

# 2010 Community GHG Inventories

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February 25, 2014

## 2010 Community Inventories - Agenda

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- Overview of all emission sources
  - Some new sources added that were not included in 2005
  - One source was removed that was included in some inventories in 2005 (agriculture)
- Detailed review of new emission sources
- Summary of county-wide data
- Next steps

## Summary of Emission Sources: Same Old, Same Old

Sector	Source	Included in Most 2005 Inventories and Included in 2010 Inventories
Energy	Residential Energy (electricity and natural gas)	✓
	Commercial/Industrial Energy (electricity and natural gas)	✓
	Direct Access electricity	✓
	Direct Access natural gas	✓
Transportation	Local Roads VMT	✓
	State Highway VMT	✓
	Off-Road Emissions	✓
Solid Waste	Disposed waste throughout community	✓
	Closed landfills in the community	✓ (where applicable)

## Summary of Emission Sources: What's New?

Sector	Source	Now Included Due to New Protocol	Now Included due to New Data Availability
Energy	New Stationary Sources		✓
Transportation	CalTrain	✓	
	Freight Trains	✓	
Water	Energy embedded in water delivered to the community	✓	
Wastewater	Energy and process/fugitive emissions from wastewater treatment	✓	

## What's NOT new

- Energy: Electricity and natural gas, including Direct Access
- Transportation: On-road vehicles. Two methodologies are now available
  - In-boundary vs. Origin-Destination VMT
  - We kept the same methodology – In-Boundary!
  - Our approach was reviewed and approved by the BAAQMD
  - The data source and methodology is consistent with the 2005 baseline inventories, so that a revision of 2005 is NOT needed.
  - The methodology may be changing for the 2015 inventories
- Transportation: Off-road emissions
  - A new methodology used to estimate emissions for 2010
- Solid Waste: Disposed waste sent to landfills and emissions from closed landfills



## Detailed Review of What's New

- Stationary Sources: Data provided by the Bay Area Air Quality Management District
- You will receive a specific list of these sources for your community
- Includes anything that requires a BAAQMD permit
- Common sources: boilers, generators, industrial processes, co-generation
- Common fuels: natural gas, diesel, and propane
- Some Double-Counting may occur for natural gas!
- **Please check your list of stationary sources. If you can verify a large source of emissions is from a natural-gas fired source, we can remove it.**



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## Detailed Review of What's New

- CalTrain and Freight Trains
  - Only for the jurisdictions that have rail lines within their boundaries
- Emissions are from diesel combustion in trains
- County-wide emissions are calculated and apportioned to the jurisdictions based on miles of track in your boundaries
- These are small emissions but the BAAQMD has indicated that freight trains may not be relevant and could be removed



## Detailed Review of What's Slightly New

- Off-road emissions – new methodology
- Includes the following sources of emissions:

Source	Included in 2005	Included in 2010
Lawn and garden equipment	✓	✓
Construction, Industrial, and Light Commercial Equipment	✓	✓
Agricultural equipment		✓
Entertainment equipment		✓
Oil drilling		✓
Pleasure craft		✓
Railyard operations (only for the cities with rail)		✓
Recreational equipment		✓
Transport refrigeration units		✓



## Detailed Review of What's New

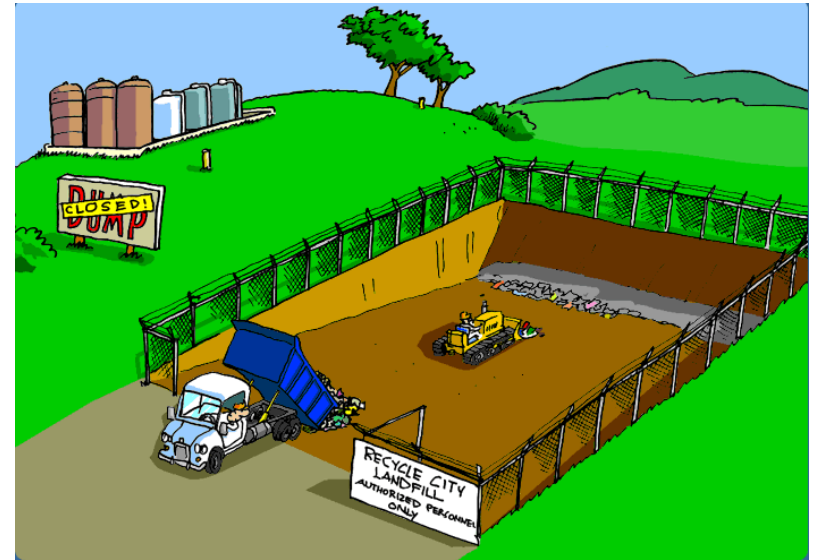
- Off-road emissions – new methodology
- Includes the following sources of emissions:

