



### Policy Drivers

**AB 939**

- 50% diversion requirement for jurisdictions

**AB 32**

- ARB Scoping Plan – Waste Sector
- Reduce GHGs to < 1990 levels

**AB 341**

- 75% reduction, recycling, composting statewide goal by 2020
- Not transformation or disposal-related activities, etc.
- Doesn't change AB 939 mandate on jurisdictions or how CalRecycle evaluates compliance



### What Will 75% Take?

- Moving > 20 million tons/year out of landfills
- 1/3 or more organic, plus many traditional recyclables
- Either overseas or other states OR more infrastructure here in California
  - CalRecycle preference to handle waste in CA
- 100s of new or expanded facilities



## What Else 75% Can Achieve

- ▶ Jobs if in-state
- ▶ GHG reductions
- ▶ Biofuel/bioenergy production



## How Will CalRecycle Measure?

- ▶ Modify current system used for measuring 50% on statewide basis
- ▶ Measure based on per resident activity
  - Allows for population growth
  - No multiplier for economic growth
- ▶ Simple and practical
  - Measures disposal but is quantifiable
  - No additional reporting burdens



## Connections to AB 32

- ▶ ARB Scoping Plan Update 2014
- ▶ Waste Management Sector identifies activities to achieve significant GHG reductions
- ▶ Potential for 20-30 MMT GHG reductions
- ▶ Activities support AB 341
- ▶ Measure via CalRecycle waste characterization studies 2014/2015 & -2018/2019



## Scoping Plan Implementation

- ▶ Funding/incentives for infrastructure
  - e.g., Greenhouse Gas Reduction Program \$\$
- ▶ Regulatory/statutory provisions
  - e.g., direct regs on organics in landfills?
- ▶ Emission reduction factors
- ▶ Permitting
- ▶ Procurement



## Why Organics?

- ▶ >>30% of total disposal compostable/digestible
- ▶ No way to 75% without it
- ▶ Scoping Plan identifies organics as key player to help meet GHG goals
- ▶ If divert 1/2 → 3-4 MMTCO<sub>2</sub>e reduction/year



## Sticks

- ▶ Reduce organics disposal through:
  - Legislation: AB 1826 (statutorily mandated commercial recycling of organics) + AB 1594 AND/OR
  - Regulation: Air Resources Board could implement through direct regulations





## AB 1826 Business Requirements

- ▶ April 2016 - Businesses generating 8 CY organics/week required to have organic waste recycling
  - Jan 2017 - 4 CY/week of organics
  - Jan 2019 - 4 CY/week of solid waste
- ▶ 2020 trigger: CalRecycle can reduce to 2 CY of waste if statewide organics disposal not cut in 1/2
  - Multi-family complexes not required to divert food waste
- ▶ CalRecycle to recommend actions re: state's organic recycling infrastructure



## AB 1826 Jurisdiction Requirements

- ▶ Jan 2016 - Implement program
  - Outreach, education, monitoring
  - Organics recycling program
- ▶ May include mandatory recycling via policy or ordinance, franchise agreement or contract, or requiring material to go through MRF
- ▶ Identify barriers; plan to address barriers under control of jurisdiction
- ▶ Rural exemption process
- ▶ Aug 2017 - begin reporting in Annual Reports on ed., outreach, monitoring
  - Including # regulated businesses generating organics and # recycling organics; if available, tonnage diverted; facility availability and plans to address barriers



## Relationship to MCR

- ▶ Some similarities to MCR but more complex
- ▶ Similarities:
  - Businesses are responsible
  - Jurisdictions must have outreach, education, monitoring



## Relationship to MCR

- ▶ Differences:
  - Variability in organic waste types and programs
    - General lack of food waste programs
    - Roles of food banks, renderers, etc.
  - What constitutes a program?
  - Need to identify those that generate organics
    - Need to provide #s of businesses that are recycling
    - Need to provide tonnage diverted, if available
  - Need to ID more information and specify plan
  - Rural exemption process



## Guidance on 1826

- ▶ Nov 2014 - Initial guidance on 1826 provisions + solicitation of questions from stakeholders + listserv
- ▶ Dec 2014 - Developed rural exemption process
- ▶ Jan 2015 - Posted responses to "easy" questions
- ▶ Jan/Mar 2015 - Outreach to industry associations
- ▶ Spring 2015 - workshops
  - Develop revised CWMP Enforcement policy
  - Develop guidance on what will be expected in EARS
  - Provide tools for identifying organics generators
  - Tools for assessing program needs
- ▶ May/June 2015 - finalize guidance (6 months before initial implementation date)
- ▶ July/Dec 2015 - promote tools and resources via local meetings



## MORE Webpages

<http://www.calrecycle.ca.gov/Recycle/Commercial/Organics>





## AB 1594

- ▶ 2020: Green material ADC ≠ recycling
  - Will be considered disposal
  - Exempt from tipping fee
- ▶ August 1, 2018: In EAR, each jurisdiction to provide info on plans to divert this material
- ▶ August 1, 2021: If jurisdiction fails to meet 50% as result, then in EAR also has to ID and address barriers to recycling green material
- ▶ CalRecycle to update Legislature on status of IWMA fund



## AB 1594

- ▶ Governor's signing message - concern re: creating fee-exempt form of disposal
  - Should not hamper fee structure reform efforts
- ▶ Other ADC work - ongoing assessment of overuse at landfills



## AB 1594

- ▶ Potential impact on jurisdiction compliance with AB 939?
  - Will ADC not counting as recycling result in jurisdictions failing to meet AB 939 goals and being placed on compliance orders?
- ▶ 308 used green waste ADC in 2012
  - Only 9 would fail to meet 50% per-capita disposal target as a result
- ▶ AB 939 review process
  - Per-capita disposal: Indicator but not determinative of compliance
  - CalRecycle focus continues to be on program implementation



## Guidance on AB 1594

- ▶ Webpage
- ▶ FAQs
- ▶ Annual Reporting guidance
- ▶ CIWMP Enforcement
- ▶ Examples of how jurisdictions are addressing greenwaste ADC
- ▶ Tool to calculate impact of greenwaste ADC



## AB 1594 Webpages

<http://www.calrecycle.ca.gov/legcenter/a/basics/ADCgreen/default.htm>



## Major Issues in Infrastructure Development

- ▶ Cost compared to landfilling
- ▶ Financing new/expanded facilities
- ▶ Permitting at state level
- ▶ CEQA
- ▶ Local land use decisions
- ▶ NIMBY
- ▶ Ensuring markets to use increased amount of organics materials





## Permitting/Siting Issues

- ▶ Local land use
- ▶ CalRecycle regs on composting and AD
  - Definition of food material
  - Requirements for in-vessel digesters
  - Contamination levels
  - Land application restrictions
- ▶ Air Districts and ARB
- ▶ Regional Water Boards and SWRCB
- ▶ CDFA



## Markets: Procurement & Demand

- ▶ Markets mostly local or regional - need local demand
- ▶ Local government procurement
  - Promotion with local residents, landscapers, businesses, C of Cs
  - Commerce
- ▶ Sustainable landscaping
  - California Urban Water Conservation Council
  - DWR model water-efficient landscape ordinance
- ▶ CalTrans (and others) - erosion control, landscaping
- ▶ Agricultural and grazing lands
  - Water conservation savings
  - Gov's Office re: soil health
  - Marin Carbon re: rangeland C sequestration



## Markets: Clean Products

- ▶ Markets local or regional - contamination comes back to our soils and water
- ▶ Compost subject to metals and pathogen standards
- ▶ Labeling info: US Composting Council, CDFA re: nutrients
- ▶ Organics certifications - e.g., OMRI
- ▶ Physical contaminants - glass, plastics
- ▶ Proposed CalRecycle regulations
  - Working with Water Board and CDFA on land application



## Carrots: State Financial Incentives

- ▶ ARB: Low Carbon Fuel Standard (LCFS)
- ▶ CPUC: SB 1122 feed-in tariffs
- ▶ CEC/CPUC: Renewable Portfolio Standard (RPS)
- ▶ CEC: AB 118 Grants
- ▶ CalRecycle RMDZ Program Loans
- ▶ Treasurer: CPCFA Tax-Exempt Bond Financing, CALCAP
- ▶ CalRecycle: Greenhouse Gas Reduction Grants/Loans
- ▶ BOE: Manufacturers Tax Rebate



## GGRF Grants and Loans

- ▶ Funding from Greenhouse Gas Reduction Fund
- ▶ \$25 million in FY 2014-15
- ▶ \$25 million again in FY 2015-16



## CalRecycle

### Greenhouse Gas Reduction Programs

- 2 Grant Programs (\$20 million)
  - ▶ Organic materials (\$15 million)
  - ▶ Fiber, Plastic, and Glass (\$5 million)
  - ▶ Statewide, competitive
- 1 Loan Program (\$5 million, revolving)
  - ▶ Organics & Fiber, Plastic, and Glass
  - ▶ Statewide, competitive





## Goals and Co-Benefits

- ▶ Reduce GHG emissions
- ▶ Expand composting & AD infrastructure
- ▶ Expand manufacturing from paper, resins and glass
- ▶ Benefit disadvantaged communities
- ▶ Co-benefits:
  - Enhance air and water protection at organics sites
  - Create jobs
  - In-state biofuel/bioenergy production



## Contact Info

- Link to all program documents and application:  
<http://www.calrecycle.ca.gov/Climate/GrantsLoans/>
- ▶ All questions for the Grant Programs  
[GHGredutions@CalRecycle.ca.gov](mailto:GHGredutions@CalRecycle.ca.gov)
  - ▶ All questions for Loans  
[Loans@CalRecycle.ca.gov](mailto:Loans@CalRecycle.ca.gov)



## Generator Identification Tool



## How to Identify Covered Generators without doing a waste characterization for each business?

1. General Approach to Generator Identification
2. CalRecycle's Approach
3. Alternative Approaches
4. Identification of the Actual Generators
5. Available Resources
6. Suggested Approach to Multifamily



## General Approach to Generator Identification

Step 1: Determine and list separate programs in a list of materials that are subject to each business approach

Step 2: Gather data the enterprise with business to use Alternative Approaches to identify the facility's generators (generators by your jurisdiction)

Step 3: Contact any and all business and other responsible parties associated with the waste to become properly identified



## CalRecycle's Approach

- ▶ Using # of Employees to Estimate 8 cu yd of Organic Waste Generation by Business Type (see handout #4 on meeting notice for sample table and calculation method)
- ▶ 2014 Waste Characterization Study Data\*
- ▶ CalRecycle Business Groups
- ▶ Multi-Family Dwellings – will discuss later





## Alternative Approaches

Open to alternative approach: Jurisdictions need to provide sufficient information/data for CalRecycle to evaluate the approach

- Reasonableness
- Feasibility

Contact Kaoru Cruz ([kaoru@calrecycle.ca.gov](mailto:kaoru@calrecycle.ca.gov)) or your LAMD liaison  
(e-mail subject line should be "AB 1826 Alternative Method")



## CalRecycle's Approach for Identification of Actual Generators (Cont'd)

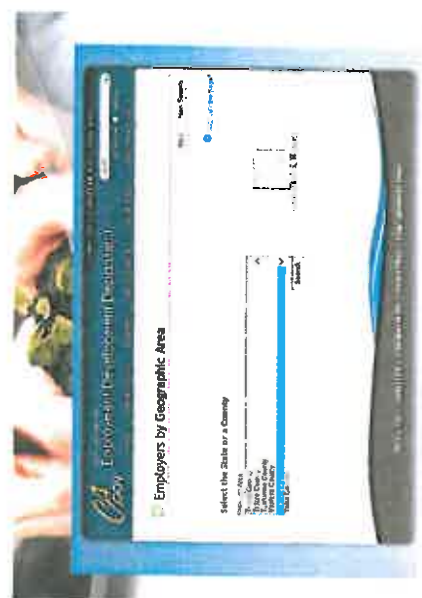
Using approximate cut-off for the generators; jurisdictions then need to determine which generators are covered by AB 1826

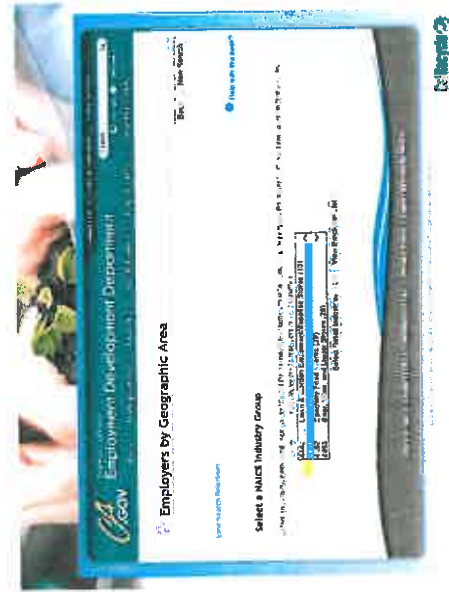
- CalRecycle approach uses # of employees to determine cut-off
- Business data
- Business license information
- Hauler's disposal/diversion information



## Available Resources for Jurisdiction-Specific Data

- Employment Development Department – Labor Market Information Division (List of businesses by type/employee range – see Employer Search Tool link on handout)  
<http://www.edd.ca.gov/employment/employers.asp>
- Private Business List Database Services - detailed information on businesses such as range of number of employees in jurisdiction (subscription base)
- Business license data – some jurisdictions may capture details on # employees

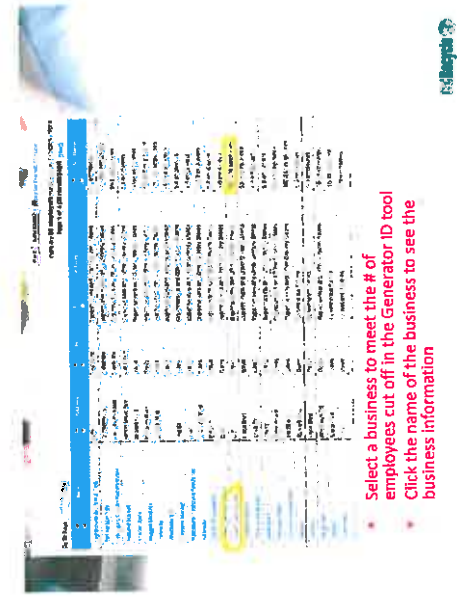
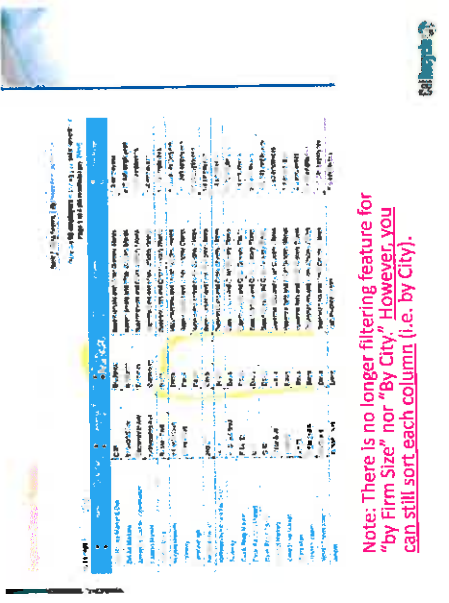




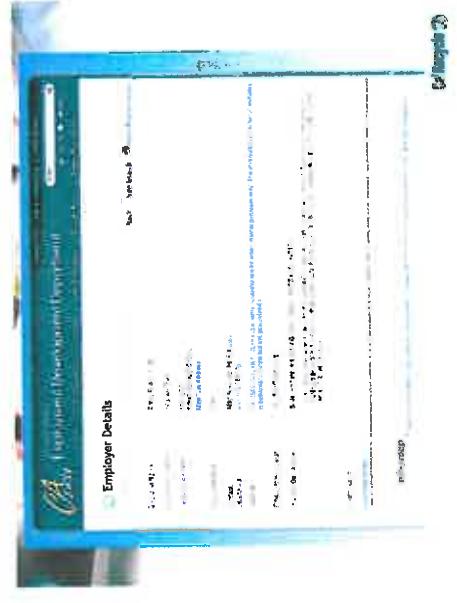
Note: EDD changed the database format after the workshops. There is no longer "View Filter Selection" link.



Note: There is no longer filtering feature for "by Firm Size" nor "By City." However, you can still sort each column (i.e. by City).



- Select a business to meet the # of employees cut off in the Generator ID tool
- Click the name of the business to see the business information



## Suggested Approach to Multifamily

- No tool from CalRecycle is available to determine cutoff (e.g. # number of units) for multifamily complexes (MFD), due to:
  - Data limitations (landscapers take green waste away after their work, could not capture accurate amount, property managers cannot estimate amount)
  - Uniqueness of MFD (too many variations of MFD, lots of greenery to no landscaping, hard to average out)





## Types of Multifamily



## Suggested approach to MFDs (cont'd)

- One approach: jurisdictions could conduct outreach/education/monitoring for multifamily complexes (MFD) that have 5 units or more
  - MFDs are to recycle grass clippings, branches/ pruning waste, non-hazardous wood waste
  - Might mean that you are informing complexes of the law even if they don't generate 8 or 4 cy of organic material
  - Benefit is that you are not having to go through a process of identifying how much organic material (excluding food/food soiled paper) the complex generates
- Or, jurisdictions can conduct waste assessments at complexes so they can target MFDs generating the threshold amount
- Call Recycle would like to solicit ideas/feedback on how to determine covered MFDs



## Suggested Monitoring Approach

To identify how many MFDs are in compliance:

- Header's data (MFD subscription to their organic collection service)
- No generation of organic materials (excluding food/food soiled paper waste)
- Complexes that don't have trees, grass, etc.
- Served by a landscaper/gardener
- Potably phase-in approach



Comments/Questions?



