



# Memorandum

**TO:** COMMUNITY AND ECONOMIC  
DEVELOPMENT COMMITTEE

**FROM:** Scott Green

**SUBJECT: CLEAN TECH DEMONSTRATION  
CENTER BUSINESS PLAN UPDATE**

**DATE:** October 14, 2011

Approved

Date

Oct. 17, 2011

## RECOMMENDATION

Accept update on the Clean Tech Demonstration Center Business Plan.

## BACKGROUND

The Clean Tech Demonstration Center (CTDC) at the San Jose Environmental Innovation Center (EIC) is intended to strengthen San Jose's leadership in clean technology demonstration and solidify San Jose's position as a global center for clean tech commercialization and entrepreneurship. The EIC will serve as a physical focal point for initiatives the City and its partners are taking to implement Green Vision goals. It will help sustain the City's position as a leading clean and green city in a competitive playing field, attract additional outside resources and, most importantly, meet the critical need of early stage companies for space to demonstrate and develop emerging clean technologies. Clean technologies often require longer time periods to prove commercial viability and testing, field trials and exposure to strategic partners are essential. This need has been expressed consistently by emerging clean technology companies in Silicon Valley; the City of San Jose has emerged as a leader in understanding and acting on this marketplace reality.

The existing 46,000 square foot warehouse, located on a 4.2 acre lot owned by the City and previously used as a City Corporation Yard, will be renovated into a state-of-the-art Clean Tech Demonstration Center where innovators will test and deploy clean technologies in a shared-use, flexible space that is meant to iterate with new technology advances, and different projects, companies and initiatives. The surrounding property, the building itself, labs, and configurable space all provide opportunities to test new technologies. Examples include building materials, building systems, sensing and control technologies, lighting, renewable energy technologies, and clean transportation. In addition, the project provides space for conferences, environmental workshops, job trainings, a Household Hazardous Waste (HHW) facility for Santa Clara County residents, and a materials reuse store. The facility is scheduled to come on-line in March 2013.

On May 19, 2011, Council took initial action on a New Market Tax Credit transaction (NMTC) to finance the San Jose Environmental Innovation Center, and gave direction to staff to report to the Community and Economic Development Committee twice this fiscal year on efforts to create a specific business plan to implement the CTDC. This is the first report on efforts to create a unique innovation asset that expands demonstration opportunities supporting clean tech commercialization efforts in Silicon Valley. The report is grounded in validation interviews with over 20 potential partners and stakeholders that staff conducted in the June-October time period.

## ANALYSIS

### **Demonstration Policy + Demonstration Place**

The CTDC represents the next chapter of San Jose's Clean Tech Demonstration Strategy, building on our nationally recognized Demonstration Policy, which enabled demonstration of emerging technologies on city facilities and land. In 2008, the City adopted a pioneering Demonstration Policy and subsequently issued a Demonstration Request for Information in 2010 that tested the marketplace with respect to unique clean technology solutions. San Jose has an outstanding track record aiding companies with technology demonstration, but companies need more physical places (buildings and land) for testing, field trials, validation and public displays.

The CTDC takes San Jose's leadership in clean tech demonstration to the next stage by creating a demonstration place that can solidify San Jose's position as an undisputed clean tech hub and a "center of gravity" for clean tech commercialization and entrepreneurship. The City of San Jose has successfully completed demonstration projects that include a range of technologies: electric vehicle charging stations, next generation LED streetlights, solar, commercial LED lighting and controls, and waste to energy. Many of these companies enjoy field trials in a "private" setting, but approached San Jose interested in a "public-side" field trial. Selling to public customers creates learning opportunities for emerging technology companies regarding marketplace gaps, "truth-in-data" trials, 3<sup>rd</sup> party validation, interface with both municipal regulator and market, and information exchange with respect to City processes, technology preferences and channels and associations that are critical for young companies. A prominent Sand Hill Road venture capitalist confirmed the value of public field trials:

*"Overall, it is always quite helpful for the cities to help broker initial customer or 'market trial' conversations, as well as help navigate opportunities for grants, research funding, etc. Getting useful feedback from those initial trials is always tough for young companies, especially in green."*

In talking with clean tech entrepreneurs they referred to San Jose as "test-bed City," others referenced Silicon Valley as a "living laboratory" and were appreciative of San Jose's leadership in demonstration.

