


San Diego Vision - The “City as a System”



Presented by

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A photograph of the San Diego skyline at sunset, featuring several prominent skyscrapers and a marina filled with yachts. The sky is a mix of deep blue and golden yellow. A large white circle with a blue border is overlaid on the right side of the image, containing the text.

What has San Diego
done to position
itself to be a leader
in the Smart City
revolution?

“Our region's culture for collaboration and enthusiastic adoption of new technologies makes San Diego an ideal place for leadership in transformational technology deployments.”

Todd Gloria, Interim Mayor of San Diego

Support from
Civic Leaders



- Collaboration between UC San Diego, CleanTECH San Diego, GE, SDG&E, and the City of San Diego
- Drive projects forward that improve the region's energy independence, reduce greenhouse gas emissions, assert San Diego as a clean energy leader

The logo for SmartCity San Diego is centered within a white circular area. It features the word "SmartCity" in a green, sans-serif font, with a stylized sun icon above the letter "i". Below "SmartCity", the words "SAN DIEGO" are written in a smaller, orange, all-caps sans-serif font.

SmartCity
SAN DIEGO



Electric Vehicles (EVs)

- 6,000+ EVs
- EV sales up 130% over last year
- 600 public charging stations (up 62%)
- Savings = 10,000 metric tons of greenhouse gas



DOWNTOWN
SAN DIEGO
PARTNERSHIP



Solar Power



- #1 in solar installations
- San Diego has more solar rooftops than any other U.S. city





Intelligent Street Lights

- 3,000 GE smart lights in downtown San Diego
- \$250K savings annually
- Real-time data
- Customizable brightness
- Spring 2014 installation

Solar-to-EV at San Diego Zoo



- 5 charging stations
- Busy months had 120+ plug-in events
- True zero emissions: 100% solar energy



