

# Final Benchmarking Policy and Procedures

## Strategic Plan Task 3.1.1

### Deliverable 2.2.3

Funded by  
Southern California Edison Company  
Local Government Strategic Plan Strategies Program

2013 – 2015 Program Period  
under the auspices of the California Public Utilities Commission

Prepared for:



City of Norwalk  
12700 Norwalk Boulevard  
Norwalk, CA 90650

Prepared by:



Willdan Energy Solutions  
751 North Vernon Avenue  
Azusa, CA 91702

February 2015

# Table of Contents

- 1. Background..... 1
- 2. Purpose and Scope ..... 2
- 3. Benchmarking Policy Statement..... 3
- 4. Benchmarking Responsibilities ..... 3
- 5. Benchmarking Procedures ..... 4
- 6. Definitions ..... 8
- 7. List of Benchmarked City Facilities ..... 9

# 1. Background

On September 4, 2012, the Norwalk City Council approved participation in Southern California Edison's Energy Efficiency Partnership Program designed to identify and address energy efficiency opportunities in municipal facilities, take actions supporting the California Long Term Energy Efficiency Strategic Plan and increase community awareness and participation in demand side management opportunities. The City applied for and received grant funding via the Partnership to implement the City of Norwalk's Strategic Plan Strategies Program, which enables the City to establish policies and programs that achieve cost savings through the implementation of energy efficiency projects. The Strategic Plan Program includes a number of components, an energy benchmarking policy, procurement of a utility manager software program, development of an energy action plan and the implementation of a retro-commissioning (RCx) policy.

In promoting long-term energy efficiency and sustainability efforts in the community, the City of Norwalk is leading by example with their own municipal facilities by implementing a Municipal Energy Benchmarking Policy. One step beyond tracking raw energy usage, benchmarking is the practice of comparing a building's energy performance to itself or other similar buildings. Benchmarking municipal building stock will allow the City to identify an energy baseline and identify the best opportunities for improvement, track performance over time, and document energy savings results. The City will utilize a free, online tool created by the U.S. Environmental Protection Agency (EPA) called ENERGY STAR's Portfolio Manager that assesses each building's energy consumption relative to its square footage, type of facility, climate, and other factors.

The California Energy Commission (CEC) adopted California Code of Regulations, Title 20, Sections 1680-1685, the Nonresidential Building Energy Use Disclosure Program aka AB 1103 in 2007. Enforcement of these regulations began January 1, 2014. Assembly Bill 1103 requires a building owner or operator to benchmark a building's energy use and disclose for commercial nonresidential buildings involved in a financial transaction. The City of Norwalk can set an example in the community by leveraging benchmarking to promote more efficient building energy management.

## **2. Purpose and Scope**

### **2.1 Purpose**

This policy establishes guidelines for benchmarking municipal building energy consumption and integrating benchmarking data into city operations. The data and results developed through the use of benchmarking City facilities will be used to improve City operations and to integrate future energy reduction measures for implementation. Benchmarking municipal building stock will allow the City of Norwalk to establish an energy usage baseline and identify the best opportunities for improvement, track performance over time, and document energy savings results.

The City will initially use ENERGY STAR's Portfolio Manager, an interactive resource management tool to measure, track and assess energy, as the main benchmarking tool to establish benchmarks for City facilities. City data will be entered into the Portfolio Manager Web-based application, and the Portfolio Manager tool will be used to develop and update energy performance, and compare that performance to the tool's national database.

### **2.2 Scope**

The Benchmarking Policy is limited to enclosed city-owned buildings or for buildings which the city regularly pays all or part of the annual energy bills as specified by the Public Services Department. All facilities entered into ENERGY STAR's Portfolio Manager will be evaluated for energy use baselines and benchmarking.

Buildings can also receive a 1-100 ENERGY STAR score. This score compares building energy performance to similar buildings nationwide and will help measure how Norwalk facilities are measuring up against similar buildings nationwide that have the same primary use. A score of 50 represents median energy performance, while a score of 75 signifies the facility a top energy performer. Top energy performing facilities are eligible for ENERGY STAR certification label. ENERGY STAR certified buildings meet strict EPA energy performance standards and are recognized as top energy performers.

### **3. Benchmarking Policy Statement**

The policy of the City of Norwalk is to ensure:

- 3.1 At minimum, the following buildings are benchmarked in U.S. Environmental Protection Agency's ENERGY STAR Portfolio Manager: Alondra Library, Aquatics Pavilion, Arts & Sports Complex Center, City Hall, Cultural Arts Center, Gerdes Park, Hermosillo Park, Holifield Park, Sara Mendez Park, Vista Verde Park, Senior Center, Social Services Center, Sproul Recreation Center, Teen Center, and the Transportation/Public Services Facility.
- 3.2 City of Norwalk facilities that are city-owned buildings or buildings in which the city regularly pays all or part of the annual energy bills as specified by the Public Services Department.
- 3.3 Benchmarking data is factored into prioritization of municipal building energy efficiency improvement projects. The City will implement energy conservation measures (ECMs) where practical. The ECMs that are implemented will be monitored and tracked for energy usage reductions. This will be accomplished by estimating or measuring energy use before and after the implementation of the ECM.
- 3.4 Benchmarking data will be used to assess building performance to meet the median energy performance ENERGY STAR score of 50. And continue to seek opportunities to improve building performance and strive for top energy performance status of scores above 75.

