

**DOCKETED**

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| <b>Project Title:</b>   | Building Decarbonization and Energy Efficiency        |
| <b>TN #:</b>            | 239971  |
| <b>Document Title:</b>  | Presentation - Load Flexibility Programs and Policies |
| <b>Description:</b>     | S2.3B Gabriel Taylor, CEC                             |
| <b>Filer:</b>           | Raquel Kravitz  |
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# California Energy Commission

## Load Flexibility Programs and Policies

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# Building Energy Efficiency Standards

## 2019 Standards

- Solar or Solar Readiness
- Demand Management
- Heat Pump Water Heaters Options

## 2022 Standards

- Electric Readiness
- Solar and Battery Standards
- Additional Electric Space & Water Heating Options
- Controlled Receptacles



# Appliance Efficiency Standards



- Central Air Conditioners
- Central Heat Pumps
- Computers
- Cooking and Washing Products
- Electronics
- Fans and Dehumidifiers
- Heating Products
- Landscape Irrigation Equipment
- Lighting Products
- Motor Products
- Noncentral Air Conditioners and Heat Pumps
- Plumbing Products
- Pool Products
- Refrigeration Products
- Transformer Products
- Water Heater Products



# Flexible Demand Appliance Standards (FDAS)

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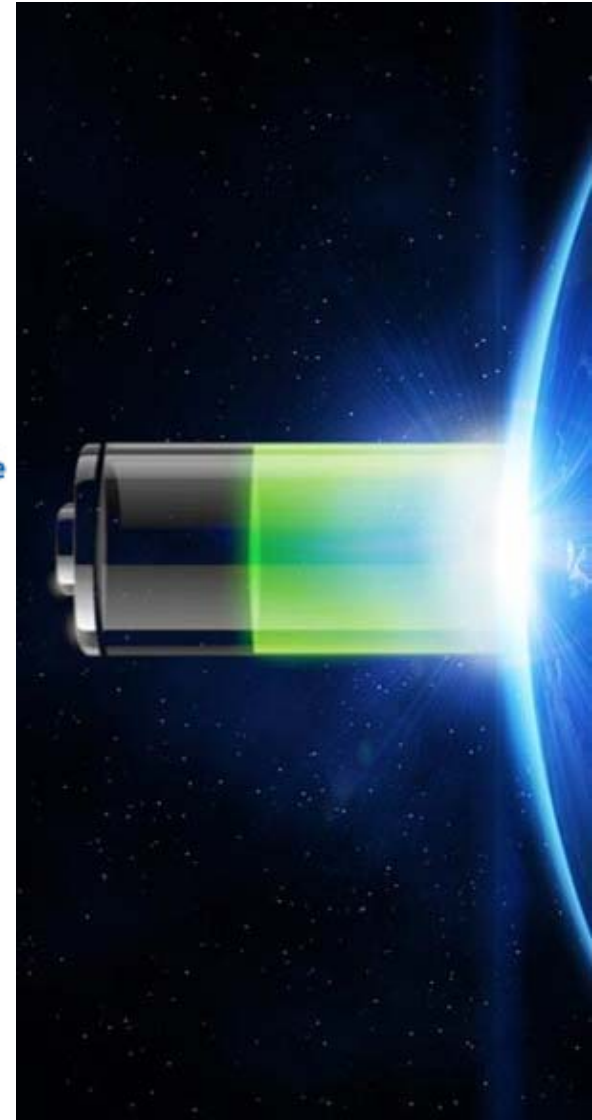
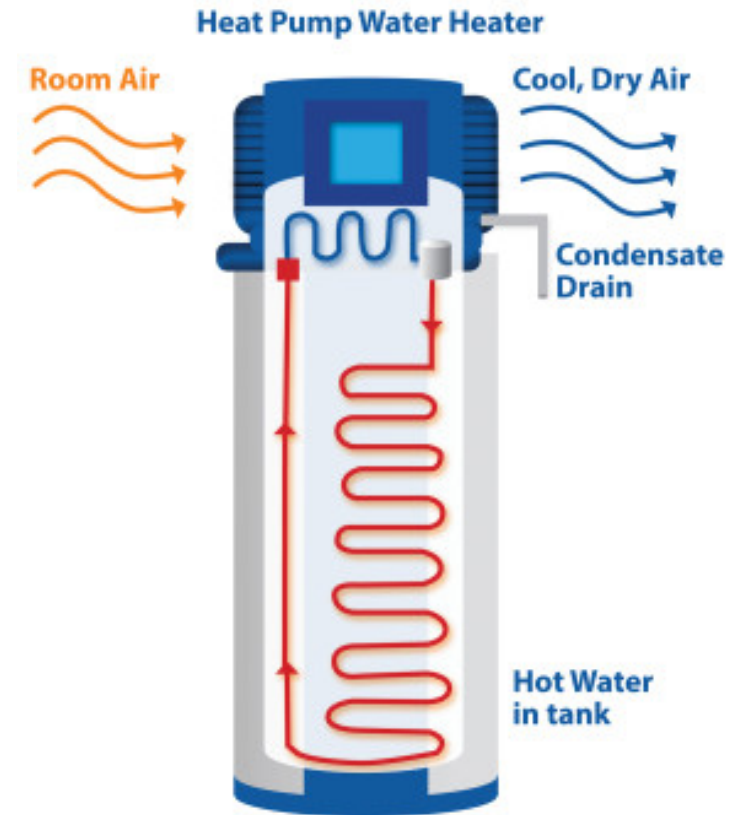
- Initial Staff Workshop in December 2020
- **Request for Information (RFI)** due date extended to Monday, November 1
- **Phase 1:** Thermostats, Pool Pump Controls, Dishwashers, and Electric Clothes Dryers
- **Phase 2:** Electric Water Heaters, and Behind the Meter Batteries
- **Phase 3:** Electric Vehicle Supply Equipment (EVSE)



