

# Opportunities for Carbon Offsets from Composting and Digesting Food Waste



CLIMATE  
ACTION  
RESERVE

**Joel Levin**

Vice President

US Composting Council | January 25, 2011

# The Main Thing to Remember From This Presentation.....



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If you are composting or digesting food waste anywhere in the U.S., you may be able to make money from carbon offsets in California's cap and trade program



# California's Cap and Trade Program

- Rule establishing the cap and trade program was adopted by the California Air Resources Board in Dec.
- Rule has been under development since AB 32 was adopted by legislature in 2006.
- Many details are still not finished—although rule must be finalized by the end of the year.
- ~600 largest industrial sources in California will be regulated in cap and trade
  - They can buy offsets from approved projects as a part of their compliance strategy
  - No geographic limits. Projects can be anywhere in U.S.

# Offsets in California's Cap and Trade



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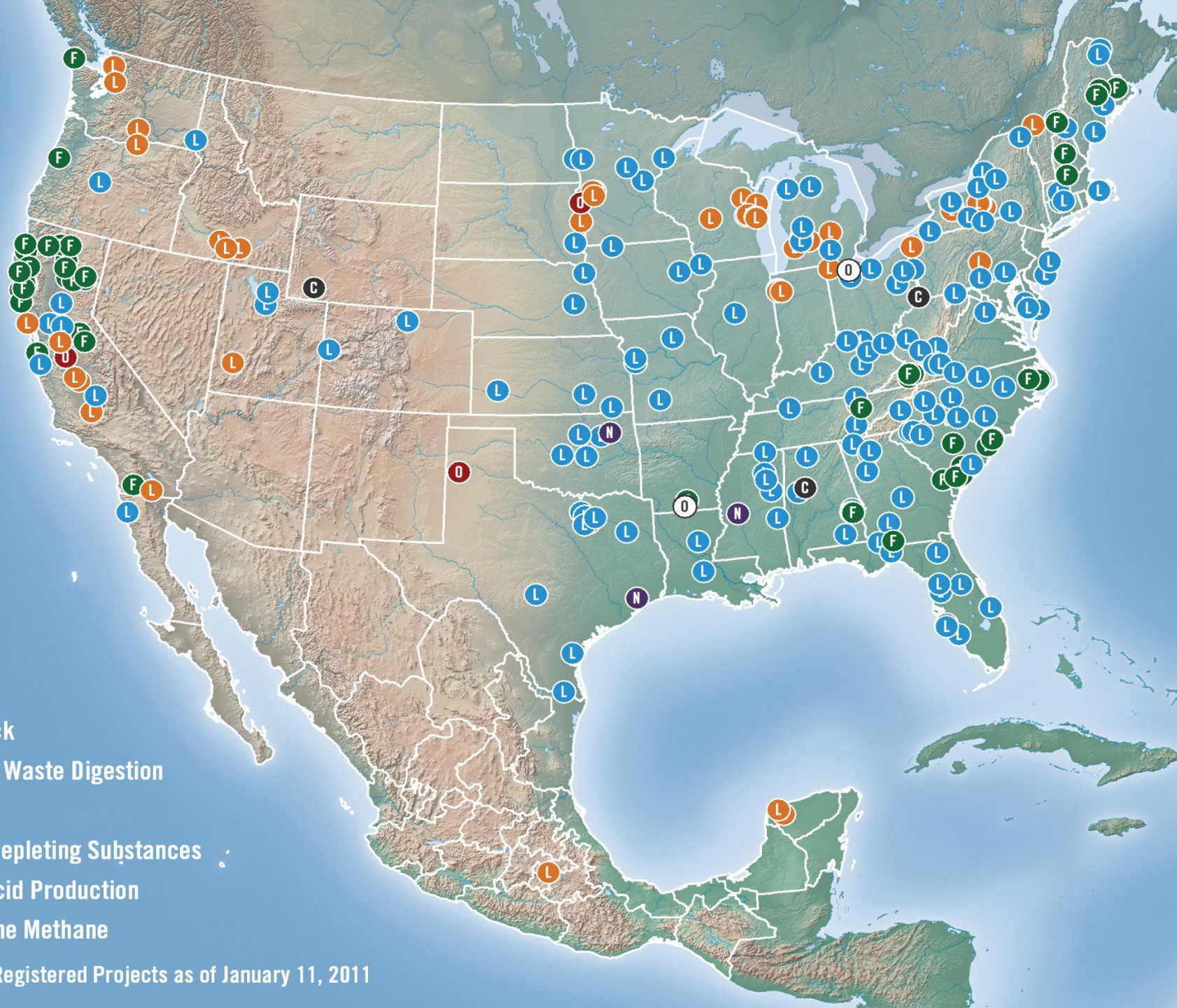
- CARB has approved four Climate Action Reserve protocols for offset projects:
  - Forestry
  - Urban Forestry
  - Livestock Methane
  - Destruction of Ozone Depleting Substances (Refrigerants)
- Next month, they will start a process of adopting additional protocols
  - Organic Waste Composting and Organic Waste Digestion are expected to be given very serious consideration
- Current price for offsets from projects under CARB-approved protocols: \$9-10
  - Rule of thumb for composting projects: One ton of food waste =  $\frac{1}{2}$  CRT

