

# CA Biomass Collaborative:

California's progress in developing an economically and environmentally viable biomass to energy business sector

April 4, 2011

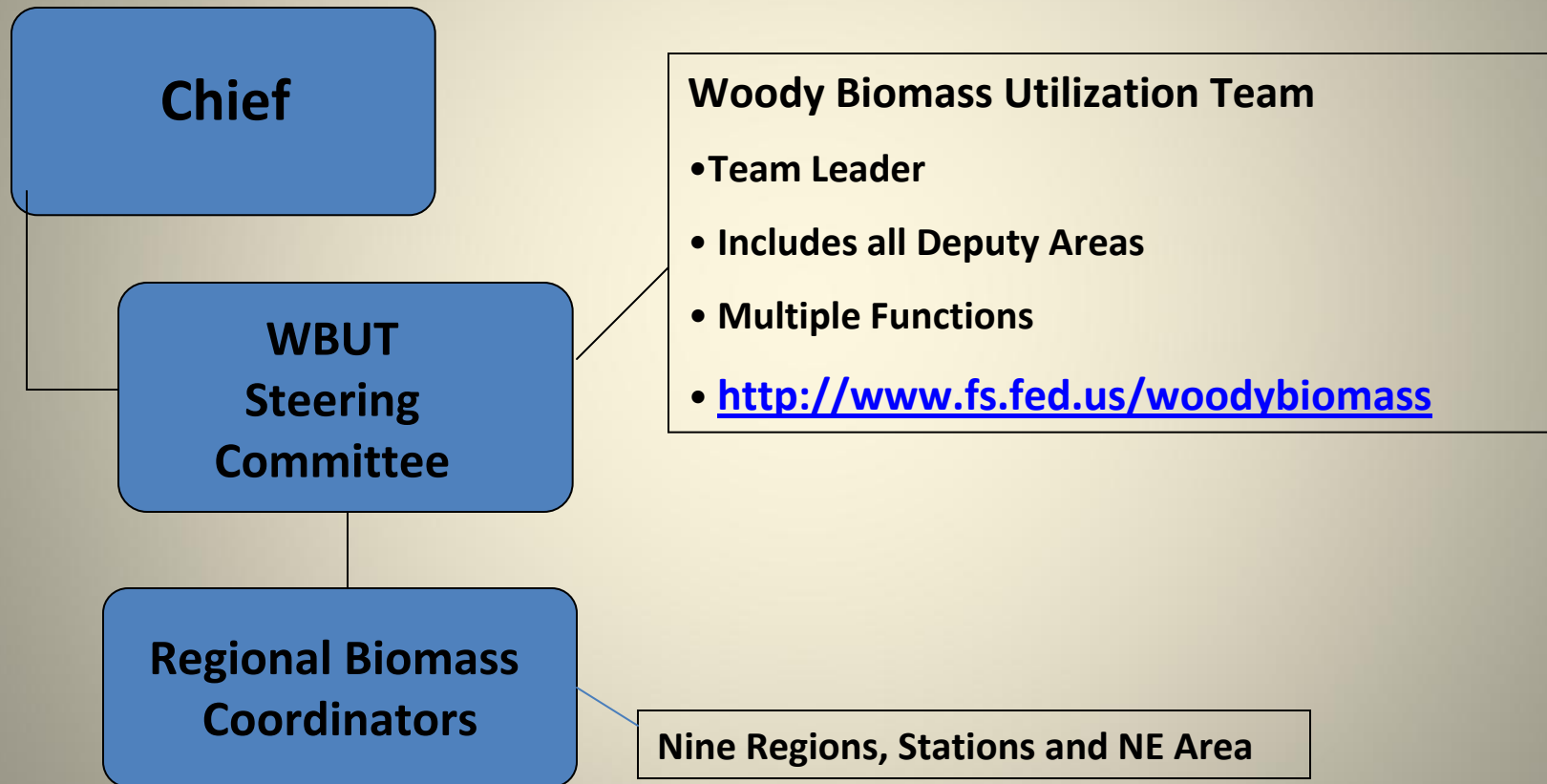
**Federal programs related to biomass and environmental services providing indirect subsidies for biomass utilization**

