

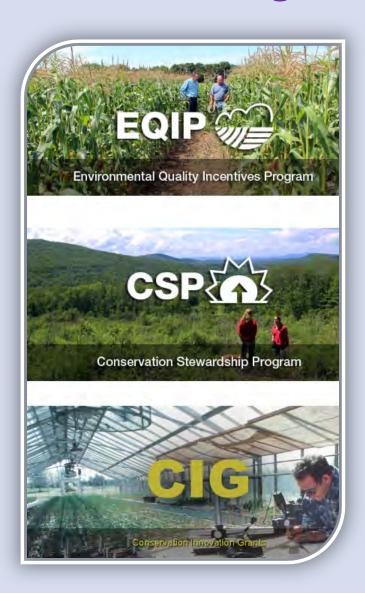
Farm Bill Conservation Programs

Alan Forkey

Natural Resources Conservation Service



Farm Bill Programs - Financial Assistance







Wetland Easements



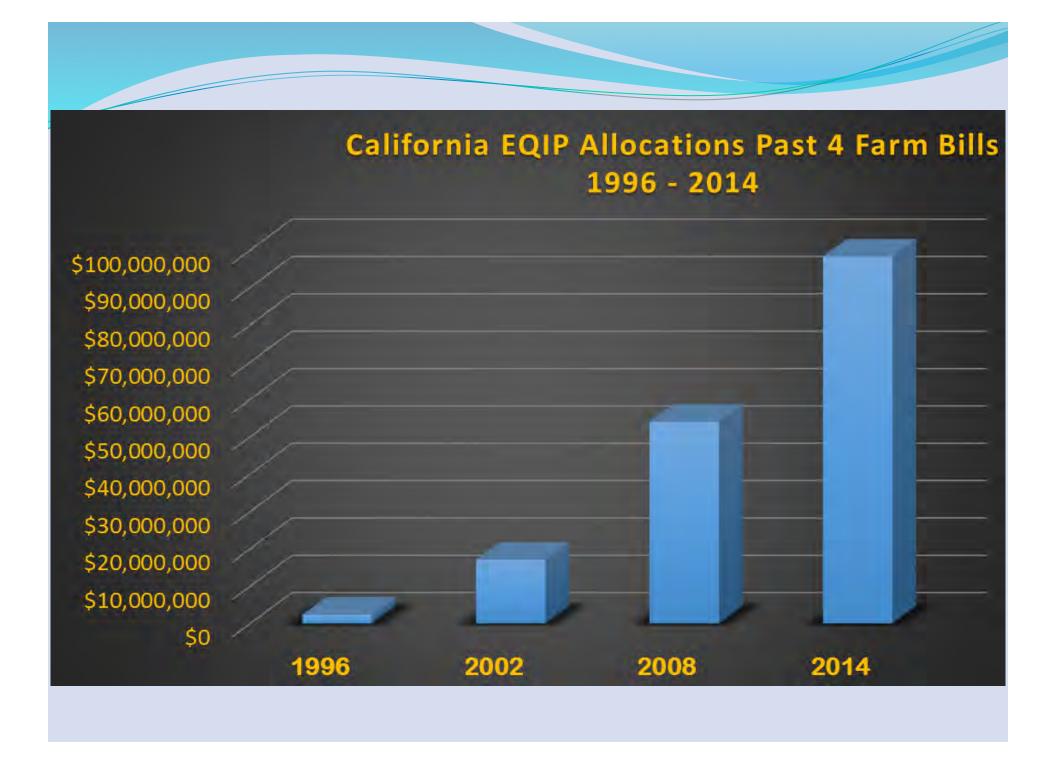






EQIP Statutory Requirements

- □ Limited to agricultural producers and non-industrial forestland operators.
- Must be in compliance with HEL/WC compliance provisions of the 1985 Farm Bill.
- □ Adjusted Gross Income Limitation Cannot exceed \$900K in farm + non-farm income.
- □ Applications must be prioritized according to the expected environmental benefits (screening/ranking).
- □ Applications must be evaluated based on common resource concerns and land uses.
- ☐ Help agricultural producers comply with environmental regulations.
- □ Payments cannot exceed a portion of the projected total cost of implementing a practice, typically 50 75%.