## Electronic Annual Report (EAR)



## Electronic Annual Report (EAR) Reporting

- First Annual Report that will include reporting on AB 1826 will be 2016 Annual Report (due August 1, 2017)
- Separate section within EAR
- Update on program development and implementation of identification, education/outreach, monitoring each year
- Optional reporting for rural that applied for exemption
- Specific provisions for reporting on implementation of jurisdiction's program





## Summary of Information Required in 2016-2020 EARS

### 2016 EAR Jurisdiction reports on:

- Implementation of its organic waste recycling program on and after January 4, 2016
- Efforts to identify covered entities that generate 8 or more cubic yards/week of organic material
- Education, outreach, and monitoring provided to covered entities

### 2017 -- 2020 EAR:

- As above, according to each year's threshold



## Numeric Information for the Reporting Year - Businesses

- ▶ Number of covered businesses
- ▶ Number of covered businesses that are recycling organic waste
- ▶ (Optional) If available provide tonnage of organic material diverted by businesses



## Numeric Information for the Reporting Year - Multifamily

- ▶ Number of covered multifamily complexes
- ▶ Number of covered multifamily complexes that are recycling green waste, landscape and pruning waste, and non-hazardous wood waste
- ▶ i.e., all organic waste except food waste or food soiled paper
- ▶ (Optional) If available provide tonnage of material diverted by multifamily complexes



## Narrative Information for the Reporting Year

- ▶ Describe method(s) used to identify covered entities
  - If data is not available, explain why, and how and when the data will be gathered



## Education and Outreach for the Reporting Year

- ▶ Describe education and outreach methods, including efforts by both jurisdiction & hauler(s):
  - Electronic
  - Print
  - Direct Contact
- ▶ If applicable, describe challenges encountered in implementing education and outreach



## Monitoring for the Reporting Year

- ▶ Explain how generators not in compliance with AB 1826 were notified about the law, and how to comply with the law
- ▶ If applicable, please describe any challenges encountered in implementing monitoring





## Additional Information That May or May Not Be Applicable

- ▶ **If applicable:**
  - Enforcement efforts
  - Additional certification requirements for self-haulers
  - Exemptions



## Facility Infrastructure—Existing/Planned

- ▶ The following shall be reported for compost, anaerobic digestion and chip and grind facilities, and may include other facilities that recycle organic waste per PRC Section 42649.82(d)
  - Name nearby existing organic waste recycling facilities and available capacities;
  - Describe existing solid waste/organic waste recycling facilities within jurisdiction that could be expanded to include organic waste processing;
  - Describe efforts to develop new private or public regional organics facilities, including project timeline;
  - List closed or abandoned sites that could be developed into organics facilities;



## Facility Infrastructure—Existing/Planned (Continued)

- Describe other nondisposal opportunities or markets (e.g., food donation, on-site composting, etc.) available in the jurisdiction;
- Confirm if appropriate local zoning and permit requirements are in place to locate new organic waste recycling facilities, or describe any limitations to site new facilities if applicable;
- Describe any incentives available to develop new organic facilities within the jurisdiction.



## Barriers

- ▶ Address any known barriers to siting or expanding organic recycling facilities in the area:
  - Availability of markets,
  - Budgetary issues,
  - Low population density,
  - Distance to markets, or
  - Cost to process material is prohibitive due to small amount of material, etc.
- ▶ For identified barriers that are in jurisdiction's control, provide summary of jurisdiction's plan to remedy barriers [PRC Section 49649.82 (d) (1) (B)].



## Wrap Up

- ▶ Training will be provided to jurisdictions in Spring 2017 for Annual Report submittal which begins in August 1, 2017.
- ▶ Mock-ups for annual reporting will be posted on the AB 1826 website starting in 2016.



## Comments/Questions?





## Commercial Generator Examples



## How Much Organic Material?

- Statewide Disposal
  - ~30 million tons disposed annually
  - ~10 million tons compost/AD/mulch
  - ~5 million tons food waste
- Commercial Disposal
  - ~1/3 can be composted/digested/mulched
  - Food is roughly 2/3 of commercial organics
- 2014 Waste Characterization Study coming soon!



## 2014 Waste Characterization Study

- Disposal facility-based waste characterization
- Commercial Generator-based characterization of commercial 'black bin' waste
- Source Separation: Blue and Green Bins
- Comprehensive **Diversion** Data from Business Groups



## Examples of Commercial Generators

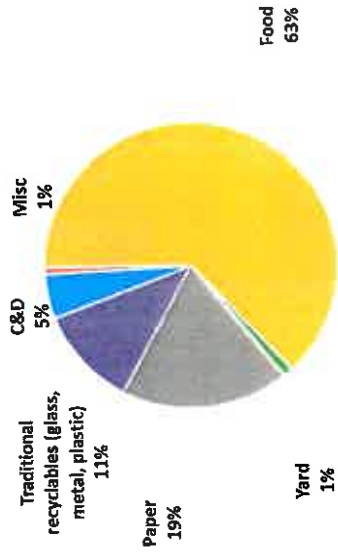
- Grocery Stores
- Hotels
- Restaurants
- Schools & Universities
- Venues & Stadiums
- Construction & Demolition



## Grocery Stores



## Grocery Stores Disposal Characterization





## Options for Grocery Stores

- Partner with a food bank or food rescue organization
- Back-haul food material to distribution center and send to large-scale composting or AD facility
- Contract with a hauler to provide separate collection for inedible food



**Anaerobic Digestion:**  
**Ralph's & Food 4 Less**  
 distribution center,  
 150 tpd food  
 Compton, LA County



## Hotels



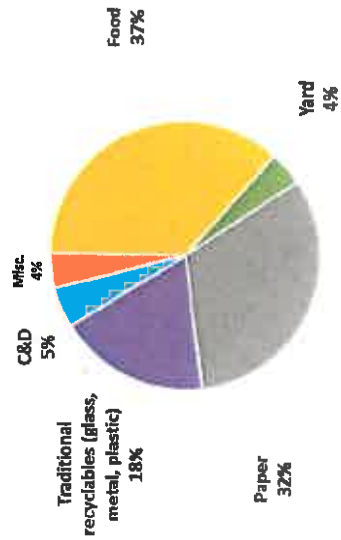
## Options for Hotels

- Hotels with restaurants may partner with a food rescue organization to donate edible food
- Tax deductions available; record keeping essential
- Work with hauler to send food materials to compost or AD Facility
- Landscaping contracts specify that all green material must be recycled
- Compost yard waste on site using in-vessel technology

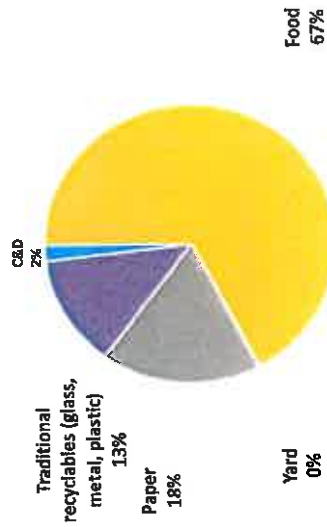


## Restaurants

### Hotels Disposal Characterization



Full Service Restaurants Disposal Characterization

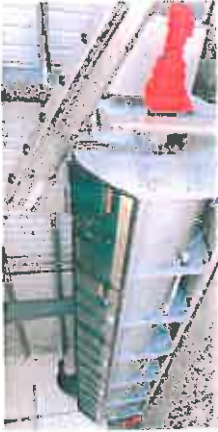


### Options for Restaurants

- Reduce food waste by right-sizing portions, better management of perishable ingredients
- Donate edible food to food rescue organizations
- Work with hauler to send food waste to composting or AD
- Send meat and bones to rendering services
- On-site composting



Earth Tub system behind LEED-certified Hot Italian Pizzeria and Pizzeria Bar in downtown Sacramento



Hot Rot compost system at Sierra Nevada Brewery & Restaurant in Chico.

### Schools and Universities

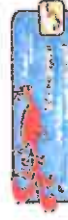


### Options for Schools & Universities

- Food Waste Prevention
- Establish on-site management (e.g. small AD or composting)
- Establish sustainability goals
- Educational Opportunities
  - Harness student volunteers and enthusiasm
  - Build into curriculum
- Contract with a hauler to provide on-site collection of source-separated food materials for composting or AD



Food to Flowers Lundhroom composting program (San Francisco)



UC Berkeley and Lean Path



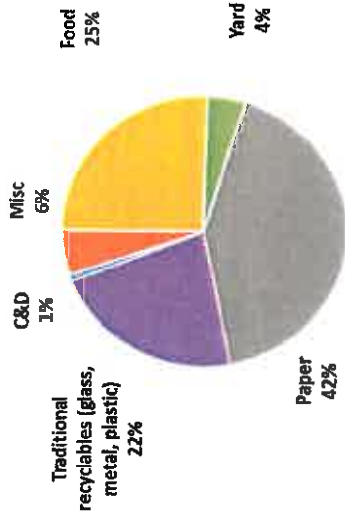
## Venues & Stadiums

(arenas, stadiums, convention centers)



Raley Field,  
City of West  
Sacramento

## Venues & Stadiums Disposal Characterization



## Options for Venues and Stadiums

- Donate edible food to food rescue organization
- Establish on-site management (e.g. small AD or composting)
- Contract with a hauler to provide on-site collection food waste and green material



## Construction & Demolition

- Lumber Included in MORE
- CALGreen requires 50% diversion for new construction and certain additions or alterations to existing buildings
- Local C&D ordinances may require higher diversion than CALGreen
- CALGreen is enforced by local building dept.



## Construction & Demolition



Over 90% of Sacramento Demolition plus construction project was recycled in 2015

## Questions/Comments





## Programmatic Needs Assessment



### Programmatic Needs Assessment Tool (PNAT)

- ▶ Primary goal of 1826 -- divert organics from landfills:
  - Businesses required to recycle the organics they generate
  - Jurisdictions must have organic recycling program that meets the needs of its businesses
  - Jurisdictions required to annually provide education and outreach, then monitor annually the regulated businesses
- ▶ Organic recycling programs vary by Jurisdiction, Type of generators/material types, Type of infrastructure



### Programmatic Needs Assessment Tool (PNAT)

- ▶ Information Call/Recycle will use to determine adequacy of program implementation
  - Information obtained during annual reviews,
  - Annual Report information
  - Other data, such as monitoring information
- ▶ Jurisdiction's assessment of organics recycling services/programs using PNAT
  - Not prescriptive
  - Good indicators for Jurisdiction Review (basis for CIWMP Enforcement Policy Part II)



## Programmatic Needs Assessment Tool (PNAT)

	1	2	3	4	5
1. Jurisdiction	2. Jurisdiction's existing programs	3. Jurisdiction's existing programs	4. Jurisdiction's existing programs	5. Jurisdiction's existing programs	6. Jurisdiction's existing programs
7. Jurisdiction's existing programs	8. Jurisdiction's existing programs	9. Jurisdiction's existing programs	10. Jurisdiction's existing programs	11. Jurisdiction's existing programs	12. Jurisdiction's existing programs
13. Jurisdiction's existing programs	14. Jurisdiction's existing programs	15. Jurisdiction's existing programs	16. Jurisdiction's existing programs	17. Jurisdiction's existing programs	18. Jurisdiction's existing programs
19. Jurisdiction's existing programs	20. Jurisdiction's existing programs	21. Jurisdiction's existing programs	22. Jurisdiction's existing programs	23. Jurisdiction's existing programs	24. Jurisdiction's existing programs



### Jurisdiction 1

- ▶ Generator type:
  - Grocery Stores: large chain store vs independently owned store
- ▶ The following describes this jurisdiction's existing programs:
  - Exclusive franchise hauler for residential and commercial sectors
  - Mandatory commercial organic recycling program
  - Self-haul or back-haul food waste or green waste by businesses
  - Food rescue organizations available
  - Landscapers serving businesses
  - On-site small scale composting
  - Donation of food waste/food scrap to farm as animal feed



### Jurisdiction 3

- ▶ Generator type:
  - Grocery Stores: large chain store vs independently owned store
- ▶ The following describes this jurisdiction's existing programs:
  - Exclusive franchise hauler for residential and commercial sectors
  - Green waste collection (no food waste) to multifamily complexes
  - On-site commercial green waste collection service (no food waste) to businesses
  - Food rescue organizations are available
  - Self-haul or back-haul food or green waste by businesses to a recycling facility
  - Landscapers serving businesses
  - Donation of food waste/food scrap to farm as animal feed







## Jurisdiction 6

- Generator type:
  - Grocery Stores, large chain store vs independently owned store
- The following describes this jurisdiction's existing programs:
  - Jurisdiction is in remote area (rural) that is not exempt by law
  - Residential franchise hauler offers residential green waste collection to MRFs
  - Food rescue organizations are available in more populated areas
  - May have livestock farmers taking a limited amount of pre-consumer food waste from businesses
  - Back-haul/self-haul food waste or greenwaste by businesses
  - May have biomass facility operating intermittently depending on energy markets that accepts clean wood waste and woody yard waste
  - Landscapers serving businesses



## Comments/Questions?



## California Integrated Waste Management Plan (CIWMP) Enforcement Policy



## CIWMP Enforcement Policy Part II

- Foundation for Calrecycle's Jurisdiction Reviews
  - Last revised in 2010 due to SB 1016
- Part II – how Calrecycle determines whether J's programs are adequately implemented
  - Criteria for analysis
  - Mechanisms Calrecycle uses to determine a J's compliance
  - Structure of penalties that may be imposed for failing to implement
- This revision incorporates MCR, MORe, 1994



## SB 1016 Refresher

- Per-capita disposal target and rate
- Per capita disposal rate not determinative of compliance
- Focus on program implementation
- Annual site visits
- 2-year and 4-year cycles



## Enforcement Policy – 4 Scenarios

- Implementing all or most programs and meeting diversion requirements
  - Implementing some/all programs but not meeting diversion requirements
  - Implementing small number of programs and meeting diversion requirements
  - Not implementing programs and not meeting diversion requirements
- Enforcement Policy describes questions and criteria for each scenario
- MCR and MORe need to be implemented regardless of per capita disposal rate





## Enforcement Policy - Incorporation of MCR Requirements

- ▶ Is already developed MCR programs including education, outreach, monitoring
- ▶ Calrecycle worked with each jurisdiction to develop planned activities and each year review implementation
- ▶ Incorporated in current 2-year review cycle
- ▶ Good progress by JS
- ▶ Not focus of workshop – written comments OK



## Enforcement Policy – AB 1594 Greenwaste /ADC

- ▶ Jurisdictions have to start reporting in 2018 about plans to address greenwaste ADC
- ▶ Compliance review begins with the 2021 Annual Report submittal
- ▶ Included here for planning purposes
- ▶ Not focus of workshop – written comments OK



## Enforcement Policy – Incorporation of MORE Requirements

- ▶ Statutory intent –those over generation threshold must divert their organic wastes
- ▶ Business requirement: recycle all organic wastes it generates
- ▶ Similar to MCR each jurisdiction also has to:
  - Provide organics recycling program
  - Conduct and report on education/outreach/monitoring
- ▶ MORE is more difficult than MCR
- ▶ Most jurisdictions had commercial recycling programs
- ▶ Programs for commercial greenwaste and foodwaste are not in place everywhere
- ▶ Some jurisdictions have programs, e.g. processing infrastructure, collection services, assess needs of businesses
- ▶ For jurisdictions that don't have a commercial organics recycling program that needs the needs of its businesses, then need to assess barriers and provide plan in the annual report



## MORE Basics (continued)

- ▶ Lots of variability—Therefore new approach needed to planning
- ▶ What constitutes program and what is adequate is key
- ▶ Analytical tool → based on Callrecycle's questions and approach
- ▶ In Review Cycle, staff uses annual site visits and verifying programs, annual reports, hauler data, website information, etc.
- ▶ Specific criteria for analysis are detailed in draft CIMWP Enforcement Policy II
- ▶ Not prescriptive, not a checklist
- ▶ No mandate that each criterion be adhered to
- ▶ Criteria are guidelines for understanding and analyzing programs



## Identifying Commercial Generators of Organic Materials

- ▶ Reasonable efforts taken to ID generators required to recycle organic waste?
- ▶ Was data provided on # of regulated businesses, multifamily complexes, including how many of each meet threshold and how many are recycling?
- ▶ If no data, reasonable explanation and J is trying to address gap?
- ▶ If phased in, adequate rationale?



## Conducting Education/Outreach

- ▶ Did J use variety of approaches to inform regulated entities annually of the law and how to recycle organics?
- ▶ Is education/outreach accessible to regulated entities?
- ▶ Have language barriers been addressed?
- ▶ Have incentives been provided?
- ▶ Was sufficient staff available?
- ▶ If phased in, adequate rationale?





## Monitoring

- ▶ Were entities not in compliance annually notified?
- ▶ If phasing in, adequate rationale?
- ▶ If no data, explanation of J's efforts to address gap?
- ▶ Staffing or budgetary constraints?



## Ensuring Organic Waste Recycling Services

- ▶ Multiple elements possible
- ▶ Statute outlines 3 elements that could be in jurisdiction program:
  1. Implementing mandatory commercial organic waste recycling policy or ordinance that requires recycling
  2. Requiring mandatory commercial organic waste recycling program through franchise contract or agreement
  3. Requiring organic waste to go through source separated or mixed processing system that diverts material from disposal
- ▶ Could be in conjunction with existing efforts/programs, including but not limited to:
  1. Food rescue programs
  2. On-site composting/AD
  3. Solid waste hauling to recycling facilities
  4. Landscaping services



## Ensuring Organic Waste Recycling Services

- ▶ Js also may consider:
  - Certification requirements for self-haulers or on-site management
  - Enforcement provisions
  - Charging fee to cover costs



## Determining Progress Achieved in Implementing Program

- ▶ What constitutes "organics waste recycling services" will vary
  - Types of generators
  - Types of organics generated
  - Types of existing or potential infrastructure
  - On-site collection options
- ▶ Services must be appropriate for J and meet needs of its businesses
- ▶ Must provide opportunities for regulated businesses re: organics recycling services



## Determining Progress Achieved in Implementing Program (continued)

- ▶ Did J demonstrate that programs available to regulated entities are adequate?
  - Generator ID, analysis of existing programs, etc.
- ▶ Did J demonstrate that programs available to regulated entities are adequate?
  - If J has not implemented appropriate program that meets needs of its businesses, has it answered questions re: markets, funding, facilities, staffing, legal issues?