Source	Percent of 2010 emissions
Lawn and garden equipment	4%
Construction, Industrial, and Light Commercial Equipment	65%
Agricultural equipment	2.6%
Entertainment equipment	0.1%
Oil drilling	0.05%
Pleasure craft	2.5%
Railyard operations	0.002%
Recreational equipment	0.8%
Transport refrigeration units	5.1%

**New sources = 11% of emissions, and another 20% goes to the County for airport ground support equipment**

## Detailed Review of What's New

- Landfills!
  - Only for the jurisdictions that have a closed landfill within their boundaries
  - Some jurisdictions had these emissions in the 2005 baseline, but have excluded them
  - Some jurisdictions had these emissions in their 2005 Municipal Operations inventory
  - Only included if data were available
- These emissions are recommended for inclusion by the new Community GHG Protocol but can be excluded from the baseline/forecast



## Detailed Review of What's New

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- Water
  - Embedded energy (electricity) in water delivered to your jurisdiction
- Water usage is estimated based on which water agency (agencies) serve your community
- Water usage is then multiplied by an energy use factor (electricity used per gallon of water delivered)
- Emissions are based on this energy usage
- Northern California energy use per gallon of water is LOW
- These emissions are recommended for inclusion by the new Community GHG Protocol



## Detailed Review of What's New

- Wastewater!
  - Emissions from the wastewater treatment plants are allocated to the communities that are served by the plant.
  - Does NOT include energy (natural gas and electricity) at the wastewater plant
- Does include process and fugitive methane and nitrogen oxide emissions
- Does include stationary sources that do not use natural gas
- These emissions are recommended for inclusion by the new Community GHG Protocol



## Detailed Review of What's New

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- Agriculture is now OUT



## County-wide Data: Energy

Sub-Sector	Fuel	2005 Energy Use	2010 Energy Use	% Change
Residential	Electricity	1.549 billion kWh	1.584 billion kWh	2% increase
	Natural gas	129.2 million therms	132.4 million therms	2% increase
Commercial/ Industrial	Electricity	2.438 billion kWh	2.604 billion kWh	7% increase
	Natural gas	165.9 million therms	116.4 million therms	30% decrease
Direct Access – Electricity	Electricity	394.3 million kWh	342.6 million kWh	13% decrease

Note: Direct Access – Natural Gas not shown separately, but is included in Commercial / Industrial Sector

## County-wide Data: Transportation

Sub-Sector	2005 Activity Data	2010 Activity Data	% Change
Local Roads VMT	2.16 billion VMT	2.13 billion VMT	2% decrease
State Highways VMT	4.68 billion VMT	4.21 billion VMT	10% decrease

Sub-Sector	2005 Emissions	2010 Emissions	% Change
Off-road Equipment	269,650 MTCO <sub>2</sub> e	354,268 MTCO <sub>2</sub> e	31% increase

## County-wide Data: Solid Waste

Sub-Sector	2005 Activity Data	2010 Activity Data	% Change
Disposed Waste	760,940 tons	557,600 tons	27% decrease
Alternative Daily Cover	130,600 tons	179,120 tons	37% increase
Totals:	891,540 tons	736,720 tons	

Sub-Sector	2005 Emissions	2010 Emissions	% Change
Landfills	87,860 MTCO <sub>2</sub> e	81,407 MTCO <sub>2</sub> e	7% decrease



## Next Steps

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- You will receive your jurisdiction's draft inventory in the next few weeks
- Please review the entire report
- Pay attention to the new sources (stationary sources, CalTrain/freight trains, water, and wastewater)
- Provide any comments to C/CAG and/or set up a call or meeting to review the results
- Inventories will be finalized based on comments

# Questions?

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