Edmund Gee, Woody Biomass Utilization Team Leader,  
USDA-Forest Service, Washington, DC

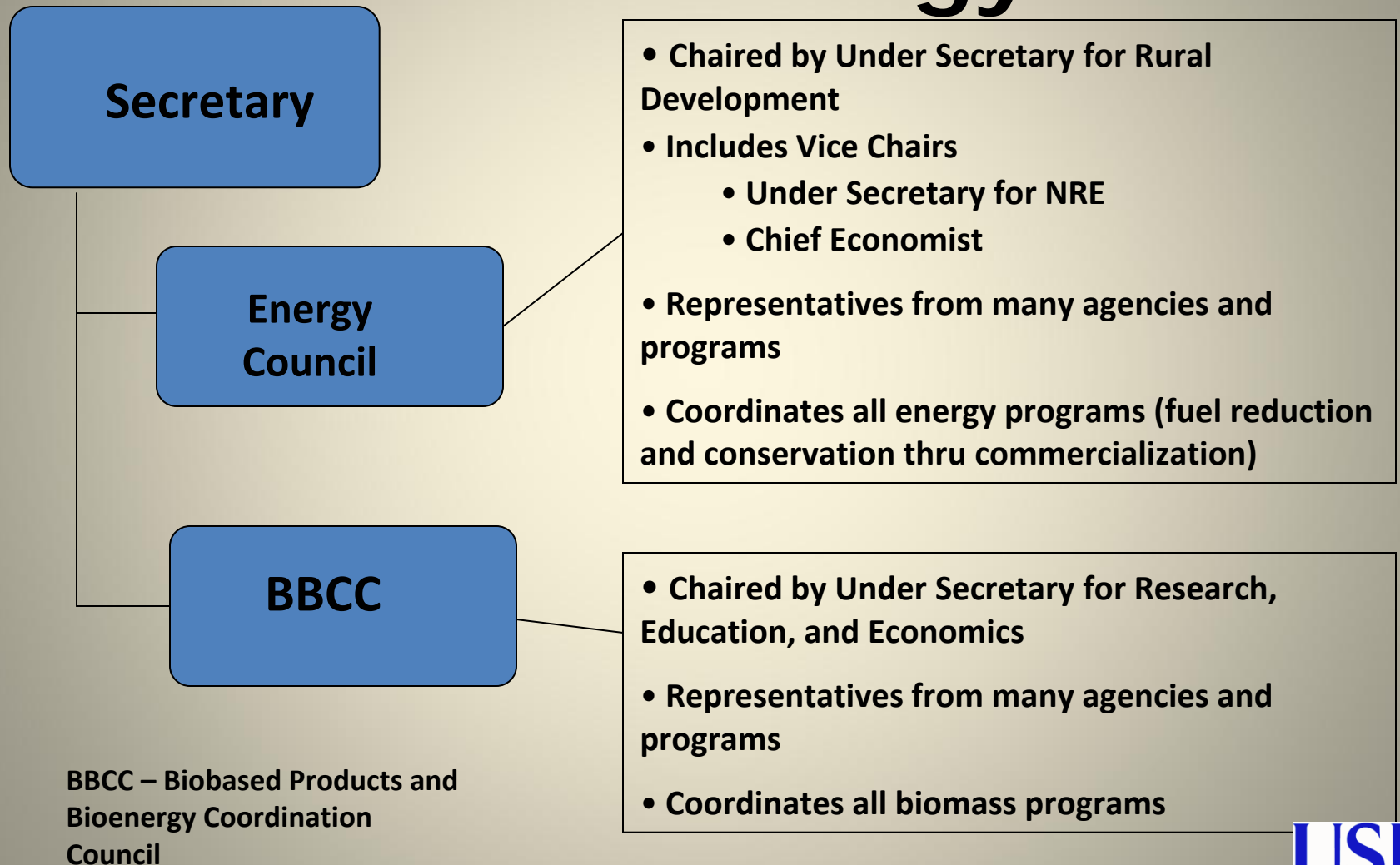
# Overview

- How the US govt is organized to deal with woody biomass to energy
- Policies directly related to woody biomass utilization
- Implications of specific areas of concern from the National to Regional to State (CA)
- Where are we going in the future with woody biomass for energy