Emerging Resource Concerns













Forest Health/Fire Recovery

Organic Farming

90 Separate Fund Pools in 2017

- Each with their own description of priority resource concerns and list of approved practices to address those resource concerns.
- Each with separate evaluation and ranking criteria.
- Organic (2)
- Tribal (4)
- Seasonal High Tunnels
- On-Farm Energy
- National Air Quality
- California Air Quality

Water Quality (2)

Tree Mortality

Catastrophic Wildfire

SW Willow Flycatcher

Cons. Activity Plans

Regional Fund Pools (50)

Prioritizing Soil Health

 Cropland ranking and evaluation criteria focus on increasing the Soil Condition Index rating and/or reducing the Soil Tillage Intensity Rating.

State Category Four Ranking Criteria - SOIL QUALITY DEGRADATION: Organic Matter Depletion	
(Select "Yes" to All Applicable Answers)	
4. a. Conservation treatment in the EQIP schedule of operations results in a STIR value reduced from a conventional tillage value to 20 or less. (If 'Yes' to 4.a. then 4.b. must be 'No').	40
4. b. Conservation treatment in the EQIP schedule of operations results in a STIR value is reduced from a conventional tillage value to 80 or less. (If 'Yes' to 4.b. then 4.c. must be 'No').	35
Conservation treatment in the EQIP schedule of operations results in SCI increased from a negative value to a positive value.	30
4. d. Conservation treatment in the EQIP schedule of operations includes cover crops during times in the crop rotation that are seasonally fallowed, or when a cash crop is normally planted.	30

Prioritizing Soil Health

 Rangeland/Pastureland ranking criteria focus on streambank erosion, classic gully erosion and soil compaction.

crosion, classic guily crosion and son compaction.	
Local Category Two - SOIL EROSION: Classic Gullies	
(Select "Yes," if applicable)	
2. a. Conservation treatment in the EQIP schedule of operations includes structural or vegetative practices to stabilize a classic gully and prevent further headcut advancement.	40
Local Category Three - SOIL EROSION: Excessive Bank Erosion from Streams, Shorelines or Water	
Conveyance Channels	
(Select "Yes," if applicable)	
3. a. Conservation treatment in the EQIP schedule of operations will reduce soil loss on channel banks where livestock are impacting streambank stability and integrity to minimize or eliminate sediment delivery to a surface water body; treatment can include structural or vegetative practices such as filter strips, riparian herbaceous cover and/or riparian forest buffer.	30
Local Category Four - SOIL EROSION: Excessive Bank Erosion from Streams, Shorelines or Water Conveyance Channels (Select "Yes," if applicable)	
A. a. Conservation treatment in the EQIP schedule of operations will restrict livestock access to channel banks in order to reduce soil loss where livestock are impacting streambank stability and causing sediment delivery to a surface water body.	10
Local Category Five - SOIL QUALITY DEGRADATION: Compaction (Select "Yes," if applicable)	
5. a. Conservation treatment in the EQIP schedule of operations results in reducing compaction due to livestock traffic and heavy use by implementing practices to move livestock away from this site and/or mechanical or vegetative practices to reduce compaction. Soil compaction is evaluated by penetrometer, pin flag test, or evaluation the soil for observation of compaction layer/platy structure in the top 8 inches of the soil surface.	15