## Additional Reporting and Analysis Requirements re: Infrastructure

- ▶ Commencing with 2016 EAR (due August 1, 2017), Js must report info on:
  - Existing organics recycling facilities
  - Potential for expansion or colocation within J
  - Other private or regional efforts
  - Closed or abandoned sites that may be available
  - Other non-disposal opportunities or markets
  - Zoning and permitting requirements
  - Availability of local incentives
  - Known barriers, within J's control, to siting or expanding
  - Plan to address barriers within J's control





## Steps Toward Issuance of Compliance Order

- ▶ If CalRecycle finds J failed to adequately implement MCR and/or MORE requirements...
  - Regardless of whether it met per-capita diversion requirements
  - And has not demonstrated good faith effort
- ▶ Then CalRecycle may issue Order of Compliance
- ▶ All current procedures for issuing Order will be used
  - ▶ No changes



## FAQs to be discussed and solicit input...



## How effective does a jurisdiction's program to divert organics need to be to avoid being put on compliance order? What if businesses are not diverting organics or options cannot be identified?

- ▶ "GFE" means Jurisdiction has made all reasonable and feasible efforts to implement existing services available to all businesses
  - Just the same as ensuring all businesses are meeting requirement to recycle
- ▶ Numerous factors evaluated on case-by-case basis
- ▶ If jurisdiction identifies lack of options:
  - Required to provide information in Annual Report about lack of infrastructure, other non-disposal options, lack of markets
  - Also information re: its efforts to remove barriers



## My jurisdiction currently has a green waste drop off program that is available to all businesses, as well as residents. Will this program be sufficient to meet the requirements of the law and, if not, what additional programs will the jurisdiction need to provide?

- ▶ Definition of organic waste includes multiple types
- ▶ Jurisdictions required to provide education and outreach to businesses
  - Drop off location would be one way for businesses and multifamily dwellings
  - But J should determine whether it accepts other organic materials
  - If not, then J needs to provide education and outreach re: other known opportunities, and resources to address all covered material types
- ▶ If J's program does not provide adequate options, then J needs to address barriers and specify plan, e.g., if businesses generate food waste then the J would need to implement a food waste program that meets the needs



## What if no food waste diversion opportunities are currently available within a reasonable vicinity? Are there any exemptions for the jurisdiction if a food waste collection program cannot be developed during the time frame specified in the law?

- ▶ No exemption
- ▶ If J's program does not provide adequate options, then J needs to address barriers and specify plan
  - In annual report commencing on and after August 1, 2017, CalRecycle will consider multiple factors in determining GFE
    - Availability of sufficient infrastructure
    - Other nondisposal opportunities, markets
  - Extent to which J has taken steps to remove barriers



## How will CalRecycle determine compliance with the law? What will a jurisdiction need to do to show a Good Faith Effort to implement its selected organic waste recycling program?

- ▶ Conduct formal Jurisdiction Review
- ▶ CalRecycle determines whether the jurisdiction has made a good faith effort
- ▶ Consider factors in its evaluation of a jurisdiction's good faith effort that are provided for in PRC Section 42669.82





**Is there anything stipulating that a jurisdiction is required to provide a curbside program?**

- ▶ No, curbside program not specifically required
- ▶ Js required to have organics recycling program that meets the needs of its businesses
- ▶ This could mean a curbside program is what is needed, as well as provide education, outreach, and monitoring re: requirements and how they can recycle



▶ Comments/Questions?



**Next Steps:**

- ▶ Submit comments to [LAMD@Calrecycle.ca.gov](mailto:LAMD@Calrecycle.ca.gov) mailbox by May 15, 2015
- ▶ Guidance will be finalized and posted on website





# Mandatory Commercial Organics Recycling (AB 1826) Stakeholder Workshop

## Item 4

### Generator ID Tool

The purpose of this tool is for estimating how many employees it takes to generate 8 cubic yards or 4 cubic yards of organics/week for different business types.

#### 1. Background information

- a. **Business Groups** – different business types generate different amounts of organics – compare a restaurant to a car dealership. CalRecycle has developed a list of business groups to use for waste characterization studies, to gather data on waste patterns for each group. Businesses are classified based on the North American Industry Classification System (NAICS) and grouped according to similarities in waste streams. For example, restaurants are in one group – they generate waste differently from most other types of businesses. Finance, insurance, and legal businesses are grouped together because they are office-type businesses and generate waste in similar ways.
- b. **Waste Composition Data** – this provides information on the types and amounts of waste a business generates, such as the amount of food waste or office paper. For example, the waste generated by food stores contains about 57% cardboard and about 28% food. For businesses in the Durable Wholesale Goods category, the waste generated contains about 17% ferrous metal and about 30% lumber. Data is collected by taking samples of waste and recyclables at business sites and sorting them into various material types, and weighing each type. Data from many sites is aggregated to get the profile for the business group.
- c. **Waste Generation Rate Data** – this estimates the overall amount of waste generated by a business type, on a per-employee basis. For example, food stores generate about 319 pounds of total waste per employee per week (including diversion). Data is collected by measuring total amounts of disposal and recycling set out by businesses. Again, data from many sites is aggregated to get the profile for the business group.
- d. **Organic Material Types** – these include food waste, yard waste, lumber, and compostable paper. These material types are defined for the waste characterization study.
- e. **Conversion Factors (Density Data)** – this data converts materials from pounds to cubic yards (data in examples is from CalRecycle staff).

#### 2. Calculating amounts of organics generated

The amount of organics generated per employee can be calculated by using data on the percent of organic materials in the waste stream, and the total amount of waste generated (on a per-employee basis). Then, the number of employees needed to get to 8 cubic yards can be calculated.

Example: Waste from food stores contains 28% food, 1.2% yard waste, and 5% lumber. Food stores generate 319 pounds of total waste per employee per week. (CalRecycle 2006 study – see below).

## Mandatory Commercial Organics Recycling (AB 1826) Stakeholder Workshop Item 4

### Food waste

319 pounds X 28% food = 89 pounds of food waste per employee per week

Food weighs on average 500 pounds per cubic yard

89 pounds ÷ 500 pounds per cubic yard = 0.18 cubic yards of food waste per employee per week

### Yard waste

319 pounds X 1.2% yard waste = 4 pounds of yard waste per employee per week

Yard waste weighs on average 275 pounds per cubic yard

4 pounds ÷ 275 pounds per cubic yard = 0.014 cubic yards of yard waste per employee per week

### Lumber

319 pounds X 5% lumber = 16 pounds of lumber per employee per week

Lumber weighs on average 500 pounds per cubic yard also

16 pounds ÷ 500 pounds per cubic yard = 0.03 cubic yards of lumber per employee per week

Total organics generated = 0.18 + 0.014 + 0.03 = 0.22 cubic yards of total organics per employee per week

8 cubic yards per week ÷ 0.22 cubic yards per employee per week = 36 employees needed to generate 8 cubic yards of total organics per week.

Waste generated includes materials both disposed and diverted. All data is from CalRecycle report *Targeted Statewide Waste Characterization Study: Waste Disposal and Diversion Findings for Selected Industry Groups, 2006*, unless otherwise noted. **The data will be revised later date using 2014 Waste Characterization Study.**

### 3. Obtaining Data on Your Local Businesses – Sources of Information

- a. Local business license or other database that contains employment data for each business in the jurisdiction
- b. California Employment Development Department (EDD) Labor Market Information Division (LMID) – use the “Employer By Geographic Area” to get lists of businesses by jurisdiction, according to employment size ranges.  
<http://www.labormarketinfo.edd.ca.gov/aspdotnet/databrowsing/EmpGeog.aspx?menuChoice=emp&searchType=Geography>
- c. Private Sources of Business Data – ReferenceUSAGov, Dun & Bradstreet, Others
- d. Ask for list of businesses by 3 Digit NAICS Code that have the minimum number of employment – see example below. CalRecycle will provide a full list for all 3-digit NAICS codes using data from the 2014 Waste Characterization Study, which will be available in May 2015.

Business Type	NAICS Code	Minimum employment needed to generate 8 cubic yards
Food Stores	445	36



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This table is for reference only and will be revised with 2014 Waste Characterization Study Data later  
Do not use the numbers in this table for your planning purpose

**Calculation to Estimate 8 cu yd of Organic Waste Generation by Business Type**

Industry Group	Waste Generation (pounds per employee per year)	Total cu yd Organics per Employee per Week	Number of Employees Needed to Produce 8 cu yd of Organics per Week
Food Stores	16,578	0.222	36
Retail, Big Box Stores	7,798	0.051	157
Non-Durable Wholesale Distributors	6,931	0.110	72
Retail, Other Stores	5,274	0.020	396
Durable Wholesale Distributors	4,719	0.056	143
Fast-Food Restaurants	6,528	0.097	82
Full-Service Restaurants	6,437	0.132	61
Building Material & Gardening, Big Box Stores	9,031	0.078	102
Building Material & Gardening, Other Stores	4,599	0.074	109
Large Hotels (100+ rooms)	5,049	0.093	86

*Reference Only Do Not Use*

**NOTES:**

- Based on data from CalRecycle's 2006 Waste Disposal and Diversion Findings for Selected Industry Groups.
- Weights were converted to cubic yards using the following conversion factors obtained from CalRecycle staff:
  - Food - 500 lbs/cu yd
  - Leaves & Grass and Prunings & Trimmings - 275 lbs/cu yd
  - Lumber - 500 lbs/cu yd



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Electronic Annual Report Questions to Address AB 1826  
DRAFT

Starting with 2016 Annual Report (due August 2017) the following are the specific questions that would need to be addressed in the Electronic Annual Report for each jurisdiction:

**A) Identification of covered entities (numerical data related to 42649.82(f)(1):**

- 1) (2016 Annual Report): Businesses that generate eight cubic yards or more of organic waste per week:
  - a. Number of regulated businesses \_\_\_\_\_
  - b. Number of regulated multifamily complexes \_\_\_\_\_
  - c. Number of regulated businesses that are recycling organic waste \_\_\_\_\_
  - d. Number of regulated multifamily complexes that are recycling green waste, landscape and pruning waste, and nonhazardous wood waste (i.e., all organic waste except food waste) \_\_\_\_\_
  - e. Please describe the methodology used to identify covered businesses and multifamily complexes \_\_\_\_\_
  - f. If any of this data is not available, please explain why it is not available and how you are addressing gathering the data and when it will be available \_\_\_\_\_
  - g. If available provide the amount of organic material that is being diverted by businesses/multifamily complexes \_\_\_\_\_
  - h. Any additional info to consider not described above \_\_\_\_\_
  
- 2) (2017 Annual Report): Businesses that generate four cubic yards or more of organic waste per week. Note: data should include the businesses that generate eight cy also.
  - a. Number of regulated businesses \_\_\_\_\_
  - b. Number of regulated multifamily complexes \_\_\_\_\_
  - c. Number of regulated businesses that are recycling organic waste \_\_\_\_\_
  - d. Number of regulated multifamily complexes that are recycling green waste, landscape and pruning waste, and nonhazardous wood waste (i.e., all organic waste except food waste) \_\_\_\_\_
  - e. Please describe the methodology used to identify covered businesses and multifamily complexes \_\_\_\_\_
  - f. If any of this data is not available, please explain why it is not available and how you are addressing gathering the data and when it will be available \_\_\_\_\_
  - g. If available provide the amount of organic material that is being diverted by businesses/multifamily complexes \_\_\_\_\_
  - h. Any additional info to consider not described above \_\_\_\_\_

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3) (2019 Annual Report): Businesses that generate four cubic yards or more of commercial solid waste. Note: data should include the businesses that generate eight cy and 4 cy of organics also.

- a. Number of regulated businesses \_\_\_\_\_
- b. Number of regulated multifamily complexes \_\_\_\_\_
- c. Number of regulated businesses that are recycling organic waste \_\_\_\_\_
- d. Number of regulated multifamily complexes that are recycling green waste, landscape and pruning waste, and nonhazardous wood waste (i.e., all organic waste except food waste) \_\_\_\_\_
- e. Please describe the methodology used to identify covered businesses and multifamily complexes \_\_\_\_\_
- f. If any of this data is not available, please explain why it is not available and how you are addressing gathering the data and when it will be available \_\_\_\_\_
- g. If available provide the amount of organic material that is being diverted by businesses/multifamily complexes \_\_\_\_\_
- h. Any additional info to consider not described above \_\_\_\_\_

4) (2020 Annual Report): TBD by CalRecycle if needed, but could include businesses generating two cubic yards or more per week of commercial solid waste

- a. Number of regulated businesses \_\_\_\_\_
- b. Number of regulated multifamily complexes \_\_\_\_\_
- c. Number of regulated businesses that are recycling organic waste \_\_\_\_\_
- d. Number of regulated multifamily complexes that are recycling green waste, landscape and pruning waste, and nonhazardous wood waste (i.e., all organic waste except food waste) \_\_\_\_\_
- e. Please describe the methodology used to identify covered businesses and multifamily complexes \_\_\_\_\_
- f. If any of this data is not available, please explain why it is not available and how you are addressing gathering the data and when it will be available \_\_\_\_\_
- g. If available provide the amount of organic material that is being diverted by businesses/multifamily complexes \_\_\_\_\_
- h. Any additional info to consider not described above \_\_\_\_\_

---

**B) Education and Outreach (all years):**

1) Describe education and outreach methods for the reporting year, including those done by the jurisdiction and by the hauler(s).

- a. Electronic \_\_\_\_\_
- b. Print \_\_\_\_\_
- c. Direct Contact \_\_\_\_\_

2) If applicable, please describe any challenges encountered in implementing education and outreach about the jurisdiction's organic recycling program.

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**C) Monitoring (all years):**

- 1) Explain how covered businesses (includes multifamily complexes) that were not in compliance with AB 1826 were notified about the law, and how to comply with the law. If applicable, please describe any challenges encountered in implementing **monitoring** related to the jurisdiction's organic recycling program.
- 

**D) The following elements do not need to be implemented as part of the jurisdiction's organic waste recycling program; however the jurisdiction is required to report on any efforts related to these provisions, if they are applicable (optional to implement, but required to report on, if applicable):**

- 1) Has the jurisdiction implemented any enforcement measures for businesses that are not in compliance? If so, please describe.
- 

- 2) Has the jurisdiction implemented any certification requirements for self-haulers? If so, please describe.
- 

- 3) Have any exemptions been granted? (Exemptions noted in the law include lack of sufficient space to provide additional bins, current business practices already result in a significant reduction in its organic waste (can be revoked 2020), the business does not generate at least one-half cubic yard of organic waste per week, limited term exemptions unforeseen events) If so, please describe.
- 

**E) Progress achieved in implementing commercial organics waste recycling program (all years)**  
[Questions related to Section 42649.82(d)]:

The following shall be reported for compost, anaerobic digestion and chip and grind facilities, and may include other facilities that recycle organic waste.

- 1) Please provide the names of organic waste recycling facilities within a reasonable vicinity and the capacities available for materials to be accepted at each facility.
-

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- 2) Please describe existing solid waste and organic waste recycling facilities within the jurisdiction that may be suitable for potential expansion or colocation of organic waste processing or recycling facilities
- 

- 3) Please describe efforts of which the jurisdiction is aware that are underway to develop new private or public regional organic waste recycling facilities and the anticipated timeline for completion of those facilities.
- 

- 4) Please provide a list of closed or abandoned sites that may be available for new organic waste recycling facilities.
- 

- 5) Please describe other nondisposal opportunities or markets (e.g., food donation, on-site composting, etc.) available to covered entities in the jurisdiction.
- 

- 6) Please confirm if appropriate zoning and permit requirements are in place in the jurisdiction for the location of new organic waste recycling facilities, or describe any local limitations for siting new facilities if applicable.
- 

- 7) Please describe any incentives available, if any, for developing new organic waste recycling facilities within the jurisdiction.
- 

- 8) Please describe any efforts the local jurisdiction is participating in or aware of to promote local markets for processed organic material (e.g. through jurisdiction purchases of material, education to residents/businesses to purchase materials).
- 

**F) Barriers**

- a) Please indicate any known barriers to siting or expanding organic waste recycling facilities in the area, such as availability of markets, budgetary issues, low population density, distance to markets, or cost to process material is prohibited due to small amount of material, etc. If there are identified barriers that are in the jurisdiction's control, please provide a summary of the jurisdiction's plan to remedy the barriers that are under its control.
-

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- G) Is there anything else you would like to tell CalRecycle about unique or innovative efforts by your jurisdiction to reduce organic waste generation and increase diversion, about your jurisdiction's public education efforts, or about specific obstacles to reaching your jurisdiction's implementation of an organic recycling program? If you wish to attach additional information to your annual report, please use the "Document Management" button below to upload additional files or you can send them directly to your LAMD representative. Please include a brief description of those files in the text box below.**
-





## “Program Needs Assessment Tool”

### Mandatory Commercial Organics Recycling (AB 1826) Stakeholder Workshop (Item 7)

#### Intent of the law: For applicable generators recycle all commercial organics instead of it going in the landfill

The primary goal of AB 1826 is to divert organic materials from landfills. To accomplish this, businesses are required to recycle the organics they generate (with an exclusion for food waste from multifamily units). In addition, each jurisdiction must have an Organics Recycling Program (ORP) that is appropriate for the jurisdiction and meets the needs of its businesses. It must provide the regulated businesses with opportunities to divert the organic wastes it generates. As with mandatory commercial recycling (MCR), jurisdictions must provide education and outreach to regulated businesses and monitor program effectiveness.