# USFS Organization for Biomass Utilization



# USDA Organization For Renewable Energy



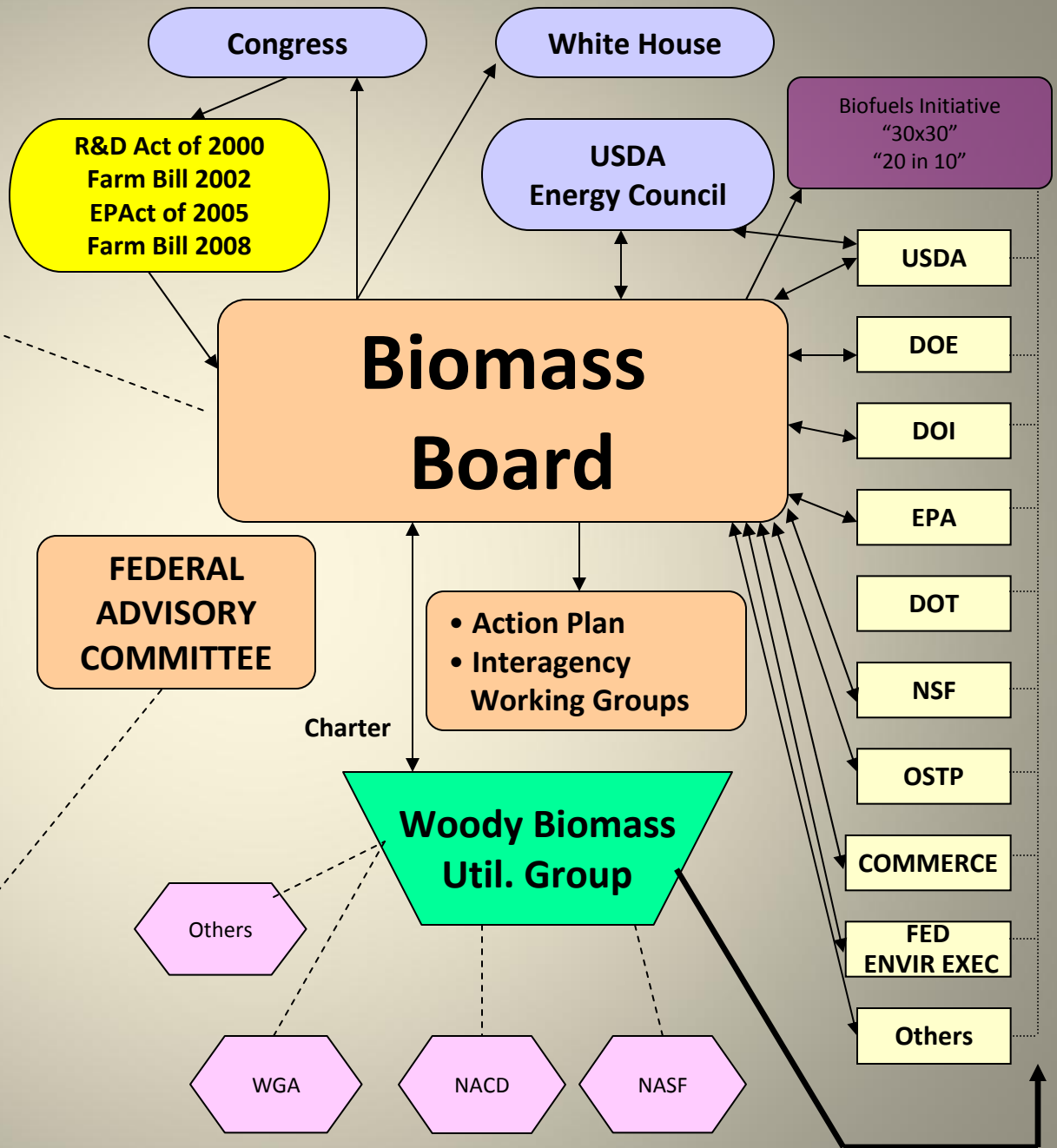
# General US Government Biomass Utilization Organization

The Biomass Research and Development Board (the Board), co-chaired by the DOE and the USDA, is responsible for coordinating research and development activities relating to biofuels and biobased products.

