

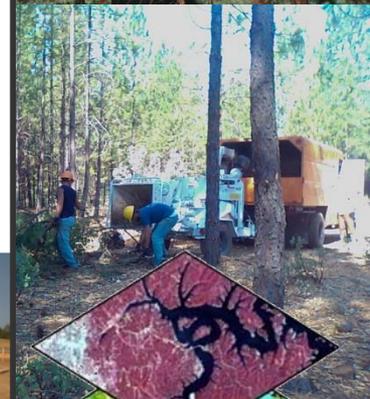
Building a Bioenergy Future for California's Farms & Businesses

September 22, 2011



Jobs, Economic Development and Sustainable Communities

Strategizing Policy Needs and Program Delivery for Rural California



Submitted by Dr. Glenda Humiston
State Director, USDA Rural Development
February 9, 2010



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Dr. Glenda Humiston State Director, California RD

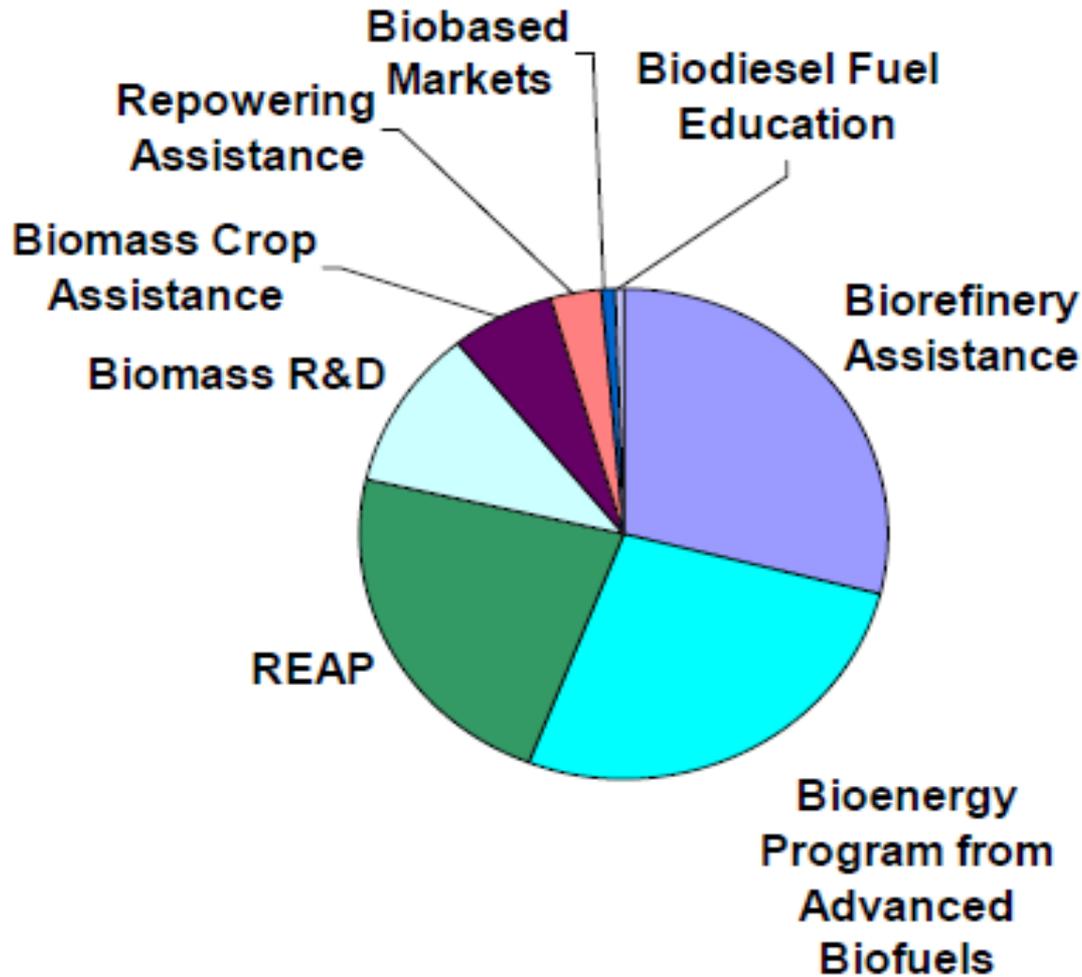
First ever Energy Title created in 2002 Farm Bill

- Federal commitment to farm-based energy.
- Rural America and our farms can produce many renewable resources.
- Bipartisan support.