# Load Management Standards

*...a program of electrical load management for each utility...*

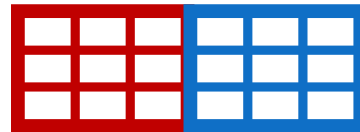
- Energy Storage
- Automation
- Rates (recommendations)





# Market Informed Demand Automation Server (MIDAS)

MIDAS Rate Database



Rate Identification Number (RIN)



USCA-PGPG-TOU4-0000000000



Example Rate in XML

```
<API_Url/>
<EndUse>Electric Vehicle</EndUse>
- <PriceInformation>
  - <PriceData>
    <DateEnd>2021-09-30</DateEnd>
    <DateStart>2021-06-01</DateStart>
    <DayEnd>Holiday</DayEnd>
    <DayStart>Monday</DayStart>
    <Price>0.4792500</Price>
    <PriceName>Summer Peak</PriceName>
    <TimeEnd>20:59</TimeEnd>
    <TimeStart>16:00</TimeStart>
    <Unit>KWH</Unit>
  </PriceData>
  - <PriceData>
    <DateEnd>2021-09-30</DateEnd>
    <DateStart>2021-06-01</DateStart>
    <DayEnd>Holiday</DayEnd>
    <DayStart>Monday</DayStart>
```





# Vehicle-Grid Integration (VGI)

- California Vehicle-Grid Integration Roadmap
- Grid Impact Analysis Modeling
- Electric Vehicle Supply Equipment (EVSE) Deployment and Grid Evaluation (EDGE) Tool
- Megawatt Charging System
- Research funding consultation
- Cross-divisional and interagency coordination







# CalFlexHub

The California Load Flexibility Research and Development Hub (CalFlexHub) aims to advance the capability of buildings to provide flexible electricity load.

- Identify, evaluate, develop, and demonstrate load-flexible pre-commercial technologies
- Standardize the signals used to communicate dynamic price and GHG information
- Load Shaping focus, but will also evaluate Supply Side







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