

DOCKETED

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| Docket Number: | 18-IEPR-06 |
| Project Title: | Integrating Renewable Energy |
| TN #: | 223867 |
| Document Title: | Building Energy Standards and Demand Side Efficiency |
| Description: | Presentation by Gabriel Taylor at the June 20, 2018 IEPR Workshop on Renewable Integration and Electric System Flexibility |
| Filer: | Stephanie Bailey |
| Organization: | California Energy Commission |
| Submitter Role: | Commission Staff |
| Submission Date: | 6/19/2018 1:51:37 PM |
| Docketed Date: | 6/19/2018 |



Building Energy Standards & Demand Side Efficiency

**2018 IEPR Workshop:
Renewables Integration &
System Flexibility**

June 20, 2018



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California Energy Commission



Goals for Today

- DR Code in Title 24, Part 6
- Cost Effectiveness
- Example of Shape DR





California Code of Regulations, Title 24 (Building Standards) Part 6 (Energy Code)





2019 Energy Code DR

- **Nonresidential**
 1. Thermostats
 2. Lighting
 3. EMC
 4. General
- **Multifamily**
 5. Solar Ready
- **Residential**
 6. Solar Ready
 7. Water Heaters
 8. HVAC



Nonresidential Building

NONRESIDENTIAL BUILDING is any building which is identified in the California Building Code Table; Description of Occupancy as Group A, B, E, F, H, I, M, or S; and is a U; as defined by Part 2 of ~~Title 24~~ Title 24 of the California Code of Regulation.

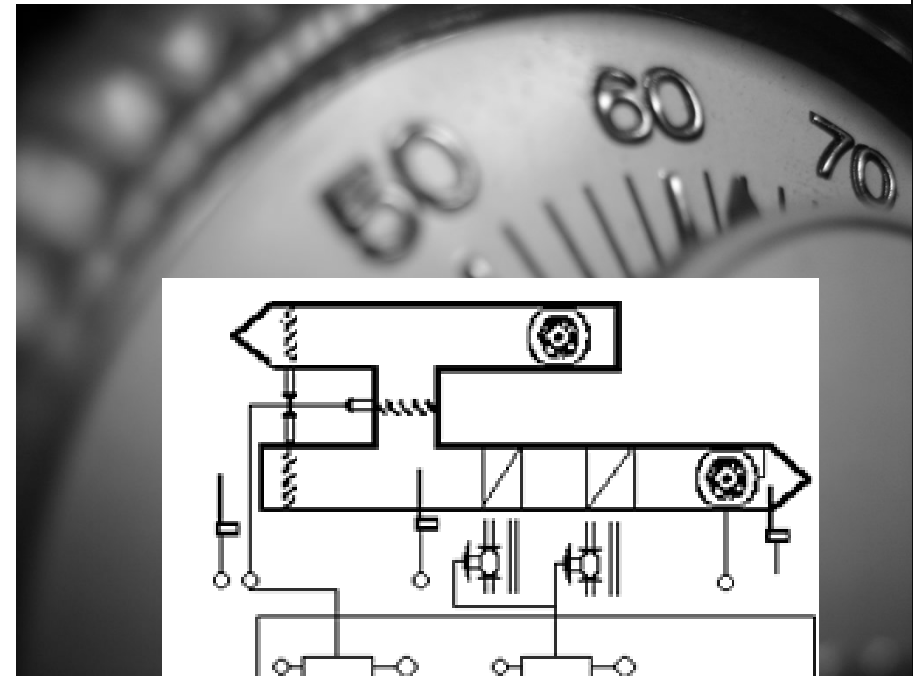
NOTE: Requirements for high-rise residential buildings and hotels/motels are included in the nonresidential sections of Part 6.