2008 Farm Bill expanded energy commitments

- Energy Title 1.12 billion in mandatory funding for broad range of clean energy options.
- Emphasis on advanced biofuels, energy crops.

(\$1.12 Billion Budget)



**Budget
Breakdown:
Programs
with
Mandatory
Funding**



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USDA Energy Title

- **Rural Energy for America Program (REAP)** – incentives for on-farm and business renewable energy/energy efficiency systems/audits (\$255 million)
- **Biomass Crop Assistance Program (BCAP)** – encourage new energy crops. (“Such Sums As Necessary”)
- **Biomass Research and Development** – focused research on primarily advanced biofuels (\$118 million)
- **Biorefinery Assistance Program** – incentives to develop and construct pre-commercial and advanced biofuel production plants. (\$320 million)

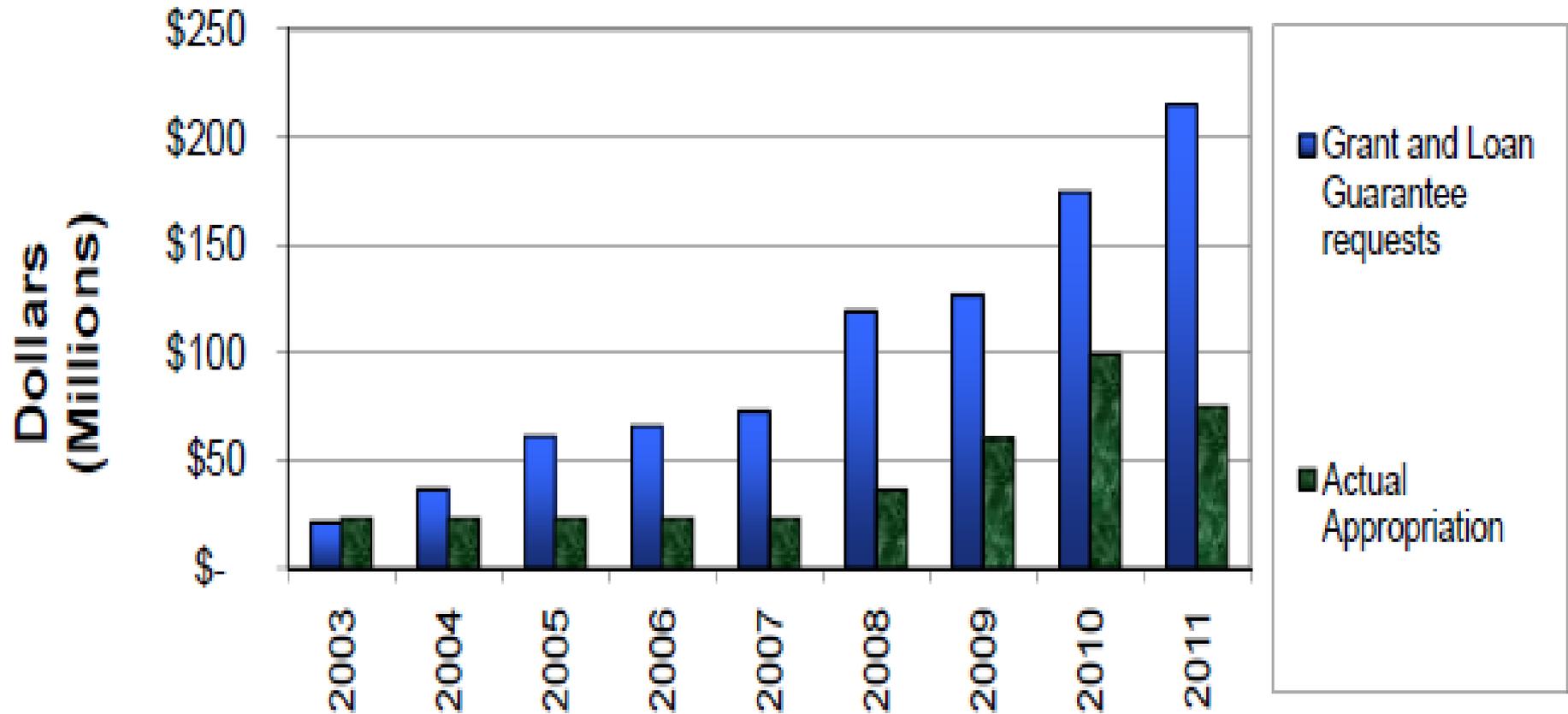
- **Biobased Markets Program** – improvements to existing program. (\$9 million)
- **Biodiesel Fuel Education** – continues existing program (\$5 million).
- **Bioenergy Program for Advanced Biofuels** – incentives for non-corn starch biofuels. (\$300 million)
- **Repowering Assistance** – incentives to encourage conversion of existing ethanol plant boilers from fossil fuel to renewable biomass. (\$35 million)