Climate Change Building Blocks Organic Matter Depletion

- There is a correlation between soil organic matter and the ability of the soil to sequester carbon.
- Practices with positive impacts on OM depletion:
 - Conservation Tillage (reduced till and no till systems) (Ac)
 - Cover Crops (Ac)
 - Conservation Crop Rotation (Ac)
 - Filter Strips (Ac)
 - Forage & Biomass Plantings (Ac)
 - Grassed Waterways (Ac)
 - Conservation Cover (Ac)
 - Range Planting (Ac)
 - Prescribed Grazing (Ac)
 - Tree & Shrub Establishment (Ac)

Practices Funded 2014 - 2016

Upward Trend

- Prescribed Grazing
- Tree & Shrub Establishment
- Hedgerows
- Shelterbelts/Windbreaks
- Mulching
- Forage & Biomass Plantings

Downward or Flat Trend

- Crop Rotation
- Cover Crops
- Reduced Till or No Till
- Filter Strips
- Field Borders

EQIP Payments

- Incentive payments are made to encourage producers to apply practices that they otherwise would not consider, with the expectation that they will adopt and maintain the practice as part of their operation.
- Most structural and vegetative practices are a 1-time payment after the practice is implemented
- Management practices can be paid for more than 1 year.
 - Conservation Tillage (reduced till and no till systems): 3 years
 - Cover Crops: 5 years
 - Conservation Crop Rotation: 3 years
 - Prescribed Grazing: 3 years

2017 EQIP Applications

- EQIP applications are accepted on a continuous basis.
- In FY17, eligible applications will be processed as they are received with funding decisions made on the following dates:
 - January 13, 2017
 - March 17, 2017
 - May 26, 2017
- Additional funding decision dates will be added if necessary.



Questions?

http://www.ca.nrcs.usda.gov/

http://www.ca.nrcs.usda.gov/programs/

https://offices.sc.egov.usda.gov/locator/app?state=ca



HEALTHY SOILS INITIATIVE AND INCENTIVES PROGRAM

CALCAN SUMMIT FEBRUARY 28, 2017 DAVIS, CA

Contacts:

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PRESENTATION OUTLINE

- Healthy Soils Initiative
- Healthy Soils Program
 - Objective & Funding
 - Program Development Process
 - Draft program framework including:
 - Current status
 - Allocation of funds to incentive and demonstration projects, proposed award amounts
 - Potential management practices for incentives program
 - Timeline

HEALTHY SOILS INITIATIVE

- More than 400 agricultural commodities in California, including unique specialty crops.
- California remained the No. I state in cash farm receipts in 2015, with \$47 billion in revenue from 76,400 farms and ranchers (#1 for more than 50 years).
- Some of the most fertile and diverse agricultural soils: soils are fundamental plant growing medium.
- 2015: United Nations declared International Year of Soils.
- Meeting with Governor's Office and administration on initiative; interagency meetings with several agencies and departments.

https://www.cdfa.ca.gov/oefi/healthysoils/HSInitiative.html



healthy soils for a healthy life

ACTIONS FOR THE HEALTHY SOILS INITIATIVE: INTERAGENCY AND STATE-FEDERAL PARTNERSHIPS

Actions:

- Protect and restore soil organic matter in California's soils.
- Identify sustainable and integrated financing opportunities to facilitate healthy soils.
- Provide for research, education and technical support to facilitate healthy soils.
- Increase governmental efficiencies to enhance soil health on public and private lands.
- Promote interagency coordination and collaboration to support soils and related state goals.

Working with USDA-NRCS:

- USDA-NRCS provides funding through the <u>Environmental Quality Incentives Program</u> to support conservation practices including soil health.
 - Comet-Planner Tool: http://www.comet-planner.com/
- Joint USDA-NRCS and CDFA Summit: Building Partnerships on Healthy Soil in Sacramento, CA on January 11, 2017.

