

Clean Tech is the future of San José



2011-2012 **San José Clean Tech Legislative Agenda**



Electric Vehicles
Energy Storage
Renewable Energy
Energy Efficiency
Smart Grid



"History should be our guide. The United States led the world's economies in the 20th century because we led the world in innovation. Today, the competition is tougher; and that is why innovation is more important than ever. It is the key to good, new jobs for the 21st century. That's how we will ensure a high quality of life for this generation and future generations. With these investments, we're planting the seeds of progress for our country, and good-paying, private-sector jobs for the American people."

- President Barack Obama

2011 - 2012 San José Silicon Valley Clean Technology Agenda

Dear Friends and Colleagues,

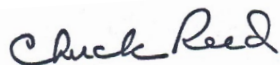
Clean technology and green energy continue to gain momentum in America. Silicon Valley has long been the incubator for developing and advancing clean technologies and energy.

With gas prices soaring and the instability of traditional energy sources becoming apparent, investment in the green economy will continue to lead the nation out of the recession. We must reduce our demand by investing in energy-efficient technologies. We need to begin converting our vehicles to run on electricity. We need to increase our supply of clean renewable energy and invest in energy storage to help deal with intermittency issues. All of this can be accomplished by adding intelligence to our electricity grid that will give grid operators, utilities and consumers more control over their consumption. We must align Federal, State and Local efforts to speed up the mass adoption of clean technology.

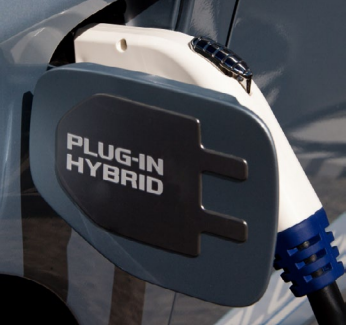
We developed this report by bringing together legislators and regulators, start-ups and major corporations, and other industry leaders with the hope of advancing and improving clean technologies. Silicon Valley companies know this industry better than anyone, and coupled with the guidance of legislators and regulators, we hope to bring these technologies to market with widespread early adoption.

Please consider this report as you set your clean technology priorities.

Sincerely,



Mayor Chuck Reed
City of San José



“How many times do you have to be hit over the head by a two-by-four before you realize that someone is hitting you? We should be redoubling our efforts to figure out how to use less oil, and the move toward electrifying things is something to be encouraged.”

George Shultz, Former Secretary of State

Electric Vehicles

The introduction of new advanced electric vehicles (EVs), including both plug-in all-electric and hybrids, presents one of the most important opportunities to reduce the nation’s dependence on petroleum. The nation spends upwards of \$1 billion a day on petroleum, comprising approximately half of the U.S. trade deficit. In addition, most of this money is sent overseas to unstable regions, adversely affecting U.S. national security.

Repatriating these funds for investment domestically would dramatically aid the economy and job creation. With one quarter of the fueling cost and half the maintenance cost, electric vehicles provide consumer benefits which will increase as the cost of petroleum rises. Furthermore, innovative vehicles such as the GM Volt and the Tesla Roadster show a path for renewed American leadership in automobile manufacturing.

Fund Battery Research

The continued advancement of battery technology is central to U.S. competitiveness on electric vehicles and a range of other critical applications. Major automakers, such as Honda, are turning to Chinese manufacturers to supply batteries for electric vehicles. The United States has taken important steps to advance battery technology with an investment of \$2.4 billion in the American Recovery and Reinvestment Act (ARRA). Follow-through on these investments and continued support is essential.



Photo: ChargePoint Charging Station.

Eliminate Petroleum Subsidies

It is estimated that the U.S. spends \$10-\$20 billion per year on subsidies for liquid fossil fuels. More accurately reflecting the true cost of petroleum fuel would establish a more level playing field for vehicle innovation, including electric vehicles.

Aggressively Incorporate Electric Vehicles into Federal and State Fleets

EVs are of special value in fleets where vehicle routes are well known and infrastructure is centralized. Government fleets provide a prime opportunity to garner the benefits of EVs and develop the experience to advance them in other industries.