<http://www.biomass.govtools.us/about/biomassBoard.asp>

The Biomass Research and Development Technical Advisory Committee (the Advisory Committee) is responsible for providing guidance, advice, and recommendations on the Initiative.

<http://www.biomass.govtools.us/about/advisoryCommittee.asp>



# **Biomass Board**

## **Interagency Working Groups**

### **Feedstock Analyses (USDA-DOE Led) (Report Specific)**

- **Availability and Economics Interagency Team**
- **Sustainability Interagency Team**
- **Green House Gases Interagency Team**

### **Biofuels Action Plan**

- 1. Sustainability Interagency Working Group (DOE/USDA/EPA Led)**
- 2. Feedstock Production Interagency Working Group (USDA/DOE-OS Led)**
- 3. Feedstock Logistics Interagency Working Group (USDA/DOE-OBP Led)**
- 4. Conversion Science and Technology Interagency Working Group (DOE Led)**
- 5. Distribution Infrastructure Working Group (DOT Led)**
- 6. Blending Interagency Working Group (EPA/DOE Partnership)**
- 7. Environment, Health & Safety Interagency Working Group (DOT Led)**

# National Policy - Woody Biomass Utilization

- Energy and Climate Change Policy
  - Energy Policy- Energy Policy Act of 2005, Executive Order 13514
    - Requires federal agencies to increase use of renewable energy and support expanded development of renewable energy through federal actions
  - Climate Change Policy- Executive Order 13514
    - Required federal agencies to inventory their GHG emissions and improve their environmental footprint

# National Policy- Forestry

## Forestry Policy

- National Fire Plan 2000

A comprehensive approach to the management of wildland fire, hazardous fuels, and ecosystem restoration and rehabilitation on Federal and adjacent State, tribal, and private forest and range lands in the United States.

- Healthy Forests Restoration Act 2003

Biomass utilization to create markets to reduce cost of hazardous fuels and restoration work

- Forest Landscape Conservation Program 2009

- Farm Bill of 2008 “WBU Grants, Community Wood Energy Program, Forest Biomass Energy Program”



# Federal Programs

- Federal programs related to biomass and environmental services providing indirect subsidies for biomass utilization
  - 2008, Farm Bill
    - WBU Grant Program
    - Community Wood-to-Energy Program
    - Forest Biomass for Energy Program
    - Biomass Crop Assistance Program

# Woody Biomass Utilization Grant

- Established 2005-2010, Requested FY11 & 12 \$5MM @ \$250K/grant
- Woody biomass material removed from forest restoration activities;
- Woody biomass shall be used in a bioenergy facility that uses commercially proven technologies to produce thermal, electrical, or liquid/ gaseous bioenergy;
- Funds the engineering services necessary for final design and cost analysis.

# Community Wood-to-Energy

- Established 2008 Farm Bill-Never funded, requested \$5MM FY11 (Hazardous Fuels \$\$) & FY12 (IRR \$\$)
- Grants provide State, Tribal, and local governments support in developing community wood energy plans.
- Acquire community wood energy systems and/or technical assistance for public facilities that use woody biomass as the primary fuel.
- Current Farm Bill expires 2012

# Forest Biomass for Energy Program

- Established by 2008 Farm Bill – Never funded  
Requested FY11 & FY12 - \$15MM/year
- Research and development program to use forest biomass for energy;
- The Forest Service, other federal agencies, state and local governments, Indian tribes, land-grant colleges and universities, and private entities are eligible to compete for program funds..

