

FUEL CELL NET ENERGY METERING GHG EMISSION STANDARDS


November 28, 2017

Governing Legislation


Assembly Bill 1637 (Low, 2016):

- Effective January 1, 2017
- Extends the CPUC's Fuel Cell Net Energy Metering (NEM) program tariff through 2021
- Increases individual system eligibility to 5 MW, and extends overall program cap to 500 MW over existing installed capacity
- Directs ARB to establish annual GHG emission reduction standards for "customer-generators" participating in Fuel Cell NEM program
- GHG standards are to reduce emissions relative to grid resources, including renewable resources, and account for both procurement and electrical grid operation


Fuel Cell NEM Background

- Program designed to continue market growth for on-site fuel cell electrical generation
 - Oversight by CPUC with IOU program administration
 - Customer-generators receive generation rate credits and avoid “nonbypassable” utility charges for onsite energy consumption
 - Incentives amount to approximate \$200k/MW of installed capacity
 - Historical annual growth of about 8 MW of installed capacity (total of 97 MW to date)
- 


Fuel Cell NEM Background Cont'd

- Eligible fuel cell technologies must reduce GHG emissions and meet ARB's Distributed Generation (DG) Certification Program requirements for criteria pollutants
 - Program works in tandem with CPUC's SGIP, which provides financial incentives for various DG technologies
 - Prior legislative directive to use the GHG standard developed for the SGIP for the Fuel Cell NEM (350 kg CO₂/MWh)
- 

Key Considerations

- Marginal energy resource mix and displacement assumptions
 - Role of renewable resources in the resource mix
 - Line Losses
 - Grid response to small load changes
 - Utility procurement considerations and RPS program progress
 - Interpretation of “emission reduction versus grid resources”
- 
- A decorative graphic consisting of several parallel white lines of varying lengths and orientations, located in the bottom right corner of the slide.

Stakeholder Feedback

- Base standard on model that predicts marginal mix
 - Include line loss savings
 - Revise testing parameters
- 

Emission Standards

- Based on CPUC's Avoided Cost Calculator
- Includes line loss savings

Year	Annual GHG Emission Standard (kg CO ₂ e/MWh)
2017	375
2018	364
2019	353
2020	342
2021	337

Recommended Test Procedures

- Staff will include advisory test methods for carbon dioxide and methane in the staff report:
 - Carbon Dioxide: ARB Test Method 100
 - Methane: ARB Test Method 100

Regulation Development Schedule

Ongoing

Discussions with CEC and CPUC staff

Fall 2017

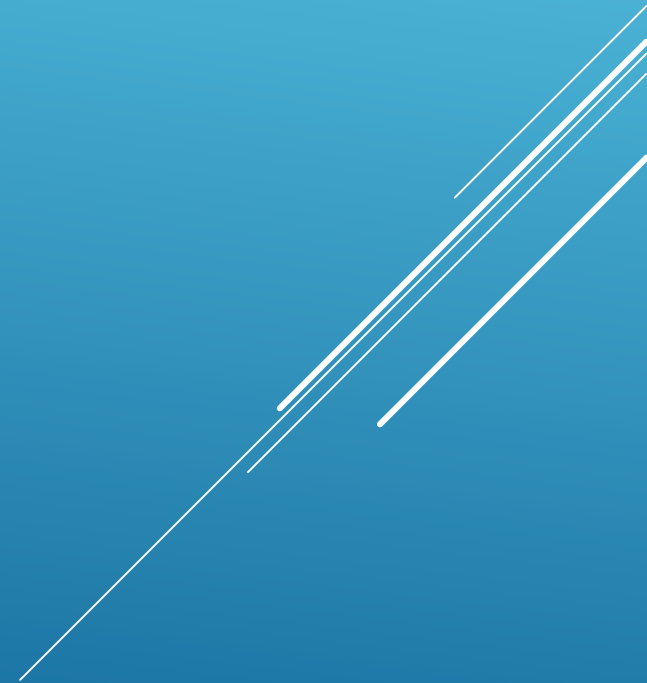
Conduct public workshop

Winter 2017

Start of formal 45-day
public review period
for proposed regulation

Spring 2018

ARB Board Meeting



Contact Information

Dave Mehl, Manager
Energy Section
(916) 323-1491
dave.mehl@arb.ca.gov

Keith Roderick
Energy Section
(916) 327-5548
keith.roderick@arb.ca.gov

A decorative graphic consisting of several parallel white lines of varying lengths, slanted upwards from left to right, located in the bottom right corner of the slide.