CalRecycle recognizes that what constitutes an effective ORP will vary from jurisdiction to jurisdiction. It will depend on many factors, such as the types of commercial generators and the kinds of organics that are generated, the existing and/or potential infrastructure for processing these organic materials, and on-site collection options, etc. CalRecycle also understands that what constitutes an acceptable program will be key to the formal Jurisdiction Review of program implementation and that jurisdictions are seeking guidance now on this issue. Fortunately, there is time to work with jurisdictions and clarify this issue before the first review, which for purposes of AB 1826, will be in the fall of 2018 for those jurisdictions on a two-year review cycle and then in Fall of 2020 for all jurisdictions for the four-year review cycle.

It is important to know that CalRecycle cannot tell individual jurisdictions today whether or not their programs will be adequate, as we base that determination – which occurs during the formal Jurisdiction Review period – on historical, empirical evidence of what is needed in a jurisdiction and how the jurisdiction addressed those needs. However, CalRecycle has created a simple analytical tool to assist jurisdictions in assessing business and programmatic needs and determining appropriate programs if needed. This tool incorporates the types of questions that CalRecycle staff will ask during annual site visits, annual report reviews, and the formal Jurisdiction Review period to assess the adequacy of program implementation and to make a recommendation regarding a jurisdiction’s compliance with pertinent requirements. These questions are provided as an example of one approach that jurisdictions could take to assess programmatic needs with respect to the requirements of AB 1826. They should not be viewed as prescriptive and are not a checklist, but they do indicate the issues that will be examined when CalRecycle performs its Jurisdiction Reviews. These questions, delineated in more detail in the proposed revisions to the CIWMP Enforcement Policy document that is discussed later in this workshop, focus on the following major areas:

- A. What generators meet the threshold? (Column A)
  - B. What organic materials are generated and are they diverted? (Column B)
  - C. What diversion programs are available in the jurisdiction? (Column C)
  - D. What programs do the businesses need? (Column D)
  - E. What programs can the jurisdiction provide to meet the needs of the business? (Column E)
- Note: A jurisdiction’s organic waste recycling program must meet the needs of its businesses; it must provide opportunities for the regulated businesses to divert the organic wastes they generate. For instance, if businesses in the area generate food waste, then the jurisdiction must offer a food waste diversion program.*
- F. If the jurisdiction is not able to provide necessary programs, what are the barriers and what is the jurisdiction doing to address the barriers? (Column F)

These questions are shown in the blank analytical tool table below. Following this blank template, CalRecycle provides 6 examples of hypothetical jurisdictions with specified characteristics and generators. These examples will help guide each jurisdiction through their own assessment of local business and programmatic needs.

**“Program Needs Assessment Tool”**      **Mandatory Commercial Organics Recycling (AB 1826) Stakeholder Workshop (Item 7)**

A What generators meet the threshold?	B What types of organic materials are generated/are the materials diverted?	C What existing types of programs are available in the Jurisdiction?	D What programs do generators need?	E What program(s) can the jurisdiction add to meet generator needs?	F If the jurisdiction is not able to provide programs, what are the barriers and what is the jurisdiction doing to address the barriers?

“Program Needs Assessment Tool”

Mandatory Commercial Organics Recycling (AB 1826) Stakeholder Workshop (Item 7)

Examples of jurisdictions assessing their programs and the needs of their businesses:

Jurisdiction 1

A	B	C	D	E	F
What generators meet the threshold?	What types of organic materials are generated/are the materials diverted?	What existing types of programs are available in the Jurisdiction?	What programs do generators need?	What program(s) can the jurisdiction add to meet generator needs?	If the jurisdiction is not able to provide programs, what are the barriers and what is the jurisdiction doing to address the barriers?
Grocery Store X (Large/chain store type)	Grocery Store X <ul style="list-style-type: none"> <li>Generates food waste (primarily produce).</li> <li>Gives consumable foods to food banks.</li> <li>Backhauls remaining food waste to a distribution center where it is sent to a composting facility.</li> </ul>	<ul style="list-style-type: none"> <li>Exclusive franchise hauler for residential and commercial sectors.</li> <li>Mandatory commercial organic recycling program e.g., businesses must either use the franchise hauler or backhaul or self-haul to a recycling facilities.</li> <li>Commercial on-site organic collection program offered by hauler.</li> <li>Food rescue organizations are available.</li> <li>Businesses can have on-site small scale composting.</li> <li>Food waste can be donated to farms for animal feed.</li> <li>Self-haul opportunities to AD or composting facilities.</li> </ul>	These grocery stores do not need any new programs because: <ul style="list-style-type: none"> <li>These grocery stores already divert all food waste.</li> <li>These grocery stores do not generate other compostable organics such as green waste.</li> </ul>	No generator needs were identified.	N/A
Grocery Store Y (Independent store type)	Grocery Store Y <ul style="list-style-type: none"> <li>Generates food waste.</li> <li>Subscribes to the franchise haulers ORP.</li> </ul>	<ul style="list-style-type: none"> <li>Green waste collection program through the hauler.</li> <li>Landscapers serving businesses and/or multifamily complexes can self-haul green waste.</li> </ul>	MFDs do not need any new programs because all the complexes are recycling green waste by either participating in the hauler's green waste collection program or having their green waste hauled to a composting facility by the landscaper.	No generator needs were identified. However, further outreach and education may be needed to assure landscapers and/or gardeners take green waste to a proper diversion facility.	N/A
Multifamily Dwellings (MFDs) (5 units or more)	MFDs – Generate food and green waste. All complexes recycle green waste through the hauler's green waste collection program or their landscaper hauls it to a composting facility. <i>Note: Food waste diversion requirements are excluded for MFDs.</i>				

Mandatory Commercial Organics Recycling (AB 1826) Stakeholder Workshop (Item 7)

“Program Needs Assessment Tool”

Jurisdiction 2

A	B	C	D	E	F
What generators meet the threshold?	What types of organic materials are generated/are the materials diverted?	What existing types of programs are available in the Jurisdiction?	What programs do generators need?	What program(s) can the jurisdiction add to meet generator needs?	If the jurisdiction is not able to provide programs, what are the barriers and what is the jurisdiction doing to address the barriers?
<p>Grocery Store X (Large/chain store type)</p> <p>Grocery Store Y (Independent store type)</p>	<p>Grocery Store X</p> <ul style="list-style-type: none"> <li>Generates food waste.</li> <li>Donates consumable food to a food rescue organization.</li> <li>Subscribes to the hauler’s ORP.</li> </ul> <p>Grocery Store Y</p> <ul style="list-style-type: none"> <li>Generates food waste.</li> <li>Throws away all its food waste.</li> </ul>	<ul style="list-style-type: none"> <li>Exclusive franchise hauler for commercial sector.</li> <li>Commercial on-site organic collection program offered by hauler.</li> <li>Food rescue organizations.</li> <li>Businesses can have on-site small scale composting.</li> <li>Food waste donations to farms for animal feed.</li> <li>Self-haul opportunities to AD or composting facilities.</li> </ul>	<p>Grocery Store X does not need any new programs because it diverts all of its food waste and does not generate any other organic wastes.</p> <p>Grocery Store Y could use existing diversion programs such as:</p> <ul style="list-style-type: none"> <li>The hauler’s ORP,</li> <li>Food rescue organizations,</li> <li>Self-haul to an AD/composting facility, or</li> <li>On-site composting.</li> </ul>	<p>No need to add any new programs for either grocery store since existing programs are readily available in the jurisdiction.</p>	<p>N/A</p>
<p>Multifamily Dwellings (MFDs) (5 units or more)</p>	<p>MFDs – Generate food and green waste. Some complexes subscribe to the hauler’s green waste collection program. The remainder are served by a landscaper or gardener.</p> <p><i>Note: A few complexes don’t generate any green waste and food waste is excluded.</i></p>	<ul style="list-style-type: none"> <li>Green waste collection program through the hauler.</li> <li>Landscapers serving businesses and/or multifamily complexes can self-haul green waste.</li> </ul>	<p>MFDs do not need any additional programs because a green waste collection program is available and landscapers/gardeners can take green waste to a diversion facility.</p>	<p>No need to add any new programs. However, outreach and education may be needed to assure MFDs are subscribing to the hauler’s ORP or the landscapers/gardeners take the green waste to a diversion facility.</p>	<p>N/A</p>

"Program Needs Assessment Tool"

Mandatory Commercial Organics Recycling (AB 1826) Stakeholder Workshop (Item 7)

Jurisdiction 3

A What generators meet the threshold?	B What types of organic materials are generated/are the materials diverted?	C What existing types of programs are available in the Jurisdiction?	D What programs do generators need?	E What program(s) can the jurisdiction add to meet generator needs?	F If the jurisdiction is not able to provide programs, what are the barriers and what is the jurisdiction doing to address the barriers?
<p>Grocery Store X (Large/chain store type)</p>	<p>Grocery Store X</p> <ul style="list-style-type: none"> <li>Generates food waste.</li> <li>Food waste that can be donated is picked up by a food rescue organization.</li> <li>Other food waste is back-hauled to a distribution center and then it is sent to a composting facility.</li> </ul>	<ul style="list-style-type: none"> <li>Exclusive franchise hauler for residential and commercial sectors.</li> <li>Commercial green waste collection program (no food waste) offered by hauler.</li> <li>Food rescue organizations are available.</li> <li>Businesses can have on-site small scale composting.</li> <li>Food waste donations to farms for animal feed.</li> <li>Self-haul opportunities to AD or composting facilities.</li> </ul>	<p>Grocery Store X does not need any new programs because it diverts all of its food waste and does not generate any other organic wastes.</p> <p>Grocery Store Y could use a rescue program for consumable food discards. However, for the remaining organic waste, the store needs a recycling option. The store doesn't have the option to backhaul the material. In our jurisdiction there isn't a current option for the store to subscribe to a collection program or have on-site composting. The store needs to subscribe to an organics recycling collection program or self-haul to a composting facility.</p>	<p>An organics on-site collection program could be implemented through the franchise hauler.</p> <p>Open the franchise to allow other haulers to provide a commercial food waste collection program.</p> <p>An assessment program to determine if it is feasible for the store to self-haul its material to a composting facility.</p>	<p>In this situation, we have determined that the franchise hauler could provide commercial organics collection program for both green waste and food waste. However, it will take six months to amend the franchise and implement the program starting with the largest generators.</p>
<p>Grocery Store Y (Independent store)</p>	<p>Grocery Store Y</p> <ul style="list-style-type: none"> <li>Generates food waste.</li> <li>Food waste is thrown away.</li> </ul>	<ul style="list-style-type: none"> <li>The hauler offers a residential green waste collection to multifamily complexes.</li> <li>Landscapers serving businesses and/or multifamily complexes can self-haul green waste.</li> </ul>	<p>The green waste generated by the MFD needs to be taken to a diversion facility.</p>	<p>Increased outreach and education to make sure MFDs are either subscribing the hauler's program or the landscapers and/or gardeners take the green waste to a diversion facility.</p>	<p>N/A</p>
<p>Multifamily Dwellings (MFDs) (5 units or more)</p>	<p>MFDs – Generate both food and green waste. Some complexes are subscribing the hauler's green waste collection program. Others are served by a landscaper or gardener. A few don't generate any green waste. <i>Note: food waste is excluded.</i></p>				

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Jurisdiction 4

A What generators meet the threshold?	B What types of organic materials are generated/are the materials diverted?	C What existing types of programs are available in the Jurisdiction?	D What programs do generators need?	E What program(s) can the jurisdiction add to meet generator needs?	F If the jurisdiction is not able to provide programs, what are the barriers and what is the jurisdiction doing to address the barriers?
<p>Grocery Store X (Large/chain store type)</p>	<p>Grocery Store X</p> <ul style="list-style-type: none"> <li>Generates food waste</li> <li>Food waste that can be donated is picked up by a food rescue organizations.</li> <li>Other food waste is back-hauled to a distribution center and then sent to a composting facility.</li> </ul>	<ul style="list-style-type: none"> <li>Residential franchise hauler and non-exclusive franchise hauler(s) by permit or open market for the commercial sector.</li> <li>Non-exclusive haulers offer commercial green waste collection, but not food waste collection program at this time.</li> <li>Food rescue programs are available.</li> <li>Businesses can have on-site small scale composting.</li> <li>Food waste/food scrap can be donated to farm as animal feed.</li> <li>Businesses may self-haul food waste to composting/AD facility.</li> </ul>	<p>Grocery Store X does not need any new programs because it already diverts all organic wastes.</p> <p>Grocery Store Y could use a food bank for some of its edible food waste. However, for the remaining organic waste, the store needs a recycling option. The store doesn't have the option to backhaul the material and in our jurisdiction there isn't a current option for the store to subscribe to a collection program or have on-site composting. The store needs to subscribe to an organics recycling collection program or self-haul to a composting facility.</p>	<p>An organics on-site collection program by the non-exclusive haulers.</p>	<p>We could identify non-exclusive haulers that could provide a commercial food waste collection program. If none are identified to provide this program, then we could explore other options, e.g., extending an RFP, etc.</p>
<p>Grocery Store Y (Independent store)</p>	<p>Grocery Store Y</p> <ul style="list-style-type: none"> <li>Generates food waste</li> <li>Food waste (produce) is thrown away</li> </ul>	<ul style="list-style-type: none"> <li>Residential franchise hauler offers a residential green waste collection to Single Family Dwellings (SFD) and Multifamily Dwellings (MFD)</li> <li>Landscapers serving businesses and/or multifamily complexes can self-haul green waste.</li> </ul>	<p>The green waste generated by the MFD needs to be taken to a diversion facility.</p>	<p>Increased outreach and education to make sure MFDs are either subscribing the hauler's program or the landscapers and/or gardeners take the green waste to a diversion facility.</p>	<p>N/A</p>
<p>Multifamily Dwellings (MFDs) (5 units or more)</p>	<p>MFDs – Generate both food and green waste. Some complexes are subscribing the hauler's green waste collection program. Others are served by a landscaper or gardener. A few don't generate any green waste. <i>Note: food waste is excluded.</i></p>				

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Jurisdiction 5

A What generators meet the threshold?	B What types of organic materials are generated/are the materials diverted?	C What existing types of programs are available in the Jurisdiction?	D What programs do generators need?	E What program(s) can the jurisdiction add to meet generator needs?	F If the jurisdiction is not able to provide programs, what are the barriers and what is the jurisdiction doing to address the barriers?
Grocery Store X (Large/chain store type)	Grocery Store X <ul style="list-style-type: none"> <li>Generates food waste.</li> <li>Food waste that can be donated is picked up by a food bank/shelters.</li> <li>Other food waste is thrown away.</li> </ul> Grocery Store Y <ul style="list-style-type: none"> <li>Generates food waste.</li> <li>Food waste is thrown away.</li> </ul>	<ul style="list-style-type: none"> <li>Wet/dry collection route is being implemented to use a mixed waste processing facility, which sends the organic waste to a composting or AD facility.</li> <li>Food rescue organizations are available.</li> <li>Businesses have on-site small scale composting.</li> <li>Food waste/food scrap can be donated to farm as animal feed.</li> <li>Self-haul to composting/AD facility.</li> </ul>	These grocery stores are already diverting all food waste via the trash being collected and taken to a mixed waste processing facility where the organics and other recyclables are separated.	No need to add new program	N/A
Multifamily Dwellings (MFDs) (5 units or more)	MFDs – Generate both food and green waste. Some complexes are subscribing the hauler’s green waste collection program. Others are served by a landscaper or gardener. A few don’t generate any green waste. <i>Note: food waste is excluded.</i>	<ul style="list-style-type: none"> <li>Landscapers serving businesses and/or multifamily complexes can self-haul green waste.</li> </ul>	The green waste generated by the MFD needs to be taken to a diversion facility.	Green waste collected by the hauler could be diverted at a mixed waste processing facility. <i>Note: assuming the facility separates out greenwaste/wood, etc.</i>  Further outreach and education is needed to assure landscapers or gardeners take the green waste to a diversion facility.	N/A

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Jurisdiction 6

A	B	C	D	E	F
What generators meet the threshold?	What types of organic materials are generated/are the materials diverted?	What existing types of programs are available in the Jurisdiction?	What programs do generators need?	What program(s) can the jurisdiction add to meet generator needs?	If the jurisdiction is not able to provide programs, what are the barriers and what is the jurisdiction doing to address the barriers?
Grocery Store X (Large/chain store type)	Grocery Store X <ul style="list-style-type: none"> <li>Generates food waste (produce).</li> <li>Food waste is backhauled to a distribution center and then sent to a composting facility.</li> </ul>	<ul style="list-style-type: none"> <li>Remote area/rural jurisdiction have exclusive franchise hauler for both residential and commercial sectors.</li> <li>Food bank is available in more populated area.</li> <li>Some livestock farmers may take a limited amount of pre-consumer food waste.</li> <li>Businesses can backhaul/self-haul food waste or green waste.</li> <li>Biomass facility that accepts clean wood waste and woody yard waste may operate intermittently depending on energy markets.</li> </ul>	Grocery Store X does not need any new programs because it already diverts all organic wastes.  Grocery Store Y needs to subscribe an organics on-site collection program or self-haul to a composting facility.	An organics on-site collection program by the franchise hauler.	<ul style="list-style-type: none"> <li>Composting facility may not accept food waste or doesn't have adequate capacity to accept all the organic materials; therefore, collecting the materials is not feasible.</li> <li>May not have compost facility within a reasonable distance.</li> <li>It may be cost prohibitive to offer an on-site organics collection or self-haul due to the distance between the businesses/composting facility.</li> <li>At this time, our jurisdiction is not able to address these barriers; however, we will continue to seek other approaches.</li> </ul>
Grocery Store Y (Independent store)	Grocery Store Y <ul style="list-style-type: none"> <li>Generates food waste.</li> <li>Food waste is thrown away.</li> </ul>	(Same as above)	(Same as above)	(Same as above)	(Same as above)
Multifamily Dwellings (MFDs) (5 units or more)	MFDs – Generate food and green waste. Some complexes are subscribing the hauler's green waste collection program as a part	<ul style="list-style-type: none"> <li>The residential franchise hauler offers a residential green waste collection to SFD and MFD.</li> </ul>	The green waste generated by the MFD needs to be taken to a diversion facility.	Expand the exclusive franchise hauler's on-site green waste collection program to include MFDs	If the franchise agreement does not include a commercial on-site green waste collection program,