# BCAP Update

- **BCAP final rule was published October 27, 2010.**
- **BCAP began taking biomass conversion facility applications and project proposals on December 17, 2010.**
- **BCAP received an apportionment of \$196 million for FY2011 to support the entire program: matching payments and project area annual rental payments and establishment payments for perennial crops.**
- **BCAP matching payments are up to \$45 a dry ton.**

# **BCAP Update Cont'd**

- **BCAP guidance for woody materials under the matching payments opportunity is forthcoming.**
- **BCAP under the NOFA, released in June 2009, provided \$244 million in matching payments.**
- **BCAP under the NOFA, released in June 2009, provided \$29.6 million in matching payment to eligible material owners in California.**
- **BCAP under the NOFA, released in June 2009, provided \$12.4 million in matching payments for federal woody resources.**

# Implications of specific areas of concern

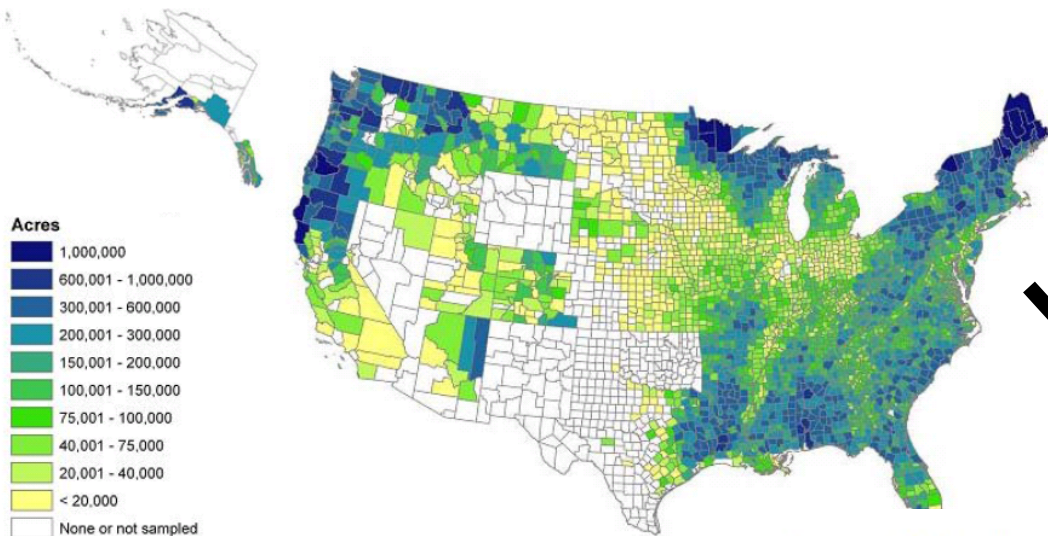
- Dynamic landscape of policies and requirements at the federal, state, and local levels related to:
  - What biomass can be used
  - Air quality considerations, upfront and on-going
  - Federal and State energy policies
  - New federal climate change policies
- Know where siting facilities may be precluded given existing policies and environmental conditions
- Know availability of woody biomass and other forms of biomass
- Consider how other industries/uses will influence markets and prices (i.e., supply and demand)

# Challenges

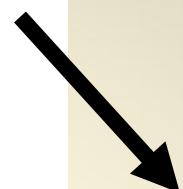
- Availability of Woody Biomass and Competing Uses
- EISA Renewable Biomass Definition vs. Farm Bill Definition of Renewable Biomass
- Air Quality Regulations and Policies Relevant to Bioenergy Facilities
- Renewable Energy Standard
- Funding Sources – Grants, Venture Capitalists



