



2015
**Environmental
Report Card**
FOR LOS ANGELES COUNTY

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ENERGY



Overview

California is leading the nation in greenhouse gas reduction and renewable portfolio standards (RPS) efforts due to AB 32 requirements, the California Air Resources Board's enforceable cap and trade program, and the state's requirement to reach 33% RPS by 2030. Recently, Governor Brown called for a further increase of RPS to 50% by 2030, as well as 50% increases in existing building energy efficiency and a 50% reduction in petroleum use in cars and trucks.

AB 32 requires California to reduce GHG emission levels to 1990 levels (a 25% reduction) by 2020. Large industrial sources are required to report their emissions annually. California's building energy efficiency standards (Title 24) are the toughest in the nation, and the state's Energy Commission has mandated all new residential buildings need to be Zero Net Energy by 2020 and all new commercial buildings to be so by 2030. With all of these relatively new legal requirements, the Los Angeles region has demonstrated leadership in a number of GHG and energy efficiency areas; however, Los Angeles, Pasadena, Glendale, Burbank, Azusa and others still rely on coal as a major energy source and energy retrofits have proven to be a challenge, so we still have a long way to go in these two areas.

Greenhouse Gas Emissions

Scientists, civic and state leaders, prominent businesses, and members of the general public agree that climate change poses a significant threat to our way of life. Recent changes in the global climate, such as temperature increases and sea level rise, have accelerated.

These changes are the result of man-made greenhouse gas (GHG) emissions⁵¹. Greenhouse gas accounting is a relatively new science that continues to be refined.

Data

We used data from the Los Angeles County Regional 2010 Greenhouse Gas Emissions Inventory, developed by the Los Angeles Regional Collaborative for Climate Action and Sustainability (LARC)⁵². LARC is an organization of leaders from local governments, non-profits, academia and the private sector with a shared goal of fostering collective action at the level of the county to mitigate the effects of and adapt to climate change.

The Regional GHG Emissions Inventory is a part of a larger plan, entitled *A Greater L.A.: The Framework for Regional Climate Action and Sustainability*, that LARC is developing to guide local sustainability efforts across the region. The Regional Emissions Inventory provides the first comprehensive picture of emissions sources and trends for all of Los Angeles County, emissions generated from activities that take place in the county. Emissions that are generated by manufacturing outside of the county, for example, are not part of such an inventory. Because this study utilized consistent

methodology and data, the report provides an aggregate understanding of the emissions attributed to all of the cities and unincorporated areas in the County.

For this Report Card, we used data from the Regional Emissions Inventory for the following indicators: per-capita electricity consumption, per-capita GHG emissions, and GHG emissions by sector. GHG emissions are expressed in terms of equivalent carbon dioxide (CO₂e), a standardized value which accounts for the variation in global warming potential of different greenhouse gases.