https://www.youtube.com/watch?v=vPy5C5|Iqjg&feature=youtu.be&rel=0





Reduced Fumigant and Synthetic Inputs

Build Soil Organic Matter





Soil Health Sequester and Reduce GHGs





Retention

Reduced

Salinity

Reduced

Sediment

Improved
Plant Health
and Yields









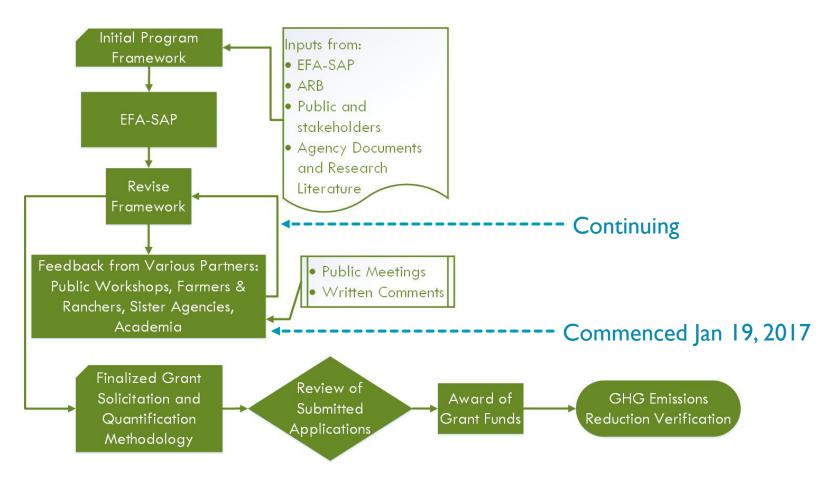
Improved

Water Quality

HEALTHY SOILS PROGRAM: OBJECTIVE AND FUNDING

- Objective: To build soil carbon and reduce agricultural GHG emissions through incentives.
- CDFA appropriated \$7.5 million in FY 2016-17 to develop and administer a new incentive and demonstration program on the CA Healthy Soils Initiative from the Greenhouse Gas Reduction Fund.
- Funds must be encumbered by June 30, 2018 and expended/ liquidated by June 30, 2020 (AB 1613, Section 13).
- Funds allocation:
 - Incentive projects (50%; \$3.75M)
 - Demonstration projects (40%; \$3M).
 - Remainder funds: administrative cost (10%; \$0.75M)

PROGRAM DEVELOPMENT PROCESS



FRAMEWORK PROPOSED FOR DISCUSSION: INCENTIVES PROGRAM - ELIGIBILITY

- Eligibility: California farmers and ranchers. Projects must be located in CA and result in GHG reductions from agricultural practices for a specified time period, quantifiable using a method determined by ARB.
- Projects funded under this solicitation to use one or more of the eligible USDA-NRCS Conservation Practice Standards identified in the grant solicitation, and/or compost application.
- An agricultural operation to only submit one application using a unique tax identification number per round of funding to allow wide distribution of funds.
- Proposed award amount: Maximum \$25,000 per project (approx. 150 projects supported).

MANAGEMENT PRACTICES TENTATIVELY INCLUDED FOR INCENTIVES

- Improved Nutrient Management (590)
- Mulching (484)
- No-till (329)
- Reduced-till (345)
- Cover crops (340)
- Cropland Compost Application (Not a separate NRCS Practice)
- Grassland Compost Application (Not an NRCS Practice)
- Herbaceous Cover:
 - Herbaceous Wind Barriers (603)
 - Vegetative Barriers (601)

- Riparian Herbaceous Cover (390)
- Contour Buffer Strips (332)
- Field Border (386)
- Filter Strip (393)
- Woody Cover:
 - Windbreak/ shelterbelt establishment/renovation (380)
 - Riparian Forest Buffer (391)
 - Hedgerow Planting (422)
 - Silvopasture (381)

QUANTIFICATION METHODOLOGY FOR GHG EMISSION REDUCTIONS

- Per SB 862, the California Air Resources Board (ARB) is required to develop quantification methods (QM) for agencies receiving Greenhouse Gas Reduction Fund (GGRF) appropriations.
- ARB, in collaboration with CDFA, is developing the QM Tool.