Establish Standards for Roaming Time-of-Use Electricity Rate Charging

Currently, EVs can pose a challenge for utilities depending on the timing of vehicle charging. Most utilities have time-of-use rates that favor charging vehicles at off-peak hours; however, the integration of vehicle, charger and utility systems is lacking. For example, homes currently require complex dual-metering for EV owners to make use of beneficial rates. Under state direction, standards can be put in place so that vehicles are always charged based on appropriate EV time-of-use rates without the need for complex additional infrastructure.



ELECTRIC VEHICLES

Develop an Action Plan for Relevant State Agencies to Prepare For Electric Vehicles

EV readiness requires significant preparation and cross-sector collaboration. Establishing a state action plan can focus and align state agencies, including transportation, building, energy and general services.

Fund Regional Electric Vehicle Collaboratives to Drive Regional Strategic Plans

The majority of commute patterns is regional, so planning with key regional government, business and non-profit stakeholders is essential for developing a successful EV ecosystem. This includes awareness and education, coordinated EV support and infrastructure deployment. Jump-starting collaboratives during this critical EV introduction phase will ensure progress.

Near-Term Continuation of Electric Vehicle Consumer Tax Incentives

The current federal tax incentive of up to \$7,500 is playing a vital role in jump-starting the EV consumer market. While it may not be desirable in the long-term, the incentive is instrumental in making the vehicles more attractive during this early introduction phase.

Utility Tax Credits for IT Upgrades

Electric Vehicles and other smart grid applications require utilities to upgrade their information systems in order to enable real-time communications and manage the highly dynamic power demands of these applications. Tax credits would provide an incentive, without which utilities may be slow to implement this essential infrastructure.



Photo: Toyota Plug-in Hybrid.

Business Tax Credits to Construct Public and Multi-family Charging Infrastructure

For a fixed duration, incentives are needed for retail and property owners to provide charging infrastructure, especially for rapid charging stations. This will reduce barriers for prospective EV owners who might perceive an inability to drive an EV where needed. In the long term, a critical mass of EVs will attract investment under self-sufficient business models.

Loan Guarantees for Retooling Automotive Assembly Lines and Manufacturers of Electric Vehicle Components

U.S. automakers are showing increasing interest in EV development. However, retooling manufacturing systems is an intensive process. Providing incentives will ensure that U.S. automakers build leadership and create U.S. jobs.

Information Program for Local Permit and Code Officials

In many jurisdictions, permitting, code and inspection officials are unfamiliar with EV charging equipment and find it difficult to keep up with new developments in this fast-changing sector. It is critical to avoid potential delays and market-chilling difficulties in the installation of EV chargers. Statewide standards for local permitting of EV chargers may not be practical; however, a state-supported program should be established that works with statewide and local organizations to familiarize and update code officials on EV infrastructure during these market-development years.



Photo: Nissan Leaf Charging Inlet.



ELECTRIC VEHICLES

Adoption of Common and Expedious Residential Permitting for Home Charging Stations

Purchasers of EVs frequently face challenges in getting home charging stations installed. It can take many weeks to secure permits and have installations inspected by both the local municipality and utility. During that time, the vehicles are unusable. Consistent permitting checklists and guidelines from the Tri-Chapter Uniform Code Committee, over-the-counter permits and single joint utility/municipal inspection would provide improved customer experience and reduce barriers to adoption. Municipalities could also move to random audit-based inspections for routine residential EV charger installations.

Transition to Signature-less Online or Point-of-Sale Permitting

Over time, municipalities can benefit by moving to online or dealer permitting. Under this model, charger installations would be treated similarly to appliances. This is consistent with the simplicity that characterizes most EV charger installations.

Pre-qualify Contractors for Fast Track Permitting

Municipalities can accelerate EV charger installations by having a list of pre-approved contractors on file. Pre-approved contractors should be offered expedited processes, such as expedited online permitting and the ability to hook up chargers to existing panels prior to inspection.

Incorporate PEV Readiness (pre-wiring) into New Construction Green Building Standards

Most EV owners will do the majority of their charging at home. With nominal incremental investment at the time of construction, garages can be prewired for the 240 volt conduits and outlets most appropriate for charging an EV. This could include both single-family home garages and multi-family units where pre-wiring might be done to a percentage of spaces. Incorporating EV pre-wiring into the state green building code will reduce the cost of EV adoption by minimizing the post-construction cost of wiring garages.