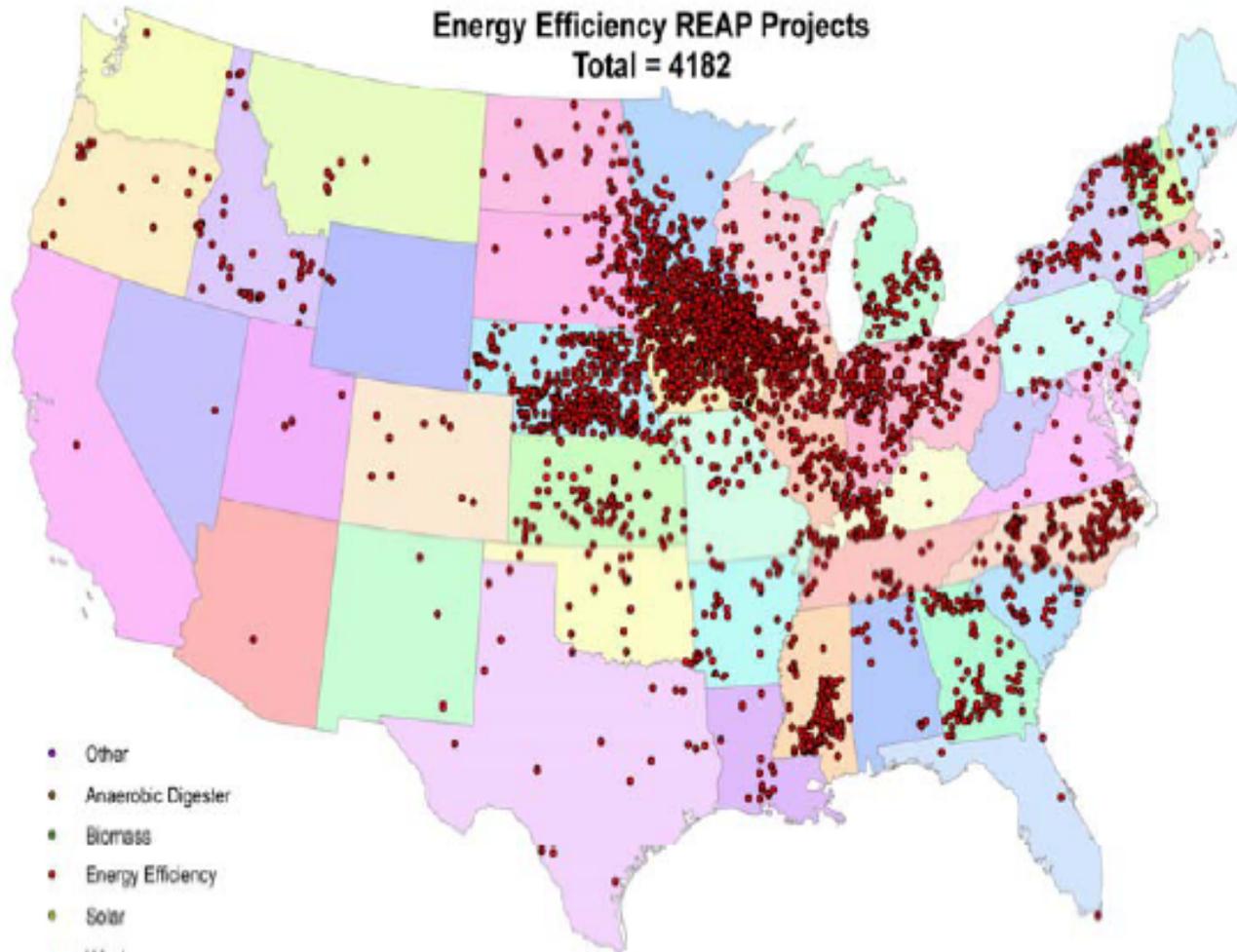
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Programs with Mandatory Funding

