

## Sustainability: How California Cities are Changing the World<sup>1</sup>

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California could be the first major economy in the world to abandon fossil fuels as its primary energy source. California's strategic energy policies foster an economic climate which generates funding for renewable energy, energy efficiency and innovative technology. In particular, proceeds from the state's cap and trade auctions, mandates on utilities and the attraction of venture capital are funding renewable energy generation, energy efficiency measures in our buildings, and the implementation of clean transportation programs. As a result, we are in an era of exceptional economic opportunities for cities and local governments.

Although California leads the nation in energy efficiency and renewable energy, California cities lead the nation in the need to reduce traffic and air pollution. California cities top the American Lung Association's list of the most polluted cities by year round particle pollution.<sup>3</sup> According to a recent study, California cities lead the nation in early deaths due to air pollution.<sup>4</sup> Along with Honolulu, two California cities, Los Angeles and San Francisco, lead the nation in traffic congestion.<sup>5</sup> Traffic is not only a health and environmental problem, but it is a drag on economic productivity. Through transformation to a clean energy economy, California cities can develop solutions for air pollution and traffic congestion.

The transformation to a clean energy economy is occurring through: (1) building optimization; (2) renewable power generation; and (3) clean transportation. Although energy policies and laws are essential to effect change, it is the development of new technologies and competitive market forces that are leading the transformation to a clean energy economy. As new technologies are exploited, market forces gain momentum that will inevitably transform energy generation and consumption.

### I. BUILDING OPTIMIZATION

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<sup>1</sup> This article is based upon the reference materials for a presentation before the League of California Cities Annual Conference on September 3, 2014 in Los Angeles, California

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<sup>3</sup> <http://www.lung.org/assets/documents/publications/state-of-the-air/state-of-the-air-report-2013.pdf>

<sup>4</sup> <http://newsoffice.mit.edu/2013/study-air-pollution-causes-200000-early-deaths-each-year-in-the-us-0829>

<sup>5</sup> <http://scorecard.inrix.com/scorecard/>

Buildings account for an estimated 68% of total electrical consumption in the United States.<sup>6</sup> Many buildings are inefficient and wasteful. State building codes have made new buildings more efficient. Many energy efficiency upgrades have proven to provide a great return on investment. California building standards and energy codes have led the nation for years, recently increased efficiency requirements, and have set the goal of “zero net energy” for future buildings.

#### **A. New California Building and Energy Codes – A Future Game Changer**

California’s new energy standards and building codes became effective July 1, 2014.<sup>7</sup> These standards will make new buildings superefficient. The California Energy Commission has proposed the requirement of “zero net energy” residential construction by 2020 and “zero net energy” commercial buildings by 2030.<sup>8</sup> Although the definition of “zero net energy” or “net zero” is not settled, one common definition is that a new building’s annual energy consumption does not exceed its total on-site energy production or local acquisition of renewable power over that year.

However, new buildings are only a small percentage of the built environment, so new building codes will not dramatically reduce energy consumption in the short term. The real economic opportunities for cities are in upgrading and retrofitting existing buildings. The first step is to encourage building owners to measure and benchmark energy use. Once energy use can be accurately measured, then energy use can be effectively managed.

#### **B. Energy Reporting Ordinances – A Potential Retrofit Boom**

By encouraging renovations and retrofits of existing buildings, cities can promote energy efficiency, reduce energy consumption, create local jobs, and increase revenues for local businesses. New benchmarking and disclosure laws are being adopted by cities across the country.<sup>9</sup> Energy usage is typically benchmarked using the EPA Energy Star Portfolio Manager. Under the Portfolio Manager, adjustments are made for size, location, use, and special factors in the benchmarking process. A building’s usage is compared to the average for similarly situated buildings.