Photo: Electric Vehicle Charging Station.

Support Real-time Charger Information Network

Accurate information on the location and availability of public charging stations is particularly important for all-electric and plug-in hybrid vehicles. While some limited tools exist, most are incomplete and without data on whether a charging station is open to the public or currently available. Bringing together vendors and publishing information for use in common mapping tools will greatly aid EV drivers and create confidence that it is possible to drive where needed.



“Energy Storage is a matter of when, not if.”

Phillip Moeller, Federal Energy Regulatory Commissioner

Energy Storage

Developing reliable methods of storing energy is key to reaching our national energy policy goals, increasing the use of renewable energy, developing a smart energy grid and creating new transportation alternatives.

Support the Successful Implementation of AB 2514

AB 2514 requires that all investor-owned utilities procure new grid-connected energy storage systems or the services of such systems with a minimum capacity of peak load. This transformational legislation has the potential to: create thousands of green jobs in the state, make the electricity grid smarter, increase the penetration of renewable energy and provide significant savings from deferred capital improvements to the grid.

Add Energy Storage to the State’s Energy Resource Loading Order at the Same Level as Demand Response

Currently, California’s loading order (as detailed by the California Energy Commission and the California Public Utility Commission) does not include energy storage as a specific action area. The loading order consists of (1) decreasing electricity demand by increasing energy efficiency and demand response; (2) meeting new generation needs first with renewable and distributed generation resources, and (3) generating clean fossil fuels. Energy storage offers many of the same benefits of demand response technologies and should be recognized in the loading order accordingly.

Cost-Benefit Methodology

The value of energy storage technologies lies not only in hard costs, such as the reduced need for transmission and distribution upgrades, but also in soft cost areas like air quality benefits. A methodology that takes all of these benefits into consideration would put energy storage on an equal playing field with other clean technologies. Therefore, supporting development of a cost-benefit methodology for utility deployment of energy storage with storage costs and benefits factored into distributed generation, demand response, and energy efficiency cost-benefit methodologies is important in order to compare the benefits of storage with other clean technologies.

A New Asset Class for Storage

The electricity industry is regulated by different agencies depending on what asset class the technology falls under: generation, transmission, or distribution. However, energy storage technologies offer benefits to all three



Photo: Bloom Energy Servers at eBay, San José, California.



Photo: 12 kW Thermal Storage, Napa Community College (Ice Energy).

of these assets classes and should be recognized and regulated as its own category. In addition, the same energy storage asset has transmission and generation benefits but is only eligible for rate recovery under one of the asset classes. If energy storage technologies were authorized for rate recovery for both classes, then the value proposition would more closely match the true benefits of the technology. As such, creation of a new asset class for storage and authorization of storage for both transmission and generation rate recovery treatment is key.

Implement a Rate Design

By clearly reflecting the real time cost of generating and delivering electricity to retail customers, energy storage becomes a price competitive alternative to traditional technologies. The peak demand for electricity requires both the operation of additional generation assets and increased capacity for transmission and distribution – resulting in higher capital expenditures. By implementing a transmission, distribution and retail level rate design that more accurately reflects the cost of power (including transmission and distribution charges) on a time-differentiated basis, we bypass those requirements. In addition, the retail level rate design should include these incremental costs.



Photo: 3 MW Mechanical Storage for Ancillary Services, NE ISO (Beacon Power).

Modify the California Energy Commission's (CEC) Siting Regulations

By modifying the current regulations to include the discussion of energy storage technologies, project developers would be able to determine if those technologies would reduce the overall cost of the project by effectively lowering the demand and transmission capacity requirements. The CEC's siting regulations should be modified to include all applications that certify electricity infrastructure and provide energy storage technologies as alternatives to meet the objectives of the project.

Encourage Utility Procurement of Energy Storage Capacity and Services

Providing an enhanced rate-of-return for utility-owned storage assets and incentives for third party-procured advanced new energy storage services would speed up the market adoption of energy storage technologies. Supporting incentives to encourage utility procurement of energy storage capacity and services is essential.