DOWNTOWN
SAN DIEGO
PARTNERSHIP

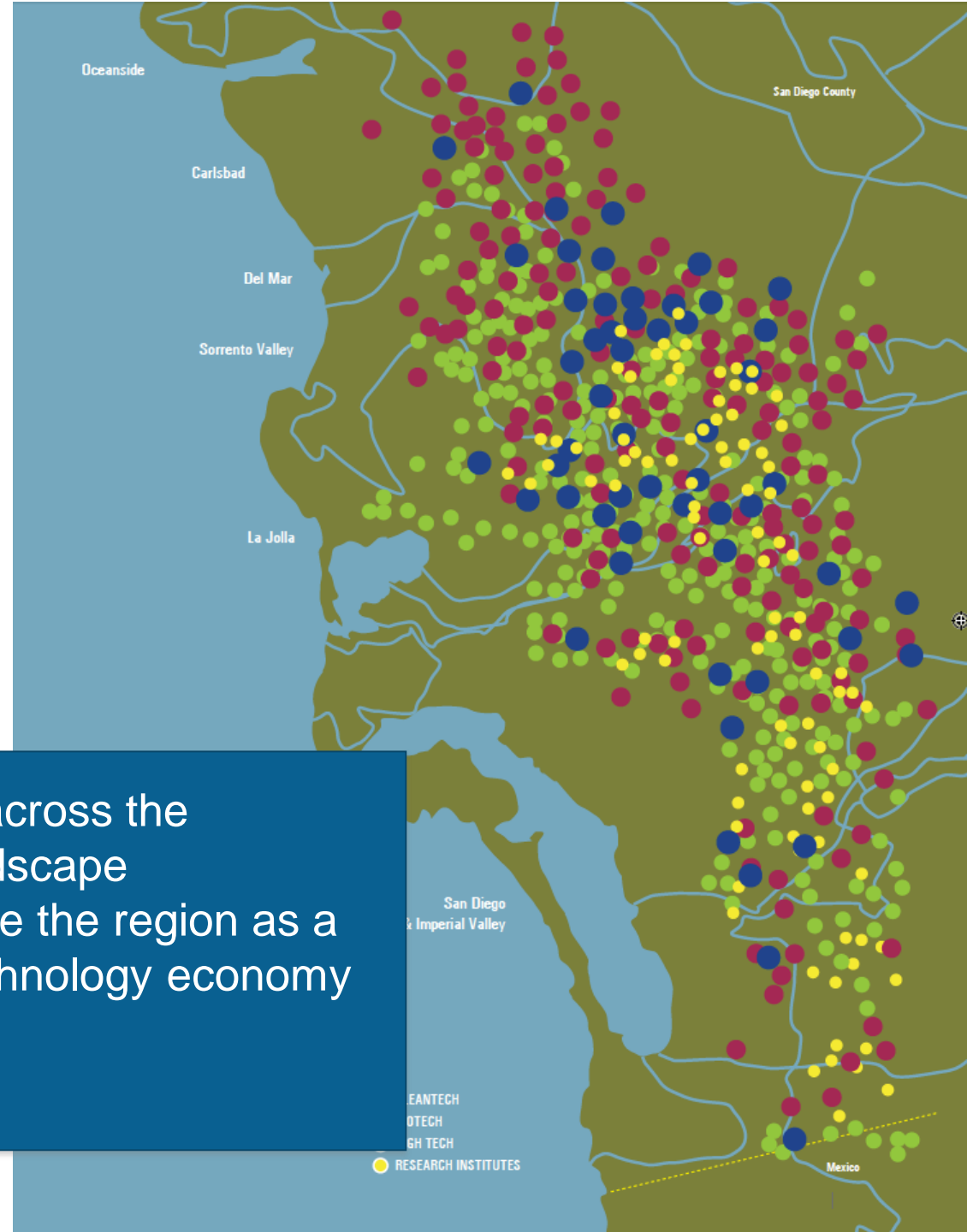


EcoLuxury Apartments



- Nation's first multifamily complex with "net zero" living
- 114 units
- 100% solar
- Energy usage displays and wireless smart thermostats in every unit





- 102 member organizations across the public-private-academic landscape
- Created in 2007 to accelerate the region as a world leader in the clean technology economy
- Supports job creation
- Builds a common agenda

Imagine Downtown



- Developed consensus for a sustainable urban place

A photograph of the San Diego International Airport terminal building, featuring a large, curved glass facade that reflects the sky and surrounding environment. The building is modern and has a prominent, sweeping roofline. In the foreground, there are airport ground service vehicles, including a white pickup truck and several yellow utility vehicles. The sky is clear and blue, suggesting a bright day.

San Diego International Airport

- On of the first major U.S. airports to implement a sustainability policy
- \$1 billion Green Build completed in 2013
- LEED Silver certification

Port of San Diego

- Green Port Program committed to:
 - Resource conservation
 - Waste reduction
 - Pollution prevention
- Adopted Climate Action Plan



County of San Diego



- Encourages green practices among property owners and regional businesses
- Offers tools to implement more efficient and sustainable operations

An aerial photograph of the UC San Diego campus, showing several large, multi-story buildings with extensive solar panel installations on their roofs. The solar panels are arranged in large, rectangular arrays. In the foreground, a parking lot is visible with several cars parked. The background shows a clear blue sky and distant hills.

UC San Diego's World-renowned Microgrid

- Generates 92% of campus electricity
- \$8 Million+ in annual savings
- One of the world's most advanced microgrids

San Diego Gas & Electric



- Fully supportive of “smart city” initiatives
- Nationally recognized for environmental leadership
- Rated “Smartest Utility in the Nation”
- Awarded two consecutive Climate Leadership Awards from U.S. Environmental Protection Agency

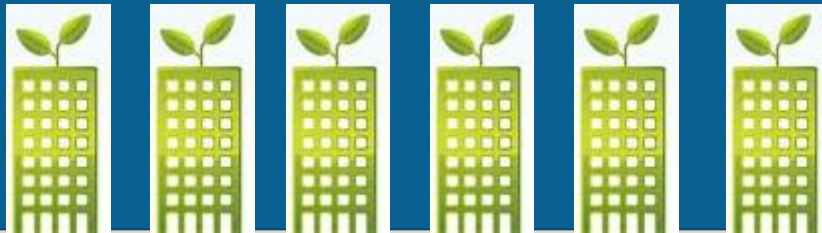


What's Next?