REAP Popularity and Funding



Energy Efficiency REAP Projects
Total = 4182



Quick
Payback of
Upgrading
Grain
Dryers
Heavily
Skews
Program \$\$
to Midwest.



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**Current Rules Favor Energy
Efficiency & Flex Fuel Pumps**

**18.45 jobs are created from each
\$1 million invested in
Energy Efficiency Improvements
by small businesses
and agricultural producers.**

(\$54,200 per job)

Source: Political Economic Research Institute green jobs creation rates derived from U. S. Dept. of Commerce industrial economic output data, 2009.



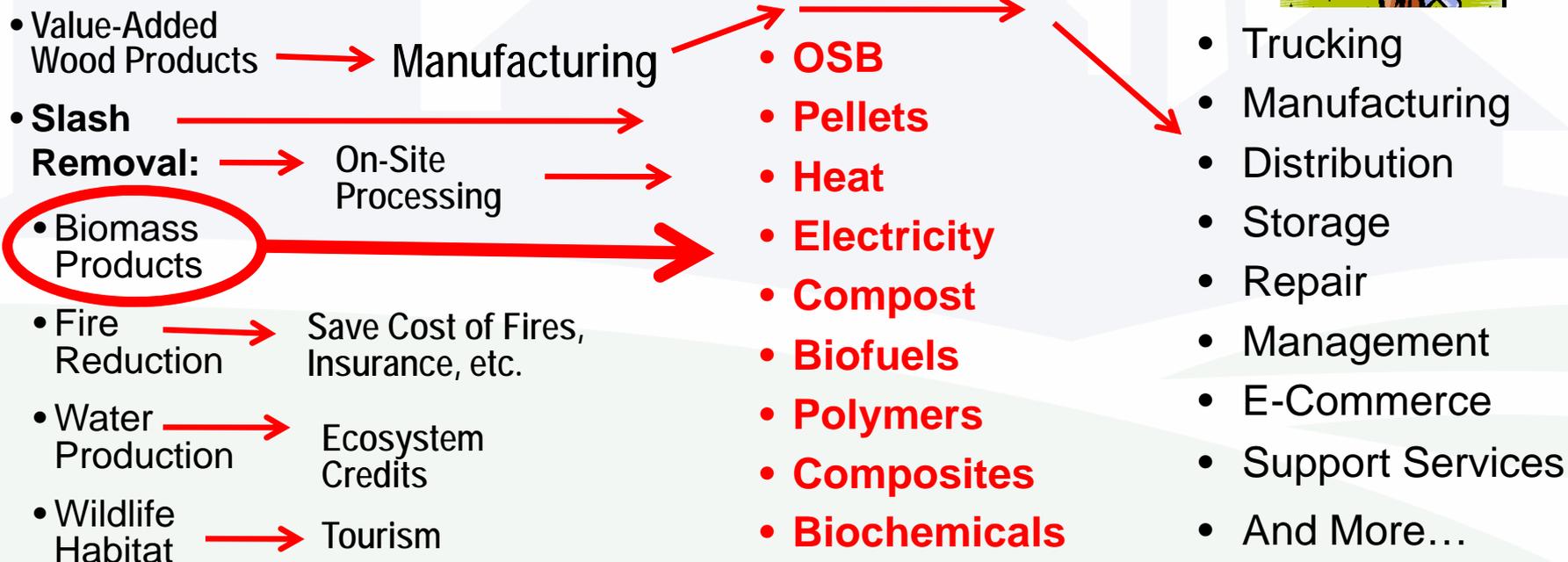
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REAP Creates Jobs

Midwest Corn Ethanol Value Chain



Woody Biomass Value Chains



Supply Chain Emissions and Carbon Reduction Projects



Dairy Fleet Smart

Processing & Packaging LCA

Dairy Plant Smart

Next-Generation Processing: UV

Next-Generation Cleaning

Cow of the Future

Farm Energy Efficiency

Dairy Power

Biogas Capture and Transport

Farm Smart

**California Milk
Advisory Board**

**Western United
Dairymen**

**California
Dairies, Inc.**

Source: B Thoma et. al, Greenhouse Gas Emissions of Fluid Milk in the U.S., University of Arkansas, 2010. Based on 2007-2008 data.