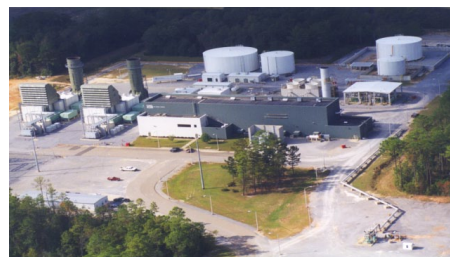


Photo: 115 MW Compressed Air Energy Storage, McIntosh, Alabama.

Give Storage Value in the Renewable Portfolio Standards (RPS)

Energy storage technologies should be recognized along with renewable energy generation sources, as regulated by RPS programs. One solution is to provide bonus credits to electricity supply companies for renewables coupled with qualifying energy storage technologies.

Energy Storage Research Collaborative

Many private sector companies, national laboratories and universities are working on energy storage research and development (R&D), but a collaborative does not exist to gather and disseminate R&D information. By supporting the establishment of an "Energy Storage Research Collaborative" to provide a repository for objective information on energy storage, we would reduce research redundancies and streamline the R&D efforts at all of these organizations.

Accelerate Deployment of Energy Storage Research

California's PIER programs have funded many of the most promising public interest research projects in the utility industry. Accelerating deployment of Energy Storage Research, Development and Demonstration (RD&D) projects under various business models using Public Interest Energy Research (PIER) funds is vital to the ongoing RD&D needs of energy storage technologies.

Establish Standard Interconnection Agreements for Energy Storage

Interconnection agreements should have standard language for all contracts with utilities and energy storage operators. The agreements should include both stand-alone energy storage uses and energy storage coupled with distributed generation. The solar and wind industry have a history of standard interconnection agreements that could be leveraged to bring storage technologies to market in a faster and cheaper manner.

Adopt a Peak Reduction Standard for State Agency Power Purchases

Power purchase agreements for state agencies should include standard language that requires those agencies to reduce their peak load electricity consumption. This requirement would reduce the need for new generation, transmission and distribution infrastructure.



Photo: 1,532 MW Pumped Hydro, TVA's Raccoon Mountain.



“The nation that leads the clean energy economy will be the nation that leads the global economy.”

President Barack Obama

Renewable Energy

Clean renewable energy offers the United States the best opportunity to reduce our demand for foreign oil, create jobs, and maintain our leadership in clean technology. As the world’s energy supply becomes unstable, the nation that can develop a clean, renewable energy supply will secure their future.

Adopt a National Renewable Portfolio Standard

A national commitment will further catalyze innovation and create new markets for emerging technologies from Silicon Valley and the entire Bay Area. Ideally, the national standard would mirror California’s standard and encompass a wide range of renewable technologies; however, any progress toward a national standard will benefit the U.S. economy.

Extend the 1603 Treasury Program

This program has helped 1,100 solar projects in 42 states move forward, and supported \$18 billion in investment. The program has helped the solar industry grow by more than 100 percent in 2010, creating enough new solar capacity to power 200,000 homes and providing work to more than 93,000 Americans.

Feed In Tariff

In February 2008, the California Public Utilities Commission made new feed-in tariffs available for utilities to purchase up to 480 megawatts of renewable energy generated by small facilities throughout California. These feed-in tariffs present a simple mechanism for small renewable generators to sell power to the utility at predefined terms and conditions, without contract negotiations. The feed-in tariff is designed to help utilities meet California’s Renewable Portfolio Standard goals.

The program transfers green attributes such as renewable energy credits to the utility when it purchases renewable energy through feed-in tariffs. The Energy Commission and CPUC should consider implementing feed-in tariffs for renewable facilities that generate more than 20 megawatts. To achieve the RPS goal of obtaining 33 percent of California’s energy from renewable sources by 2020, the State will need to develop a new policy framework that goes beyond the current program.

Net Metering

The method of generating renewable energy does not matter as much as the aggregate of renewable energy generated. Currently, many small renewable energy sources all over California are providing renewable energy back to the grid. However, many of these sources are not in the traditional form of wind or solar and thus are prohibited from participating in California’s Net Metering Program. Given the growing number of small scale renewable sources and the emergence of other forms of renewable energy, it is important to support legislation that modernizes the California Net Energy Metering Program.



Photo: Net Metering
Adding Renewable Energy to the Grid.



