

San Diego Municipal Energy Strategy Plan Content Recommendations

Revision #1- 1/11/17

Revision #2- 1/18/17

Revision #3- 1/25/17

Revision #4- 2/2/17

Revision #5- 2/9/17

Revision #6- 3/2/17

Purpose

The purpose of this document is for the SEAB to provide recommendations to City staff as to content, goals, and implementation strategies for the Municipal Energy Strategy Plan.

Municipal Energy Strategy Plan Outline

The following is an outline of the recommended content, goals and implementation strategies for the Municipal Energy Strategy Plan. Following this outline is an appendix that includes notes and reference points from the CAP as well as previous recommendations made by the SEAB that support the content of the Municipal Energy Strategy Plan.

1. Monitoring and Reporting for City Facility Operations

- a. Goal(s)
 - i. Benchmark all (or top consuming) facilities using Portfolio Manager and provide annual update to staff and public.
- b. Implementation Strategy(s)
 - i. Identify buildings to be benchmarked
 - ii. Work with SDG&E to populate usage data in Portfolio Manager
 - iii. Use benchmark data to create energy reduction (or potential generation) strategies

2. Energy Reduction at Existing City Facilities

- a. Goal(s)

- i. Reduce energy consumption at municipal facilities by 15% by 2020 and an additional 25% by 2035
- b. Implementation Strategy(s)
 - i. Based on energy use benchmark data, conduct Building Audits to identify energy savings opportunities. Evaluate all opportunities for replacement or renovations that provide for the best return on investment.
 - ii. Evaluate water use reduction, reuse, and runoff capture strategies that provide for the best return on investment.
 - iii. Per page 34 of the CAP “Implement Smart Energy Management and Monitoring System (SEMMS) for municipal facilities to monitor and track energy load, consumption, and generation. Based upon results, staff will identify opportunities for greater efficiency and demand response.”
 - iv. Per page 34 of the CAP evaluate pursuit of “LEED for Existing Buildings: Operation and Maintenance Certification” or other building certification systems for municipal facilities.
 - v. Research alternative financing solutions, including establishment of an energy trust fund, for implementation of energy and water efficiency measures.
 - vi. Evaluate all existing facilities for investments in replacement or renovations that provide for enhanced day-lighting, insulation and for “cool roof installations” (per page 34 of the CAP)
 - vii. All measures taken to implement these goals should include benefit of the Economic Multiplier factors listed under Item # 7.

3. Green Design and Construction Standards for New and/or Renovated City Facilities

- a. Goal(s)
 - i. Improve energy performance of new city facilities
- b. Implementation Strategy(s)
 - i. Develop a Zero Net Energy (ZNE) Policy for newly constructed municipal-owned buildings (per page 34 of CAP). Creation of this policy should analyze if ZNE means that only distributed generation on specific facilities counts or if this includes wheeling/sharing energy between facilities and/or other means of obtaining renewable energy, based on a consideration of environmental benefits, cost, and other benefits.
 - ii. Achieve LEED Gold (or other comparable standard) min. for all new buildings
 - iii. Implement Smart Energy Management and Monitoring System (SEMMS) for new municipal facilities.
 - iv. All measures taken to implement these goals should include benefit of the Economic Multiplier factors listed under Item # 7.

4. Energy Supply and Distributed Generation

- a. Goal(s)

- i. Develop a resource plan for energy supply that follows the state loading order with an emphasis on local implementation, where possible.
 - ii. Achieve 100 percent renewable energy generation and consumption from City facilities by 2035.
- b. Implementation Strategy(s)
 - i. Create plan that promotes and enhances city's ability to meet its own energy needs through investment in building and local site-based renewable energy and energy storage that is integrated into the utility distribution system.
 - ii. All measures taken to implement these goals should consider location, demand profile, environmental and other benefits, cost, and all available alternatives for achieving the policy goals of the City.
 - iii. Evaluate use of all existing energy supply programs and resources including but not limited to those provided by SDG&E and state and federal sources.
 - iv. All measures taken to implement these goals should include benefit of the Economic Development Multiplier factors listed under item #7.