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Innovation Center for U.S. Dairy



Agricultural Innovation Technology Program

- Collaborate on Research and Development
- Quickly Move New Technology into Commercialization



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Public – Private Partnerships

USDA Loan Guarantees and Intermediary Relending



California USDA Rural Development & the Federal Reserve Bank of San Francisco FINANCIAL OPPORTUNITIES ROUNDTABLE

CalFOR aims to develop tools and strategies that will:



- Mobilize capital markets
- Capture local investment potential
- Fuel regional economic growth

- Impact Investing
- Expanded Use of Bonds
- Retirement Accounts Invested Locally
- Program Mission Related Investments
- and ???



LEVERAGING NEW MARKET TAX CREDITS (NMTC)



Bringing OUR Capital Home

- Loan guarantees for *commercial plants up to \$250 million each.*
- Grants to *demonstration plants up to 30% of costs.*
- Prioritizes “advanced biofuel” production – other than corn starch. Cellulosic, biodiesel.
- Emphasis on moving quickly: Funding up front in first years.
- USDA moving rapidly with implementation.

Purpose: Support and ensure an expanding production of advanced biofuels by providing payments to eligible advanced biofuel producers.

- 1 Biofuel must be a solid, liquid, or gaseous advanced biofuel; must be a final product; and must be sold as an arms length transaction to a third party.
2. An advanced biofuel is derived from renewable biomass, other than corn kernel starch, such as: cellulose, hemcellulose, or lignin; sugar and starch, waste material (including crop residue, animal waste, food waste, etc.); vegetable oil and animal fat; biogas (including landfill gas and sewage waste treatment gas); butanol or other alcohols.

Funding: \$85 million was authorized in 2011.



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§ 9005 Advanced Biofuel Payment Program

Reduce the United States' reliance on Fossil Fuels by providing Grants and Loan Guarantees

- Renewable Energy Systems
- Energy Efficiency Improvements
- Feasibility Studies
- Energy Audits/Renewable Energy Development Assistance



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§ 9007 Rural Energy for America Program (REAP)

- **Grants: limited to 25% cost-share.**
Maximum of \$500,000 for renewable energy and \$250,000 for energy efficiency projects. 20% set-aside for small grants.
- **Loan guarantees:** Minimum: \$5,000
Maximum \$25 million
- **Energy Audits & Feasibility Studies**



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§ 9007 Rural Energy for America Program (REAP)

Renewable Energy Systems (RES) and Energy Efficiency Improvements (EEI):

- Grants: Up to 25% of project cost, < \$500,000 for RES or \$250,000 for EEI
- Loan Guarantees: Up to 75% of project cost, < \$25 million

Feasibility Study Grants: Up to 25% of study's cost, < \$50,000

Energy Audits/Renewable Energy Development Assistance (EA/REDA) Grants: < \$100,000



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§ 9007 Rural Energy for America Program (REAP)

- **Eligible Recipients:** include agricultural producers and rural small businesses – REAP is only significant federal financing incentive available for these recipients.
- **Eligible Technologies:** Energy efficiency, wind, solar, geothermal, anaerobic digesters, biomass energy, biofuels, marine energy and small hydroelectric.



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§ 9007 Rural Energy for America Program (REAP)

- **Establishment and Annual payments:**
Create a new supply of energy crops by paying farmers to establish and grow perennial biomass crops, within qualified BCAP project areas.
- **Matching Payments:**
Offsets for delivery of biomass to qualified biomass conversion facilities for collecting, harvesting, storing and transporting energy crops by providing dollar-for-dollar matching payments to purchasers up to \$45/ton.



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§ 9011 Biomass Crop Assistance Program (BCAP)