Staff has spent the last three months confirming that there is specific demand for a dedicated demonstration space in Silicon Valley. As a matter of course, City staff from multiple departments receive a steady stream of requests from emerging clean technology companies to explore demonstration projects. We are testing the specific intent of partners to participate,

including financial commitments in the facility. Targeted outreach efforts thus far have included: the National Laboratories, U.S. Department of Commerce, Governor's Office, Bay Area Climate Collaborative, Silicon Valley Leadership Group, Joint Venture Silicon Valley, Silicon Valley Economic Development Alliance, Intel Capital, Kleiner Perkins, Draper Fisher, Siemens, Redwood Systems, Lunera, enLighted, Eaton, Cupertino Electric, SVTC, AMB, Sanmina, Squires Sanders, San Jose State University, Center for Employment Training, Workforce Institute, Environmental Business Cluster, Greenstart among others. Targeted outreach on the SJEIC will continue parallel to development of the Business Plan and will require detailed follow-up with those listed as well as additional entities that can provide critical feedback and potential partnership.

Notably, regions around the world are seeking partnerships in advancement of the Green Vision and are specifically citing to San Jose's leadership in clean technology demonstration. We are in conversation with Osaka, Pune, Dublin, Vancouver, and Auckland among others who are aware of our efforts and are seeking opportunities to connect to Silicon Valley. The Clean Tech Demonstration Center provides a unique place to explore and ground domestic as well as international partnerships on demonstration of emerging technologies. These partnerships would be fee-generating and offer connections and channels to key assets in innovation regions around the world.

### **Funding Sources**

Staff has leveraged property, federal grant resources, the NMTC proceeds, the County HHW program and other partner efforts to deliver this unique and innovative facility while minimizing financial risk in a time of severely constrained resources. Upon the closing of NMTC, we will have all the funding to complete construction of the EIC. The estimated annual operations and maintenance cost of the EIC is \$300K, with the acknowledgment that specific uses will effect O&M costs. The funding source derived from the two anchor tenants (Habitat, Hazardous Waste) already will produce sufficient revenues to cover these costs. As the business plan is developed over the course of the next 12 months, careful attention will be placed on cost-control and driving revenue to the facility in a format that prioritizes efficiency and impact.

The Conceptual Plan for the Clean Tech Demonstration Center was completed in 2009 and identified four technology demonstration areas: solar field-trials, advanced building materials, energy efficiency, and clean transportation. Revenue sources identified under the Plan include demonstration fees, leases, grants, display revenue and sponsorships. Preliminary interviews conducted by OED have affirmed that revenue streams are viable sources that will support a successful and marketplace relevant facility.

There is significant funding available for clean tech commercialization support and this facility, and the partnerships San Jose will forge as a result of this effort will position our companies and related clean tech initiatives well to receive funding. Recently, the City received a \$2.35M award from the Department of Commerce, Economic Development Administration to advance the San Jose Environmental Innovation Center. The CTDC was the only project in the six-state western region to receive funding in a competitive grant process. Among many applications for economic development assistance the Department of Commerce identified the value of demonstration and

the CTDC as unique economic development infrastructure to support emerging clean technology companies.

### **Grants and Demonstration Projects**

The CTDC will present many unique grant-seeking opportunities for our clean tech companies as well as for the City. Beyond having a dedicated facility committed to demonstration and testing of emerging clean technologies, the facility will function as “local match” into approved regional, state and federal grant applications seeking partnership with San Jose on demonstration projects, workforce development and training, or potential short-term tenancies. Staff envisions a “CTDC module” that we can offer to our clean tech market accelerator partners (e.g., Bay Area Climate Collaborative, Joint Venture Silicon Valley Climate Prosperity Project) that compete for discretionary grants. Grants for demonstration projects with strong ties to Silicon Valley-based technologies and partners present a prime opportunity for facility leverage and advancement of our Green Vision fleet goals. As an example, the California Energy Commission recently approved the 2011-2012 Investment Plan for Alternative and Renewable Fuel and Vehicle Technology Program (AB 118) that includes over \$100M in funds allocated for 2011-12. Finally, San Jose’s successful effort to secure federal EDA funding also positions the CTDC well, since the Project enjoys the support of the federal government, and they have ongoing interest in advancing commercialization efforts of clean tech companies and, in turn, spurring local job creation.