5. Electric Vehicles and Alternative Fuels for Fleet

- a. Goal(s)
 - i. Maximize ability for City to utilize Zero-emission vehicles
- b. Implementation Strategy(s)
 - i. Create a plan to transition City fleet with Zero-emission vehicles, as is practical, as well as deploying infrastructure/fueling/charging stations to support them.
 - ii. Generate and or procure alternative fuels and renewable energy from City facilities and create opportunities and use technologies which integrate the fleet vehicle electric generation and storage with City facility needs and surrounding community local energy distribution needs.
 - iii. Maximize the ability of City facilities to realize cost savings by charging vehicles at times that help reduce energy bills and energy costs, while improving the ability of the distribution system to integrate higher levels of renewable energy.
 - iv. All measures taken to implement these goals should include benefit of the Economic Development Multiplier factors listed under item #7.

6. Communication, Training, and Incentives for City Employees

- a. Goal(s)
 - i. Increase energy awareness and knowledge of City staff operating City facilities
- b. Implementation Strategy(s)
 - i. Develop communication and education plan for city staff to stay up to date on best practices for energy and water efficiency.
 - ii. Involve city staff at each facility in creation of building/facility/ department (as appropriate) specific energy and water efficiency plans.
 - iii. Measure and provide awards for less energy and water use in facilities.
 - iv. Incentivize employee innovation suggestions regarding energy and water use efficiency.

7. Economic Development Multiplier

- a. Goal(s)
 - i. Optimize economic development potential of investments by Municipal Energy Strategy Plan
- b. Implementation Strategy(s)
 - i. Use of local labor with an emphasis on investment in under-resourced communities/communities of concerns;
 - ii. Consideration for livable wage and benefits, and training and certification requirements;
 - iii. Support of jobs development by contractors and City on projects located in communities of concern.
 - iv. Sourcing from local businesses and suppliers through the city's Equal Opportunity Contracting policy which supports "communities of concern" policy and social equity goals of the CAP.

APPENDIX- Guiding Principles, Notes, and Reference Points:

Documents Reviewed and Used for Reference

1. City of San Diego Climate Action Plan (adopted December 2015)
2. City of San Diego Energy Strategy for a Sustainable Future (adopted June 2009)
3. County of San Diego Comprehensive Energy Resource Plan (adopted 2012)
4. SEAB adopted Priority Guiding Principles for CCA Feasibility (December 10, 2015)
5. SEAB official comments regarding implementation and development of supporting policies for the City Climate Action Plan (forwarded September 28, 2015 and addendum forwarded March 21, 2016)

Notes for Strategy Plan Items

Notes for Item #2- Energy Reduction at Existing City Facilities

- Relevant CAP goals, strategies and actions for water reuse and capture programs that can impact municipal facility energy use include the following:
 - o Weather-based irrigation controllers” (p 34 CAP);” record annual volume percentage of recycled water used and planned to be introduced through 2035 (including) plans for increasing future annual volumes of recycled water/potable reuse” (p 34 CAP); promote expansion of grey water systems (for landscape irrigation)- p 33,34 CAP)
- Relevant CAP goals, strategies and actions for Strategies 3 and 5 that can impact municipal facilities energy use are the basis for the following additional recommendations:
 - o Retrofit facilities to provide access for employees and public via walking, bicycling and transit use (“prepare a Commuter Report with measures to increase commuting by transit for City employees.” (p 39, CAP).
 - o Increase urban tree canopy using native, drought tolerant species that can be irrigated by runoff, grey water, reclaimed water. (ref: SEAB comment #9 on CAP PEIR, 092817)
- The following recommendation is derived in part from Guiding Principle #6 adopted 12.10.15 for CCA by SEAB as applicable to municipal facilities:
 - o Facility energy use will be set and data will be monitored by department and sub stations to optimize energy integration and measure progress in achievement of goals and to ensure resources are provided equitably to all communities throughout the city.

- Evaluate opportunities from adoption in Smart City San Diego program of “2030 District” designation participants goal to achieve 50% reduction in energy, water, transportation emissions by 2030.

Notes for Item #3- Green Design and Construction Standards for New and/or Renovated City Facilities

- The following recommendations derived in part from CAP Strategies, Goals and Actions can impact municipal energy use by New and/or Renovated City Facilities:
 - o Implement Transit Oriented Development alternative transportation and land use strategies in design (“Prepare a Commuter Report with measures to increase commuting by transit for City employees.” P 39 CAP)
 - o Increase urban tree canopy using native, drought tolerant species that can be irrigated by runoff, grey water, reclaimed water.
 - o Support the State’s implementation of the Green Tariff Shared Renewables Program” (p 35 CAP).

