



California Energy Commission

2010 BIOENERGY ACTION PLAN

CALIFORNIA ACTION TEAM

JUNE 23, 2010

PRESENTATION

Sarah Michael, Advisor

CEC Commissioner Jim Boyd



Governor's Executive Order S-06-06

- 20% of the RPS by 2010 and 2020**
 - 3.3 TWh additional biopower generation by 2012¹**
 - 10 – 13 TWh additional biopower generation by 2020¹**
- In-State Biofuels: 20% by 2010; 40% by 2020**
 - 100 million GPY by 2010**
 - 550 million GPY by 2020**

1. Source: California Energy Commission. Estimates assume the utilities will meet 20% RPS target by 2012 and 33% RPS target by 2020.

2. Source: Orta, Jason, Zhiqin Zhang, and et. al. 2010. *2009 Progress to Plan - Bioenergy Action Plan for California*. California Energy Commission. CEC-500-2010-007.



OTHER STATE POLICIES

- **AB 32**
- **Climate Adaptation**
- **Renewable Portfolio Standard**
- **Low Carbon Fuel Standard**
- **AB 118 Alternative Fuels Projects**
- **Urban and Agricultural Waste**
- **Forest Health**
- **Integrated Energy Policy Report**



Bioenergy Interagency Working Group

California Energy Commission

Air Resources Board

California Department of Food and Agriculture

Cal Recycle

Cal Fire

California Public Utilities Commission

Water Resources Control Board

Department of General Services

Resources Agency

CalEPA



The Bioenergy Action Plan – Not A Separate Measure but Supports AB 32 Scoping Plan

- **33% RPS (E3). Biomass and biogas provide almost 1/5th of California's RPS energy today.**
- **Reduce methane emissions at landfills (RW-1 and RW-2).**
- **Low-carbon fuel standard (T-2).**
- **Sustainable forests (F-1).**
- **Methane capture at large dairies (A-1).**



Complements a Number of Goals – 33% RPS

Potential – Biomass Electricity	Capacity
Feedstock technical potential	
Forestry	2,380 MW
Ag and food processing	1,390 MW
Non-fossil LF waste	1,320 MW
WWTP	90 MW
LF gas	587 MW
Mixed fuel potential	
Coal full fuel switch	>150 MW
WWTP Co-digestion	>340 MW



Complementary Adaptation Strategies

- **Landfills/Waste Water Plants - Renewable Energy Production from Organic Wastes – Fewer landfills and disposal issues; more diversion (CalRecycle goals); source of alternative fuels (LCFS; AB 118); reduced methane, flaring and GHG.**
- **Energy from Forest Waste –Helps pay for forest health projects; healthy forests reduce the potential for high-temperature forest fires; Healthy forests protect watersheds, public health, jobs and communities; Forests sequester carbon. Supports LCFS; AB 118.**
- **Energy from Agricultural Waste - Alternative to Open Field Burning; Use of Dairy Waste in Digesters (RPS, LCFS, GHG);Strategy to help reduce GHG emissions in the agricultural sector.**



What Next? Working Together to Address Barriers:

- **Joint Agency Support for AB 222**
- **Programmatic EIR for Dairy Digesters**
- **Forest Sector Energy and GHG Reduction**
- **Adopting a 2010 Bioenergy Action Plan**



2010 BIOENERGY ACTION PLAN

Meeting Schedule

- June 24- Bioenergy Working Group
- September 14 – Next public workshop
- November 4 – Proposed final plan available
- Website

http://www.energy.ca.gov/bioenergy_action_plan