The QM Tool will have a public comment period.



Evaluate potential carbo	on sequestration and gr	0.00			Click to View Introduction V
	Evaluate potential carbon sequestration and greenhouse gas reductions from adopting NRCS conservation practices				
RCS Conservation Practices included in COME				is mitigation and/or	r carbon sequestration benefits o
	onservation practices is based or				
Part and Marrier					
Project Name:	NRCS Conservation Pr	actices - Select Y	our Practice(s)		
	Name CPS (Conservati	ion Practice Stand	lard Number)		
State:	+ Cropland Manageme	nt (9 Items)			
· ·					
County:	+ Cropland to Herbaceous Cover (10 Items)				
	+ Cropland to Woody (lover (7 Items)			
	+ Grazing Lands (3 Iter	mel			
	Grazing Lands (5 ner	1101			
	+ Restoration of Distur	bed Lands (5 Item	is)		
	Approximate Carbon Sequestration and Greenhouse Gas Emission Reductions ¹ (tonnes CO ₂ equivalent per year)				
	Enter Acreage	Carbon Dioxide (CO ₂)	Nitrous Oxide (N ₂ O)	Methane (CH ₄)	Total CO ₂ - Equivalent
NRCS Conservation Practices					
NRCS Conservation Practices (Click Practice Name for Documentation)					

FRAMEWORK PROPOSED FOR DISCUSSION: INCENTIVES PROGRAM – APPLICATION

- Applicant would provide information including but not limited to:
 - Description of the proposed project.
 - Estimation of greenhouse gas (GHG) reductions including baseline estimates and supporting documentation, life of the project and how GHG emission reductions will continue to occur over the required timeframe.
- CDFA and ARB will provide additional guidance for ongoing tracking and reporting of net GHG benefits from project activities.
- CDFA will generate a list of co-benefits to be given additional consideration during application review.
- Benefits to disadvantaged communities (DACs) based on ARB guidance.

FRAMEWORK PROPOSED FOR DISCUSSION: INCENTIVES PROGRAM – TENTATIVE TIMELINE

ITEM	ESTIMATED DATES
Program framework development including Quantification Methodology	Nov 2016 – Apr 2017
Public Stakeholder Meetings for Program Design Feedback	Jan 2017 – Apr 2017
Grant solicitation released	May 2017
Applications proposals due	Jun 2017
Proposal evaluation (Technical Review)	Jun – Sep 2017
Announce grant awardees	Sep 2017
Project Implementation to begin	Oct 2017

FRAMEWORK PROPOSED FOR DISCUSSION: DEMONSTRATION PROJECTS

- Objective: Provide funding for projects that achieve net GHG benefits from soil carbon sequestration or GHG emissions reduction in the field.
- Individual grant amount: Proposed maximum \$250,000 per project (approx. I2 projects).
- Eligibility:
 - Projects must have field/on-farm component with quantifiable GHG emission reductions
 - Partnerships: Ag Operations/Industry Groups + Academia and/or Non-profit organizations and/or RCDs
 - Outreach and education component (e.g. Field Day) required.
 - In finalized grant solicitations, CDFA and ARB will provide additional guidance for ongoing tracking and reporting of net GHG benefits from project activities

PARTNERSHIPS FOR SOIL HEALTH THROUGH PROPOSED INCENTIVES PROGRAM



PROGRAM CONTACTS

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California's Organics Policy Conundrum

Challenges to Meeting New Policy Mandates
For Organic Materials Management

CalCAN Summit Davis, California

Neil Edgar

Executive Director, California Compost Coalition February 28, 2017

Overview

- ? Introduction
- Policy Drivers
- Organic Resource Market Challenges
- Regulatory Challenges
 - ? Land, Water, & Air Issues
- Economic Incentives
- ? Wrap Up

Introduction



californiacompostcoalition.org

- ? a registered Lobbying Coalition created in 2002 by a group of compost operators in response to demands for increased recycling of organic materials and production of clean compost.
- represents member organic material recyclers and compost operators with a unified voice on many issues: product safety and standards, government regulations, environmental planning, trade, and marketing.
- ? dedicated to preventing the landfilling of organic resource materials and "closing the loop" by promoting their highest and best use.





























