Building Energy – Next Generation Policy

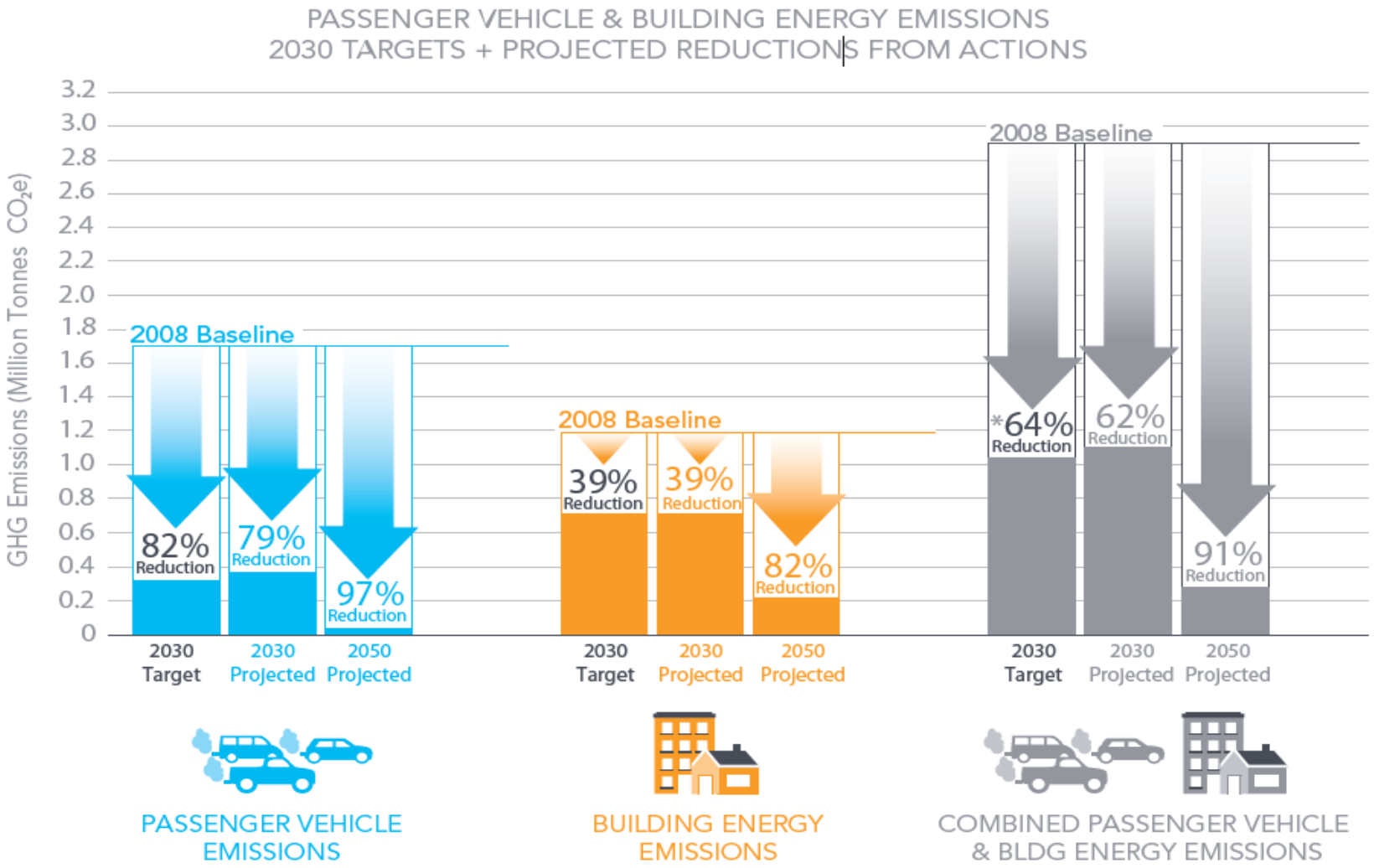
Seattle Office of Sustainability & Environment

