

Policy Recommendation:

San Diego proposes an energy and water benchmarking and transparency policy that includes commercial, multifamily, institutional, and municipal buildings with 20,000 or more square feet. This accounts for more than 80% of the City's commercial and multifamily building stock by square footage. The policy shall align to state goals and programs and follow data privacy aggregation rules including customer confidentiality as established by the State of California. City staff shall consider a phased approach for policy implementation based on stakeholder outreach.

SEAB moves in support of the City's development a commercial and multifamily energy and water benchmarking and transparency ordinance in 2017 and makes itself available to assist with outreach and engagement of our respective communities and industry sectors. City staff shall consider using future SEAB meetings for outreach and feedback from the public.

Summary: The Sustainable Energy Advisory Board (SEAB) supports the City of San Diego's development and implementation of a citywide policy that would require a commercial and multifamily buildings to benchmark energy and water usage using the U.S. EPA ENERGY STAR® Portfolio Manager tool and report this data to the City on an annual basis. Annualized energy and water data would then be provided in a publicly accessible format to inform the development of energy reduction and incentive programs and promote energy efficiency improvements.

The development of a Commercial and Multifamily Energy and Water Benchmarking and Disclosure Ordinance to present to City Council is within Phase I of the City's Climate Action Plan, as a cost-effective measure that encourages energy efficiency through industry-standard best practices. Through this policy, San Diego will also be more prepared to assist with the outreach and compliance that will be required for statewide AB 802 reporting requirements (for buildings 50,000+ square feet) and will realize greater local benefits.

Benchmarking means measuring a building's energy use and then comparing it to the average for similar buildings. It allows owners and occupants to understand their building's relative energy performance, and helps identify opportunities to cut energy waste.

Background: Energy efficiency is the first step to ensuring that the City is on track to achieve its goal of 100% renewable energy by 2035. Benchmarking and transparency will enable the City to promote efficient operations in public, commercial, and multifamily buildings and help building owners plan for capital investments, such as efficient equipment upgrades, on-site generation, and energy storage systems. With this in mind, the City adopted an official goal to develop and implement a water and energy benchmarking and transparency ordinance within Phase I of Climate Action Plan implementation.

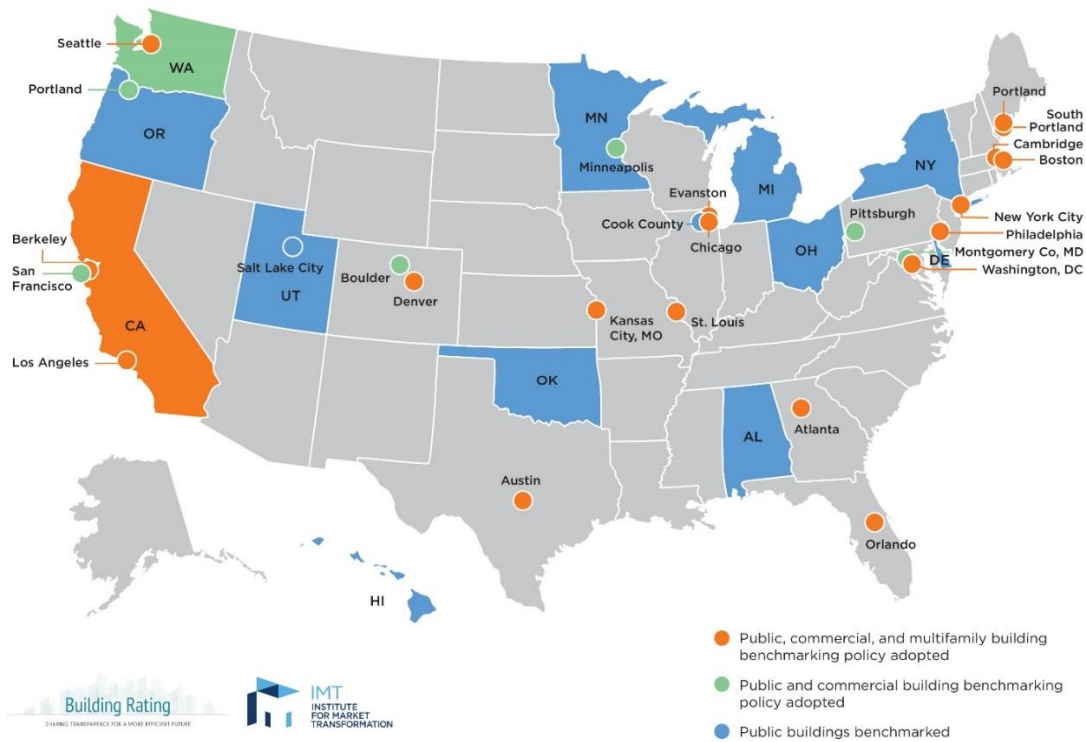
Previous barriers to attaining whole-building data, needed for successful benchmarking, are addressed in California's recently passed AB 802 and it is expected that a set of large buildings, likely those over 50,000 square feet, will be included in the state benchmarking and transparency program that will begin in 2018.