Notes for Item #4- Energy Supply and Distributed Generation

- The following recommendation is derived from SEAB Guiding Principles #6 for CCA adopted December 10, 2015:
 - o Evaluate opportunity to make City of San Diego municipal facilities a net energy producer. The ideal is that distributed generation (rooftop and parking lot solar), energy efficiency, and compatible storage are heavily promoted to push electric energy up out of the City’s facilities into the rest of the local grid, storage, and eventually out of the City.
- The following recommendation is derived from SEAB Guiding Principles #7 for CCA adopted December 10, 2015:
 - o Evaluate a business and implementation phase-in plan to achieve targets identified by a performance table that delineates key economic, financial and environmental factors. Evaluate programs that phase-in certain improvements based on geographic areas, City’s services and locally generated renewable energy resources to achieve the goal of producing all City energy needs from renewables generated within and on developed land or land designated for urban development within the City of San Diego boundary or within City-owned facilities in the region.
- The following recommendation is derived from SEAB Comment #10 to CAP PEIR (Addendum letter 032116) regarding significant impacts and mitigation:

- “Emphasis for renewable energy generation should be on technologies that use little or no water and are smaller scale, distributed systems and/or technologies such as photovoltaic panels located on rooftops, parking lots and other developed structures as the preferred, highest priority strategy to achieve renewable energy goals.”

Notes for Item #7- Economic Development Multiplier

- See SEAB Comment #7 to CAP PEIR 092815 regarding definition of the “Green Economy”. Pertinent excerpt: “Adopt a broader definition of the green economy that includes a more complete description of the full spectrum of opportunities and commitment to local equitable growth. ..ensure committed equity in allocation of resources so that communities of concern are able to participate and realize benefits of energy efficiency, renewable energy installations, urban forestry, public health benefits and job creation without carrying undue burden of cost. “

Strategies and Goals from Climate Action Plan that the Municipal Energy Strategy Plan Needs to Support

The following pertinent strategies and goals from the current Climate Action Plan have been included here for reference.

Strategy 1: Energy and Water Efficient Buildings

Goal 1: Reduce residential building energy consumption

Goal 2: Reduce municipal energy consumption

Goal 3: Reduce daily per capita water consumption

Strategy 2: Clean and Renewable Energy

Goal 1: Achieve 100% renewable energy city-wide by 2035

Goal 2: Increase municipal zero emissions vehicles

Goal 3: Convert existing diesel solid waste collection trucks

Strategy 3: Bicycling, Walking Transit and Land Use

Goal 1: Increase use of mass transit

Goal 2: Increase commuter walking opportunities

Goal 3: Increase commuter biking opportunities

Strategy 4: Zero Waste

Goal 1: Capture landfill methane gas

Goal 2: Capture methane gas from waste water treatment

Strategy 5: Climate Resiliency

Goal 1: Increase urban tree canopy (*ref: SEAB CAP Comment #9, 092817*)

Other guiding principles and opportunities for consideration:

- Identify opportunities for shared projects and resources with other jurisdictions such as school districts, colleges, universities, Port District, etc.
- Assess ability for City to wheel energy generated in different facilities to other facilities as appropriate or cost beneficial.
- Set forth energy budgets for City's facilities and enterprise funds in relation to geographic setting by proximity to SDG &E substations, by City departments and by Community Planning Areas.
- Analyze role of municipal energy facilities as it pertains to City distribution grid (i.e., how can siting and sizing of renewable and storage energy systems combined with integrated demand response at City facilities benefit adjacent communities?)
- Evaluate issues and opportunities in the SDG&E Distributed Resource Plan.
- **Keep the door open for new energy saving/generating technologies in the future and to provide opportunities to implement pilot projects using these new technologies.**

Other items not directly related to City Municipal Facility Energy Use but which can effect energy use or for which the City can take direct action due to funding controls.

In Recommendation Area #2 Energy Reduction at Existing City Facilities:

- Evaluate City funded and /or operated affordable housing – including multifamily apartments and condominiums and single family homes upgraded with City funding—for energy and water efficiency upgrades.

In Recommendation Area #3 Green Design and Construction Standards for new and/or Renovated City Facilities:

- Ensure City funded and/or operated affordable housing – including multifamily apartments and condominiums and upgraded single family homes- include energy and water efficiency and solar energy and storage systems to maximum extent possible.