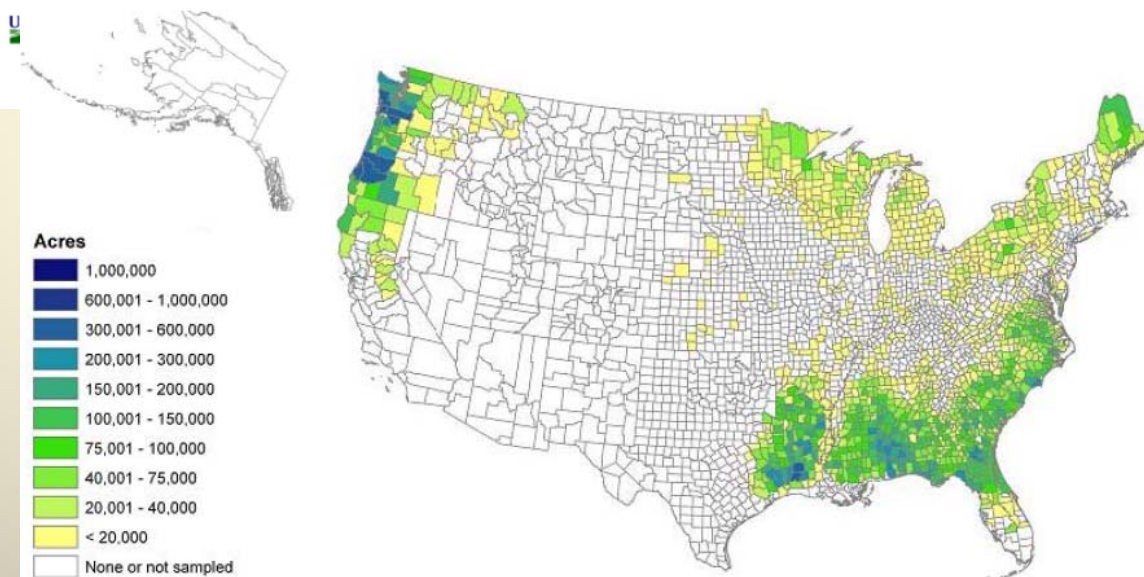
# Area of Timberland Qualifying Under the 2008 Farm Bill



Shows impact of the current "Renewable Biomass" definition in the Renewable Fuels Standard (EISA 2007)



# Area of Timberland Qualifying Under the 2007 Energy Act



# National Emission Standards for Hazardous Air Pollutants (NESHAPs)

- Section 112(k) of CAA lists area source categories that emit HAPs, including industrial boilers and institutional/commercial boilers
- Section 112(c)(6) list of categories accounting for 90% of emissions of 7 listed HAPs includes industrial boilers and institutional/commercial boilers
- Different approaches for new vs. existing sources:
  - New source standards reflect what is achieved by the best controlled similar source
  - Existing sources reflect what is achieved by the average of the best 12% of existing sources
- Different approaches for large (major) vs. smaller (area) sources
- EPA is directed by court order to propose rules by April 15, 2010 and take final action by December 16, 2010
  - Requires new NESHAPs for new and existing major and area sources of toxic air pollutants
  - It will be effective on the date it is proposed
- Both air toxic pollutant rules:
  - require limits based on “maximum achievable control technology” with later evaluations of remaining risk and stricter standards if needed (MACT)
  - Will use information on boilers and incinerators and emissions testing, including 37 biomass units