“City as a System” Downtown Pilot Project

- Campuses manage multiple buildings as a single system
- “City as a System” brings ‘campus benefits’ to individual building owners



DOWNTOWN
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PARTNERSHIP





“City as a System”

GOALS:

- Connect buildings’ operating systems
- Lower individual and aggregate energy demand and usage
- Establish permanent load reduction
- Measure and report results

SCOPE:

- 6 downtown San Diego buildings (2 commercial, 2 residential, 2 hotels)
- OSIssoft software
- Data and savings results at end of 2014

KUDOS:

- Received White House recognition as big data solution

“City as a System”

An aerial night photograph of a city street. The street is illuminated by streetlights, and there are long, white light trails from cars moving through the frame. Buildings are visible on both sides, some with lit-up signs. In the foreground, there's a construction site with some equipment and a laptop on a table. The overall scene is a mix of urban infrastructure and modern technology.

PHASE 1:

- Capture and analyze data
- Community outreach to owners, managers, IT staff, tenants, etc.
- Encourage behavioral change

PHASE 2:

- Create a shared energy management system between buildings
- Measure shared data results
- Develop best practices and protocols
- Determine commercialization potential



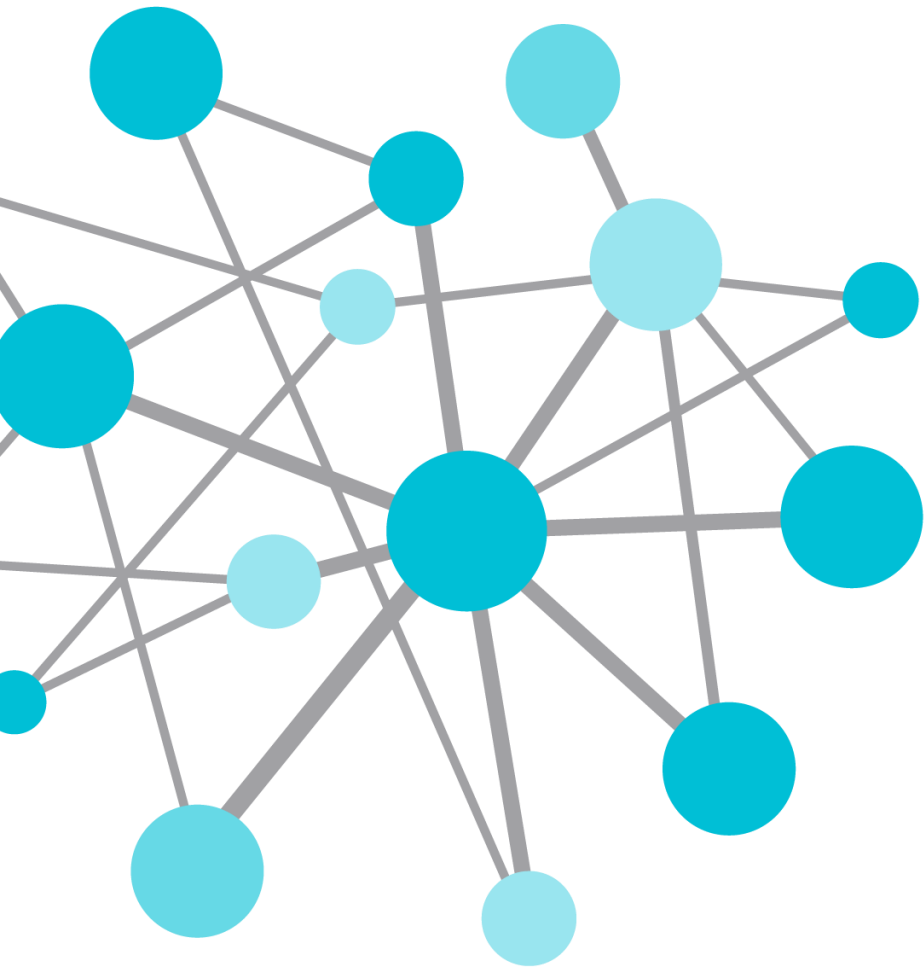
Why Downtown?

- Clearly defined project boundaries
- Critical political and business leadership
- Big and diverse enough to be meaningful
- Focused enough to be manageable

- jimw@cleantechsandiego.org
- Executive Chairman
- CleanTECH San Diego

Thank You!





THANK
YOU

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