- “Nonresidential” includes:
 - High-rise residential
 - Hotels/motels



1. Nonresidential: Thermostats

- Single Zone
 - A/C & Heat Pumps
- Single Zone w/ DDC
 - Additional Shed Requirements
- Alterations
 - §120.2(b), 120.2(h) → 110.12(b), & 141(b)2E



REQUIRED



2. Nonresidential: Lighting

- Lighting Controls
- Buildings $>10,000$ ft²
- LPD > 0.5 W/ft²
- §130.1(e) → 110.12(c)

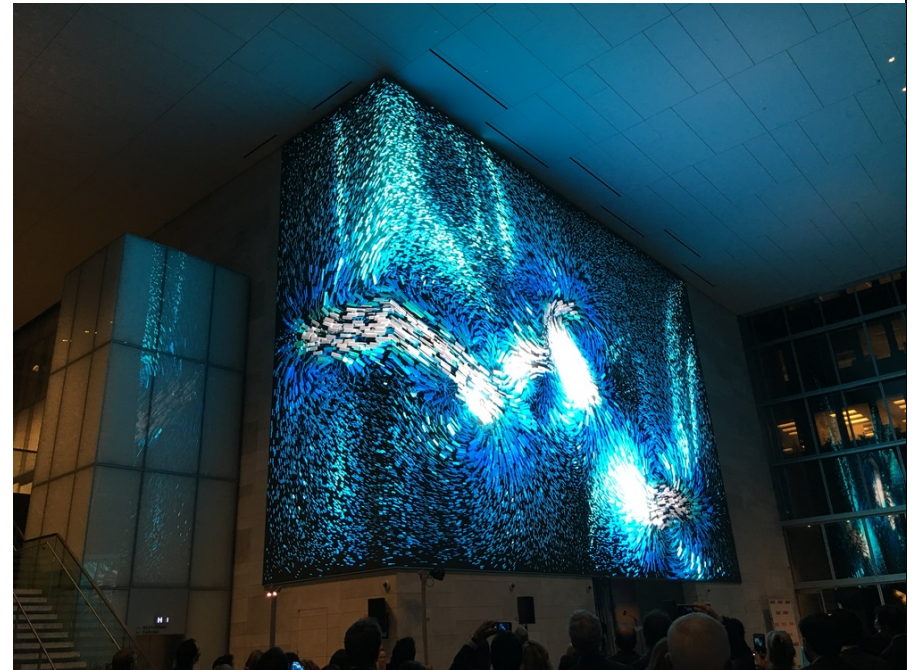


REQUIRED



3. Nonresidential: EMC

- Electronic Message Centers (EMC)
- > 15 kW
- >30% Reduction
- §130.3(a)3 → 110.12(d)

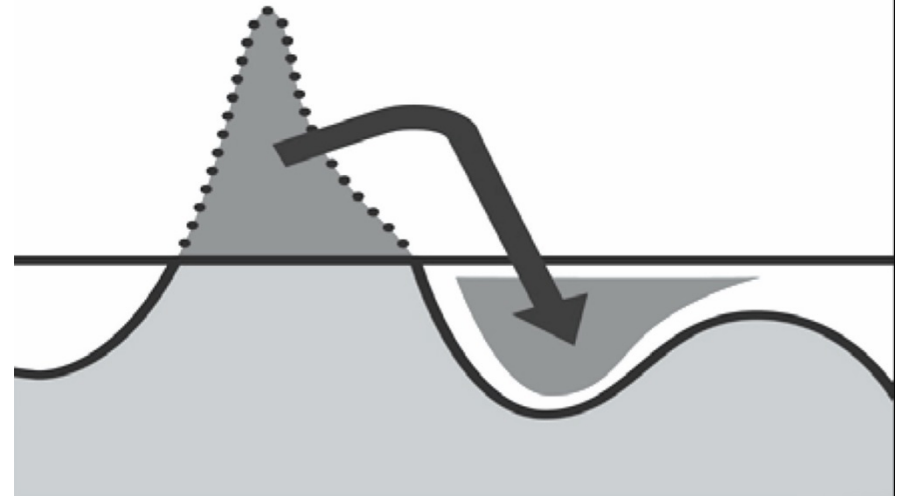


REQUIRED



4. Nonresidential: General

- Demand Responsive Controls
- For Compliance *or* Credit
- §130.5(e) → 110.12



REQUIRED



5. Multifamily: Solar Ready

- DR Thermostats +
Either:
 - Additional EE, or
 - EV Chargers
- **0 ft²** of Solar Ready
 - Down from 250 ft²
- §110.10(b)1B