Policy Drivers

AB 939 (1989) – The Integrated Waste Management Act

? Local Mandate for Landfill Diversion

AB 32 - Global Warming Solutions Act of 2006

- ? Landfill Methane Emissions Reduction
 - Largest man-made source of methane

AB 341 (2011)

- ? Statewide Goal for 75% Recycling or Composting by 2020
- ? 10 million tons of landfilled organics targeted

AB 1826 (2014)

- Mandatory Commercial Organics Diversion
 - Pegins April 2016, phased in until 2020

AB 1594 (2014)

- ? Green Waste Landfill Alternative Daily Cover
 - Piversion credit phased out by 2020

SB 605 (2014)

- Short-lived Climate Pollutants
 - Subsequent CARB report targets 90% reduction in landfilling of organics by 2025
 - 2 Every ton of food diverted from landfill to composting or digestion, GHG reduced by .69-1.04 tons of CO₂e

Policy Drivers

GHG Reduction Funding (2014)

- Cap and Trade Auctions
- ? CalRecycle Organics Grant Program

Healthy Soils Initiative (2015)

SB 1383 (2016)

- Short-lived Climate Pollutants
 - Sets statutory standard to target 75% reduction in landfilling of organics by 2025

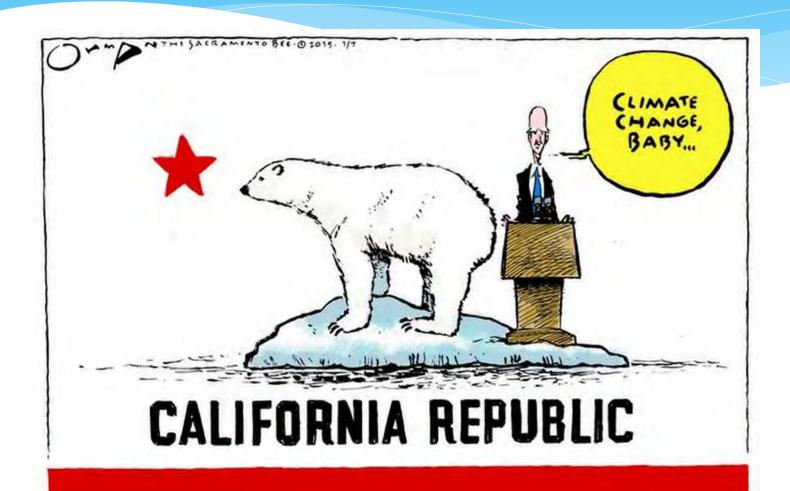
SB 32 (2016)

? Establishes statutory authority to extend ARB climate change programs beyond 2020

AB 1613 (2016)

Budget trailer bill allocating \$40 million to CalRecycle to stimulate waste diversion projects which reduce GHG emissions