RENEWABLE ENERGY

Increase the Cap for Local Government Energy Generation

Currently, local government may only receive a bill credit for up to 1 megawatt of electricity exported back to the electrical grid. By increasing the cap to 5 megawatts, it will be fiscally viable for local governments to invest in solar. Keeping the cap at 1 megawatt does little to incentivize municipal participation and hinders the state's goals of attaining 33 percent RPS by 2020.

Identify New Sites for Renewable Energy Generation

We must continue to find creative ways to reuse abandoned land. Closed landfills and contaminated brown fields provide an opportunity to repurpose the land for renewable energy generation. Large brown fields or former agricultural land should be considered for use as a solar or wind farm.

Open Access

By providing visibility for local interpretations of National Electrical Code and related permitting application information, local inspection criteria and interconnection requirements, we provide open access for all. This would be done through dedicated online portals that could possibly lead to the creation of a central clearinghouse of municipal rules, regulations, and building codes for California. This would create a platform that would ultimately lead to online solutions for each step.



Photo: Wind Turbine Field.

Identify Aggregated Procurement Opportunities

We should continue to pursue public-private partnerships in solar group purchasing programs such as SunShares. Group purchasing programs provide attractive terms and custom financing for participants. The SunShares program allows residents with the opportunity to negotiate more than 40 percent off of retail solar power rates.

Extend the Renewable Energy Investment Tax Credits

The investment tax credit (ITC) is a reduction in the overall tax liability for individuals or businesses that invest in solar energy generation. Nations across the globe are competing to corner the market on solar energy technologies and to capitalize on the job-growth potential and economic benefits associated with this promising industry. The ITC provides the necessary policy to ensure growth in the U.S. solar industry.

Advanced Energy Manufacturing Tax Credit

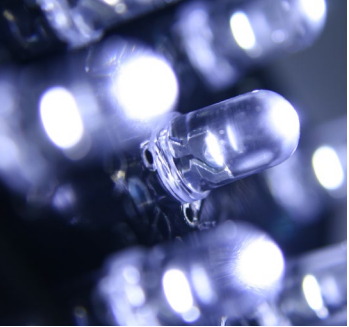
A strong tax incentive for solar manufacturing will create long-term growth and U.S. jobs. The 2009 American Recovery and Reinvestment Act (ARRA) included a competitive tax credit capped at \$2.3 billion in total tax expenditures for advanced energy manufacturing projects. The \$2.3 billion in tax credits have been allocated to 183 projects in 43 states and leveraged nearly \$8 billion in private investment.



Photo: SolarCity's Installation on eBay Campus. San José, California.

Reduce Permitting, Inspection, and Interconnection Costs

We need to develop consistent standards for permitting and inspection, standardize forms, unify local codes, and reduce or eliminate paperwork. These approaches can reduce costs to consumers and businesses, and speed up job creation.



“The cheapest energy is what you don’t use.”

Arthur Rosenfeld, California Energy Commission

Energy Efficiency

Since the 1970s, energy efficiency has quietly been our nation’s most abundant energy source. Economy-wide improvements in energy efficiency largely contributed to a 40 percent reduction in U.S. energy use, relative to projected energy service demands. Energy efficiency remains the cheapest, fastest and cleanest energy resource available. It is critical for our nation to harness even more of our “efficiency resource” to improve productivity, accelerate the shift to a low carbon economy, and maintain our competitiveness in a dynamic global economy.

Support Market Transformation Strategies

Support market transformation strategies that utilize policy tools to push or pull more efficient products or practices to the market, including: customer incentives, codes and standards, education and information, technical assistance and accelerating the commercialization of emerging energy efficiency technologies.

Demand Pull

Create demand pull for new energy efficiency technologies by leveraging private and federally-funded research and investment, and enhancing market intelligence and behavioral research.

Innovative Regional Energy Efficiency Deployment Strategies

Support innovative regional energy efficiency deployment strategies and commercialization initiatives. This includes: aggregated procurement models, green finance tools, demonstration of advanced building materials and energy efficiency technologies, and pilot programs that drive energy efficiency uptake, encourage behavioral change and create repeatable models that scale quickly.