OPTIONAL



6. Residential: Solar Ready

- DR Thermostats
= **150 ft²** of Solar Ready
 - Down from 250 ft²
- DR Thermostats
+ Additional EE
= **0 ft²** of Solar Ready
- §110.10(b)1A



OPTIONAL



7. Residential: Water Heaters

- Heat Pump Only
- Alterations Only
- Optional:
 - §110.12, or
 - NEEA Tier 3
- §150.2(b)1Hiii b & c



OPTIONAL



8. Residential: Thermostats

- Alterations Only
- Optional Testing Allowance
- Rare Cases
- EXCEPTION to §150.2(b)1Fiia
- EXCEPTION to §150.2(b)1Fiib



OPTIONAL



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Cost Effectiveness

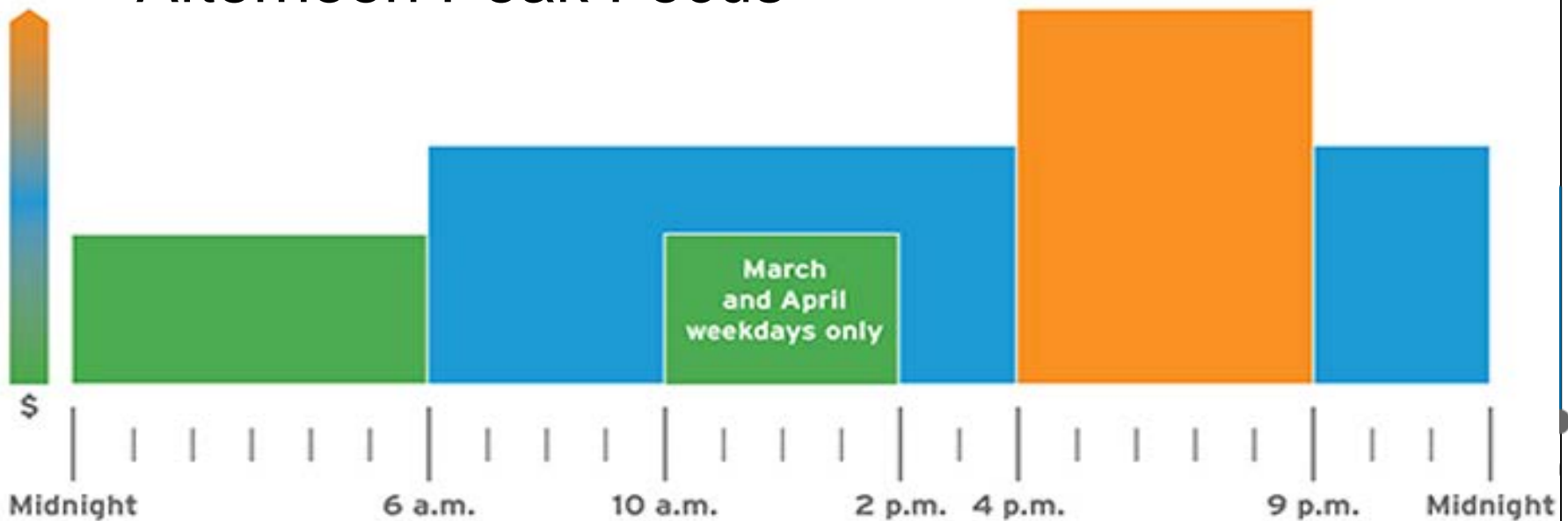
- Emergency Shed Focus
- Building, Appliance, & Load Management
- Example: TOU Rates