### **4. Benchmarking Responsibilities**

- 4.1 The Public Services Department is responsible for ensuring compliance of the municipal energy benchmarking policy.
- 4.2 The Deputy City Manager/Public Services Director is responsible for management oversight of the energy benchmarking process and will ensure adherence to the policy.
- 4.3 The Public Services Department is responsible for managing the operational aspects of the policy and will ensure that:
  - 4.3.1 Any additional City-owned buildings that the City of Norwalk decides to benchmark are entered into ENERGY STAR's Portfolio Manager.

- 4.3.2 Appropriate staff is assigned to support benchmarking procedures and is adequately trained to use ENERGY STAR's Portfolio Manager Tool.
- 4.3.3 ENERGY STAR's Portfolio Manager benchmarking metrics be reviewed quarterly, utilizing the City's Energy Saving Bulletin.
- 4.3.4 The ENERGY STAR label application and verification is submitted, if the City decides to apply for the top performer certification status for facilities scoring 75 or higher.

## **5. Benchmarking Procedures**

- 5.1 Upon City Council approval of the Policy and at the beginning of every fiscal year thereafter, the assigned staff, under the supervision of the Public Services Department, will document the energy performance rating (if applicable), current energy use, annual energy cost, cost per square foot and new energy-efficiency improvement investments for each city-owned building with an established Portfolio Manager account.
  - 5.1.1 The assigned staff will document findings including variances or anomalies in building performance which will be further reviewed.
  - 5.1.2 The Public Services Department will refer to this documented data to help determine which buildings to prioritize for energy efficiency improvements, including retro-commissioning.
  - 5.1.3 This process will serve as monitoring and verification (M&V) of energy savings after any energy efficiency improvements has been implemented.
  - 5.1.4 This process will also include general findings, progress towards City goals, challenges, opportunities and recommendations for the next year.
- 5.2 The Public Services Department will perform the steps needed to benchmark additional buildings in Portfolio Manager. Essential steps to set up new accounts include:
  - 5.2.1 Collecting building data including historical energy usage and other descriptive information using ENERGY STAR's Portfolio Manager Benchmarking Guide provided online.
  - 5.2.2 Submitting building data through the internet-based Portfolio Manager tool.
  - 5.2.3 Initiating Automated Benchmarking Service with Southern California Edison and Southern California Gas Company to electronically populate meter data.

- 5.3 After installation of major energy efficiency improvement measures or retro-commissioning, the assigned staff will use ENERGY STAR's Portfolio Manager or the City's selected Utility Manager Software as the benchmarking tool to monitor energy consumption and record energy savings.
- 5.4 Complete benchmarking instructions for ENERGY STAR's Portfolio Manager can be located at [www.energystar.gov](http://www.energystar.gov) website. Under Energy Strategies for Buildings & Plants an ENERGY STAR Portfolio Manager Quick Start Guide can be downloaded for step-by-step instructions.
- 5.5 If the City of Norwalk chooses to pursue ENERGY STAR's certification for a Norwalk facility receiving a score of 75 or higher, the following additional eligibility criteria must be met.

In order to receive an ENERGY STAR score, buildings must meet the following eligibility criteria within property type, property use details and energy data:

Property Type

- Bank Branch
- Barracks
- Financial office
- K-12 school
- Supermarket/grocery store
- Wholesale club/supercenter
- Hospital (general medical & surgical)
- Medical office
- Multifamily housing
- Senior care community
- Hotel
- Residence hall/dormitory
- Office
- Courthouse
- Wastewater treatment plant
- Worship facility
- Retail store
- Data center
- Distribution center
- Non-refrigerated warehouse
- Refrigerated warehouse