Disclosure of building energy use is a key motivation for retrofits. Energy retrofits can generate significant savings in operational costs due to reduced energy usage. When owners and tenants compare their usage with the usage of their neighbors and competitors, they will often respond with action. Most buildings eventually require renovations as they age, and delaying renovation can be wasteful. The primary obstacles to adopting public reporting requirements are compliance, privacy concerns of owners and tenants, and the ability of utilities to provide

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<sup>6</sup> <http://www.epa.gov/greenbuilding/pubs/whybuild.htm>

<sup>7</sup> [http://www.energy.ca.gov/title24/2013standards/2013\\_standards\\_revised\\_effective\\_date.html](http://www.energy.ca.gov/title24/2013standards/2013_standards_revised_effective_date.html)

<sup>8</sup> <http://cleantechnica.com/2014/04/15/californias-net-zero-energy-building-will-reshape-us-construction-industry/>

<sup>9</sup> See, e.g., [http://www.nyc.gov/html/gbee/html/plan/1184\\_scores.shtml](http://www.nyc.gov/html/gbee/html/plan/1184_scores.shtml);  
<http://www.greentechmedia.com/articles/read/chicago-passes-energy-benchmarking-disclosure/>;  
<http://www.cityofboston.gov/eos/reporting/>

accurate energy usage data. Aside from studying existing programs, there are a number of resources available to assist cities with the adoption of benchmarking and reporting laws, including the Institute for Market Transformation and Green Cities California.<sup>10</sup>

There are currently two major benchmarking and disclosure programs in California:

1. *New California Energy Reporting Statute.* New energy reporting requirements became effective January 1, 2014, under the *Public Resources Code* section 25402.10. The statute requires owners and operators of non-residential buildings over 10,000 square feet to benchmark and disclose the building's energy usage data to buyers, lenders or tenants leasing the entire building.<sup>11</sup> Usage is measured by the EPA Energy Star Portfolio Manager. The new law does not mandate public reporting and does not affect multi-tenant buildings. The application of the statute was to extend to buildings over 5,000 square feet as of July 1, 2014, but this requirement was postponed until July 1, 2016.

2. *San Francisco's Existing Commercial Building Energy Performance Ordinance.* San Francisco is among a number of cities across the United States to require public disclosure of commercial building energy usage data. *San Francisco Environment Code*, Chapter 20, Section 2000 *et seq.* requires owners of nonresidential buildings in the City and County of San Francisco to annually measure and disclose energy use. This ordinance also requires use of the EPA Energy Star Portfolio Manager. Energy efficiency audits of these properties are conducted every five years under the ordinance. The ordinance provides that owners shall not be required to disclose "confidential business information," but states that certain information will not be viewed as confidential, including building specific energy performance statistics. Policy makers project the San Francisco ordinance will double the number of energy retrofits over the next five years.<sup>12</sup>

A few cities outside California have expanded benchmarking ordinances to residential properties. New York City claims to be the first in the nation to publicly disclose data for large multifamily buildings.<sup>13</sup>

### **C. Funding and Resources for Energy Retrofits**

There are numerous technical and financing sources available to California property owners for retrofits. The State of California and a number of local governments offer building owners zero percent interest financing for energy efficient retrofits.<sup>14</sup> Public and investor-owned utilities within the State are mandated to promote energy efficiency programs. Southern California Edison, Pacific Gas & Electric, San Diego Gas & Electric and Southern California Gas (Sempra Energy) all offer technical assistance, incentives and funding programs for residential and commercial property owners, as well as to public agencies.

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<sup>10</sup> <http://www.imt.org/>; <http://greencitiescalifornia.org/>; <http://www.icleiusa.org/>;

<sup>11</sup> [http://ceb.com/lawalerts/EnergyUseDisclosure.asp?utm\\_source=on&utm\\_medium=la&utm\\_campaign=energy](http://ceb.com/lawalerts/EnergyUseDisclosure.asp?utm_source=on&utm_medium=la&utm_campaign=energy)

<sup>12</sup> Green Cities California: [http://greencitiescalifornia.org/best-practices/energy/SF\\_commercial-building-energy-efficiency.html](http://greencitiescalifornia.org/best-practices/energy/SF_commercial-building-energy-efficiency.html)

<sup>13</sup> [http://www.nyc.gov/html/gbee/html/plan/l184\\_scores.shtml](http://www.nyc.gov/html/gbee/html/plan/l184_scores.shtml)

<sup>14</sup> <http://www.aceee.org/sector/state-policy/toolkit/on-bill-financing>