# Background on the Climate Action Reserve



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- Chartered by California state legislation in 2001
  - Mission is to encourage voluntary actions to reduce emissions and to have such emissions reductions recognized
- Balances business, government, and environmental interests
- We are supporting the offsets component of CARB's cap and trade program



- F** Forest
- L** Livestock
- D** Organic Waste Digestion
- L** Landfill
- O** Ozone Depleting Substances
- N** Nitric Acid Production
- C** Coal Mine Methane

260 Listed & Registered Projects as of January 11, 2011

# Our First Listed Composting Project....



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## Z-Best Food Waste Composting

Project Developer: Zanker  
Road Resource Management

# Eligibility Rules



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1. Location	U.S. and its territories
2. Project Start Date	No more than 6 months prior to project submission*
3. Additionality	Exceed legal requirements
	Meet performance standard
4. Regulatory Compliance	Compliance with all applicable laws
Crediting Period	10 years, renewable one time





# Landfill Methane Avoidance

- The general concept with both protocols is that you are avoiding methane that would have been released from a landfill.
- CRTs are intended to reward developer for preventing methane emissions that would have happened under a “business as usual” scenario.
  - Actions should go beyond regulatory requirements and beyond standard business practices



# Composting Projects

- Definition: The diversion of one or more eligible waste streams to an aerobic composting facility where the waste is composted in a system that complies with Best Management Practices (BMPs).
- Regulatory test is applied separately to each waste stream
- Performance standard
  - Project diverts and composts at least one eligible feedstock



# Composting Projects: Best Management Practices

- Time, temperature and turning frequency:
  - Windrow – at least 55°C for 15 days, at least 5 turnings
  - ASP - at least 55°C for 3 days
- Must mix food waste into active system within 24 hours of delivery or cover it with a layer of carbonaceous material (finished compost) and incorporate within 72 hours
- Place in a negative aeration building with a biofilter within 24 hours

# Composting Projects: Eligible Waste Streams



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- MSW food waste and non-recyclable food soiled paper waste are eligible.
  - Why? Because very little of these waste streams are currently composted.
- Exception: Grocery stores
  - Grocery store waste streams are eligible only if you can document that they were previously going to a landfill.
  - Waste from newly opened stores is also eligible.



# Composting Projects: Legal Requirement Test

- If there is a legal mandate that the eligible feedstock be diverted from landfill disposal then it is not an eligible feedstock
  - Examples: laws, statutes, regulations, court orders, environmental mitigation agreements, permitting conditions, or other legally binding mandates
- The mandate could be federal, state, or local
- Exception for local mandates
  - If a local mandate is passed, the project may still be eligible if it started no more than six months before or after passage of the local mandate.



# Composting Projects: Start Date Rules

- Project developer can determine the start date of a composting project
- It can be any time after:
  - Project is operating
  - Data is being gathered to document compliance with BMPs
- So what does this mean?
  - If you are currently composting an eligible waste stream, your project should be eligible to generate CRTs now.
  - If you submit your project by June 30, 2011, start date could be as early as June 30, 2008, if you have been gathering the necessary data.

# Organic Waste Digestion Projects



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- Definition: Digestion of one or more eligible organic waste and/or agro-industrial wastewater streams in an **operational** biogas control system (BCS) that captures and destroys methane gas that would otherwise have been emitted to the atmosphere in the absence of the project.
- Legal requirement test is applied separately to each waste stream
- Performance standard
  - At least one eligible organic waste stream is digested in the project's biogas control system (BCS)



# OWD: Eligible Waste Streams

- ***MSW Food Waste***: Non-industrial food waste consisting of uneaten food, food scraps, spoiled food and food preparation wastes from homes, restaurants, kitchens, grocery stores, campuses, cafeterias, or similar institutions
- ***Agro-industrial Wastewater***: Organic loaded wastewater from industrial or agricultural processing operations that, prior to the project, was treated in an uncontrolled anaerobic lagoon, pond, or tank at a privately owned treatment facility. *Excluded from eligibility are wastewaters produced at breweries, ethanol plants, pharmaceutical production facilities, and pulp and paper plants.*



# Contact Information



CLIMATE  
ACTION  
RESERVE

[info@climateactionreserve.org](mailto:info@climateactionreserve.org)

(213) 891-1444

[www.climateactionreserve.org](http://www.climateactionreserve.org)