

# Demand Analysis Working Group (DAWG): Working Group Overview

2011 IEPR Staff Workshop:

- Update to 2009 Forecasts
- Historical Energy Efficiency Programs

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# **DAWG (Formerly DFEEQP)**

## **History/Activity**

- 2004 -- IEPR serves as basis for procurement decisions in LTPP (R. 04-04-003).
- 2006 LTPP – Initial issue identification – how much uncommitted EE is embedded in the demand forecast?
- 2007 IEPR – CEC proposed a public process to better delineate EE savings assumptions included in the forecast.
- 2008 (R. 08-02-007) CPUC directed IOUs to participate in Working Group, noting that the CEC's demand forecast is used as a critical input for arenas including LTPP, EE and GHG related proceedings.

# **DAWG (Formerly DFEEQP)**

## **History/Activity (Continued)**

- 2008 IEPR Update -- Demand Forecast Energy Efficiency Quantification Project (DFEEQP) Working Group initiated.
- 2009 IEPR – Working Group fully active – meets approx. every 6 weeks
- 2010 -- Change name from “DFEEQP” to DAWG – Form subgroups.
- 2011 IEPR – Continued activity in DAWG and four subgroups formed (two are active).

# DAWG MEMBERSHIP

- Energy Commission Staff
- CPUC Staff
  - EE – Planning
  - EE -- Evaluation
  - Procurement
  - Dept. Ratepayer Advocates
- IOUs
  - EE
  - Forecasting
- POU's (Forecasting, EE)
- NRDC
- TURN
- ARB
- Public Power Authorities (NCPPA, SCPPA)
- CAISO

APPROXIMATELY 100 MEMBERS

## Mission and Objectives

### I. Mission

Contribute to California demand forecasts.

### II. Objectives

- Provide a forum for sharing information pertinent to demand forecasting in California.
- Techniques
- Forecasting inputs
- Forecasting models
- Assumptions
- ***Approaches for ensuring transparency***
- Uses for demand forecast results

## Mission and Objectives (Continued)

### II. Objectives (continued)

- Ensure complete, accurate, and comparable information on the impacts of a) drivers of energy demand and b) programs, initiatives and policies designed to modify energy demand is collected and provided
- Load modifying activities such as energy efficiency and distributed generation are of particular interest.
- Facilitate inter-agency, inter-organizational and inter-disciplinary coordination to accomplish these goals.
- Conduct special projects as necessary

## Structure

### Full Working Group

Addresses all topics + interactions between topics

#### **Demand Forecasting “Pup”**

Modeling  
Forecasting  
Techniques  
Data

#### **Energy Savings “Pup”**

Energy  
Efficiency/EM&V  
EE in Demand  
Forecasts

#### **EE Potential/Goals “Pup”**

Currently  
with  
ES Pup

#### **Distributed Generation “Pup”**

Placeholder

## Demand Forecasting “Pup”

### Selected Topics

- Compare/share forecasting methodologies
- Level of aggregation (customer segment; service territory, etc.)
- Frequency of updates
- Key drivers, assumptions and data sources
- Techniques for estimating peak demand
- Treatment of weather including climate change
- Approaches for including efficiency, distributed generation
- Incorporation of uncertainty

### Outcomes

- Transparency
- Sharing of techniques and data
- Early identification of sources of divergent forecast results



## Energy Savings “Pup”

### Selected Topics

- Interact with CPUC (IOU) and POU Evaluation, Measurement & Verification (EM&V)
- Identify consistent metric for peak savings
- Measure decay
- Macro-consumption metrics
- Compilation of historical impacts
- Behavioral impacts
- “Total Market Gross” impact measurements

## Energy Savings “Pup”

### Selected Topics (continued)

- Naturally occurring conservation
- Net/gross savings
- Quantification of load impacts from market transformation
- Price effects
- Takeback / rebound
- Attribution of impacts to specific interventions or entities

### Outcomes

- ***Transparency – progress!***
- Progress on “forecast friendly” evaluation research
- Agreement where possible
- Promotes sophisticated understanding/conversation

# EE Program Data Issue Arose in 2009

This Slide is from 2009 “DFEEQP”

## TASK:

Identify and Assemble EE Program Accomplishments; Saturation Studies; and Evaluation, Measurement & Verification (EM&V) Data

## Challenges:

- Multiple iterations of CPUC program data for each cycle.
- “Final” program results dispersed in multiple (hundreds) of EM&V reports, regulatory documents, decisions.
- Data aggregation, format, etc. varies over time.
- Significant processing and assumptions required for 2009 IEPR preliminary forecast in order to achieve end-use breakouts and to reflect savings levels confirmed via *ex post* evaluation.
- Developing an “improved” set of accomplishments data for use in the future will require even greater effort.

## EE in CEC Demand Forecasts

- Pursued stakeholder questions regarding differences between energy efficiency graphs in the 2005 and 2009 demand forecasts
- 2005 depiction of investor owned utility energy efficiency program accomplishments (originally published in 2003) was based on unverified utility reported accomplishments
- Information shown in the graph was not used in the forecasts – was a table with separate information
- In 2009 IEPR CEC staff focused attention on producing more detailed analyses of energy efficiency – thus the change in graph
- Different portions of the CEC forecasting model use different approaches to energy efficiency
- Efficiency can be embedded in model and in forecasting data

## Progress on EE History in Demand Forecasts

- Pursued stakeholder questions regarding differences between energy efficiency graphs in the 2005 and 2009 demand forecasts
- Energy efficiency enters the forecast in a number of different ways, depending on the structure of the modeling module and on data inputs.
  - Can be entered explicitly
  - Can be embedded in the model
  - Can be embedded in data used to “feed” the model
- Requires adjustment from raw program reports to enter the demand forecasting model for these reasons.

## Progress on EE History in Demand Forecasts (continued)

- EE history graph in 2005 IEPR (originally published in 2003) was based on unverified utility reported accomplishments
- Information shown in the graph was not used in the forecasts – was a table with separate information
- In 2009 IEPR CEC staff focused attention on producing more detailed analyses of energy efficiency – thus the change in graph
- Attribution of efficiency to different “categories” e.g., codes, standards, programs, naturally occurring is somewhat fungible and can be affected by modeling approach
- “Naturally Occurring Savings” category is composed mostly of price effects

## Results of Progress on EE History in Demand Forecasts

- Energy Commission staff have proposed a significantly more ***nuanced treatment*** and discussion of energy efficiency history than in prior demand forecasts.
- Stakeholders able to ***participate effectively*** in an extremely complex discussion involving modeling approaches, regulation, data and policy.
- Agreement has been achieved ***where possible***
- ***Key policy issues*** where stakeholders do not agree are now ***being put before the Energy Commission***

## Benefits

- Transparency/Enhanced Learning
- Stakeholders from diverse organizations and areas of expertise share information in informal setting – fosters communication between “silos”
  - Forecasting/EE Evaluation and Reporting
  - Energy Efficiency/Procurement
  - Utilities/Regulators
  - IOUs/POUs
  - Theory/Practice
  - Implementation/Policy
- Significant stakeholder interest and participation



# Contact Information

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