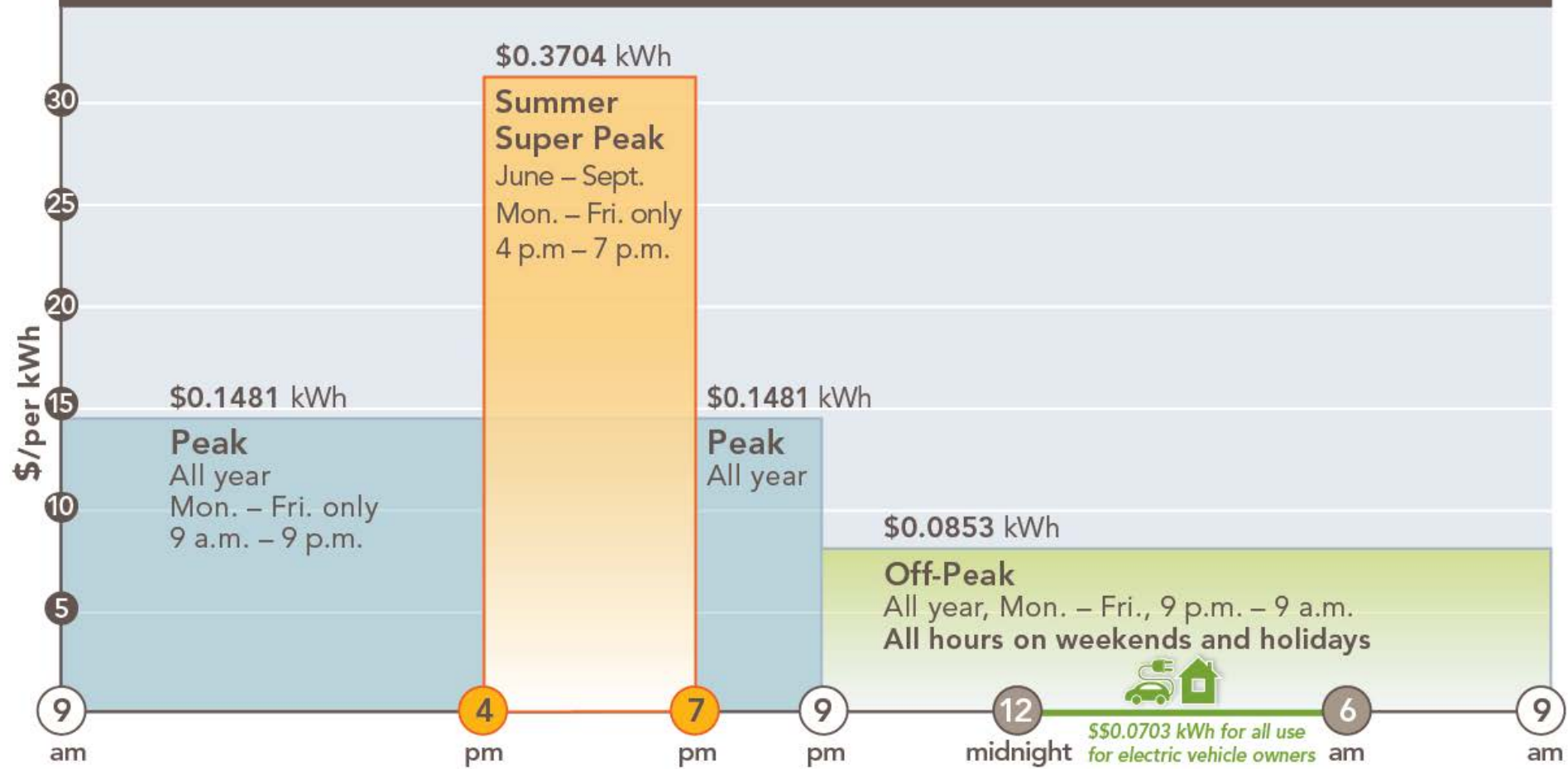


Time of Use Rates

- Roll out through 2020
- Shape DR
- Afternoon Peak Focus



2018–2019 Residential Time-of-Day (4-7 p.m.) Rate

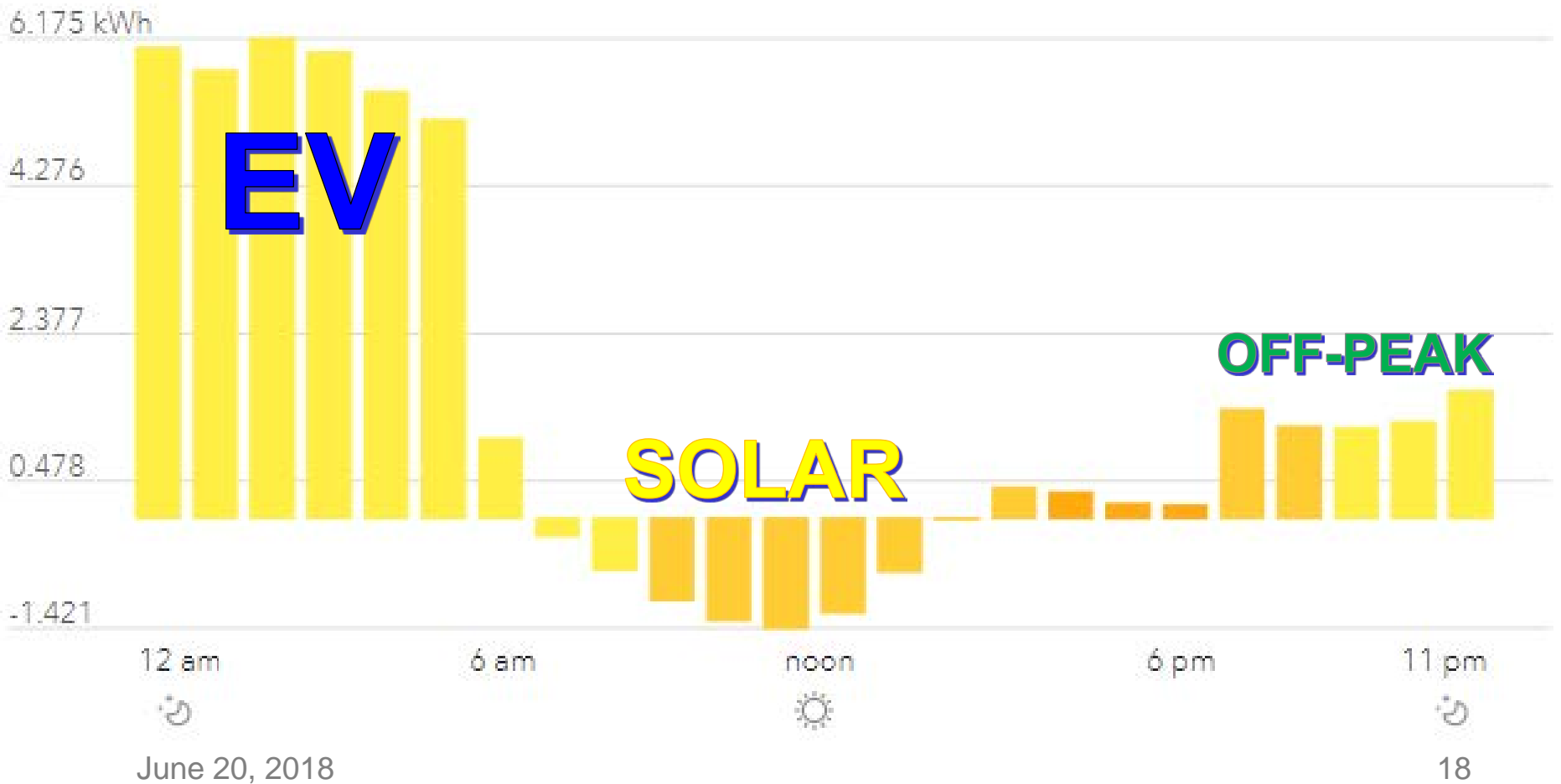