### **Sponsorships and Display Revenues**

Sponsorships and display revenues present unique opportunities to drive revenue to the San Jose Environmental Innovation Center broadly, and to the Clean Tech Demonstration Center specifically. Staff will design a comprehensive sponsorship program at the SJEIC based on the unique nature of the facility, the co-location of the three uses (CTDC, Habitat Silicon Valley, and the HHW facility), the Department of Commerce partnership in advancing the Project and the early interest of notable partners like the National Labs. Staff will work with Habitat Silicon Valley to design and implement a comprehensive sponsorship platform that is modeled after other facility-related sponsorship efforts. Staff and Habitat have already begun preliminary discussions with potential corporate partners that have registered interest. Informed by discussions with clean tech companies at San Jose’s Department of Energy-funded Clean Energy Showcase, corporate clean tech partners have expressed interest in profiling technologies and information about their companies at the Center as well. We will bring back the sponsorship and display strategy in our next CED update.

### **Workforce Development, Training and Education**

The CTDC includes dedicated space for workforce development, trainings and convening opportunities with regional workforce educational and training partners. Contractors, remodeling experts and designers, students and workforce trainees can be trained on the latest advances in green building materials, energy efficient lighting, sustainable building practices, solar and clean transportation. The City can also use the facility to provide training on technology advances and practices that help accomplish landfill diversion goals, and help increase demand for reused and recycled construction material alternatives. The City and others can conduct green workforce training at the facility. The training will occur in a facility where emerging and established clean

tech companies are developing next generation technologies. There will be opportunities to link with universities, community colleges and local Workforce Investment Boards to explore internships and employment opportunities.

Staff will work with work2future to develop a model to facilitate training programs and in such capacity work2future may act as a coordinator, partner and participant in the Clean Tech Demonstration Center. Additionally, staff will continue outreach to identify education and training partners interested in utilizing the space including universities, community colleges, other Workforce Investment Boards, and training providers.

**Anchor Partner: Lawrence Berkeley National Laboratories**

The City of San Jose has forged a unique partnership with the Lawrence Berkeley National Laboratory's (LBNL) Environment and Energy Technology Division (EETD). San Jose has partnered on mutually beneficial grant opportunities, supported Silicon Valley clean tech companies with technology referrals into National Lab agreements that have global reach, and forged a "Cool City Partnership" that positions San Jose as a national leader in testing and demonstration of highly reflective building and paving materials, and energy and atmospheric monitoring and measurement. This effort includes the Global Cool Cities Alliance, the Environmental Protection Agency, and LBNL. Staff embedded and leveraged this partnership in the recently submitted HUD Community Challenge Planning Grant and will highlight Partnership in a final grant submittal to the California Strategic Growth Council due in November. The Cool City Pilot Memorandum of Understanding identifies San Jose's Clean Tech Demonstration Center as a location for convening workforce development, industry partners, education and outreach efforts in partnership with the National Labs EETD division and their internationally leading urban heat island group.

In 2009, LBNL received American Resource Recovery Act funding to construct a test-bed facility at the Labs in Berkeley. Staff is in discussion with LBNL to link their test-bed facility and the San Jose Environmental Innovation Center. The Lab will focus on compressing commercialization timelines by moving from models to test-bed in a controlled environment. The CTDC will create a "real building" environment in an open-innovation setting with high visibility, feedback loops from facility and fleet managers. Together, these two facilities that rim the Bay Area will offer unique infrastructure and links for clean tech companies along the research, development, demonstration and deployment continuum of commercializing new technologies.

Recently, LBNL staff invited San Jose staff to present the CTDC to the National Labs leadership to better understand touch points between the CTDC and the Labs. Staff will explore a research and development focus, field trials program, open collaboration and creating a transitional site between the Lab test-bed and uncontrolled building spaces. The Labs are an extremely valuable third party validation organization for company commercialization efforts. Having the Labs as a partner at the CTDC will add significant value for the CTDC and demonstrating technologies, as well as offer an information and feedback loop in the heart of Silicon Valley for the National Labs. Staff will continue this conversation and seek a formal facility partnership.

To: Community and Economic Development Committee  
Date: October 14, 2011  
Subject: Clean Tech Demonstration Center Business Plan Update  
Page 6

### **NEXT STEPS**

Staff will integrate business outreach efforts with ongoing discussion of facility partnerships, and form a business plan for the CTDC. Staff will return to CEDC in February with an update on development of a comprehensive sponsorship program for the SJEIC, grant strategy, management structure, detailed revenue model, process for obtaining facility commitments and updates on partnership agreements.

### **COORDINATION**

This memo has been coordinated with the Environmental Services Department.



SCOTT GREEN  
Clean Tech Officer  
Office of Economic Development

For questions please contact Scott Green, Clean Tech Officer at (408) 535-8169.