

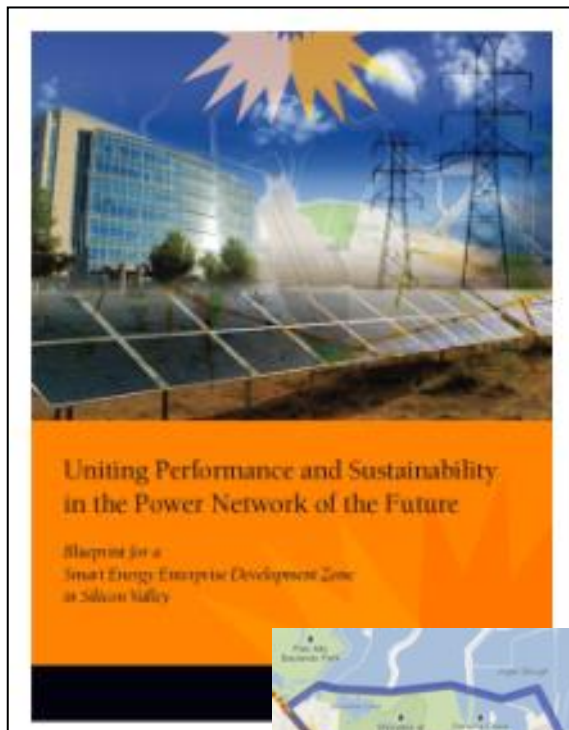


Since 1993, Joint Venture has provided a neutral forum for collaborative regional analysis, leadership and action, focused on high-priority economic and quality-of-life issues in our area.

Through Joint Venture, Silicon Valley leaders - from business, government, academia, labor and the broader community - are collaborating to develop innovative, entrepreneurial programs and solutions for pressing regional challenges.

In 2012, Joint Venture convened leading stakeholders in the Silicon Valley energy community, and formed the Smart Energy Enterprise Development Zone Initiative.

SEEDZ Initiative



- Build and demonstrate the 'smart energy network of the future' here in Silicon Valley
- Advance commercial energy system performance and sustainability on a regional scale
- Serve as a smart energy collaboration platform for local C&I energy customers, municipalities, institutions, solution providers, and utility interests



SEEDZ is regional effort, leveraging projects initiated in the Moffett / Bayshore area - which is well suited as a smart energy hub.

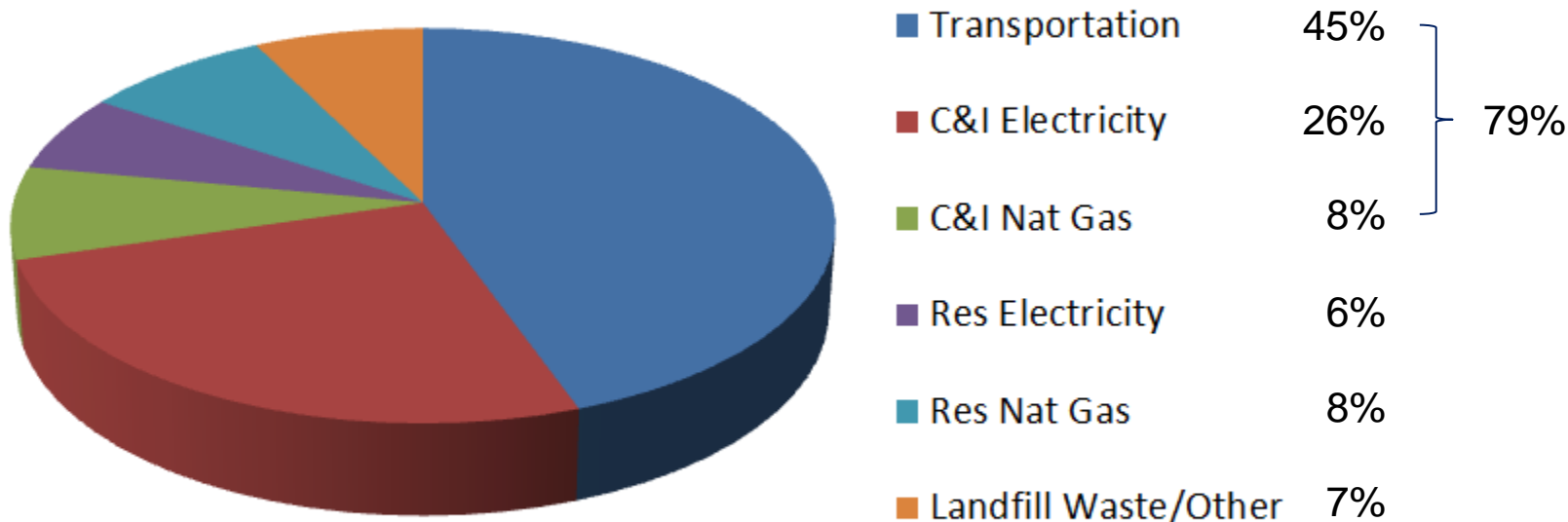
SEEDZ Area Characteristics

- Vital high-tech commercial and industrial area
 - 8+ sq miles, 470 buildings, 300 energy customers
 - 30+m sf office and lab space
 - billions in planned investment and development
- Progressive 'smart energy' profile
 - 175-200 MW demand
 - ~13 MW of DG capacity across 18 sources
 - hundreds of EV charging stations
- Stakeholders focused on efficiency and sustainability
 - prominent high-tech corporations leaders in sustainability
 - leading-edge utilities
 - strong community of solution providers, R&D, governmental & academic institutions



Why does this matter? Transformation of our energy infrastructure is necessary for economic growth and significant GHG reduction.