Policy Drivers



Policy Drivers

				Org	anics Legisl	ation and Ti	meline				
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2030
AB 341 MCR	Starting in 2012, commercial generators with 4 cyd/week of MSW must have mandatory recycling program - with a focus on fiber and dry recyclables.			Goal: 75% statewide recycling rate							
AB 1826 MORe	Commercial generators w/ 8 cubic yards of organic waste per week.	vards of organic waste per wee		Commercial generators w/ 4 cubic yards of MSW per week.	CalRecycle to conduct waste characterization study in 2018 with a 2019 determination.						
AB 1594 ADC	Jurisdictions submit green waste ADC plans.			No diversion credit for green waste ADC.							
AB 876 CAPACITY		County submits 15 year organics processing capacity each year.	Annual report u	pdate on capacity a	and AB 1826.	3 1826. Annual report update on capacity.					
SB 498 AB 901 AB1103 REPORTING	SB 498: Wood chips to bioenergy are reported.	CalRecycle to adopt AB 901 regulations on diversion reporting system.	Food waste, compost and wood commodities are reported each year.								
SB 1383 METHANE MITIGATION		CalRecycle to develop regulations in 2017.	CalRecycle to a 2018.	idopt regulations in		the compost 60% reduction of posal (from 2014	Regulations become effective.		Statewide penalties for non-compliance.	75% reduction disposal (from	of all organics 2014 base year.)
AB 1045 INFRA- STRUCTURE	CAL-EPA to promote compost use, assess progress and coordinate regulations.	CAL-EPA to post recommended actions.		meetings, annual p EPA update of red							

Policy Drivers: The Path Forward

? Compost Infrastructure Development

- ? Need to double current capacity to manage 15 Million tons of organic materials by 2025.
- ? CalRecycle has identified the need for a minimum \$100 million in incentive funding over each of the next 5 years to stimulate infrastructure development, estimated to cost \$3 Billion over the next 5-8 years.
- Powelop State Compost Infrastructure Task Force to address funding, market development, and permit streamlining.

? Compost Market Development

- Procedure in the state of the state agency compost purchase mandates to include local governments, other state agencies, and broader organic materials categories.
- Stimulate agricultural markets particularly in mid- and lower-value crops

- MSW LANDFILL, COMPOST, ANAEROBIC DIGESTION
 - Yard Waste DIRECT LAND APPLICATION
 - Wood Waste BIOMASS PLANTS
 - Food Waste ANIMAL FEED
 - ? F.O.G. BIODIESEL, BIOENERGY & BIOFUELS
- **?** Biosolids WWTP
- ? Agricultural Wastes
 - Crop Residuals OPEN BURNING, LAND APPLICATION, BIOMASS PLANTS
 - Food Processing Wastes FARMERS
 - Manures ON FARM CO-DIGESTION
 - Meat Processing Wastes RENDERERS
 - Livestock Mortalities RENDERERS
- THE FEEDSTOCK FIGHT IS ON!!

Food Waste



Food Waste



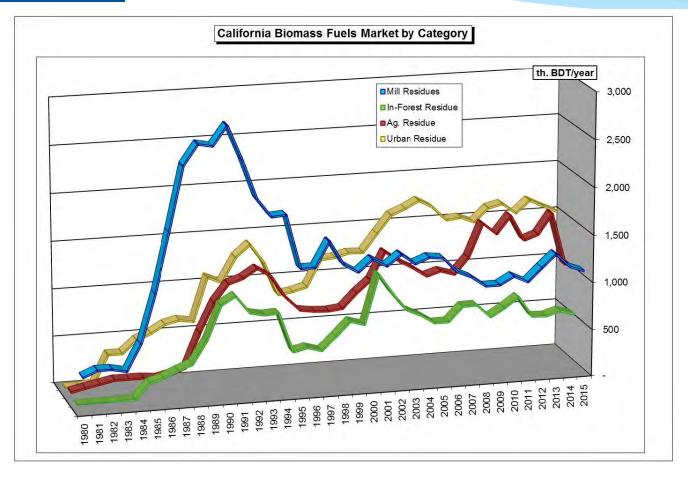


Wood Waste

WOODAGEDDON!

- Biomass Plant closures
 - Non-competitive on price
 - Environmental co-benefits undervalued
- Policy focus on High-Hazard Forest Materials
 - Crowding out urban and agricultural sources
- Limited alternative markets

Wood Waste



Wood Waste

Can new biomass arrive in time to bridge from old-line biomass?