Adopt New Standards

The Department of Energy and Environmental Protection Agency should adopt standards, as well as offer rebates or other incentives, to ensure the development of high-efficiency data centers. Data centers consume a significant amount of energy, and as the use of cloud computing, social networking and smart grid applications increases, the need for data centers will escalate rapidly. According to the latest EPA report, data centers in the United States doubled their annual energy use between 2000 and 2006, reaching 61 billion kilowatt hours (kWh) – enough electricity to power 5.8 million households. By 2011, U.S. data centers are projected to consume up to 100 billion kWh per year.



Photo: City of San José Moves Toward Smart LED Streetlight that Communicates Over Existing Power Lines (Echelon).

Fund Energy Research and Development (R&D)

Fund R&D needed to meet aggressive policy goals for a clean, affordable, reliable and efficient energy system. Public-oriented R&D that is aligned with energy policy can generate public benefits that are neither reflected nor rewarded in the market price of energy. Specifically, California's Public Interest in Energy Research Programs (PIER) should remain a funded program to help secure the State's clean energy future.

Develop Innovative and Affordable Financial Options

Work with the financial community to develop innovative and affordable financial options for energy efficient buildings and retrofits. Limited access to financing is a significant barrier to increased retrofit investment. Potential financial tools to address this situation could include: Small Business Administration loans that take advantage of recently increased loan size limits to promote new energy efficiency retrofits for small businesses; Property Assessment Clean Energy (PACE) financing; pilot programs through the Department of Energy that guarantee loans for energy efficiency upgrades at hospitals, schools, and other commercial buildings; on-bill financing; and energy revolving loan funds among others.



Photo: SunPower Solar Panels on the Tech Museum of Innovation. San José, California.

Competitive Grants

Support competitive grants to states and/or local governments that streamline standards, encouraging upgrades and attracting private sector investment. Much of the authority to alter codes, regulations and performance standards related to energy efficiency lies in the jurisdiction of states and localities. As a result, providing resources to local governments to drive energy efficiency uptake is an important channel.

Revisions and Extensions to Existing Energy Efficiency Tax Incentives

Support key revisions and extensions to existing energy efficiency tax incentives. Existing credits for efficient new homes and appliances will end on December 31, 2011 and needs to be extended.

Zero Net Energy Buildings

Support the push for zero net energy buildings in California by: establishing mandatory energy and carbon labeling and benchmarks, developing protocol for benchmarking and compliance options, and creating tools and strategies to reduce energy consumption in buildings.

Energy Efficiency Building Challenges

Support energy efficiency building challenges that reward participation with public recognition, technical assistance and the sharing of best-practices through a network of peers.

New Tax Incentives for Building Efficiency

Redesign the current tax deduction for commercial building upgrades into a credit that encourages building owners and real estate investment trusts (REITs) to retrofit their properties. These changes could result in a ten-fold increase in commercial retrofit take up and leverage job-creating investments.

Drive Advances in Building

Drive continual advances in the building envelope, including building materials and systems, construction methods, advanced metering infrastructure and building design; accelerate the incorporation of technology advances into codes and standards; and provide reliable total cost of ownership (TCO) models to facility managers.

Minimum Energy Codes and Standards

Adopt aggressive and progressive minimum energy codes and standards for buildings and plug loads, effective code compliance and enforcement, and parallel tiered voluntary energy efficiency standards that pull the market along.

Share Energy Usage Data

Allow consumers the choice to share energy usage data with third-party demand response providers. This will empower consumers to take control of their energy use while creating a competitive industry for developing energy analytic technologies.

Energy Attitudes and Actions

Local governments play an important role in influencing the energy attitudes and actions of their residents and businesses by: conducting public education; adopting innovative policies and initiatives; and integrating actions addressing energy efficiency, climate change and sustainability. Securing funding for these ongoing efforts is critical and remains a key path to fostering innovation in the delivery and deployment of energy efficiency technologies.

Energy Efficiency Education and Training

Establish energy efficiency education and training at all levels of our educational system to develop the human capital necessary to achieve the nation's energy efficiency and economic potential.

Energy Upgrade California

Coordinate with local, regional and state agencies in the development and implementation of Energy Upgrade California, the approved State Energy Program providing financial incentives, education, and energy efficiency retrofits.



Photo: DRI Energy installation of 1.24 MW at the City of San José Central Service Yard.