July 28, 2015

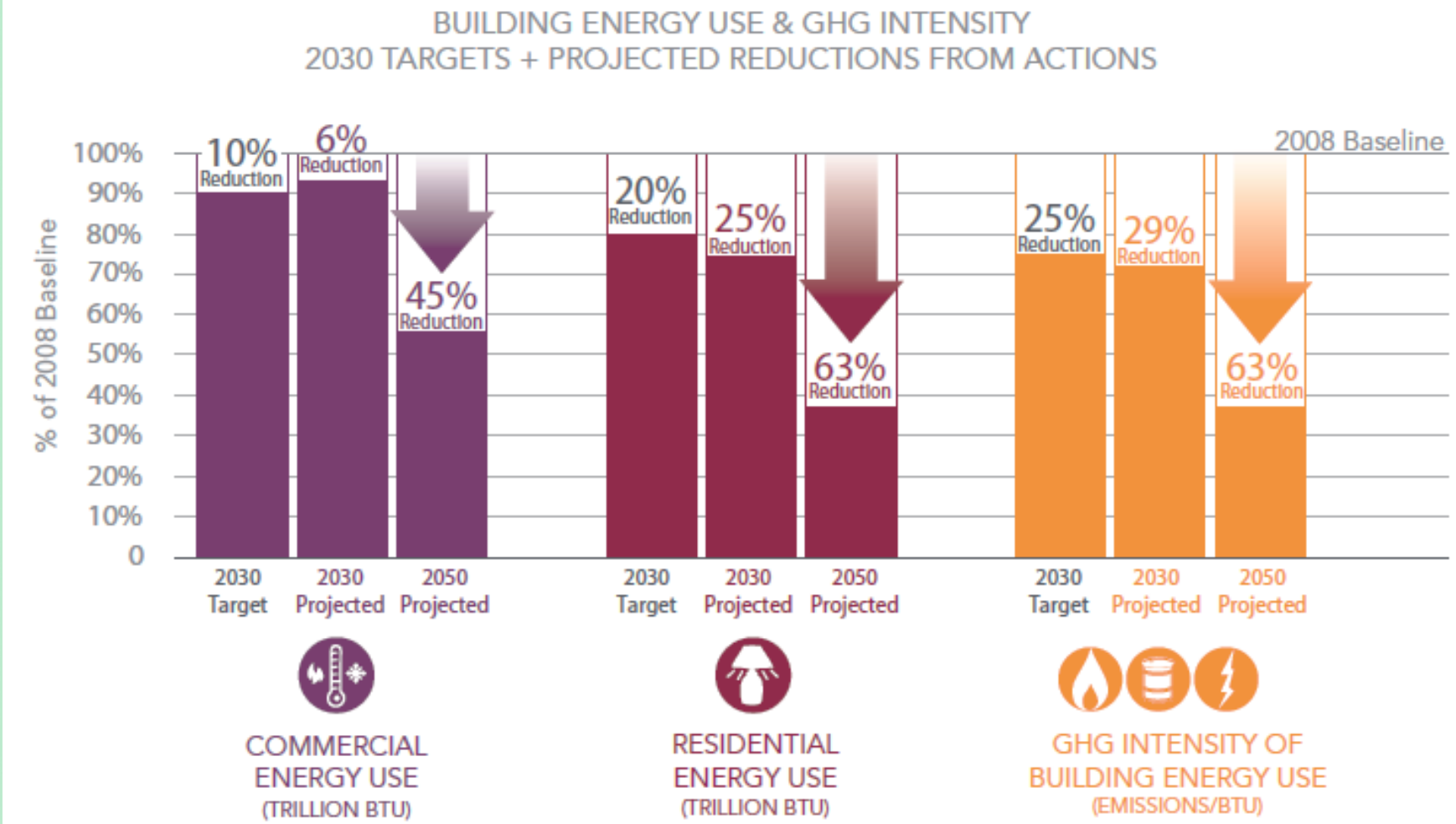
Goal for Climate Action Plan

Reduce GHG emissions and prepare for climate impacts while building vibrant neighborhoods, fostering economic prosperity and enhancing social equity.