Property Use Details

Property Type	Requirement ( <i>Property types must...</i> )
All buildings	<ul style="list-style-type: none"> <li>● Be at least 5,000 square feet. There are four exceptions to this rule:               <ol style="list-style-type: none"> <li>1. Banks may be as small as 1,000 square feet</li> <li>2. Religious worship facilities may be as small as 1,000 square feet</li> <li>3. Hospitals must be at least 20,000 square feet</li> <li>4. Data centers do not have a square-foot minimum</li> </ol> </li> <li>● Be in operation at least 30 hours per week. There are two exceptions to this rule:               <ol style="list-style-type: none"> <li>1. This does not apply to buildings that are not asked for hours of operation, such as hotels and hospitals</li> <li>2. This does not apply to religious worship facilities.</li> </ol> </li> <li>● Have at least 1 worker during the main shift, when this is asked. This does not apply to K-12 schools in the U.S., it only applies to K-12 schools in Canada.</li> </ul>
Hospitals	<ul style="list-style-type: none"> <li>● Have at least 1 bed set up and staffed for use</li> </ul>
Multifamily housing	<ul style="list-style-type: none"> <li>● Have at least 20 units</li> </ul>
Municipal wastewater treatment plants	<ul style="list-style-type: none"> <li>● Have an average daily wastewater flow greater than 0.6 million gallons per day (MGD)</li> <li>● Have an average influent biological oxygen demand (BOD5) level greater than 30 and less than 1000</li> <li>● Have an average effluent BOD5 level greater than 0</li> </ul>
Offices, bank branches, financial offices, and courthouses	<ul style="list-style-type: none"> <li>● Have at least 1 Personal Computer (PC)</li> </ul>
Residence halls/ dormitories and barracks	<ul style="list-style-type: none"> <li>● Have at least 5 rooms</li> </ul>
Retail stores	<ul style="list-style-type: none"> <li>● Have at least one cash register</li> <li>● Have an exterior entrance to the public</li> <li>● Be a single store only</li> </ul>
Senior care facilities	<ul style="list-style-type: none"> <li>● <b>Not</b> have an average number of residents that exceeds the resident capacity</li> </ul>
Religious worship facilities	<ul style="list-style-type: none"> <li>● Have at least 25 seats and no more than 4,000 seats</li> </ul>

## Energy Data

Building energy meters that account for all energy use for all fuel types in the whole building must be entered into Portfolio Manager.

1. You must include all energy used by the property (e.g., electricity, gas, oil, steam, onsite renewable energy, etc.)
2. There must be at least 12 full consecutive calendar months of energy data for all active meters and all fuel types.

## 6. Definitions

**Benchmarking** - The practice of comparing a building's energy performance to itself or other similar buildings. The total energy consumed in a building is measured and adjusted for other factors – location, building type, year of construction, number of workers, gross square footage, and other operational data. This provides the ability to conduct an “apple to apple” comparison of a building's energy performance.

**California Long Term Energy Efficiency Strategic Plan** - On Sept. 18, 2008, the CPUC adopted California's first Long Term Energy Efficiency Strategic Plan, presenting a single roadmap to achieve maximum energy savings across all major groups and sectors in California. This comprehensive Plan for 2009 to 2020 is the state's first integrated framework of goals and strategies for saving energy, covering government, utility, and private sector actions, and holds energy efficiency to its role as the highest priority resource in meeting California's energy needs.

**Energy Action Plan** – A roadmap to achieving energy goals in both the near and long term, focused on project implementation that encouraged energy efficiency and use of reduction strategies to reach goals.

**ENERGY STAR** - A joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy which encourages energy efficiency in homes and businesses through the use of ENERGY STAR labeled products and by implementing energy savings practices.

**Utility Manager Software** – A software applications program which provides utility bill tracking, real-time metering, building HVAC and lighting control systems, building simulation and modeling, carbon and sustainability reporting, IT equipment management, demand response, and/or energy audits.

**Portfolio Manager** - A free, interactive energy management tool created by the U.S. Environmental Protection Agency that allows you to track and assess energy and water consumption across an entire portfolio of buildings online.

**Retro-commissioning (RCx)** - A systematic process for identifying less-than-optimal performance in a facility's existing equipment and control systems and making necessary repairs or enhancements to save energy and cost. Whereas retrofitting involves replacing outdated equipment, RCx focuses on improving the efficiency of what is already in place.

## 7. List of Benchmarked City Facilities

Property Name	Portfolio Manager ID	Street Address	Year Built	Square Feet
Alondra Library	4145440	11949 Alondra Blvd	1970	5,444 Sq. Ft.
Aquatic Pavilion	4145434	12203 Sproul Street	2003	2,890 Sq. Ft.
Arts & Sports Complex	4145432	13000 Clarkdale Avenue	1990	28,500 Sq. Ft.
City Hall	4145433	12700 Norwalk Blvd	1965	54,300 Sq. Ft.
Cultural Arts Center	4145439	13200 Clarkdale Avenue	1990	8,467 Sq. Ft.
Gerdes Park	4145443	14700 Gridley Road	1994	2,385 Sq. Ft.
Hermosillo Park	4145441	11959 162nd Street	1976	1,250 Sq. Ft.
Holifield Park	4145445	12500 Excelsior Drive	2002	1,958 Sq. Ft.
Sara Mendez Park	4145442	11660 Dune Street	2008	1,920 Sq. Ft.
Senior Center	4145437	14040 San Antonio Drive	2000	21,164 Sq. Ft.
Social Services Center	4145438	11929 Alondra Blvd	1973	9,171 Sq. Ft.
Sproul Recreation Center	4145436	12239 Sproul Street	1997	1,807 Sq. Ft.
Teen Center	4145435	12305 Sproul Street	1997	1,358 Sq. Ft.
Transportation/ Public Services	4145308	12650 Imperial Highway	2001	77,015 Sq. Ft.
Vista Verde Park	4145444	11459 Ratliffe Street	2012	1,000 Sq. Ft.