“Ultimately, smart grids empower consumers by providing unprecedented visibility and control over energy usage and will change the way we all think about and buy energy. This new system will also transform the relationship between the utility and consumer from a one-way transaction into a collaborative relationship that benefits both, as well as the environment.”

Peter L. Corsell, GridPoint CEO

Smart Grid

To maximize the capabilities and benefits of smart grid technology, Federal, State and local policymakers will need to coordinate their efforts to create a policy framework that is consumer-focused and technology-driven. Smart grid is broadly defined as the application of information-based technologies to the electricity grid. Smart grid technologies enable consumers to track energy usage and make educated decisions toward energy conservation. Deployment of distributed generation, including renewable energy, demand response, and “peak-shaving” technologies (such as electric vehicles), are all steps toward making a grid smarter. Smart meters and smart buildings, which feature analytic systems for measuring energy usage, are the first steps towards a reliable and more efficient smart grid.

Provide Consumer Access to Usage, Pricing, And Carbon-Mix Data for Use in Third-Party Applications

While consumer preferences for both the manner and the amount of interaction with the smart grid will vary significantly, the secure provision of energy consumption data to customers, utilities, and third parties will be critical. Consumers and utilities share a dual-ownership role with regard to the right to access customer energy consumption data. Customers should have a right to access consumption data in real time, or near real time, in order to both monitor and manage energy use.

Sustained Consumer Awareness and Education Campaign

At this early stage in smart grid development, strong consumer and stakeholder engagement is needed to educate consumers about the technology and alleviate concerns. While consumer awareness of smart grid technology is improving, it remains relatively low. Therefore, we must coordinate smart grid stakeholders in a sustained consumer awareness and education campaign.

Technology Neutrality

Technology neutrality across open smart grid architecture is critical for innovation of smart grid solutions. At this early stage, it is impossible to predict which technology or combination of technologies will ultimately be the most successful. Federal and state governments (through either policy-making, regulations, or the standards-setting process) should avoid excluding viable technologies or architectures and instead focus on the coexistence and interoperability of a group of viable technologies.

Establish Standards

The National Institute of Standards and Technology (NIST) must establish protocols and standards for smart grid technologies. DOE and NIST should both work closely with industry leaders to ensure that these standards are identified and implemented effectively and as quickly as possible.



Photo: SmartMeter.



SMART GRID

The governing board of the public-private Smart Grid Interoperability Panel has voted in favor of a new standard important to two-way data communications between utilities and customers. This new standard will create opportunities for innovation with utilities installing smart electric meters residentially and commercially, companies developing new products and services tailored to measure real time energy usage, and allowing consumers the ability to communicate that data to utilities and others.

All smart grid policies and regulations should enable competition among smart grid technology providers while providing adequate safeguards for consumer privacy. Allowing consumers the choice to share energy usage data with third party demand response providers will empower consumers to take control of their energy usage while creating a competitive industry for developing these analytics technologies.

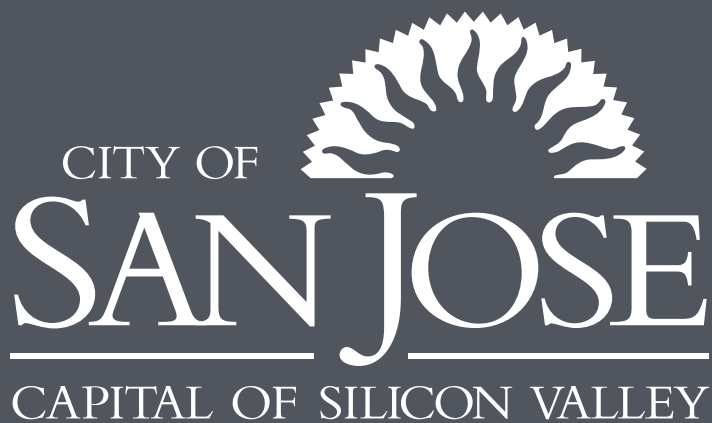
Invest in Infrastructure

Local governments should continue to support the deployment of smart meters and consider investing in local infrastructure such as charging stations for electric vehicles.

The Clean Tech Agenda was developed in collaboration with the San José Mayor's Office, Silicon Valley Leadership Group, and Joint Venture Silicon Valley.

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The Prosser Group
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