Property Assessed Clean Energy (PACE) is a financing program for private owners. The financing is secured by voluntary annual property tax assessments. These improvement costs remain part of the property assessments if the property is ever sold. Secured lenders must typically approve of the assessments. Certain lenders will consent to assessments if there is adequate equity and the improvements increase the value of their security. PACE funding for residential properties has expanded to a number of counties and cities around the state. The primary concerns for residential PACE programs are lender approvals, the public agency's ability to properly qualify renovation and energy projects, and the ability of residential property owners to adequately procure, manage, complete and pay for renovations and energy projects. For these reasons, PACE is only available for commercial buildings in some California counties.

Examples of PACE funded commercial projects are:

1. Universal City Hilton utilized PACE financing to fund \$7 million in upgrades, making it the largest PACE project in the United States at that time. The improvements were estimated to result in energy and water savings of more than \$800,000 annually.
2. Constance Hotel in Pasadena used \$6.9 million in PACE funding for the renovation of the historic hotel which was originally built in 1926. The PACE bonds issued provided long-term fixed rate financing for the installation of energy efficiency improvements, such as new HVAC and controllers, LED lighting, elevator motors and controls, window treatments, water systems, and insulation within the renovated hotel.

#### **D. Retrofitting Municipal Buildings – Reduces Utility Costs and Creates Local Jobs**

Energy retrofits and renovations of municipal buildings present a major economic opportunity for cities. Renovations can reduce utility costs, create local jobs, increase revenue, and demonstrate leadership. Proper implementation of these projects requires compliance with state and local contracting laws, including any applicable local procurement, competitive bidding, and prevailing wage laws. For information on applicable law and exemptions, cities should consult counsel with experience on municipal energy efficiency projects.

For funding and technical assistance with energy efficiency and energy generation projects, the Statewide Energy Efficiency Collaborative (SEEC), Air Resource Board and the California Energy Commission provide no-cost resources to support the energy initiatives of local California governments.<sup>15</sup> There are some federal funds available for energy projects and energy efficiency programs.<sup>16</sup> As stated above, most public and investor owned utilities have programs to assist cities and public agencies. In addition, there are a number of other organizations that can offer technical assistance with municipal retrofits and power generation projects.<sup>17</sup>

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<sup>15</sup> [www.coolcalifornia.org](http://www.coolcalifornia.org); [www.arb.org](http://www.arb.org); [www.californiaseec.org](http://www.californiaseec.org); [www.energy.ca.gov/efficiency/financing](http://www.energy.ca.gov/efficiency/financing)

<sup>16</sup> [www.energy.gov/funding-financing-energy-projects](http://www.energy.gov/funding-financing-energy-projects)

<sup>17</sup> [www.sustainca.org](http://www.sustainca.org); [www.greencitiescalifornia.org](http://www.greencitiescalifornia.org); [www.usgbc.org](http://www.usgbc.org); [www.architecture2030.org](http://www.architecture2030.org); <http://living-future.org/lbc>; [www.action.theenergynetwork.com](http://www.action.theenergynetwork.com); <http://www.nrdc.org/energy/files/ca-scaling-up-energy-efficiency-FS.pdf>

There are a growing number of municipal energy efficiency programs around the state. For example, the San Jose Municipal Green Building Program set a goal to retrofit four million square feet of municipal space. Currently, the city claims to have achieved 1.3 million square feet resulting in a 20% decrease in sector energy emissions saving the city over \$20 million since 2001.<sup>18</sup>

## **II. ENERGY GENERATION**

In the short term, California has the highest Renewable Portfolio Standard (RPS) of any state in the nation. Utilities must achieve 33% renewable power generation by the year 2020. Some utilities expect to reach the RPS prior to 2020. San Diego Gas & Electric expects to get 33% of its electricity from renewable sources by the end of this year, which is six years ahead of the state-mandated 2020 target.