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	<p>of residential route. Other complexes are served by a landscaper or gardener. A few complexes don't generate any green waste. <i>Note: food waste is excluded.</i></p>	<ul style="list-style-type: none"> <li>Landscapers serving businesses and/or multifamily complexes can self-haul green waste.</li> </ul>		<p>not on the residential routes.  Increase education and outreach to assure landscapers and/or gardeners take the green waste to a diversion facility.</p>	<p>jurisdiction needs to amend the contract. It may take some time to do so.</p>
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## Commercial Organics Recycling Programs

### Examples of Commercial Business

#### 1. Grocery Stores

- **The Safeway Foundation:** Hunger relief initiatives focus on the months when the need for food donations is most critical — the summer and the holiday season. Partnering with a local ABC network affiliate and major Bay Area food banks, Safeway also sponsors the Safeway Summer Food Drive, which addresses the needs of children whose primary meal during the school year is lunch.
- **California Grocers Association:** In Santa Clara and San Mateo counties the Food Bank's Grocery Rescue program saves healthy food and shares it with neighbors in need. The program is a partnership between local grocery retailers, the Food Bank, and the Second Harvest network. Grocery stores share excess product while saving on garbage disposal fees and receiving a tax incentive. Food donations help Second Harvest diversify its menu. <http://www.cagrocers.com/about/charitable-giving/>
- Albertsons grocery stores participate in City of San Diego's food scraps for compost program. Fifteen stores in the region have been participating since 2011, each store is averaging 468 pounds of food scraps per day. Albertsons also participates in a food rescue program, donating edible food to the local Feeding America food bank. <https://www.youtube.com/watch?v=Xm0aETApzAs>
- **Grocery stores in Yolo County. A Nugget Market in Woodland, and a Safeway in Davis** supply food waste to [California Safe Soil LLC](#). The company takes food that supermarkets cannot sell or donate and turns it into a fertilizer registered by CDFA for use in organic agriculture.
- **Kroger Corp. Anaerobic Digester, Compton (Los Angeles County).** At the Kroger distribution center, 150 tons per day of inedible food from Ralph's and Food 4 Less markets around Southern California are used to create renewable fuels and

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electricity. The electricity produced is enough to power 2000 average homes and offsets around 20% of the facility's power needs. Enough gas remains to power a fleet of zero emissions forklifts.

## 2. Hotels

- **Hotel in San Diego.** The [Hilton San Diego Bayfront Hotel](#) was the first hotel in San Diego to start a food waste composting program that sends materials to the city-run Miramar Greenery composting site. The thirty-story high-rise, with over 1,190 guest rooms, has several pre-consumer food waste collection sites, including two main kitchens, two bars, and a coffee shop. They also collect post-consumer food waste from the employee cafeteria and from banquet operations. The hotel serves an average of 1,500 meals per day and donates all edible food to local charities. During its first eight months, the food waste composting program diverted an extra 11% of the hotel's waste stream, composting over 124 tons of food waste, and saving the hotel about \$8,000 in landfill tipping fees and waste hauling costs.

**Hotel in Sacramento.** The Hyatt Regency Hotel in downtown Sacramento began a food and green waste collection program in 2011. The high-rise hotel, with 503 guest rooms, has three restaurants and one main kitchen. Providing daily meals for guests, as well as events, results in a total of some 1,975 meals served every day. The hotel staff separate food scraps from other wastes. In the first year of the program, the hotel diverted over 243 tons of food scraps. To date, they have recycled over 8,475 tons of organic waste.

The waste material is processed at Clean World Partners, an anaerobic digestion facility, where it is converted into natural gas for fuel. Republic Services hauls the food scraps from the hotel property to the digester.

## 3. Restaurants

- **Restaurant in Chico, Butte County.** [Sierra Nevada Brewing Company](#) manages food, paper, and organic residuals left over from brewing beer. The on-site project

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uses an in-vessel composting system to compost food waste. Finished compost is used on the company's hop fields and restaurant gardens.

#### 4. Health Care

- **Hospital in San Diego.** [Sharp HealthCare](#) participates in the city of San Diego's food waste composting program. Vegetable peels, fruit scraps, and other castoffs from the kitchens servicing Sharp Mary Birch Hospital for Women & Newborns and Sharp Memorial Hospital are diverted to the Miramar Greenery composting facility.

#### 5. Colleges/Universities/Schools

- **University of California, Davis.** To participate in [Project Compost](#), kitchen staff collect pre-consumer food waste, coffee grounds and plant clippings. Student volunteers use an electric vehicle to bring the materials, almost 1,000 pounds of waste per week, to the student farm where they are composted. The compost is used on campus and around the community.
- **San Diego State University.** SDSU sends an average of three tons of food waste a week to the City of San Diego's Miramar Greenery composting facility. The food waste is generated from pre-consumer preparation of about 15,000 meals per day. The program has saved the University more than \$3,000 a year on waste hauling and disposal fees. Video about program  
<https://www.youtube.com/watch?v=QSRcVlue0Uo>
- **Elementary Schools in the Central Contra Costa Solid Waste Authority (CCCSW).** [School Diversion Programs](#). There are 54 schools in the service area. All 54 schools have single-stream recycling, 21 have green waste collection, and 31 have food waste collection. CCCSWA provides the following resources and tools to schools: action plans, bins, waste audits, assemblies, training, lesson plans, field trips, website, and newsletter. Springhill Elementary in Lafayette started a "waste-free lunch" campaign. The majority of the schools participate in the commercial food waste program. Food discards collected by this program are taken to the EBMUD Water Treatment Facility in Oakland for digestion.

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- **School District in Bakersfield.** This school district recycles organics on a large-scale, due to the city-run mixed material compost facility which also has food depackaging equipment. Bakersfield schools have implemented a Food and Wrapper Composting System to zero in on the tons of organics in schools that are hidden away in small packages. The collection program picks up around 9 tons per day from the 53 participating schools. <http://www.biocycle.net/2012/07/17/california-school-districts-recycle-organics-on-a-large-scale/>

### 6. Venues/Stadiums

- **Petco Park stadium in San Diego** sends its food scraps for composting at the city-run Miramar Greenery. Participation in the program has resulted not only in a greater diversion rate but also in a significant cost savings from waste hauling and tipping fees. A summary of this case study is featured on the [City of San Diego Environmental Services Department's](#) website.
- **The Indian Wells Tennis Gardens** Food scraps are collected for off-site composting, and finished compost is used at the Tennis Gardens. Burrtec, the local hauler, services the Tennis Master Series at the gardens, and hauls food waste daily from the event. Including food collection, this event is operating at 80% diversion rate or higher. Food Scrap diversion has proved to be both feasible and economically viable.

### 7. Agricultural businesses

- **Joseph Phelps Vineyards in Sonoma.** This winery in Napa Valley manages 600 tons of organic waste material each year. The winery uses the material to make compost onsite and applies this compost for soil restoration throughout the vineyards. Compost applications are completed in the autumn at 3 to 5 tons per acre, tilled in 4 to 6 inches deep along the rows of vines. After the application, cover crops — a blend of rye, brome and clovers. These native species help maintain soil integrity and fix nitrogen.

## Construction & Demolition/CalGreen

**CALGreen** – California’s Green Building Standards Code (CALGreen) includes mandatory construction and demolition (C&D) debris recycling requirements for all new construction (residential and non-residential), and to certain construction related to additions and alterations. While CALGreen’s mandatory items are applicable statewide, local jurisdictions may implement requirements that are more stringent. Jurisdictions that have not adopted a C&D ordinances are still required to implement CALGreen.

CalRecycle’s Construction and Demolition Debris Recycling  
<http://www.calrecycle.ca.gov/condemo/>

CalRecycle’s Jurisdictions with Construction and Demolition Diversion Programs - Ordinances  
<http://www.calrecycle.ca.gov/ConDemo/Ordinances/default.htm>

### Companies / Case studies

- **City of San Jose, Zanker Recycling.** Zanker was one of the first facilities in the country to process mixed C&D loads, starting in 1988. Their state-of-the-art sort line can process 135 tons per hour and achieve 95% diversion. Zanker also processes asphalt shingles and gypsum wallboard. Zanker can certify compliance with LEED, CalGreen and Build it Green standards. <http://www.zankerrecycling.com/content/zanker-facilities>
- **Sacramento County, Two Rivers Demolition.** Two Rivers provides demolition and environmental remediation services throughout California. Their signature project was to handle all of the recycling from the construction of the 6,500-home Del Webb senior community in Lincoln, CA, where they achieved an 85% diversion rate. During a tear-down of a six-story concrete building on Capitol Mall, they achieved diversion rates greater than 99% and created 20,000 tons of Caltrans Class II Base Rock. <http://www.2riversdemo.com/projects.cfm>
- **Los Angeles County, Interior Removal Specialist, Inc.** <http://www.irsdemo.com/> IRS started out as an interior demolition company focusing on tenant improvements, but expanded to become a C&D recycler, certified by the City of Los Angeles, as well as an E-waste recycler. In addition to recycling of demolition materials, they give re-usable items salvaged from buildings to charity.

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- **City of Sacramento, Downtown Entertainment and Sports Center.** In order to build Sacramento's new downtown arena, a large section of the old Downtown Plaza shopping mall needed to be demolished. Between August of 2014 and March of 2015 more than 101,000 tons – over 98% - of the Downtown Plaza was recycled, including nearly 88,000 tons of concrete and more than 6,000 tons of steel. Teichert Construction, Bell Marine and Crete Crush partnered for this effort.  
<http://www.nba.com/kings/news/esc-exceeds-recycling-goals> . Watch a 5-minute time lapse movie of the demolition: <http://www.sacbee.com/news/local/city-arena/article3452364.html>



## Food Donation Programs

Fruits and vegetables, non-perishable, unspoiled food can be donated to local food banks, soup kitchens, food pantries, and shelters. Donations are accepted from food processors, supermarkets, wholesalers, farmers, food brokers, and community food drives. Prepared foods are typically collected from restaurants, caterers, corporate dining rooms, for prompt distribution to hungry people in their communities. [AB 152](#) provides a 10% tax credit for California growers donating fruits and vegetables to food banks.

[Food banks in California](#) are community-based organizations that collect food and save it in warehouses. The food bank then distributes the food to hungry families and individuals through a variety of emergency food assistance agencies, such as soup kitchens, youth or senior centers, shelters and pantries. Most food banks tend to collect less perishable foods such as canned goods because they can be stored for a longer time.

An example of a food bank is the Yolo County Food Bank which collects donations from local growers' and grocers. Area ranchers donate fresh eggs, fruits and nuts. Food drives help yield canned goods. The warehouse is staffed with eight full-time and part-time employees and over 300 volunteers. Three million pounds of food is received annually and comes in the form of fresh, frozen and shelf-stable meats, dairy, bread and grains, canned goods, baby food and even pet food.

**Food pantries** collect and redistribute food to those in need. Local programs work closely with food banks from which they receive donations, and frequently offer free pick-up and containers to donors.

- **Food pantry in Crescent City, Del Norte County.**  
[Daily Bread Ministries](#) in Crescent City provides meals for hungry and homeless people.
- **Food pantry in Stockton, San Joaquin County.** The [food pantry](#) in Stockton provides education for families teaching about nutrition and family meals and serves Stockton and San Joaquin families and seniors.

**Food rescue programs** accept perishable and prepared food and distribute it to charities that serve hungry people such as soup kitchens, youth or senior centers, shelters and pantries. Typically, perishable food is rescued and delivered quickly, on a same day basis.

- **Food rescue in San Francisco, San Francisco County.**  
[Food Runners](#) in San Francisco, pick up food donations and deliver to neighborhood programs. This organization focuses on fresh, perishable, nutritious foods.
- **Food rescue in San Diego, San Diego County.**  
[San Diego Rescue Mission](#), a collaborative effort of local organizations, with refrigerated trucks to pick up perishable food. Over 100 grocery stores, restaurants, caterers, universities, hotels and hospitals contribute to this effort. Contributors include Qualcomm Stadium and the San Diego Convention Center.
- **Food rescue in Marin County.**  
[Extrafood](#) provides a fresh food pick-up service and matches with organizations in need, serving most vulnerable residents.
- **Food rescue in San Diego, San Diego County.**  
[Phoenix Foods](#) USA works directly with local farmers and produce wholesale companies, collect fruits and vegetables and turn it into nutritious meals and products.
- **Food rescue in Signal Hill, Los Angeles County.** [Food Finders](#) in Signal Hill, near Long Beach. This multi-regional food rescue operation helps provide meals to more than 210 agencies and shelters throughout Southern California. With more than 300 volunteers, this organization has rescued more than 108 million pounds of food to date, in addition to referring thousands of families to local shelters and agencies where meals are provided.

## Green Material Ordinances/Bans

- **San Diego Mandatory Recycling Ordinance**

The City of San Diego's [mandatory recycling ordinance](#) (MRO) prohibits mixing compostable organic materials and specific recyclables (e.g., paper, corrugated cardboard, appliances etc.) with refuse, prior to refuse collection. The Miramar Greenery accepts green and food materials and produces mulch and compost that are sold commercially and are available to the public.

- **San Francisco Mandatory Recycling and Composting Ordinance**

[San Francisco Mandatory Recycling Ordinance](#) requires all residents and businesses to separate recyclables, compostables and waste material. Residents and businesses are required to subscribe to adequate trash, recycling and composting service. Residents are allowed to place food waste in their green waste bins. The mixed organic materials are hauled to Recology composting sites in Solano and Stanislaus counties.

- **Santa Cruz County** enacted a landfill ban in 2005 to save space in the Buena Vista landfill and recover valuable materials. The [ordinance](#) prohibits the disposal of a wide variety of materials at the County's landfill or transfer station. The County provides recycling options for all banned materials at these sites. Recyclable materials banned from disposal include:

- Yard waste and wood waste
- Tires
- Major appliances and mattresses
- All types of paper and cardboard
- Rigid plastic containers of resins 1-7
- Concrete, asphalt, tile and gypsum
- Electronics, and
- Metal cans and scrap metal

- **Sonoma County** has enacted a [landfill ban](#) for specified recyclable materials. Fines of up to \$500 and even jail time up to 6 months are possible for violations. Recycling options are available at the landfill and transfer stations for all specified materials.

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Sonoma County code Section 22-7A states that no person shall dispose of any of the following recyclable materials at any disposal area within [Sonoma County](#), including:

- Yard debris or wood debris
- Major appliances
- Corrugated cardboard
- Electronics
- Scrap metal, and
- Tires

## Local Jurisdiction Examples of Green/Food Waste Material Programs

- **Central Contra Costa.** The [Central Contra Costa Solid Waste Authority](#) (CCCSWA) has partnered with the East Bay Municipal Utility District ([EBMUD](#)) and Republic Services to expand the “*Food Recycling Project*”; an innovative program that will divert commercial food waste from landfill disposal for conversion into renewable energy. This project began as a pilot program in November 2008 and is currently available to serve most restaurants, grocery stores, and other large commercial or institutional food waste generators in the CCCSWA ([Central Contra Costa County](#)) service area.
- **City of San Francisco Recycling Program *Food to Flowers!*** Lunchroom composting program. Over 140 schools have implemented a food scrap collection program. With the help of the program's hauler, each of the schools designed a food scrap program that encompassed education, outreach, organics collection for off-site composting, and some vermicomposting. The compost produced is sold to local farmers and vineyards, and given to schools with gardens. A few times a year, compost is given away free to residents.
- **Orange County:**
  - Aliso Viejo.** Five of the City's top food waste generators, mainly restaurants, were part of the pilot food waste diversion program. The City is working to expand the program and promotes it through the hauler's commercial brochure [Aliso Viejo CR&R Commercial flyer](#), the city website and the [city e-newsletter](#).
  - Dana Point:**

The City of Dana Point has a voluntary [commercial food waste diversion program](#) with the franchise hauler, CR&R Environmental Services. A large resort, a large grocery store and a local restaurant are current participants in this diversion program. Food waste from this program is hauled to Victor Valley Composting Facility in Victorville. [Dana Point Flyer-CR&R Residential and Commercial](#).
- **Santa Clara County, [City of Cupertino](#).** All commercial businesses have foodwaste collection in Cupertino. The City and its garbage and recycling hauler work with businesses,

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restaurants and markets. New food waste containers help to make it a very successful program.