# Type of Woody Biomass Feedstock Matters

**Clean wood**



**Subject to Boiler MACT  
Standard**

**Discarded  
Wood**



**Subject to Commercial &  
Industrial Solid Waste  
Incinerator MACT Standard**

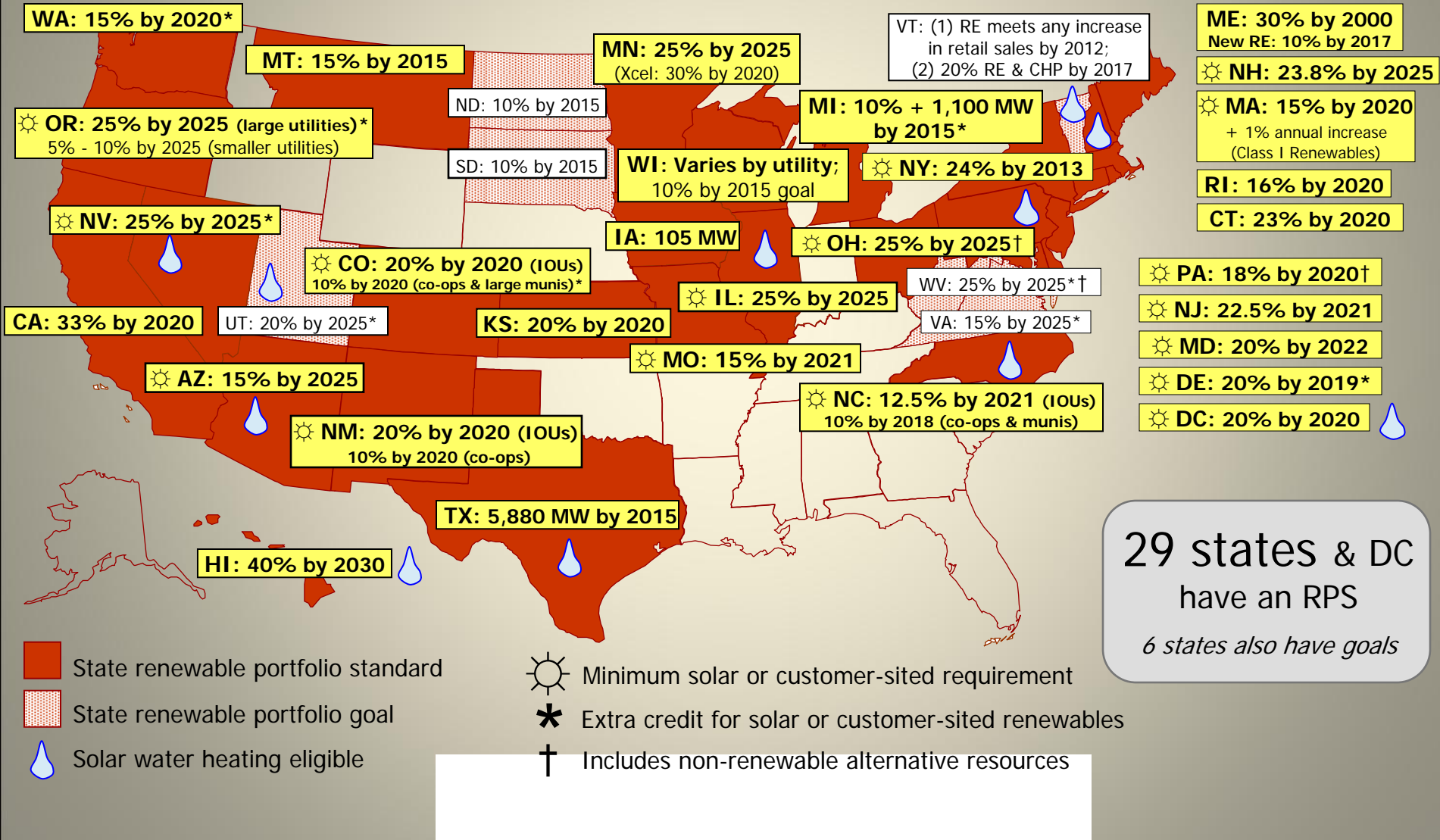
**WMB Co-fired  
with Coal**



**Subject to Utility MACT  
Standard**

# Renewable Portfolio Standards

[www.dsireusa.org](http://www.dsireusa.org) / November 2009



29 states & DC  
have an RPS  
*6 states also have goals*

# **Increased Demand for Woody Biomass Utilization**

- **Biomass has surpassed hydropower as largest domestic source of renewable energy & provides >3 % of total energy consumed in US**
- **Expanded focus of wood-fuel industry from residential to commercial and institutional applications**
- National Fire Plan & Ten-Year Comprehensive Strategy
- Healthy Forest Restoration Act
- State Renewable Energy Portfolios & Legislative Initiatives

# **Future of Woody Biomass for Energy**

## **Excerpts from President Obama's Speech on Clean Energy**

- **To harness our potential to produce clean energy right here at home:**
- **Biofuels in particular hold as tremendous promise to replace foreign oil. That is why, at USDA, we have set out a comprehensive strategy for how we will work with our sister Federal Departments, states and private businesses to build a national renewable biofuels industry.**
- **At USDA, we use Farm Bill programs to support farmers, ranchers and other rural Americans who are producing electricity from solar, wind, woody biomass, animal waste and other sources.**
- **Securing our energy future will take time and effort, and it will require our brightest scientists, our smartest companies, and all of us – Democrats, Republicans, and everyone in between – to do our part. And rural America must continue to help lead the way.**

# Bioenergy- creating the Win-Win-Win

- ***Energy Policy and Security***
- ***Climate Change Adaptation and Mitigation***
- ***Forest Policy***