In the past few years, the efficiency of solar panels and wind power generation has risen while their costs have come down.<sup>19</sup> Recent power purchase agreements are demonstrating a continuing reduction in cost of clean energy. As utility scale installations have recently been completed, market conditions, along with these cost and efficiency trends, have created new clean power opportunities for local governments.<sup>20</sup>

### **A. Power Purchase Agreements – Continuing Reduction in the Cost of Clean Energy**

The following are examples of power purchase agreements entered into by cities and local districts:

1. The City of Palo Alto claims to have already achieved its goal of zero carbon generated power through a combination of solar, wind and hydro-electric power.<sup>21</sup>
2. Lancaster's municipal buildings are now largely powered with solar energy from a 1.45 megawatt project, which is projected to save the city an estimated \$6 million over 15 years. Lancaster is the first city in the nation to mandate solar for all new residential developments.<sup>22</sup>
3. Antelope Valley Union High School District has the largest operational solar project by a school district in the United States. The fully installed 9.6 MW project will span 10 campuses and supply 80% of the school district's energy demand. It is estimated AVUHSD will save \$40 million in energy costs over the 20-year term of the power purchase agreement.<sup>23</sup>

### **B. Feed-in Tariffs – Creating a Market**

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<sup>18</sup> [http://greencitiescalifornia.org/best-practices/urban-design/san-jose\\_green-municipal-building.html](http://greencitiescalifornia.org/best-practices/urban-design/san-jose_green-municipal-building.html)

<sup>19</sup> <http://theenergycollective.com/eliashinckley/315371/solar-industry-red-hot-will-it-get-hotter>

<sup>20</sup> <http://www.lgsec.org/issues/clean-energy>

<sup>21</sup> [http://www.slate.com/articles/business/the\\_juice/2014/09/palo\\_alto\\_power\\_supply\\_how\\_the\\_home\\_of\\_stanford\\_became\\_carbon\\_neutral.html](http://www.slate.com/articles/business/the_juice/2014/09/palo_alto_power_supply_how_the_home_of_stanford_became_carbon_neutral.html)

<sup>22</sup> <http://cleantechnica.com/2014/01/04/lancaster-home-solar-mandate-1st-us-world-leads-city-2014/>

<sup>23</sup> <http://www.psomasfmg.com/casestudy.html>

Historically, Germany produced more solar power than any other country. Yet, Germany receives less sunlight than almost any region in the continental United States. German productivity can be attributed in part to feed-in tariffs, where the government buys power from private parties who “feed-in” power to the utility grid.

In January of 2013, the Los Angeles Board of Water and Power Commission approved a 150 MW Feed in Tariff (FiT) Program, allowing LADWP to purchase energy from renewable energy generating systems under a standard power purchase contract from participants within LADWP’s territory. Eligible renewable resources will be connected with LADWP’s electrical distribution system. This allotment was an extension of the FiT Demonstration Program. LADWP purchases energy at a fixed cost determined for up to 20 years; the base price of energy started at \$0.17/kWh. The average bid of the Demonstration Program was \$0.175/kWh. In March 2014, LADWP began accepting proposals for the third 20 MW installment of the program, leaving 40 MW available in later installments. Each installment allocated 4 MW to be negotiated for small projects (30kW-150kW), ensuring local generation. Before the FiT program was instituted, the Los Angeles Business Council estimated the creation of 11,000 local jobs. This FiT has the largest capacity of any program of its kind in the nation, with the potential to power 43,000 homes by its completion.<sup>24</sup>

### **C. Community Power Generation – Stimulating Local Economies and Resiliency**

On September 2, 2014, the *Los Angeles Times* published an article entitled: “Localizing the business of power - Communities start up their own programs to cut ratepayer cost and carbon footprints.”<sup>25</sup> The article reported that communities “have begun taking steps to elbow aside big electricity companies and find green power themselves.” After discussing programs across the nation, the *Times* article stated: “But the hub of the movement is in California, where a state law requires local electric companies to work with counties and cities that want to offer a greener energy mix. The communities secure the energy, which is then transmitted to consumers through the utility-controlled power grid. Marin County took the plunge a while ago, but stood alone until Sonoma County got up and running recently. Lancaster will join them next year, and a dozen other communities, including San Diego and San Francisco, are laying the groundwork.”