- **Ventura County, City of [Santa Paula](#).** The City and its hauler implemented a pilot food waste program in August 2011 with 17 restaurants participating. The hauler is now providing this service to approximately 100 food generating establishments and expanded this program to include the school district. Food waste is delivered to the hauler's Sun Valley facility in Los Angeles County for preprocessing in preparation for composting. Over 2,000 tons of food waste was processed in 2013 and free compost is available to residents several times a year at the City's collection and drop-off events. [City of Santa Paula Waste Collection Flyer](#)

## CalRecycle Compost and Mulch Facility List by County

March 9, 2014

County	Facility Name	Facility (SWIS) ID	City	Feedstocks Accepted
Alameda	<u>Bio Fuels Systems</u>	01-AA-0311	Livermore	Green Materials, Wood waste
Alameda	<u>Commercial Waste &amp; Recycling</u>	01-AA-0300	Oakland	Green Materials, Wood waste
Butte	<u>Chico Greenwaste Composting Facility</u>	04-AC-0020	Chico	Green Materials, Wood waste
Butte	<u>Earthworm Soil Factory</u>	04-AA-0025	Durham	Green Materials, Wood waste
Butte	<u>Town of Paradise Vegetative Waste Fac.</u>	04-AA-0026	Paradise	Green Materials, Wood waste
Colusa	<u>Premier Mushrooms</u>	06-AA-0024	Colusa	Agricultural, Manure
Contra Costa	<u>Hamilton Tree Services, Inc.</u>	07-AA-0067	Martinez	Green Materials, Wood waste
Contra Costa	<u>Atlas Tree Service, Inc.</u>	07-AA-0070	Concord	Green Materials, Wood waste
Contra Costa	<u>Expert Tree Services</u>	07-AA-0069	Orinda	Green Materials, Wood waste
Contra Costa	<u>Fahy Tree Service</u>	07-AA-0059	Richmond	Agricultural, Green Materials, Wood waste
Contra Costa	<u>WCCSLF Organic Materials Processing</u>	07-AA-0044	Richmond	Construction/demolition, Food Wastes, Green Materials, Sludge (BioSolids), Wood waste
Contra Costa	<u>Woodmill Recycling Company</u>	07-AA-0062	Byron	Green Materials, Wood waste
Del Norte	<u>ECO Nutrients, Inc. Composting Operation</u>	08-AA-0023	Crescent City	Green Materials, Wood waste
Fresno	<u>Gallo Vineyards, Inc Compost Facility</u>	10-AA-0182	Fresno	Agricultural, Green Materials
Fresno	<u>Harris Ranch Feeding Company</u>	10-AA-0193	Coalinga	Agricultural, Manure
Fresno	<u>West Coast Waste</u>	10-AA-0197	Fresno	Green Materials, Wood waste
Glenn	<u>Compost Solutions, Inc.</u>	11-AA-0034	Orland	Agricultural, Green Materials, Manure, Sludge (BioSolids)

County	Facility Name	Facility (SWIS) ID	City	Feedstocks Accepted
Glenn	<u>Valley Gold Compost</u>	11-AA-0019	Orland	Manure, Green Materials
Humboldt	<u>City Of Arcata Compost Facility</u>	12-AA-0101	Arcata	Green Materials, Sludge (BioSolids)
Humboldt	<u>Cold Creek Compost, Inc.</u>	23-AA-0029	Ukiah	Agricultural, Ash, Food Wastes, Green Materials, Manure
Humboldt	<u>Eel River Disposal and Resource Recovery</u>	12-AA-0113	Fortuna	Agricultural, Green Materials, Wood waste
Imperial	<u>Brandt Company (Composting)</u>	13-AA-0093	Calipatria	Agricultural, Liquid Waste, Manure
Imperial	<u>Bull Enterprise, Inc., Moiola Yard</u>	13-AA-0100	Brawley	Agricultural, Manure
Imperial	<u>Bull Enterprises, Inc. El Toro</u>	13-AA-0104	Heber	Agricultural, Manure
Imperial	<u>Dune Spreading LLC dba Imperial Compost</u>	13-AA-0108	Brawley	Agricultural, Green Materials, Manure
Imperial	<u>Dune Spreading, LLC</u>	13-AA-0095	Brawley	Agricultural, Manure
Imperial	<u>SpreadCo. Inc.- Phillips</u>	13-AA-0115	El Centro	Agricultural, Manure
Imperial	<u>Superior Cattle Feeders, LLC</u>	13-AA-0102	Calipatria	Agricultural, Manure
Kern	<u>Community Recycling &amp; Resource Rec Inc.</u>	15-AA-0307	Lamont	Agricultural, Food Wastes, Green Materials, Sludge (BioSolids)
Kern	<u>Grimmway Farms Composting - Lancaster</u>	15-AA-0375	Rosamond	Agricultural, Manure
Kern	<u>Liberty Composting Inc.</u>	15-AA-0287	Lost Hills	Agricultural, Food Wastes, Green Materials, Manure, Sludge (BioSolids)
Kern	<u>McFarland-Delano R/TS CMHO</u>	15-AA-0387	Delano	Green Materials, Mixed municipal
Kern	<u>Mt Vernon Ave Recycling &amp; Composting Fac</u>	15-AA-0311	Bakersfield	Food Wastes, Green Materials, Wood waste
Kern	<u>South Kern Industrial Center Compost Fa</u>	15-AA-0381	Taft	Agricultural, Green Materials, Manure, Sludge (BioSolids)
Kings	<u>Kochergen Farms Composting</u>	16-AA-0022	Avenal	Food Wastes, Green Materials
Lake	<u>South Lake Resource Recovery and Compost</u>	17-AA-0014	Clearlake	Agricultural, Food Wastes, Green Materials
Los Angeles	<u>C&amp;M Topsoil Inc.</u>	19-AR-1259	Sylmar (In Los Angeles)	Green Materials, Manure
Los Angeles	<u>Cal Blends Inc.</u>	19-AA-1126	Irwindale	Green Materials, Wood waste



County	Facility Name	Facility (SWIS) ID	City	Feedstocks Accepted
Los Angeles	<u>Foothill Soils, Inc.</u>	19-AA-5608	Newhall (In Santa Clarita)	Green Materials, Wood waste
Los Angeles	<u>Gardeners Community Service</u>	19-AR-1248	North Hollywood (In Los Angeles)	Green Materials, Wood waste
Los Angeles	<u>Griffith Park Composting Facility</u>	19-AA-0855	Los Angeles (City)	Sludge (BioSolids), Manure, Green Materials
Los Angeles	<u>Lancaster Reclaimable Anaerobic Composter</u>	19-AA-1124	Lancaster	Food Wastes, Green Materials, Wood waste
Los Angeles	<u>Lopez Canyon Environmental Center</u>	19-AR-1222	Los Angeles (City)	Green Materials, Manure
Los Angeles	<u>Los Angeles Equestrian Center</u>	19-AA-1098	Los Angeles (City)	Agricultural, Manure
Los Angeles	<u>Ornelas Wood Recovery, Inc.</u>	19-AA-1079	Lancaster	Green Materials, Wood waste
Los Angeles	<u>Pebble Beach (Avalon) Disposal Site</u>	19-AA-0061	Avalon	Food Wastes, Green Materials
Los Angeles	<u>Rancho Las Virgenes Composting Facility</u>	19-AA-1037	Calabasas	Sludge (BioSolids), Green Materials, Wood waste
Los Angeles	<u>RJ's Alondra Chipping and Grinding Op.</u>	19-AA-1116	Gardena	Green Materials, Wood waste
Marin	<u>Point Reyes Compost Co. LLC</u>	21-AA-0062	Point Reyes Station	Agricultural, Manure
Marin	<u>Redwood Landfill</u>	21-AA-0001	Novato	Food Wastes, Green Materials, Wood waste
Marin	<u>Redwood Landfill, Inc.</u>	21-AA-0066	Novato	Food Wastes, Green Materials
Marin	<u>Thermopile Research Composting Operation</u>	21-AA-0061	Nicasio	Agricultural, Green Materials, Manure
Marin	<u>West Marin Compost</u>	21-AA-0063	Nicasio	Green Materials, Manure
Marin	<u>WM Earthcare of Marin</u>	21-AA-0068	Novato	Agricultural, Food Wastes, Green Materials, Sludge (BioSolids)
Mariposa	<u>Mariposa Co. Composting Facility</u>	22-AA-0013	Mariposa	Agricultural, Green Materials, Manure, Mixed municipal, Wood waste
Merced	<u>Billy Wright Composting Facility</u>	24-AA-0029	Los Banos	Agricultural, Green Materials
Merced	<u>D.A.T.T.</u>	24-AA-0039	El Nido	Agricultural, Manure

County	Facility Name	Facility (SWIS) ID	City	Feedstocks Accepted
Merced	<u>El Nido Composting Facility-Synagro West</u>	24-AA-0011	El Nido	Agricultural, Manure, Sludge (BioSolids)
Merced	<u>Foster Farms Manure Storage Facility</u>	24-AA-0017	Atwater	Agricultural, Manure
Merced	<u>Ken Stone #3</u>	24-AA-0040	Merced	Agricultural, Manure
Merced	<u>Kenneth Stone &amp; Family Spreading Service</u>	24-AA-0024	Winton	Manure, Agricultural
Merced	<u>Nakashima Farms Composting #1</u>	24-AA-0031	Livingston	Agricultural, Manure
Merced	<u>Nakashima Farms Composting #2</u>	24-AA-0032	Livingston	Agricultural, Manure
Merced	<u>Stone Family El Nido Composting Facility</u>	24-AA-0019	Merced	Manure, Agricultural, Green Materials
Merced	<u>Valley Fresh Foods Inc.</u>	24-AA-0023	Merced	Manure, Agricultural
Monterey	<u>Central Coast Compost LLC</u>	27-AA-0102	Gonzales	Agricultural, Green Materials, Manure
Monterey	<u>Converted Organics of California, LLC</u>	27-AA-0109	Gonzales	Agricultural, Food Wastes, Green Materials
Monterey	<u>Eade Ranch</u>	27-AA-0095	San Lucas	Agricultural, Green Materials, Manure
Monterey	<u>Gabilan Ag Services</u>	27-AA-0085	Marina	Agricultural, Food Wastes, Green Materials
Monterey	<u>Guziks Good Humus</u>	27-AA-0086	Gonzales	Agricultural, Green Materials, Manure
Monterey	<u>Monterey Peninsula Landfill</u>	27-AA-0010	Marina	Food Wastes, Green Materials, Sludge (BioSolids), Wood waste
Monterey	<u>Salinas Mushroom, Inc.</u>	27-AA-0101	Salinas	Agricultural, Manure
Monterey	<u>SmartFerm Pilot Research Composting AD</u>	27-AA-0121	Marina	Food Wastes, Green Materials
Napa	<u>Buchli Station</u>	28-AA-0045	Napa	Green Materials, Other designated
Napa	<u>Clover Flat LF-Research Composting Op.</u>	28-AA-0046	Calistoga	Food Wastes, Green Materials
Napa	<u>Clover Flat Resource Recovery Park</u>	28-AA-0002	Calistoga	Food Wastes, Green Materials
Napa	<u>Grgich Hills Cellar- American Canyon</u>	28-AA-0048	American Canyon	Agricultural, Manure, Other designated

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Napa	<u>Joseph Phelps Vineyards</u>	28-AA-0037	Saint Helena	Green Materials, Manure
Napa	<u>Opus One</u>	28-AA-0041	Oakville	Agricultural, Green Materials
Napa	<u>Upper Valley Recycling Research Op.</u>	28-AA-0042	Saint Helena	Agricultural, Green Materials, Manure
Nevada	<u>McCourtney Road Large Volume T.S.</u>	29-AA-0010	Grass Valley	Green Materials, Wood waste
Orange	<u>Baker Canyon Green Recycling</u>	30-AB-0390	Silverado	Green Materials, Manure
Orange	<u>La Pata Avenue Greenwaste Facility</u>	30-AB-0364	San Juan Capistrano	Agricultural, Construction/demolition, Wood waste
Orange	<u>R&amp;S Soil Products, Inc. Irvine</u>	30-AB-0461	Irvine	Green Materials, Wood waste
Orange	<u>Rancho Mission Viejo Compost Facility</u>	30-AB-0448	San Juan Capistrano	Agricultural, Green Materials
Orange	<u>Serrano Creek Ranch Composting Op.</u>	30-AB-0405	Lake Forest	Agricultural, Green Materials
Orange	<u>Tierra Verde Industries EcoCentre</u>	30-AB-0403	Irvine	Food Wastes, Green Materials, Wood waste
Placer	<u>Green Solutions and More, Inc.</u>	31-AA-0638	Lincoln	Green Materials, Wood waste
Placer	<u>Mallard Creek, Inc.</u>	31-AA-0637	Rocklin	Manure, Wood waste
Riverside	<u>A. Lua Recycling, Inc.</u>	33-AA-0308	Lake Elsinore	Green Materials, Wood waste
Riverside	<u>Agriscape, Incorporated</u>	33-AA-0307	Lakeview	Green Materials, Wood waste
Riverside	<u>Edom Hill Transfer Station</u>	33-AA-0296	Cathedral City	Construction/demolition, Green Materials
Riverside	<u>Imperial Western Products, Inc.</u>	33-AA-0302	Coachella	Green Materials, Wood waste
Riverside	<u>M.B. Organics, Inc. Galway</u>	33-AA-0310	Temecula	Agricultural, Green Materials, Manure
Riverside	<u>Mc Anally Enterprises, LLC</u>	33-AA-0299	Lakeview	Dead Animals, Manure
Riverside	<u>R.A. Nelson MRF/TS Pilot Food/Green Wast</u>	33-AA-0319	Riverside	Food Wastes, Green Materials

County	Facility Name	Facility (SWIS) ID	City	Feedstocks Accepted
Riverside	<u>Rios Recycling Facility</u>	33-AA-0355	Riverside	Green Materials, Wood waste
Riverside	<u>Southern California Landscape Supply</u>	33-AA-0326	San Jacinto	Green Materials, Manure
Riverside	<u>Southern California Landscape Supply 2</u>	33-AA-0345	San Jacinto	Food Wastes, Green Materials, Manure
Riverside	<u>Southern California Recycling</u>	33-AA-0297	Thousand Palms	Construction/demolition, Green Materials
Sacramento	<u>Clean World Partners Anaerobic Digesters</u>	34-AA-0230	Sacramento	Food Wastes, Other designated
Sacramento	<u>GP Landscapes</u>	34-AA-0222	Sacramento	Green Materials, Wood waste
Sacramento	<u>K&amp;M Recycling</u>	34-AA-0191	Sacramento	Construction/demolition, Green Materials
Sacramento	<u>Lopez Ag Service, Inc.</u>	34-AA-0203	Sacramento	Agricultural, Construction/demolition, Green Materials
Sacramento	<u>Nilsen Farms Composting</u>	34-AA-0219	Sloughhouse	Agricultural, Green Materials
San Benito	<u>Clean Green Recycling</u>	35-AA-0029	Hollister	Green Materials, Wood waste
San Benito	<u>Comgro, Inc.</u>	35-AA-0026	Hollister	Agricultural, Manure
San Benito	<u>Herbert Compost Operation</u>	35-AA-0021	Hollister	Agricultural, Green Materials, Manure
San Benito	<u>Phil Foster Ranch Composting Operation</u>	35-AA-0025	Hollister	Agricultural, Green Materials, Manure
San Bernardino	<u>Agromin Chino Green Mat. Composting Op.</u>	36-AA-0476	Chino	Green Materials, Wood waste
San Bernardino	<u>Artesia Sawdust Products</u>	36-AA-0426	Ontario	Green Materials, Wood waste
San Bernardino	<u>Beneficial Ag. Services</u>	36-AA-0470	Ontario	Green Materials, Manure, Wood waste
San Bernardino	<u>Ecology Auto Parts</u>	36-AA-0457	Rialto	Green Materials, Wood waste
San Bernardino	<u>Ft. Irwin Composting Facility</u>	36-AA-0413	Fort Irwin (Mil Res)	Food Wastes, Green Materials, Manure, Sludge (BioSolids), Wood waste

County	Facility Name	Facility (SWIS) ID	City	Feedstocks Accepted
San Bernardino	<u>Inland Empire Regional Composting Fac.</u>	36-AA-0423	Rancho Cucamonga	Green Materials, Sludge (BioSolids)
San Bernardino	<u>Nursery Products Hawes Composting Fac.</u>	36-AA-0445	Hinkley	Green Materials, Sludge (BioSolids)
San Bernardino	<u>One Stop Landscape Supply Center</u>	36-AA-0308	Redlands	Sludge (BioSolids), Agricultural, Wood waste
San Bernardino	<u>Parida Fertilizer</u>	36-AA-0480	Ontario	Agricultural, Manure
San Bernardino	<u>Recycled Wood Products</u>	36-AA-0471	Ontario	Green Materials, Manure, Wood waste
San Bernardino	<u>RWP Recycled Wood Products Ontario 2</u>	36-AA-0477	Ontario	Green Materials, Manure
San Bernardino	<u>Victor Valley Regional Composting Fac.</u>	36-AA-0403	Victorville	Agricultural, Construction/demolition, Food Wastes, Green Materials, Liquid Waste, Manure, Mixed municipal
San Bernardino	<u>Viramontes Express</u>	36-AA-0441	Chino	Green Materials, Wood waste
San Bernardino	<u>West Valley Materials Recvr'y Facility</u>	36-AA-0341	Fontana	Food Wastes, Green Materials
San Diego	<u>El Corazon Compost Facility</u>	37-AA-0907	Oceanside	Food Wastes, Green Materials, Liquid Waste
San Diego	<u>Hanson Aggregates A-1 Soils</u>	37-AA-0949	Lakeside	Agricultural, Manure
San Diego	<u>Inland Pacific R.R. Slaughterhouse Yard</u>	37-AA-0957	Lakeside	Green Materials, Wood waste
San Diego	<u>Inland Pacific Resource Recovery Hwy 67</u>	37-AA-0960	Lakeside	Green Materials, Wood waste
San Diego	<u>Miramar Greenery</u>	37-AB-0003	San Diego	Agricultural, Food Wastes, Green Materials, Manure, Wood waste
San Diego	<u>Otay Mesa Compost Facility</u>	37-AA-0988	San Diego (in County of San Diego)	Agricultural, Green Materials, Manure, Wood waste
San Diego	<u>Plants Choice Comp Material Handling Op.</u>	37-AA-0975	Chula Vista	Green Materials, Wood waste