Though its Climate Action Plan, San Diego is committed to doing more than the state requirements to prioritize energy efficiency, the most cost-effective carbon reduction strategy and would benefit from a policy that includes water and better addresses aligns with the City’s building stock.

An ever increasing body of evidence continues to indicate that energy benchmarking alone leads to reduced energy use and thus consumer savings. A 2012 U.S. EPA analysis of 35,000 benchmarked buildings found average annual energy savings of 2.4 percent. The EPA’s findings are backed by the analyses of cities that have recently enacted benchmarking and transparency policies as well as the State of California.

A growing number of city and state governments are implementing building benchmarking and transparency policies. The Institute for Market Transformation tracks the latest data, summarized in the map below, which displays the state of U.S. Benchmarking Policies on a map of the U.S.¹

U.S. Building Benchmarking and Transparency Policies



Seventeen local governments² across the U.S. have commercial and multifamily benchmarking policies, and many of these cities provide excellent examples that can be referenced by the City of San Diego. Furthermore, benchmarking is a cost-effective policy that is supported by leading industry groups such as the National Electrical Manufacturers Association, the Building Owners and Managers Association, the California Business Properties Association, the US Green Building Council, and many others.

¹ Institute for Market Transformation, *U.S. Building Benchmarking Policy Landscape*, February 2017
<http://www.buildingrating.org/graphic/us-building-benchmarking-policy-landscape> , accessed 9 April 2017
² http://www.imt.org/uploads/resources/files/IMT_benchmarkingmap_2.8.2017.jpg

In determining an appropriate threshold for floor area for the energy and water benchmarking and transparency policy, the working group sought to better understand the building stock for buildings within the City of San Diego. The data below summarize available data on Commercial and Multifamily building stock within the City of San Diego.

Commercial building energy use is highlighted in Table 1, the floor area and are based on CoStar data accessed in March 2017. Average energy cost/savings are derived from California Energy Use Survey (CEUS) and the Commercial Building Energy Consumption Survey (CBECS) data. These data yield an average annual cost of energy for commercial buildings in San Diego of approximately \$3 per square foot per year.

Per the EPA, the economic benefit of benchmarking and transparency indicate at more than 2 percent reduction in total energy cost per year with approximately 7 percent savings over a three-year period. For the table below, 2 percent energy savings (from year 1) is used to indicate cost economic benefit. The cost associated with benchmarking is based on industry knowledge and is estimated at \$500 per building. These assumptions represent a low estimate of benefit and a high-estimate of costs; and therefore, represent a conservative opinion of the benefits of benchmarking and transparency ordinance for the City of San Diego.

It was the opinion of the working group that the target for a policy for the City should include more than 80 percent of the floor area to be effective at reducing the emissions associated with building operations.

Table 2 highlights known information for Multifamily structures in San Diego. These data are from an unknown source indirectly provided by the City. Additional data is needed to support the development of the economic analysis and private-sector costs for the multi-family sector. Regardless, based on the available data, there appears that there is a similar building area distribution—such that a similar floor area threshold for a benchmarking and transparency policy could be applied to capture 80 percent of the Multifamily sector with the policy.

Sustainable Energy Advisory Board
 City of San Diego
 Recommendations on an Energy and Water Benchmarking and Transparency Policy
 for Commercial and Multifamily Buildings

Table 1: City of San Diego Commercial Real Estate Estimated Inventory*

Building Size (Sq Ft)	Number of Buildings	Floor Area (Sq Ff)	Share of Total Bldgs	Share of Total Floor Area	Cumulative Floor Area with larger buildings	Energy Cost Savings by Area Category	Cost to Buildings	Average Savings Per Building
<10K	7,266	30,077,161	58%	10.4%	100.0%	\$ 1,804,630	\$ 3,633,000	\$ 248.37
10K-20K	1,899	27,174,820	15%	9.4%	89.6%	\$ 1,630,489	\$ 949,500	\$ 858.60
20K-30K	1,083	25,998,268	9%	9.0%	80.1%	\$ 1,559,896	\$ 541,500	\$ 1,440.35
30K-40K	550	18,870,188	4%	6.6%	71.1%	\$ 1,132,211	\$ 275,000	\$ 2,058.57
40K-50K	363	16,136,558	3%	5.6%	64.5%	\$ 968,193	\$ 181,500	\$ 2,667.20
50K +	1,378	169,777,170	11%	58.9%	58.9%	\$ 10,186,630	\$ 689,000	\$ 7,392.33
Total Buildings	12,539	288,034,165						
Total Buildings Between 20-50K	1,996	61,005,014	16%	21.2%		\$ 3,660,301	\$ 998,000	\$ 1,833.82

*Excludes multi-family properties, Source: CoStar, 3/28/2017

Table 2: City of San Diego Multifamily Real Estate Estimated Inventory

Building Size (SF)	Floor Area (Sq Ff)	Share of Total Floor Area	Cumulative Floor Area with larger building
<10K	34,066,249	11.8%	100.0%
10K-25K	23,290,401	8.1%	88.2%
25K-50K	21,928,779	7.6%	80.1%
50K +	208,265,769	72.4%	72.4%
Total Buildings	287,551,198		
Total Buildings Between 25-50K	21,928,779	7.6%	