The following are examples of community power generation programs:

1. Marin Clean Energy is a joint effort of Marin County and a number of cities in the bay area employing power purchase agreements, a feed-in tariff and a planned microgrid project. The program hopes to be a model for other communities.<sup>26</sup>
2. Sonoma Clean Power is following the example of Marin Clean Energy in offering customers clean renewable power using PG&E utility lines.<sup>27</sup>
3. The Hunter’s Point Distributed Generation and Intelligent Grid Project is a collaboration between the Clean Coalition, PG&E, and the City of San Francisco. Its goal is to

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<sup>24</sup> <http://www.labusinesscouncil.org>

<sup>25</sup> <http://www.latimes.com/business/la-fi-sonoma-power-20140902-story.html>

<sup>26</sup> <http://marincleanenergy.org>

<sup>27</sup> <https://sonomacleanpower.org/your-options/net-energy-metering/>



create \$233 million in regional economic stimulation including \$100 million in local wages in one of the Bay Area's most economically challenged areas.<sup>28</sup> The region is also projected to avoid \$80 million in transmission-related costs over 20 years and attract significant private investment.<sup>29</sup>

A microgrid is a small energy system capable of balancing captive supply and demand resources to maintain stable service within a defined boundary.<sup>30</sup> A growing group of homeowners, government agencies, and businesses are using these kinds of microgrids to reduce power bills and dependence on utility networks.<sup>31</sup> Spending on microgrid projects in the U.S. is poised to explode to \$4.2 billion by 2024 in part because of growing concerns about the reliability of the traditional grid.<sup>32</sup> As major storms and severe weather around the world threaten power supplies and power transmission, the development of microgrid, grid integration, and battery storage technologies will likely prove to be major benefits to those local clean tech economies that are capable of exporting these technologies around the world.

#### **D. Funding and Resources for Power Generation Projects**

1. *California Energy Commission Program Opportunity Notice.* The CEC announced an available \$26.5 million in grants for projects that incorporate renewable energy resources with energy storage.<sup>33</sup> The funds are specifically allocated for microgrid projects tied to critical facilities like hospitals and fire stations, while another allocation is reserved for projects that incorporate a high penetration of renewable energy (up to 100%) to meet a community's energy load. Under this program, the CEC set aside \$6 million for projects to connect plug-in electric vehicles. All proposed projects must include the ability to be disconnected from the grid for up to three hours. This stipulation is included to promote grid resiliency and adaptability in anticipation of climate change effects.

2. *IOU's Funding Battery Storage.* Southern California Edison and the Imperial Irrigation District are soliciting quotations for grid-scale energy storage.<sup>34</sup> Imperial Irrigation District's solicitation is for 20-40 MW of battery storage with broad terms. Southern California Edison released a similar 40 MW request for quotations oriented toward the local capacity requirements in the LA basin.<sup>35</sup> Southern California Edison began demonstrating and testing lithium ion battery storage technologies in partnership with the U. S. Department of Energy in the Tehachapi Wind Resource Area. The Tehachapi Wind Energy Storage project will test an 8 MW- 4 hour (32 MWh) lithium ion battery and smart inverter system, which is expected to come online by 2015. This will help store energy from the approximately 5,000 existing wind

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<sup>28</sup> <http://www.sustainablesv.org>

<sup>29</sup> <http://www.clean-coalition.org>

<sup>30</sup> <http://www.microgridinstitute.org/>

<sup>31</sup> <http://www.latimes.com/business/la-fi-microgrids-20140618-story.html#page=1>

<sup>32</sup> <http://www.navigantresearch.com/newsroom/energy-storage-systems-for-microgrids-to-reach-nearly-4-2-billion-in-market-value-by-2024>

<sup>33</sup> <http://www.greentechmedia.com/articles/read/California-Funds-the-Next-Wave-of-Microgrids-Armed-With-Renewables-and-Stor>

<sup>34</sup> <http://www.greentechmedia.com/articles/read/Grid-Scale-Energy-Storage-RFQs-Lessons-From-the-Imperial-Irrigation-Distri>

<sup>35</sup> <http://www.greentechmedia.com/articles/read/Another-40-MW-of-Grid-Scale-Energy-Storage-in-the-California-Pipeline>

turbines, hopefully proving the feasibility of this technology. This project is evaluated at \$54.9 million and supported by \$24.9 million from the Department of Energy.<sup>36</sup>