CAP Emission Targets



CAP Building Energy Targets



Measured Progress to Date

2012 Seattle Community GHG Inventory

Building Energy Use (2008-2050)

Target Reduction: 1.25% / year

Actual 2008-2012: 0.75% / year

GHG Intensity of Fuels (2008-2050)

Target Reduction: 1.5% / year

Actual 2008-2012: 1.75% / year

Overall Building Emissions (2008-2050)

Target Reduction: 2% / year

Actual 2008-2012: 2.5% / year

Measured Progress to Date

2012 Seattle Community GHG Inventory

Commercial Building Energy Use (2008-2050)

Target Reduction: 1.10% / year

Actual 2008-2012: 0.25% / year

Residential Building Energy Use (2008-2050)

Target Reduction: 1.5% / year

Actual 2008-2012: 1.25% / year

DRAFT 2013 Annual Energy Use Intensity (Normalized Site EUI in kBtu/sf) DRAFT

Building Type	Median	Lowest Use (1st Quartile)	Medium-low (2nd Quartile)	Medium-high (3rd Quartile)	Highest Use (4th Quartile)	# of Bldgs	Year Built (median)	Size (median sf)	EPA ENERGY STAR (median)*
Low-rise MF (1-4)	30.3	≤24	25-30	31-47	≥48	918	1987	29,652	77*
Mid-rise MF (5-9)	34.3	≤27	28-34	35-45	≥46	445	1995	52,020	85*
High-rise MF (10+)	49.0	≤42	43-49	50-63	≥64	88	1980	139,684	47*
Office	58.0	≤43	44-58	59-72	≥73	431	1970	55,632	75
Hotel	85.8	≤55	56-86	87-106	≥107	67	1977	88,592	53
Medical Office	83.7	≤67	68-84	85-115	≥116	39	1984	63,909	49
Hospital	205.3	≤170	171-205	206-229	≥230	9	1959	607,780	46
Supermarket	277.4	≤221	222-277	278-299	≥300	35	1996	41,447	41
Restaurant	156.2	≤88	89-156	157-186	≥187	11	1919	33,600	NA

*ENERGY STAR median only includes buildings that had a score available and therefore may not include all buildings with an EUI.
*Multifamily ENERGY STAR scores are preliminary. Buildings with default unit density or incorrect building size classification have been excluded from the median ENERGY STAR score calculation.
**Seattle Public Schools are reporting the academic year of September 2012 – August 2013.
#2013 university buildings only represent facilities that are separately metered and benchmarked as individual buildings. The majority of university buildings will be reported under the campus definition in 2014, the first year campuses are required to report to the City of Seattle.

Commercial & Multifamily Buildings: Climate Action Plan Actions

	by 2015	by 2030
LEADERSHIP / City Facilities	✓ Develop Resource Conservation Management Plan ✓ Publically disclose energy benchmarking scores ▪ Pilot Living Building Challenge	▪ 20% reduction by 2020 (from 2008)
INCENTIVES	➢ Pilot retro-commissioning ➢ Pilot pay for performance ➢ State legislation to authorize property tax exemption for rental housing retrofits ➢ Update Living Building pilot ▪ Identify financing tools and develop plan to bring to market ▪ Provide technical assistance to retrofit historic buildings	▪ If successful, implement pay for performance ▪ City property tax exemption ▪ Energy price structure tied to conservation ▪ Permitting fees tied to efficiency ▪ Land use incentives for deep efficiency ▪ Incentivize waste heat utilization ▪ Financing that remains with the building ▪ Identify new funding sources ▪ Allow alternative energy in right-of-way

Commercial & Multifamily Buildings: Climate Action Plan Actions

	by 2015	by 2030
REGULATIONS	✓ Minimum energy requirements for substantial alterations ✓ Increase efficiency standards in each code cycle ✓ Outcome-based code option ▪ Energy audits for largest & least efficient buildings	▪ Minimum energy performance standard for all buildings ▪ Require waste heat recovery in new buildings ▪ Code focused on actual performance ▪ Periodic retro-commissioning of largest & least efficient buildings ▪ Public disclosure of benchmarking data

Proposed Approach

Performance Metrics / Tracking Progress

- Energy & GHG Targets by Building Type
- Benchmarking Performance Reports to Owners
- Building Energy Transparency

Efficient Operations

- SCL Retro-Commissioning Pilot
- Develop Periodic Tune-Ups Program

Building Upgrades

- SCL Pay for Performance Pilot
- Substantial Alterations

- Periodic review of targets
- Ongoing research & analysis, tool & program development, and stakeholder engagement
- Additional programs and regulations

Supporting Tools & Programs

continued exploration

- Financing tools
- Energy assessments
- Energy efficiency assistance center
- Development incentives for existing buildings
- Other?

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