp turns green.
- [OVO Energy](#) and [Efergy](#). Both of these devices display energy usage and costs on a screen.
- [Energy Orb](#). This device changes color depending on energy demand and pricing, glowing green if the demand and pricing are low and red if they're high.