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Thu, Jun 14, 2018
My usage

Select view: by day



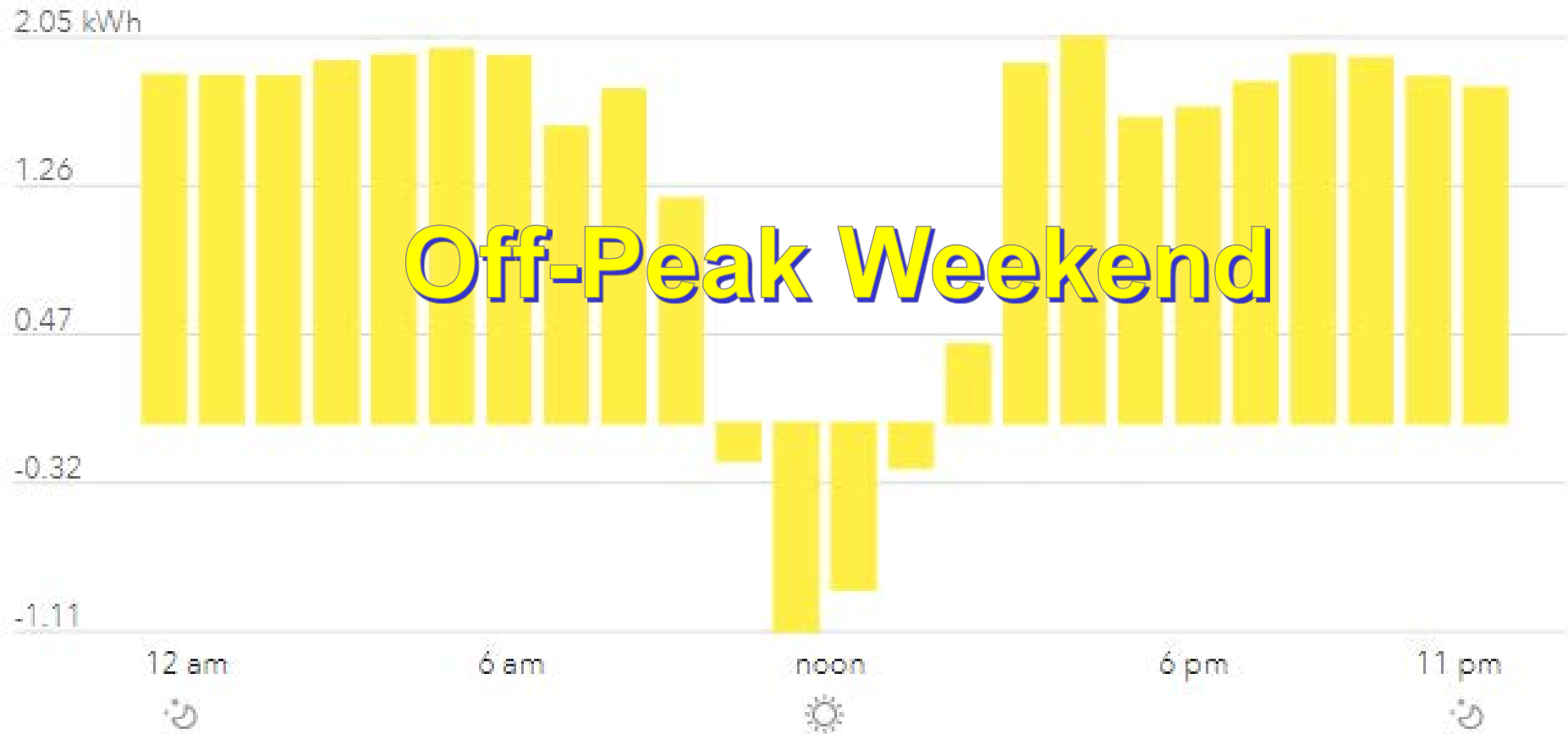
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Off-Peak Weekend



Discussion & Questions



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Building Standards Development

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