County	Facility Name	Facility (SWIS) ID	City	Feedstocks Accepted
San Diego	<u>San Pasqual Valley Soils</u>	37-AB-0015	San Diego	Green Materials, Manure
San Diego	<u>TreeSource Recycling</u>	37-AA-0989	Ramona	Green Materials, Wood waste
San Joaquin	<u>Forward Resource Recovery Facility</u>	39-AA-0020	Manteca	Agricultural, Ash, Food Wastes, Green Materials, Liquid Waste, Manure, Sludge (BioSolids), Wood waste
San Joaquin	<u>Green Man Materials</u>	39-AA-0055	Stockton	Green Materials, Wood waste
San Joaquin	<u>Haley Farms Compost Operation</u>	39-AA-0046	Tracy	Agricultural, Manure
San Joaquin	<u>Harvest-Lathrop</u>	39-AA-0051	Lathrop	Agricultural, Food Wastes, Green Materials
San Joaquin	<u>Recology Grover Environmental Products</u>	50-AA-0020	Vernalis	Food Wastes, Green Materials
San Joaquin	<u>Recology Stockton</u>	39-AA-0045	Stockton	Green Materials, Wood waste
San Joaquin	<u>SKS Enterprises</u>	39-AA-0050	Clements	Agricultural, Green Materials, Manure
San Joaquin	<u>Tracy Material Recovery &amp; T.S.</u>	39-AA-0024	Tracy	Food Wastes, Green Materials
San Luis Obispo	<u>B. Goodrow, Inc. Composting</u>	40-AA-0037	Creston	Food Wastes, Green Materials
San Luis Obispo	<u>Cold Canyon Landfill GrnMatCompFac</u>	40-AA-0017	San Luis Obispo	Agricultural, Construction/demolition, Green Materials, Wood waste
San Luis Obispo	<u>Winsor Woodyard</u>	40-AA-0042	Cambria	Green Materials, Wood waste
San Mateo	<u>Redwood Debris Box Green Waste Operation</u>	41-AA-0196	Redwood City	Green Materials, Wood waste
Santa Barbara	<u>Engel &amp; Gray Inc</u>	42-AA-0053	Santa Maria	Agricultural, Food Wastes, Green Materials, Sludge (BioSolids)
Santa Barbara	<u>Green/Wood Waste Grinding</u>	42-AA-0073	Santa Barbara	Green Materials, Wood waste
Santa Barbara	<u>Health Sanitation Services</u>	42-AA-0067	Santa Maria	Green Materials, Wood waste
Santa Barbara	<u>MarBorg Green Waste Recycling Facility</u>	42-AA-0070	Santa Barbara	Green Materials, Wood waste
Santa Barbara	<u>Santa Lucia Farms</u>	42-AA-0075	Santa Ynez	Agricultural, Green Materials, Manure
Santa Barbara	<u>Santa Ynez Valley Recycling &amp; Trans Stat</u>	42-AA-0063	Los Olivos	Green Materials, Wood waste

County	Facility Name	Facility (SWIS) ID	City	Feedstocks Accepted
Santa Barbara	<u>South Coast Recycling &amp; Transfer Station</u>	42-AA-0014	Santa Barbara	Green Materials, Wood waste
Santa Clara	<u>ABC Recycle, LLC</u>	43-AN-0035	San Jose	Construction/demolition, Green Materials, Inert, Wood waste
Santa Clara	<u>B and D Mushrooms, Inc.</u>	43-AA-0027	San Martin	Agricultural, Manure
Santa Clara	<u>Countryside Mushrooms, Inc.</u>	43-AA-0028	Gilroy	Agricultural, Manure
Santa Clara	<u>Del Toro Wood Grinding</u>	43-AA-0033	Gilroy	Green Materials, Wood waste
Santa Clara	<u>Global Mushrooms Farm</u>	43-AA-0022	Gilroy	Agricultural, Manure
Santa Clara	<u>Green Earth Management, LLC</u>	43-AN-0030	San Jose	Green Materials, Wood waste
Santa Clara	<u>Newby Island Compost Facility</u>	43-AN-0017	San Jose	Food Wastes, Green Materials
Santa Clara	<u>PSSI Ag. Material Storage / Handling Op.</u>	43-AA-0029	Stanford	Agricultural, Green Materials, Manure
Santa Clara	<u>Royal Oaks Mushrooms</u>	43-AA-0024	Morgan Hill	Agricultural, Manure
Santa Clara	<u>South Valley Mushroom Farm</u>	43-AA-0026	Morgan Hill	Agricultural, Manure
Santa Clara	<u>South Valley Organic Composting Facility</u>	43-AA-0017	Gilroy	Food Wastes, Green Materials
Santa Clara	<u>Z-Best Composting Facility</u>	43-AA-0015	Gilroy	Agricultural, Food Wastes, Green Materials, Manure, Mixed municipal
Santa Clara	<u>Zero Waste to Energy Development Co. AD</u>	43-AN-0033	San Jose	Agricultural, Food Wastes, Green Materials, Mixed municipal, Wood waste
Santa Cruz	<u>Ben Lomond LF Wood Waste Chipping Op.</u>	44-AA-0009	Ben Lomond	Green Materials, Wood waste
Santa Cruz	<u>Buena Vista Drive Sanitary Landfill</u>	44-AA-0004	Watsonville	Green Materials, Wood waste
Santa Cruz	<u>City of Santa Cruz Resource Recovery Fac</u>	44-AA-0001	Santa Cruz	Green Materials, Wood waste
Santa Cruz	<u>City Of Watsonville Landfill</u>	44-AA-0002	Watsonville	Green Materials, Wood waste
Santa Cruz	<u>Rodoni Farms Agricultural Composting Op.</u>	44-AA-0013	Santa Cruz	Agricultural, Green Materials
Solano	<u>Biogas Energy Project</u>	48-AA-0092	UC Davis	Agricultural, Food Wastes, Green Materials, Manure

County	Facility Name	Facility (SWIS) ID	City	Feedstocks Accepted
Solano	<u>CCL Organics LLC</u>	48-AA-0090	Benicia	Construction/demolition, Green Materials, Wood waste
Solano	<u>Jepson Prairie Organics Composting Fac</u>	48-AA-0083	Vacaville	Agricultural, Food Wastes, Green Materials
Solano	<u>Potrero Hills Compost Facility</u>	48-AA-0084	Suisun City	Green Materials, Wood waste
Sonoma	<u>Atlas Tree Waste Recycling</u>	49-AA-0393	Sebastopol	Green Materials, Wood waste
Sonoma	<u>Carneros River Ranch</u>	49-AA-0407	Petaluma	Agricultural, Manure
Sonoma	<u>Dolcini Brothers Composting Operation Ag</u>	49-AA-0395	Petaluma	Agricultural, Green Materials
Sonoma	<u>Grab N` Grow</u>	49-AA-0369	Santa Rosa	Agricultural, Green Materials, Manure
Sonoma	<u>Poncia Fertilizer</u>	49-AA-0403	Santa Rosa	Agricultural, Manure
Sonoma	<u>Reichert Duck Farm</u>	49-AA-0394	Petaluma	Agricultural, Manure
Stanislaus	<u>Central Valley Agricultural Grinding, Inc</u>	50-AA-0024	Riverbank	Green Materials, Wood waste
Stanislaus	<u>City Of Modesto Co-Compost Project</u>	50-AA-0018	Modesto	Food Wastes, Green Materials, Sludge (BioSolids)
Stanislaus	<u>City of Turlock Water Qual. Control Fac</u>	50-AA-0021	Turlock	Green Materials, Sludge (BioSolids)
Stanislaus	<u>Gilton Resource Recovery Composting Fac.</u>	50-AA-0016	Modesto	Agricultural, Construction/demolition, Industrial, Mixed municipal, Tires
Stanislaus	<u>John Brichetto Compost Site A</u>	50-AA-0029	Oakdale	Agricultural, Ash, Green Materials, Manure, Other designated
Stanislaus	<u>John Brichetto Compost Site B</u>	50-AA-0030	Oakdale	Agricultural, Ash, Green Materials, Manure, Other designated
Stanislaus	<u>John Brichetto Compost Site C</u>	50-AA-0031	Oakdale	Agricultural, Ash, Green Materials, Manure, Other designated
Stanislaus	<u>John Brichetto Compost Site D</u>	50-AA-0032	Oakdale	Agricultural, Ash, Green Materials, Manure, Other designated
Stanislaus	<u>John Brichetto Compost Site E</u>	50-AA-0033	Oakdale	Agricultural, Ash, Green Materials, Manure, Other designated



County	Facility Name	Facility (SWIS) ID	City	Feedstocks Accepted
Stanislaus	<u>John Brichetto Compost Site F</u>	50-AA-0034	Oakdale	Agricultural, Ash, Green Materials, Manure, Other designated
Stanislaus	<u>John Brichetto Compost Site G</u>	50-AA-0035	Oakdale	Agricultural, Ash, Green Materials, Manure, Other designated
Stanislaus	<u>John Brichetto Compost Site H</u>	50-AA-0036	Oakdale	Agricultural, Ash, Green Materials, Manure, Other designated
Stanislaus	<u>John Brichetto Compost Site I</u>	50-AA-0037	Oakdale	Agricultural, Ash, Green Materials, Manure, Other designated
Stanislaus	<u>John Brichetto Compost Site J</u>	50-AA-0038	Oakdale	Agricultural, Ash, Green Materials, Manure, Other designated
Stanislaus	<u>John Brichetto Compost Site K</u>	50-AA-0039	Oakdale	Agricultural, Ash, Green Materials, Manure, Other designated
Stanislaus	<u>John Brichetto Compost Site L</u>	50-AA-0040	Oakdale	Agricultural, Ash, Green Materials, Manure, Other designated
Stanislaus	<u>John Brichetto Compost Site M</u>	50-AA-0041	Oakdale	Agricultural, Ash, Green Materials, Manure, Other designated
Stanislaus	<u>John Brichetto Compost Site N</u>	50-AA-0042	Oakdale	Agricultural, Ash, Green Materials, Manure, Other designated
Stanislaus	<u>John Brichetto Compost Site O</u>	50-AA-0043	Oakdale	Agricultural, Ash, Green Materials, Manure, Other designated
Tulare	<u>City of Porterville Grn Waste Operation</u>	54-AA-0047	Porterville	Green Materials, Wood waste
Tulare	<u>Harvest Power California, LLC</u>	54-AA-0026	Tulare	Agricultural, Food Wastes, Green Materials, Wood waste
Tulare	<u>Oakview Dairy</u>	54-AA-0046	Tulare	Agricultural, Green Materials
Tulare	<u>Pena's Disposal, Inc. Green Material</u>	54-AA-0048	Cutler	Green Materials, Wood waste
Tuolumne	<u>Triple J Farms</u>	55-AA-0013	Jamestown	Agricultural, Manure, Wood waste
Ventura	<u>Agromin Organics Recy. Composting Fac.</u>	56-AA-0165	Oxnard	Agricultural, Food Wastes, Green Materials, Manure, Wood waste
Ventura	<u>Agromin Organics Recycling</u>	56-AA-0138	Port Hueneme	Green Materials, Wood waste
Ventura	<u>Agromin Organics Recycling</u>	56-AA-0169	Oxnard	Agricultural, Food Wastes, Green

County	Facility Name	Facility (SWIS) ID	City	Feedstocks Accepted
	(SmartFerm)			Materials
Ventura	<u>American Soil Amendment Products</u>	56-AA-0171	Simi Valley	Manure, Wood waste
Ventura	<u>Farm Share Playa Vista Research</u>	56-AA-0170	La Conchita	Agricultural, Food Wastes, Green Materials
Ventura	<u>Farm Share- Playa Vista</u>	56-AA-0168	La Conchita	Agricultural, Green Materials
Ventura	<u>Limoneira / Agromin Ag. Composting Op.</u>	56-AA-0147	Santa Paula	Agricultural, Green Materials, Wood waste
Ventura	<u>McGrath Farm</u>	56-AA-0156	Camarillo	Agricultural, Green Materials
Ventura	<u>The California Mushroom Farm, Inc.</u>	56-AA-0149	Ventura (San Buenaventura)	Agricultural, Green Materials
Yolo	<u>Clean World Anaerobic Digester UC Davis</u>	57-AA-0038	Davis	Food Wastes, Green Materials
Yolo	<u>Northern Recycling Compost- Research Proj</u>	57-AA-0037	Zamora	Food Wastes, Green Materials
Yuba	<u>Feather River Organics</u>	58-AA-0015	Marysville	Food Wastes, Green Materials
Yuba	<u>Mushroom Adventures</u>	58-AA-0029	Marysville	Agricultural, Manure
Yuba	<u>Sun Gro Horticulture</u>	58-AA-0023	Olivehurst	Green Materials, Wood waste

## California Anaerobic Digestion Projects (a partial list, October 2014)

Project Name	City or County	Feedstocks	Digestion Type	Status	Project Website
East Bay Municipal Utilities District	Oakland	Food, Biosolids, & fats, oils, and grease	Wet	Operational	<a href="http://www.3bmuud.com/water-and-wastewater/environment/food-scrap-recycling">http://www.3bmuud.com/water-and-wastewater/environment/food-scrap-recycling</a>
Inland Empire Utilities Agency - Envirion	Chino	Food Waste	Wet	Operational	<a href="http://www.cce.csus.edu/conferences/CalRecycle/ba_tts11/docs/Presentations/31_13A_AnaerobicMcNamara.pdf">http://www.cce.csus.edu/conferences/CalRecycle/ba_tts11/docs/Presentations/31_13A_AnaerobicMcNamara.pdf</a>
Monterey Zero Waste Energy	Marina	Green and Food waste	Dry	Operational	<a href="http://zerowasteenergy.com/what-we-do/our-projects/monterey-regional-waste-management-district/">http://zerowasteenergy.com/what-we-do/our-projects/monterey-regional-waste-management-district/</a>
Sacramento Regional Sanitation	Elk Grove	Food waste, Biosolids, & fats, oils, and grease	Wet	Operational	<a href="http://www.regionalsan.com/biogas-enhancement-project">http://www.regionalsan.com/biogas-enhancement-project</a>
Clean World - American River Packaging	Sacramento	Food Waste, cardboard & other	High Solids	Operational	<a href="http://www.cleanworld.com/case-studies/">http://www.cleanworld.com/case-studies/</a>
Kroger/Ralphs - Compton Distribution Center	Compton	Food Waste	Wet	Operational	<a href="http://feedresource.com/">http://feedresource.com/</a>
Central Marin Food to Energy	San Rafael	Food Waste	Wet	Operational	<a href="http://baywork.org/wp-content/uploads/2013/12/Central-Marin-Food-to-Waste.pdf">http://baywork.org/wp-content/uploads/2013/12/Central-Marin-Food-to-Waste.pdf</a>
Clean World - Sacramento Digester	Sacramento	Green and Food waste	High Solids	Operational	<a href="http://www.cleanworld.com/case-studies/">http://www.cleanworld.com/case-studies/</a>
Zero Waste Energy Development	San Jose	Green and Food waste	Dry	Operational	<a href="http://zwestc.com/">http://zwestc.com/</a>
North State Rendering	Oroville	Agricultural, food waste and grease	Wet	Operational	<a href="http://www.biogas-energy.com/">http://www.biogas-energy.com/</a>
Los Angeles Sanitation Districts AD Pilot	Carson	Food waste & Biosolids	Wet	Operational	<a href="http://www.calrecycle.ca.gov/Listserve/Archive/MessageDetail.aspx?ListPostingID=8200">http://www.calrecycle.ca.gov/Listserve/Archive/MessageDetail.aspx?ListPostingID=8200</a>
UC Davis Renewable Energy Anaerobic Digester	Davis	Green and Food waste & manure	High Solids	Operational	<a href="http://www.cleanworld.com/case-studies/">http://www.cleanworld.com/case-studies/</a>
Blue Line Zero Waste Energy	South San Francisco	Green and Food waste	Dry	Commissioning	<a href="http://zerowasteenergy.com/what-we-do/our-projects/south-san-francisco-scavengers-blue-line/">http://zerowasteenergy.com/what-we-do/our-projects/south-san-francisco-scavengers-blue-line/</a>
CR&R Material Recovery Facility	Perris	Green and Food waste and MRF Residuals	High Solids Plug-flow	Construction	<a href="http://www.calrecycle.ca.gov/Organics/Conversion/Events/Digesting12/Bellis.pdf">http://www.calrecycle.ca.gov/Organics/Conversion/Events/Digesting12/Bellis.pdf</a>
Colony Energy Partners	Tulare	Waste-Organics - TBD	Wet	Permitting	<a href="http://www.colonyenergypartners.com/tulare-bio-gas/">http://www.colonyenergypartners.com/tulare-bio-gas/</a>
Agromin Zero Waste Energy	Oxnard	Green and Food waste	Dry	Permitting	<a href="http://zerowasteenergy.com/what-we-do/our-projects/monterey-regional-waste-management-district/">http://zerowasteenergy.com/what-we-do/our-projects/monterey-regional-waste-management-district/</a>
Tajiguas Landfill	Santa Barbara County	Green and Food waste	TBD	Permitting	<a href="http://www.calrecycle.ca.gov/Organics/Conversion/Events/Digesting12/Schleich.pdf">http://www.calrecycle.ca.gov/Organics/Conversion/Events/Digesting12/Schleich.pdf</a>
City of Napa Materials Recovery Facility	American Canyon	Green and Food waste	Dry	Permitting	<a href="http://napacitygranicus.com/MediaViewer.php?view_id=2&amp;clip_id=1091&amp;meta_id=63712">http://napacitygranicus.com/MediaViewer.php?view_id=2&amp;clip_id=1091&amp;meta_id=63712</a>
Anaeragia - Republic Material Recovery Facility	Anaheim	Green and Food waste	Wet	Permitting	<a href="http://www.calrecycle.ca.gov/Listserve/Archive/MessageDetail.aspx?ListPostingID=8941">http://www.calrecycle.ca.gov/Listserve/Archive/MessageDetail.aspx?ListPostingID=8941</a>
Tracy Material Recovery Facility	Tracy	Green and Food waste	NA	Permitting	<a href="http://www.calrecycle.ca.gov/Actions/PublicNoticeDetail.aspx?ListPostingID=8941">http://www.calrecycle.ca.gov/Actions/PublicNoticeDetail.aspx?ListPostingID=8941</a>
Tulare Harvest Power	Tulare County	Green, Food and Agricultural waste	Dry	Permitting	<a href="http://harvestpower.com/ca/tulare/">http://harvestpower.com/ca/tulare/</a>
Recology Hay Road AD project	Solano County	Green and Food waste	Dry	Permitting	<a href="http://www.treasurer.ca.gov/cae/bfa/staff/2014/20140715/Ag.pdf">http://www.treasurer.ca.gov/cae/bfa/staff/2014/20140715/Ag.pdf</a>
Encha Waste Water Plant	Carlsbad	Food, Biosolids, & fats, oils, and grease	Wet	Permitting	<a href="http://www.pwweb.com/releases/2014/01/pwweb1497996.htm">http://www.pwweb.com/releases/2014/01/pwweb1497996.htm</a>

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## California Biomass and Waste-To-Energy Statistics & Data

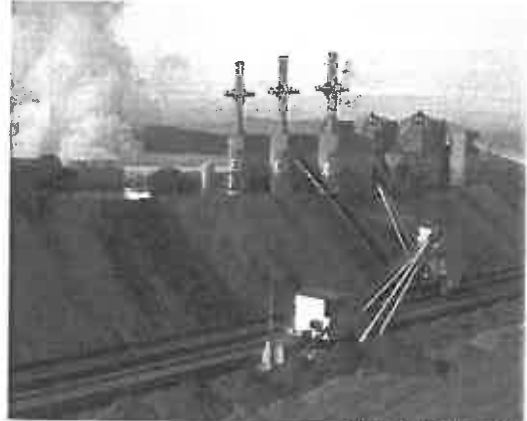


Photo by Warren Greig NREL 00296

In 2014, biomass-produced electricity in our state totaled 6,257 gigawatt-hours (GWh) or 3.18 percent of the state's total system power. A total of 86 operating biomass power plants, with an installed capacity about 1,154 megawatts, are in California.