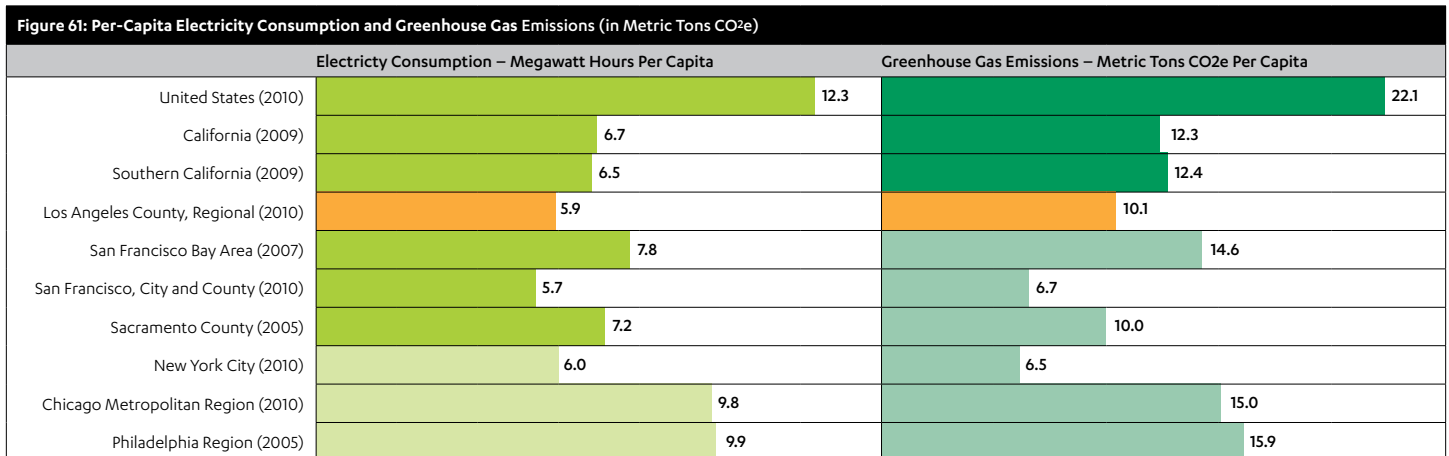
Findings

- In 2010, LA County generated a combined total of 99.1 million metric tons CO₂e, representing approximately 21.7% of California’s GHG emissions in 2009 (the last year available). (Table 37)
- Per capita GHG emissions in 2010 were 10.1 metric tons. (Fig 61)
- Per capita electricity consumption in 2010 was 5.9 megawatt hours. (Fig 61)
- Compared to other large metropolitan areas in the U.S., LA County has one of the lowest per-capita electricity consumption rates, comparable to

San Francisco and New York City. (Fig 61) However, due to widespread use of automobiles and trucks and the use of high carbon fuels like coal to generate energy for L.A. and Pasadena, its greenhouse gas emissions rate is approximately 30% higher than those cities, while still being significantly lower than other metropolitan regions.

- Building energy comprises the largest single portion of the County’s emissions inventory (39.2%), followed closely by on-road transportation (33.5%) (Table 37). Stationary sources are also a major GHG emissions contributor (19.7%).

Sector	Emissions (MT CO ₂ e)	Percent of Inventory
Building Energy	38,900,762	39.2%
On-Road Transportation	33,226,317	33.5%
Stationary Sources	19,516,169	19.7%
Solid Waste	4,327,123	4.4%
Water Conveyance	1,117,283	1.1%
Ports	1,059,131	1.1%
Off-Road Transportation	515,044	0.5%
Wastewater Treatment	443,832	0.4%
Agriculture	26,105	0.03%
Los Angeles Worlds Airport	2,760	0.0%
Total	99,134,526	



Data Limitations

- Because this is the first countywide Emissions Inventory, the data represents conditions only for 2010 and there is no trend information. According to the Lawrence Berkeley Lab, in 2004, Los Angeles County had the largest CO₂ emissions at 83 million metric tons, 24% of state total⁵³. However, direct comparison is difficult because calculation methodologies may differ significantly between the two studies.
- Greenhouse gas emissions can be counted in a number of ways and this report card's reporting will evolve over time. Data scarcity – utilities do not provide disaggregated data, for example, nor verifiable totals – in addition to issues about where the boundaries should be set for accounting, mean that any totals reported must be highly contextualized. For example, greenhouse gas emissions produced from powerplants outside the county may or may not be accounted for in an inventory, depending on where the boundaries are set. These are not arbitrary decisions, but not all inventories have the same boundaries.
- In future report cards, we hope to have more extensive GHG emissions and energy use data, as well as data on smaller geographic scales such as individual cities or sub-regions. A recent CPUC decision (Spring 2014) authorized the release of disaggregated investor-owned utility consumption information to research institutions, which will greatly assist with more detailed reporting going forward.



Energy Sources/Renewables

California set aggressive targets for sustainability in the energy sector. SB-1078 (2002) and SB-107 (2006) established a 20% renewable power generation requirement for electricity retail sales by 2010.

Two years later, Governor Schwarzenegger signed executive order S-14-08, mandating all electricity retailers to achieve 33% renewable energy by 2020. Subsequently, Governor Brown signed SB X1-2 requiring publicly owned utilities, investor owned utilities, and electric service providers to achieve a 20% renewable energy portfolio by 2013, 25% by 2016, and 33% by 2020⁵⁴. Industry-standard examples of renewable power include biomass & biowaste, geothermal, hydroelectric, solar, and wind.

In an effort to increase public awareness and support, SB-1305 (1997) and AB 162 (2009) required electricity providers to disclose information about the energy resources used to generate their electricity. This is communicated through a “power content label,” a standardized format developed by the California Energy Commission (CEC)⁵⁵.

Data

To assess renewable energy progress, we looked at the power content labels for each electric utility within LA County. The 2013 data were provided by the CEC upon request. We compiled data on the percent renewable energy achieved by each local

utility, compared this to state targets, and assessed the mix of renewable energy types. We also looked at the complete portfolio of each company to understand the predominant sources of non-renewable energy.