Representative Baseline GHG Data*






Priorities



- Solar / renewables
- Electric transportation
- Energy efficiency
- Grid management

* Combined Sunnyvale 2008 Baseline, Mountain View 2005 Baseline; total of 2.07 Million MTCO_{2e}/yr

Opportunity: electrification of transportation, coupled with a high mix of renewables in the electric grid, offers dramatic GHG savings potential today.

	<u>Vehicle Type</u>	<u>Efficiency</u>	<u>CO2 Emissions / Mi*</u>	
	Gasoline-powered	22 mpg	.804 lbs	-
	Gasoline-powered Hybrid	44 mpg	.402 lbs	(-50%)
	Electric	270 wh/mi	.107 lbs	(-87%)

* Assumes average 10% ethanol blend, 17.68 lbs CO2/gal

+ Avg PG&E Grid GHG Intensity 2011 of 0.393 lbs CO2/kWh (most recent third party-verified reading).

SEEDZ project activity is built around a portfolio of inter-related smart energy elements, that define the commercial 'smart energy network of the future'.

Integrated Building Systems

advanced HVAC/lighting, energy management systems, automated load shifting, continuous commissioning

Demand Management

scaled adoption of DR & ADR, advancement of new dynamic pricing models

Grid Infrastructure

power quality monitoring, advanced distribution automation, self-healing

Interoperability Standards

building energy management and utility integration standards, DG & storage integration, NIST smart grid standards

Distributed Generation

onsite (potentially shared) solar PV, fuel cells, biogas, SWH; DG/grid integration, district heat/cooling

Electric Transport

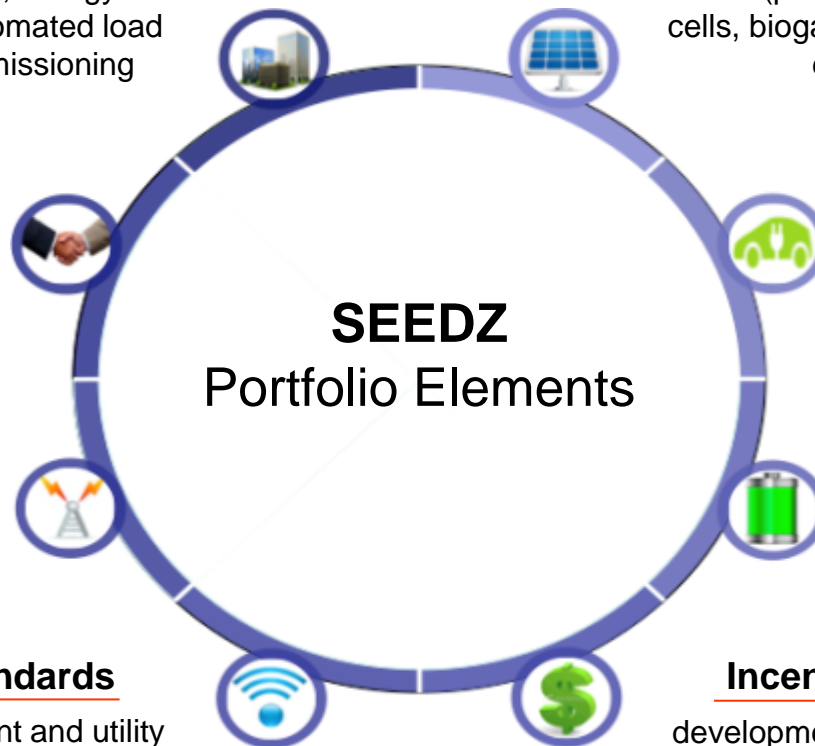
EV charging infrastructure, smart charging programs, EV grid impacts/integration

Storage and Backup

thermal & electric storage, back-up, DG/islanding integration, business models

Incentives and Financing

development incentives and standards, availability and piloting of PACE, on-bill financing, other commercial structures



SEEDZ EV Infrastructure Interest Group

What is the SEEDZ EV Infrastructure Interest Group?

Situation:

- employers responding to employees demand for EV charging infrastructure
- lack of established 'Best Practices' for EV infrastructure at the workplace
- many organizations are in the process of implementation and/or scaling of EV infrastructure
- often a "figure-it-out-as-you-go" effort
- opportunity for knowledge sharing, transparency, and leverage of resources

'Interest Group' Initiative:

- provide an informal yet structured meeting venue for local organizations focusing on how best to set up, utilize, and support new EV infrastructure, and continue its development and expansion
- address key practices, challenges, information, solutions, resources, scaling, etc., and facilitate knowledge-base development, practice sharing, and networking

How?

- Meet 1 1/2 hours every 2 months
- Discuss various project-related topics, based on participants interest
- The format will be informal with brief (pre-arranged) presentations or case studies on a designated topic, from participating organization(s), followed by an open discussion and networking

Electric Transport: Santa Clara Electric Vehicle Charging Station (EVCC) Project

Background and Objectives

- Awarded CEC grant to build and pilot 'destination site' charging infrastructure
 - immediately adjacent to Levi's Stadium, Great America, and Convention Center
 - 4-5 million visitors a year
- Configuration . . .
 - 12 dual-head stations on first two floors of Tasman Drive parking structure – 48 in total
 - utilize pre-installed conduit, upgrades to electrical service
 - co-located solar array on parking structure
- Important research objectives . . .
 - peak demand management
 - flexible reservation system
 - valet system to maximize utilization
 - manage demand to match PV output



THANK YOU!

For more information and to download our SEEDZ Blueprint Report, please visit www.jointventure.org/seedz