3. *Greenhouse Gas Reduction Fund Allocation to Municipal Renewable Energy Facilities* will fund the installation of on-site energy generation systems for the 2014-2015 and 2015-2016 fiscal years.<sup>37</sup>

4. *California Clean Energy Jobs Act (Proposition 39)* changed the corporate income tax code to allocate funds to the California Clean Energy Job Creation Fund. Beginning in the 2013-2014 fiscal year, \$550 million annually will be appropriated for eligible local educational agencies. Funding can be used for energy efficiency and clean energy projects by local school and school districts.<sup>38</sup>

## **E. Local Procurement and Hiring**

A number of cities have implemented programs to attract clean energy projects and tech businesses to their communities, including Los Angeles, San Francisco, San Jose and San Diego. These programs can be augmented by local procurement programs. In particular, local procurement of energy reduces costs inherent in long distance transmission of electricity and other sources of energy. Locally sourced energy also adds resiliency and reduces the risk of power interruption. Locally sourced power can also increase opportunities for local business and employment. Employment of local clean technology businesses for retrofits and procurement of clean tech goods and services can also reduce transportation costs and pollution, while aiding local economies.

A number of cities have implemented local procurement and hiring programs, including San Francisco, Riverside, and Pasadena. The California Sustainability Alliance (funded under the auspices of the California Utilities Commission) has developed a guidebook for local governments thinking of adopting a local procurement and purchasing plan.<sup>39</sup> However, programs and ordinances to encourage local procurement and hiring can be subject to legal challenges, primarily under the Commerce Clause of the United States Constitution.<sup>40</sup> Experienced legal counsel is essential to the planning and drafting of these programs.

## **III. CLEAN TRANSPORTATION**

Unfortunately, California cities are not leading in the area of transportation. In fact, California cities have some of the worst traffic in the nation. Traffic results in wasted productivity and adverse health effects from air pollution. In a ranking of large cities (with populations of 250,000 or more), New York (38.3 minutes), Chicago (33.2 minutes), Newark, New Jersey (31.5 minutes), Riverside, California (31.2 minutes), Philadelphia (29.4 minutes), and Los Angeles (29.0 minutes) had among the nation's highest average commute times.<sup>41</sup>

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<sup>36</sup> <http://energy.gov/sites/prod/files/Tehachapi.pdf>

<sup>37</sup> <http://www.lao.ca.gov/reports/2014/budget/cap-and-trade/auction-revenue-expenditure-022414.aspx>

<sup>38</sup> <http://www.cde.ca.gov/ls/fa/ce/>

<sup>39</sup> [http://sustainca.org/tools/green\\_procurement\\_toolkit](http://sustainca.org/tools/green_procurement_toolkit)

<sup>40</sup> *See, e.g.*, 53 Ops.Cal.Atty.Gen. 72, 73 (1970)

<sup>41</sup> <http://usgovinfo.about.com/od/censusandstatistics/a/commutetimes.htm>



California cities that employ clean technology to reduce traffic and air pollution could lead the nation in this area as well.

## **A. Local Clean Transportation**

Cities can also join together in clean tech projects.

1. *Bay Area Governments Zero Emissions Vehicle Program.* Ninety new electric vehicles joined the fleet of Bay Area government vehicles in July 2014, funded by a \$5 million initiative and supported in part by \$2.8 million from the Metropolitan Transportation Commission's broader environmental fund.<sup>42</sup> This represents one of the largest local government deployment of electric vehicles in the United States.

2. *California Zero Emissions Vehicle Action Plan.* In February 2014, Governor Brown announced an executive order, outlining a plan to put 1.5 million zero-emission vehicles on the road by 2025.<sup>43</sup> Fifteen grants totaling \$5 million were recently appropriated by the Energy Commission for 475 electric vehicle charging stations across California.<sup>44</sup> Research by the UC Berkeley California Electric Transport Coalition shows that every dollar saved at the pump and redirected toward the rest of the economy not only reduces air pollution, but also captures significant ancillary economic benefits.<sup>45</sup>

## **B. Regional Clean Transportation**

California leads the nation in electric vehicle sales, but electric vehicles alone will not solve the state's growing traffic problems, which cause pollution and impair productivity. A robust regional public transit system is required to reduce traffic and make local economies more competitive. The development of a modern statewide transit system could be essential to foster a robust regional transportation system.

