

Framework

EnergyKit

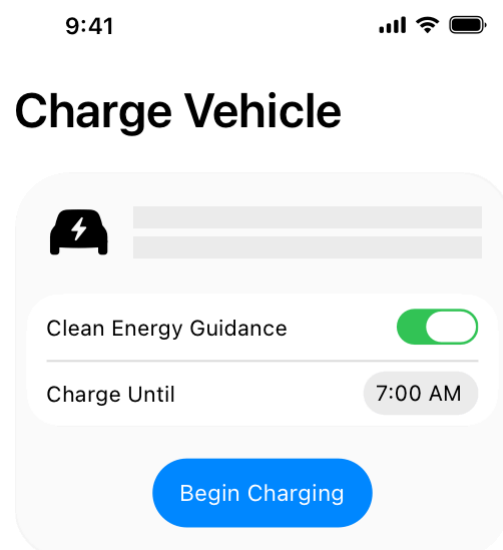
Provide a grid forecast for your app to help people choose when to use electricity.

iOS 26.0+ | iPadOS 26.0+

Overview

EnergyKit provides a grid forecast for your app to help people choose when to use electricity. This forecast is personalized for each person's Home location and based on various environmental and grid inputs, and identifies the times when there's relatively cleaner electricity on the grid. A person's rate plan information is also incorporated when they have connected to their utility account in the Home App.

EnergyKit helps you build apps that people can use to manage their home devices' electricity usage to help support the transition to a cleaner electricity grid. It's meant for residential, behind-the-meter applications, such as electricity usage of household devices, appliances, and EV charging. It's not meant for commercial or industrial applications. The system is designed for initial use cases involving smart thermostats (HVAC) and EV charging.



Using EnergyKit, your app can:

- Shift a person's electricity usage to times when there's relatively cleaner electricity on the grid.
- Provide insights into device electricity consumption or runtime and give guidance on cleaner energy periods of time, as well as peak or off-peak utility cost periods when a person has connected to their electric utility provider and is on a time-varying rate.

Important

Energy guidance is only available in the contiguous United States.

Add the entitlement to your app

To use EnergyKit, the system requires your app to have the `com.apple.developer.energykit` entitlement with a value of `true`. Add this entitlement by enabling the EnergyKit capability on your app's target in Xcode. For more information, see [Adding capabilities to your app](#).

Topics

Essentials

{ } Optimizing home electricity usage

Shift electric vehicle charging schedules to times when the grid is cleaner and potentially less expensive.

`com.apple.developer.energykit`

The entitlement the system requires for an app to use the EnergyKit framework.

Load events

To generate device electricity consumption or runtime insights, your app needs to provide the required usage data in the form of load events to EnergyKit.

`struct ElectricHVACLoadEvent`

A measurement of the electricity consumed by an HVAC system.

`struct ElectricVehicleLoadEvent`

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

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.

Guidance

struct ElectricityGuidance

A data model that provides guidance on when electricity is cleaner and less expensive.

Insights

struct ElectricityInsightRecord

A structure that provides environmental impact and cost insights for electricity usage over a specific time period.

actor ElectricityInsightService

A service for retrieving insights about electricity consumption.

struct ElectricityInsightQuery

A structure describing a query that you use to obtain environmental impact information in the form of electricity insight records.

protocol ElectricityInsightMeasure

A protocol for types that can measure electricity usage data.

Error response

enum EnergyKitError

A specialized error that provides localized messages describing the error and why it occurred.