

[EnergyKit](#) / [ElectricVehicleLoadEvent](#)

Structure

ElectricVehicleLoadEvent

A measurement of the electricity consumed or generated by an electric vehicle while connected to a charger.

iOS 26.0+ | iPadOS 26.0+ | Mac Catalyst | macOS 26.0+

```
struct ElectricVehicleLoadEvent
```

Overview

Submit events representing electricity consumption or generate to provide insights about electricity usage and their managed devices' adherence to [ElectricityGuidance](#). These events, called [ElectricVehicleLoadEvents](#) are data points recorded at specific points in time for a given [EnergyVenue](#) that allow the venue to determine when the device used electricity and its cleanliness based on historical [ElectricityGuidance](#). Additionally, relative cost can be determined using the rate plan at the [EnergyVenue](#), if available. You must submit [ElectricVehicleLoadEvents](#) as your managed devices consume or produce electricity. You can request insights based on submitted [ElectricVehicleLoadEvents](#). Insights are only available upon your submission of [ElectricVehicleLoadEvents](#).

Submit electrical vehicle load events

Save data to the [ElectricVehicleLoadEvent](#) with a sampling rate that's proportional to the rate of change of electrical quantities such a power. Generally, one sample every 15 minutes (at 0, 15, 30, and 45-minute marks) is sufficient when the device's session is active and no significant changes occur to its power state.

Significant changes may include:

- A person initiated an action.

- A pause in power consumption such as going idle.
- The power changed.

Unplugged or plugged in vehicles while idle between charging sessions don't generate idle events. The device that requested [ElectricityGuidance](#) must submit the corresponding load events. Load events for an [EnergyVenue](#) are accessible to all people that use the Home app.

Topics

Creating an electrical load event

```
init(timestamp: Date, measurement: ElectricVehicleLoadEvent.ElectricalMeasurement, session: ElectricVehicleLoadEvent.Session, deviceId: String)
```

Creates an electric vehicle load event.

```
struct Session
```

A session that tracks the event.

```
struct ElectricalMeasurement
```

A description of the electricity consumed or generated by a device.

Getting the electrical load event information

```
let id: UUID
```

The unique identifier of the electrical load event.

```
let session: ElectricVehicleLoadEvent.Session
```

The session information.

```
let timestamp: Date
```

The timestamp for when the event occurred.

Getting the device information

```
let deviceId: String
```

The device's unique stable identifier.

```
let measurement: ElectricVehicleLoadEvent.ElectricalMeasurement
```

The electricity consumption or generation of a device.

Relationships

Conforms To

Decodable

ElectricalLoadEventProtocol

Encodable

Identifiable

Sendable

SendableMetatype

See Also

Load events

`struct` `ElectricHVACLoadEvent`

A measurement of the electricity consumed by an HVAC system.

`struct` `EnergyVenue`

A physical site that uses or produces electricity at that location.

`enum` `ElectricityFlowDirection`

Information about which direction the electricity moves.

`protocol` `ElectricalLoadEventProtocol`

A type that can represent an electrical load event.