Findings

- The City of Cerritos, Vernon Light & Power, and Azusa Light & Water were the only utilities not meeting the 2013 20% renewable electricity standard. The other utilities which serve over ~98% of the county’s population, all exceeded the 20% renewable energy standard for 2013.(Table 38)
- The category of “unspecified power” constitutes a significant percentage of some utility’s portfolios, as much as 35% for Southern California Edison. According to the CEC, “unspecified power” is defined as electricity from transactions that are not traceable to specific generation sources. Power purchased from other states that do not have requirements to identify sources will fall into this category. (Table 38)
- Solar power represents an extremely small percentage (less than 1%) of the

energy mix for LA County utilities. Renewable energy comes primarily from wind (over 10%), geothermal (approximately 5%), and biomass/ biowaste (approximately 3%). (Table 38)

- Coal energy is still prevalent in the region, with Azusa, Pasadena and LADWP receiving 42% or more of their energy from coal sources. Glendale and Burbank receive nearly a third of their energy from coal sources. (Table 38)

Data Limitations

- The power content label does not provide information about the origin of electricity used at any particular household or business user. Rather, it reflects the overall resource mix that is being purchased through that specific utility.
- Energy coming into California from out of state is currently not being categorized or tracked by any national requirements or standards, and this “unspecified power” percentage can be as much as 35% of a utility’s portfolio, resulting in significant uncertainty in the overall power mix.

Table 38: Los Angeles County Utilities - Renewable Energy Portfolio 2013

Utility Name	Total Retail Sales (kWh) kWh x 1,000	Total Renewable Purchases			Renewable Breakdown (%)					Nonrenewable Breakdown					Unspecified Power
		kWh x 1,000	Percentage		Biomass & Biowaste	Geothermal	Eligible Hydroelectric	Solar Electric	Wind	Coal	Large Hydroelectric	Natural Gas	Nuclear	Other	
Azusa Light & Water	246,927	36,716	15%	0%	0%	2%	0%	13%	74%	2%	0%	7%	0%	3%	
Burbank Water and Power (BWP)	not available	not available	25%	18%	0.3%	2%	0.2%	5%	32%	2%	16%	7.0%	0%	18%	
City of Cerritos	63,207	0	0%	0%	0%	0%	0%	0%	0%	0%	69%	0%	0%	31%	
Glendale Water and Power (GWP)	1,065,146	297,514	28%	13%	0%	2%	0%	12%	29%	6%	26%	7.6%	0%	5%	
LA Dept of Water and Power (LADWP)	23,259,917	5,383,250	23%	6%	1%	1%	1%	14%	42%	4%	16%	10%	0%	5%	
Pasadena Water and Power (PWP)	1,110,448	301,569	27%	16%	7%	1%	0%	3%	52%	5%	5%	7%	0%	4%	
Southern California Edison (SCE)	74,480,095	16,372,277	22%	1%	9%	1%	1%	10%	6%	4%	28%	6%	0%	35%	
Vernon Light & Power	1,125,362	156,563	14%	8%	0%	0%	0%	6%	0%	2%	56%	7%	0%	21%	

Note: rounding may cause totals to deviate slightly from 100%

- Although the City of Industry is listed by the CEC as having its own power utility, the City website indicated that its power comes from SCE, and no separate power content label was available.
- We were unable to roll up the data to provide a total for the County as a whole, because the power content label for Southern California Edison (SCE) applies to their entire service area, not just Los Angeles County.





Grade = B-

Although the region is largely on track to meet renewable portfolio standards and GHG emission targets, there is still too great a reliance on coal as an energy source (although the city of LA will begin eliminating coal as an energy source this year and will be coal-free by 2025). Very little of the region's energy is generated by local sources such as solar. Further, GHG emissions and energy use data are often inadequate for accurate assessment. Fleet, busline and truck transitions from diesel to natural gas have reduced GHG emissions, as have more fuel efficient cars. In general, Title 24 and numerous cities' green building requirements are leading to more energy efficient new buildings, but there are not enough comprehensive energy efficiency retrofit programs for existing building stock. However, overall, the LA region is far more energy efficient and has lower per capita GHG emissions than many large U.S. cities.

Although our mild climate helps greatly, the fact that our per capita energy use and GHG emissions are half the national average demonstrates that energy efficiency and GHG reduction efforts make a difference. At the same time, progress toward sustainability requires an industry trajectory that adds higher levels of value to the economy for each terajoule that is consumed, and cleaner sources of power that release less greenhouse gas per terajoule consumed. Community Choice Aggregation (CCA) is emerging as a promising option for increasing levels of clean energy sources, especially at local levels. Two ongoing examples of CCA in California are Sonoma Clean Power and Marin Clean Energy; within LA County, the City of Lancaster has just approved a CCA Program. A State standard for renewable (bio)gas would provide additional benefits of reducing pressure on landfills, dairies and other methane producing activities. National standards are needed for categorizing and tracking energy sources in order to monitor progress toward renewable goals.

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