

## DOCKETED

<b>Docket Number:</b>	17-BSTD-03
<b>Project Title:</b>	2019 Title 24, Part 11, CALGreen Rulemaking
<b>TN #:</b>	222489
<b>Document Title:</b>	2-6-18 Presentation on Proposed 2019 CALGreen Code
<b>Description:</b>	Presentation given by Ingrid Neumann at the 2-6-18 Commissioner Hearing on the proposed 2019 CALGreen Code.
<b>Filer:</b>	Adrian Ownby
<b>Organization:</b>	California Energy Commission
<b>Submitter Role:</b>	Commission Staff
<b>Submission Date:</b>	2/8/2018 11:25:09 AM
<b>Docketed Date:</b>	2/8/2018



# **Title 24 Part 11**

# **California Green Building Standards**

**Ingrid Neumann**

**Building Standards Office**

**Efficiency Division**

Rulemaking Workshop

Rosenfeld Hearing Room

February 6, 2018



# Appendix A4

## Residential Voluntary Measures

- Section A4.203.1.1.1  
Performance Approach for Newly Constructed
  - based on **target EDR scores**  
(no longer “Percent better than” mandatory Part 6 )

**Mandatory Title 24 Part 6**

**Voluntary Part 11**

**Mandatory  
Energy Efficiency Targets  
Title 24 Part 6**

**Voluntary  
Energy Efficiency  
Title 24 Part 11**



# Appendix A4

## Residential Voluntary Measures

- **A4.203.1.3.1 Tier 1.**
  - **meet or be less** than a target Energy Design Rating (**EDR**), based on climate zone.
  - Measures considered:
    - energy efficiency measures (e.g. triple pane windows)
    - Demand Management (e.g. load following)
    - on-site battery or thermal storage





# Appendix A4 Residential Voluntary Measures A4.203.1.3.1 Tier 1

Modeled using:

- PV oversizing factors of 1.0 for mixed fuel and 1.1 for all-electric
- TOU battery controls

CZ	Mixed Fuel	All-Electric
1	23	36
2	12	16
3	10	14
4	8	12
5	10	16
6	10	12
7	5	7
8	10	10
9	13	13
10	10	11
11	11	12
12	12	13
13	11	13
14	15	16
15	11	8
16	22	39





# Appendix A4

## Residential Voluntary Measures

- **A4.203.1.3.2 Tier 2.**
  - **meet or be less than** a target Energy Design Rating (**EDR**), based on climate zone.
  - Paths considered:
    - electrifying space and water heating
    - advanced electric battery controls
    - modest oversizing of the photovoltaic system



# Appendix A4 Residential Voluntary Measures A4.203.1.3.2 Tier 2

Modeled using:

- PV oversizing factors up to 1.4 for mixed fuel
- PV sized to offset annual kWh for all-electric
- TOU battery controls

CZ	Mixed Fuel	All-Electric
1	13	0
2	5	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	5	0
15	0	7
16	14	10





# Appendix A4

## Residential Voluntary Measures

Required Prerequisites:

- **A4.203.1.1.2 Quality Insulation Installation (QII)**

AND Choose ONE of the Prerequisites below:

- **A4.203.1.2.1 Roof deck insulation, or ducts in conditioned space**
- **A4.203.1.2.2 High Performance Walls (HPW)**
- **A4.203.1.2.3 HERS-Verified Compact Hot Water Distribution System (CHWDS-H) with Drain Water Heat Recovery (DWHR-H)**





# Appendix A4

## Residential Voluntary Measures

- Section A4.204 Performance Approach for Additions has been struck



# Appendix A5

## Nonresidential Voluntary Measures

- Section A5.203, Performance Approach
  - Retain the “**Percent better than**” mandatory language
  - Target Percentages continue to vary depending on whether lighting and/or mechanical systems are included



# Appendix A5

## Nonresidential Voluntary Measures

Choose **ONE** of the following Prerequisites for **Tier 1** and **TWO** for **Tier 2**:

- **A5.203.1.1.1 Outdoor lighting**
- **A5.203.1.1.2 Service water heating in restaurants**
- **A5.203.1.1.3 Warehouse Dock Seal Doors**
- **A5.203.1.1.4 Daylight Redirecting Devices**
- **A5.203.1.1.5 Exhaust Air Heat Recovery**
- **A5.203.1.1.6 Triple Bottom Line Analysis**



# Questions?

**Building Energy Efficiency Program 2019 Update**

<http://www.energy.ca.gov/title24/2019standards/rulemaking/>

**Comments should be submitted to**

***DOCKET NO. 17-BSTD-03 by 5:00pm March 5, 2018***

[https://efiling.energy.ca.gov/EComment/EComment.aspx?](https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=17-BSTD-03)

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