Biomass Conversion facilities

- SB 498 (Lara, 2014) 100% diversion 100% renewable energy
- 1 MW 15,000 TPY distributed generation
- Co-locate use 1/3 on site net meter 2/3 CHP waste heat use
- 100 facilities 100 MW 1,500,000 tons per year

Feed-In Tariff Implementation – Small-Scale Bioenergy under 3 MW

- SB 1122 (Rubio, 2013) PUC tariff for 250 MW
 - 110 MW Urban biomass, wastewater
 - 90 MW Dairy, agricultural bioenergy
 - 50 MW Forest biomass
- How much to gasification? 100 MW? Rest to dairy and wastewater?
- BioMAT Floor price of 12.77 cents/kwh starting Feb 1, 2016

Co-benefits:

- Biochar for compost mixes to sequester carbon
- Filtration



Comparative Economics

Chip/grind to ADC = \$8-15/ton





- Chip/grind to Land Application = \$10-25/ton
- ? Landfill = \$25-100+/ton

Comparative Economics

Composting – windrow = \$25-35/ton



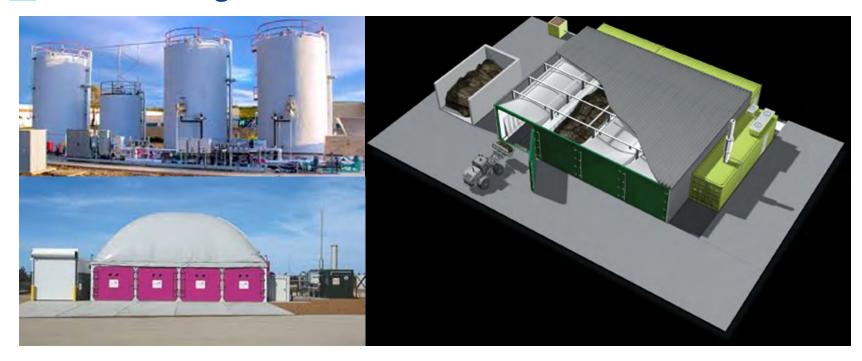
Comparative Economics

? Composting w/Gen. WDRs = \$50-70/ton



Comparative Economics

? Anaerobic Digesters = \$60-80/ton



Digestate likely to still need composting or other treatment

Regulatory Challenges

Land-based Issues

- Local Land Use
 - NIMBY's, NOPE, and BANANAS
 - CEQA and Environmental Justice
- Public Sector Landfills
 - Solid Waste Fee Structure
- ? CalRecycle
 - Revision to Compostable Materials Handling and Transfer/ Processing Regulations
 - Physical Contamination Limit of 0.5% (glass, metal, plastic) in saleable products, effective Jan. 1, 2018.

Regulatory Challenges

Water Issues

- State Water Resources Control Board
 - NPDES Industrial Stormwater Permit
 - Qualified Industrial Stormwater Practitioner
 - Clean Water Act compliance and lawsuits
 - Statewide Waste Discharge Requirements
 - Wastewater retention, treatment, and disposal
 - Monitoring and reporting

Regulatory Challenges

Air Issues

- Compare the strict of the s
 - Criteria Pollutants and Ozone Non-attainment
 - New Source Review
 - Rule 4566 San Joaquin Valley APCD
 - Rule 1133.3 South Coast AQMD
- California Air Resources Board
 - ? AB 32 and GHGs
- ? Climate Action Reserve
 - ? Carbon Credits
- ? ODORS!!

Economic Incentives

<u>Grants</u>

- **?** CalRecycle Organics Grant Program
 - ? \$24 Million (\$3 M set aside for rural projects)
 - ?\$12 Million for composting
 - ? \$12 Million for anaerobic digestion
- ? CDFA
 - Healthy Soils Initiative
 - 🚹 \$7.5 Million
 - Limited incentive funding for compost use

Wrap Up

Questions?

Thank you,

Neil Edgar
Executive Director