Currently, the state is attempting to implement a high-speed rail (HSR) system to serve as the backbone of a statewide transit system. The state projects that by 2029, the HSR system will run from San Francisco to the Los Angeles basin in under three hours, at speeds over 200 miles per hour. The system is planned to eventually extend to Sacramento and San Diego, totaling 800 miles with up to 24 stations. In addition, a statewide rail modernization plan could provide billions of dollars to local and regional rail lines.<sup>46</sup>

Construction Package 1 (CP1) is the first significant construction contract executed on the HSR project. The CP1 construction area is a 29-mile segment in Madera County and Fresno County. Construction is anticipated to begin in the fall of 2014, and is currently scheduled for

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<sup>42</sup> [http://www.contracostatimes.com/news/ci\\_26110716/fleet-plug-cars-rolls-out-bay-area-governments](http://www.contracostatimes.com/news/ci_26110716/fleet-plug-cars-rolls-out-bay-area-governments)

<sup>43</sup> [http://opr.ca.gov/docs/Governor's\\_Office\\_ZEV\\_Action\\_Plan\\_\(02-13\).pdf](http://opr.ca.gov/docs/Governor's_Office_ZEV_Action_Plan_(02-13).pdf)

<sup>44</sup> [http://earthtechling.com/2014/06/california-investing-millions-to-build-hundreds-of-ev-charging-stations/?utm\\_source=feedburner&utm\\_medium=feed&utm\\_campaign=Feed%3A%20Earthtechling%20\(EarthTechling\)](http://earthtechling.com/2014/06/california-investing-millions-to-build-hundreds-of-ev-charging-stations/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A%20Earthtechling%20(EarthTechling))

<sup>45</sup> [http://switchboard.nrdc.org/blogs/mbaumhefner/big\\_brown\\_and\\_governor\\_brown\\_d.html](http://switchboard.nrdc.org/blogs/mbaumhefner/big_brown_and_governor_brown_d.html)

<sup>46</sup> <http://www.hsr.ca.gov/>

completion in 2017. There are currently 5 design-build construction contracts planned which could generate a large number of jobs throughout the state.

Under a recent compromise between the Governor and the legislature, the current plan is to allocate \$250 million in cap and trade auction revenues for construction of the HSR system under the 2013-14 budget, and a 25% allocation of auction revenues thereafter.<sup>47</sup> While a number of challenges to the HSR system remain pending, the construction of this system could be a major boost to those California cities that stand to benefit from future HSR routes.<sup>48</sup>

In addition to HSR, there are a number of other transportation plans in development. There are current state requirements and incentives for local governments to implement regional transportation plans.<sup>49</sup> Under state law, metropolitan planning organizations must prepare and implement strategies for these regional transportation plans. The development and integration of these regional transportation plans are important to the future economies of California cities.

#### **IV. THE FUTURE IS A GREEN ECONOMY**

California cities are changing the world through cultivation of clean technologies and the development of clean energy. By demonstrating leadership and vision through prudent investments and planning, cities are reducing operating costs, promoting business, reducing pollution and improving the health of constituents. However, it is the reduction of energy costs that is triggering the transformation to a clean energy economy, and will allow communities to reallocate funds to other essential services.

For assistance in the planning and execution of energy efficiency, power generation, transportation, and public works projects, please visit [www.ggltsw.com](http://www.ggltsw.com) or contact Ted Senet at:

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<sup>47</sup> <http://la.streetsblog.org/2014/06/12/breaking-news-deal-reached-on-cas-cap-and-trade-spending-plan/>

<sup>48</sup> <http://www.lao.ca.gov/reports/2014/budget/cap-and-trade/auction-revenue-expenditure-022414.aspx>

<sup>49</sup> <http://www.arb.ca.gov/cc/sb375/sb375.htm>

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