Biomass power plant is the general term for waste-to-energy power plants that burn organic material. They are comprised of four specific types defined by the fuel they burn:

- Biomass
- Digester Gas (Anaerobic Digestion)
- Landfill Gas
- Municipal Solid Waste (MSW)

The plant pictured on the right is the Wheelabrator Shasta Energy Company power plant in Anderson, California. It uses forest "residue" that is chipped up - dead and downed trees and slash and debris from logging - as its fuel.

For an animated movie about how a waste-to-energy plant works, go to: <http://wheelabratortechnologies.com/index.cfm/plants/how-it-works/>

### Biomass & Waste-to-Energy Electricity Production (In Gigawatt-Hours; Includes Imports)

Go to a Different Year

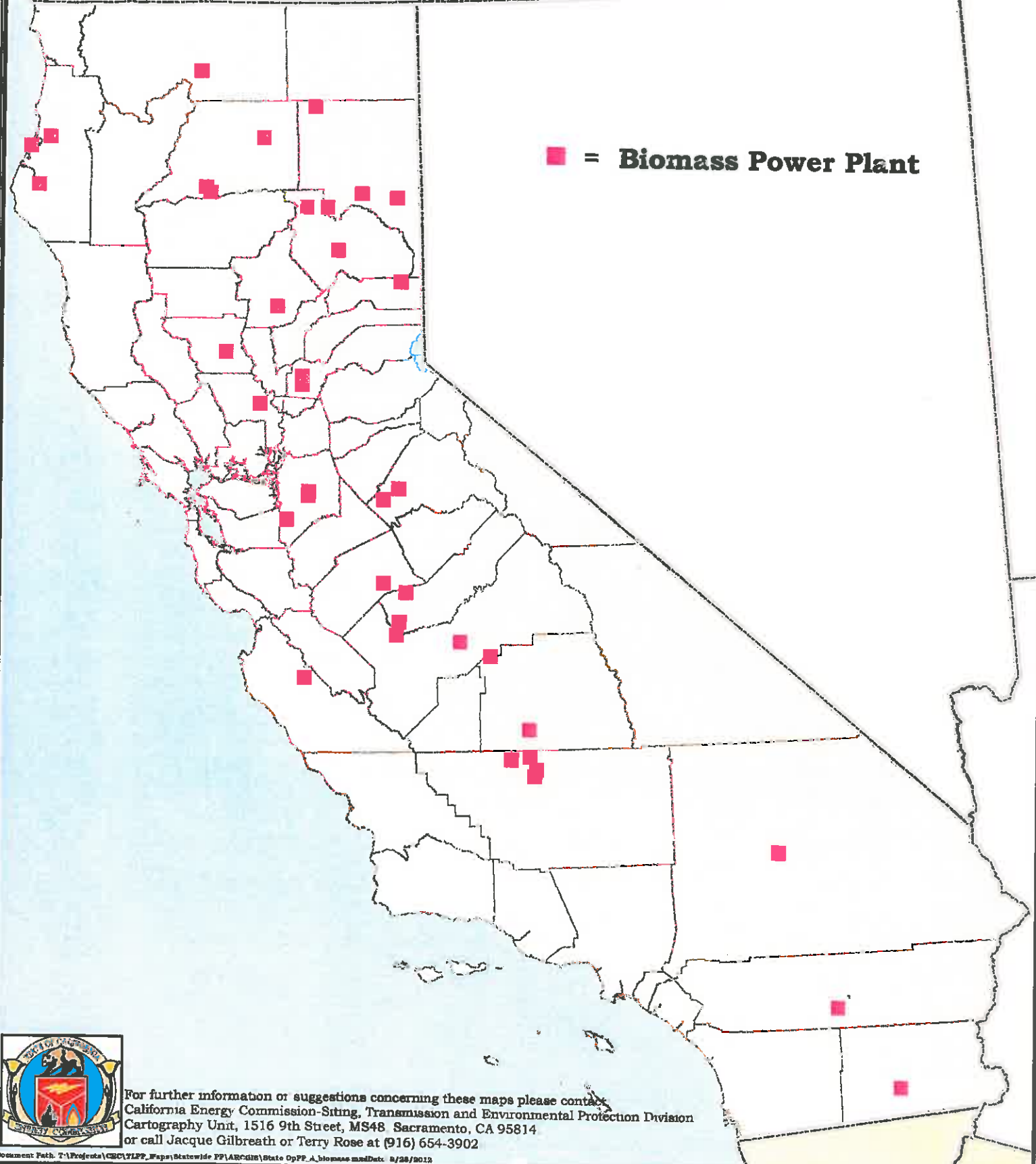
Year	Company Name	EIA Plant ID	CEC Plant ID	Plant Name	State	Capacity (MW)	Gross MWh	Net MWh
2014	Ameresco, Inc.	56435	E0071	Ameresco Vasco Road LLC	CA	4.3	32,125	30,279
2014	Ameresco, Inc.	56428	E0214	Ameresco Santa Cruz Energy	CA	3.2	18,873	17,542
2014	Ameresco, Inc.	56897	E0217	Ameresco Keller Canyon	CA	3.8	16,907	2,918
2014	Ameresco, Inc.	56846	E0218	Ameresco Half Moon Bay (Ox Mountain Landfill)	CA	11.5	84,074	85,992
2014	Ameresco, Inc.	Missing	E0248	Ameresco Butte County Neal Road Landfill	CA	2.2	17,173	15,890
2014	Ameresco, Inc.	56898	E0250	Ameresco Chiquita Energy	CA	9.2	57,037	43,807
2014	Ameresco, Inc.	58437	E0252	Ameresco Forward LLC	CA	4.3	20,118	19,044
2014	Ameresco, Inc.	58436	E0253	Ameresco San Joaquin LLC	CA	4.3	21,896	20,615
2014	Ameresco, Inc.	58397	E0255	Ameresco Johnson Canyon	CA	1.4	9,080	7,832
2014	Bio Energy Partners/WM Renewable Energy	50571	E0108	Altamont Gas Recovery	CA	9.0	52,324	40,800
2014	Blue Lake Power LLC	10764	E0097	Blue Lake	CA	13.8	75,424	88,791
2014	Brea Parent 2007, LLC c/o Broadrock Renewables LLC	58007	E0249	Brea Expansion Plant - Brea Power II LLC	CA	32.8	233,654	198,905
2014	Buena Vista Biomass Power	10744	E0201	Buena Vista Biomass	CA	22.5	123,567	107,202
2014	Burney Forest Power	10652	E0005	Burney Forest Products	CA	31.0	231,854	214,574
2014	City of Oxnard Wastewater Division	50224	E0211	Oxnard Wastewater Treatment Plant	CA	1.5	6,378	6,378
2014	City of San Diego	50492	E0171	Gas Utilization Facility (Pt. Loma Sewage TWP)	CA	4.8	38,546	38,546
2014	City of Sunnyvale, Water Pollution Control Plant	57657	E0181	Sunnyvale Water Pollution Control Plant	CA	1.8	9,799	8,518
2014	Collins Pine Co	10681	E0026	Collins Pine Co Project	CA	12.0	29,414	22,654
2014	Community Renewable Energy Services, Inc.	Missing	E0033	Dinuba Energy	CA	11.5	88,472	81,142
2014	County of Riverside Waste Management Department	55820	E0210	RCWMD Badlands Power Plant	CA	1.2	1,873	1,873

2014	County of Sacramento, Waste Management	55766	E0203	Kiefer Landfill Gas-to-Energy Facility	CA	9.1	73,047	85,725
2014	County of Sonoma	55752	E0195	Central LF (Sonoma) Phase I	CA	3.2	14,316	14,152
2014	County of Sonoma	55753	F0196	Central LF (Sonoma) Phase II	CA	3.2	14,804	14,436
2014	County of Sonoma	55880	E0197	Central LF (Sonoma) Phase III	CA	1.6	0	0
2014	County Sanitation Districts of Los Angeles County	10090	E0113	Commerce Refuse To Energy	CA	11.5	81,858	72,854
2014	County Sanitation Districts of Los Angeles County	10472	E0127	Puente Hills Energy Recovery	CA	50.0	395,977	357,187
2014	County Sanitation Districts of Los Angeles County	10472	E0128	Puente Hills Gas-to-Energy Facility, Phase II	CA	8.1	27,263	24,478
2014	County Sanitation Districts of Los Angeles County	10471	E0129	Spadra Landfill Gas to Energy	CA	10.6	38,810	31,132
2014	County Sanitation Districts of Los Angeles County	10091	E0212	Total Energy Facilities	CA	13.8	57,203	39,478
2014	County Sanitation Districts of Los Angeles County	57163	E0227	Calabasas Gas-to-Energy Facility	CA	58.0	357,520	301,881
2014	Covanta Delano, Inc.	10840	E0029	Covanta Delano, Inc	CA	24.0	179,219	154,112
2014	Covanta Energy Inc.	50632	E0150	Stanislaus Resource Recovery Facility	CA	28.0	204,868	178,203
2014	Covanta Mendota, LP	10837	E0052	Covanta Mendota LP	CA	54.2	385,463	327,982
2014	Desert View Power, (formerly Colmac Energy Inc)	10300	E0027	Desert View Power (Mecca Plant)	CA	28.0	210,788	183,432
2014	DTE Energy Services	10836	E0105	Woodland Biomass Power Ltd	CA	6.5	26,889	24,332
2014	East Bay Municipal Utility District (EBMUD)	56036	E0036	EBMUD WWTP Power Generation Station	CA	4.6	36,180	30,559
2014	East Bay Municipal Utility District (EBMUD)	57896	E0242	EBMUD WWTP Digester Gas Turbine	CA	32.5	111,640	96,517
2014	Eel River Power	50049	E0063	Scotia	CA	3.0	13,165	13,165
2014	Encina Wastewater Authority	10026	E0251	Encina Water Pollution Control	CA	5.0	33,330	32,016
2014	Energy 2001, Inc.	57362	E0225	Lincoln Landfill - WPMMA	CA	6.5	48,382	46,068
2014	Fortistar Methane Group	55084	E0054	MM San Diego LLC - Miramar Landfill	CA	3.0	26,246	24,265
2014	Fortistar Methane Group	55803	E0095	MM Teijgus Energy LLC	CA	20.0	44,464	34,035
2014	Fortistar Methane Group	10395	E0117	Coyote Canyon	CA	1.6	9,808	8,635
2014	Fortistar Methane Group	57197	E0132	Santa Cruz Energy LLC	CA	7.1	50,297	43,055
2014	Fortistar Methane Group	54015	E0152	MM West Covina LLC	CA	3.7	18,855	17,421
2014	Fortistar Methane Group	54567	E0154	MM Yolo Power LLC Facility	CA	6.1	51,432	45,758
2014	Fortistar Methane Group	55161	E0168	MM Lopez Energy LLC	CA	6.1	48,814	42,166
2014	Fortistar Methane Group	55601	E0184	MM Prima Deshecha Energy LLC	CA	3.8	24,418	23,255
2014	Fortistar Methane Group	55602	E0202	MM San Diego LLC - North City	CA	3.2	25,941	24,706
2014	Fortistar Methane Group	55094	E0205	Miramar Energy LLC LFG	CA	2.6	10,539	9,758
2014	Fortistar Methane Group	48813	E0209	MN Mid Valley Genco LLC	CA	1.8	12,214	11,524
2014	G2 Energy (Hay Road) LLC	Missing	E0236	Hay Road	CA	3.2	25,430	24,064
2014	G2 Energy (Ostrom Road) LLC	57133	E0237	Ostrom Road	CA	1.8	12,566	11,544
2014	Gas Recovery Systems Inc	10386	E0075	San Marcos	CA	5.4	26,970	19,407
2014	Gas Recovery Systems Inc	10387	E0094	Sycamore Landfill San Diego	CA	12.5	79,901	67,241
2014	Global Ampersand LLC	Missing	E0007	El Nido Biomass	CA	35.5	214,004	189,181
2014	HL Power Co	10777	E0041	HL Power Company (Honey Lake)	CA	25.7	155,673	134,356
2014	IHI Power Services Corp.	50580	E0180	Pacific Ultrapower Chinese	CA	6.0	0	0
2014	Los Angeles Department of Water & Power (LADWP)	56533	E0153	Bradley Landfill	CA	15.0	137,331	122,925
2014	Marubeni Sustainable Energy, Inc.	10052	E0037	DG Fairhaven Power Plant	CA	5.1	28,482	28,492
2014	Monterey Regional Waste Mgmt Dist	10748	E0135	Marina Landfill Gas (Monterey Regional Waste Management Dist)	CA	1.7	7,434	7,434
2014	MRWPCA	54951	E0055	Monterey Regional Water Pollution Control Cogen	CA	63.6	300,831	257,524
2014	Mt Poso Cogeneration Co	54626	E0232	Mt. Poso Cogeneration	CA	16.0	50,167	47,829
2014	Orange County Sanitation District	52099	E0025	Plant No 2	CA	3.7	24,466	21,486
2014	Otay Landfill Gas, LLC	52204	E0081	Otay 1 & 2 Power Station	CA	7.0	51,646	47,420
2014	Otay Landfill Gas, LLC	52204	E0300	Otay 3 Power Station	CA	5.6	1,368	1,368
2014	Ridgewood Power Management LLC	10648	E0108	Brea Power Partners LP	CA	27.8	221,288	193,070
2014	Rio Bravo	10767	E0098	Rio Bravo Fresno	CA	27.8	216,193	189,810
2014	Rio Bravo	10772	E0099	Rio Bravo Rocklin	CA	13.4	55,217	50,967
2014	Roseburg Forest Products	54894	E0243	Roseburg Forest Products	CA	34.6	233,069	202,162
2014	SERRF Joint Powers Authority	50837	E0112	Southeast Resource Recovery	CA	2.1	11,115	11,115
2014	SF Public Utilities Commission	57971	E0110	Southeast Digester Gas Cogen Plant	CA	19.2	126,460	112,940
2014	Sierra Pacific Industries Inc	10144	E0004	SPI - Lincoln	CA	7.5	36,683	31,501
2014	Sierra Pacific Industries Inc	54517	E0038	SPI - Sonora - Restarted 1/1/2012 (Shut Down 9/28/2009)	CA	20.0	127,164	112,714
2014	Sierra Pacific Industries Inc	50110	E0078	SPI - Burney	CA	27.5	182,246	154,917
2014	Sierra Pacific Industries Inc	50112	E0081	SPI - Quincy	CA	4.0	28,625	25,532
2014	Sierra Pacific Industries Inc	58049	E0174	SPI - Anderson	CA	1.2	6	6
2014	South Orange County Wastewater Authority	10820	E0155	Aliso Water Management Agency	CA	23.0	128,655	114,748
2014	Thermal Energy Dev Partner LP	10502	E0086	Tracy Biomass Plant	CA	1.5	12,756	12,036
2014	Toro Energy of California LLC	56379	E0254	Cold Canyon	CA	1.9	12,046	9,866
2014	Toyon Landfill Gas Conversion, LLC	54326	E0143	Toyon Landfill Gas Conversion LLC	CA	29.1	190,440	170,418
2014	Wadham Energy LP	50293	E0102	Wadham	CA	3.0	16,192	13,750
2014	West Contra Costa Energy Recovery, Inc.	50631	E0137	Nove Power Plant	CA	54.9	428,422	384,307
2014	Wheelabrator Technologies Inc.	50861	E0086	Wheelabrator Shasta	CA	4.1	24,999	21,945
2014	WM Energy Solutions Inc.	56534	E0207	El Sobrante Landfill	CA	2.7	16,458	13,976
2014	WM Energy Solutions Inc.	56535	E0208	Slim Valley Landfill	CA			
					Total	1,184.1	7,149,100	6,267,456

# California Biomass Power Plants

(Power Plants shown are Operational Only .1 mw and above)

■ = Biomass Power Plant



For further information or suggestions concerning these maps please contact  
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