Environment Committee
November 14, 2024

Item 6:

Proposed Update to CP 900-03 Zero Emissions Municipal Buildings & Operations Policy

Sunset to CP 900-02 Energy Conservation and Management and

Council Policy 900-18 Purchase of Energy Efficient Products

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900-03 Zero Emissions Municipal Buildings and Operations Policy (ZEMBOP)

Adopted Oct. 11, 2022

Implements CAP measures 1.3 Decarbonize City Facilities and 2.2. Increase Municipal Zero Emission Vehicles

Policy Addresses:

- All-electric, energy efficient buildings
- Renewable electricity and onsite renewable power generation and storage
- Electric vehicle charging
- Planning for building and fleet electrification
- Leased Properties

Incorporated into 50+ CIPs (new construction & renovations) and 75+ leases since adoption

Proposed Administrative & Procedural Updates

- GHG reduction milestones
  - Adjusted to align with CAP
  - 50% at 2030, 100% at 2035

- Fossil Fuel Elimination Plans (Buildings)
  - Due Jan 1, 2025 (previously Jan 1, 2024)

- Fleet Charging Plans (Vehicles)
  - Due Jan 1, 2026 (previously Jan 1, 2024)

- Exceptions process (New!)
  - AMD or the Lessee submits memo to the City Manager or their designee, with cc to the SuMo Director. City Manager or their designee approves or declines. AMD or Lessee informed via email.

Proposed Updates to EVSE Requirements for New Construction Projects

- Currently, **50%** of public parking spaces must be EV Capable
  - Conduit to the parking spaces & electric panel capacity

- Propose alignment with CALGreen Tier 1, requiring **30%** of public parking spaces be EV Capable
  - Requirement will automatically update as State code evolves
  - Minimizes confusion for ECP DB/DBB teams navigating multiple regulatory requirements
  - Everged now on board to add public charging at existing buildings through the Public EV Charging Program (PEVCP) in compliance with ZEMBOP

Proposed Updates to Major Renovation Requirements

Major renovations = projects that touch 2 or more energy-using systems (excluding water heating and roof)

- Currently, all major reno projects must bring entire facility up to state energy code standards for new buildings
  - Requires energy modeling as proof of compliance
  - This works for E&CP projects with designer on team
  - Does not work for projects implemented by Dept of General Services (DGS) Facilities Division

- Propose adding alternative compliance pathway for DGS Major Renos
  - Include measures worth 25+ points on new *Prescriptive Energy Efficiency Measure Menu*
  - Replaces requirement for expensive energy modeling
  - Developed in partnership with DGS and New Building Institute (NBI)

Proposed Updates for Leased Properties

- Policy currently applies to all new leases and lease renewals of City-owned buildings and land (i.e., leases where the City is the landlord) that require Council approval

- Proposed update
  - Remove major renovation trigger and requirement to electrify entire facility and improve efficiency to state energy code standards
    - Still required to electrify any gas-burning systems being replaced
    - Still prohibited form installing new fossil-fuel systems

Sunsetting CP 900-18
Purchase of Energy Efficient Products

- Adopted 2001
- Requirements wholly superseded by A.R. 35.80 Environmentally Preferable Purchasing adopted 2017

Sunsetting CP 900-02
Energy Conservation and Management

- Adopted 1976, Updated 2001
- 17 provisions addressed in CAP, ZEMBOP, Complete Streets Policy, Mobility Master Plan, Administrative Regulations, operations and state codes

Proposed Actions

1. Adopt proposed updates to Council Policy 900-03 “Zero Emissions Municipal Buildings & Operations Policy”

2. Accept staff recommendation to sunset Council Policy 900-02 “Energy Conservation and Management” and Council Policy 900-18 “Purchase of Energy Efficient Products”

	B	C	D	E	F	G
1	**Appendix A**					
2	**Prescriptive Energy Efficiency Measure Menu for Major Renovation Projects**					
3	The list below includes prescriptive energy efficiency measures for existing building major renovations that must meet CP 900-03 (ZEMBOP) requirements, as an alternative to demonstrating compliance by way of conducting a Title 24 Part 6 energy model and/or calculating an EUI. **To ensure compliance, show the project receives 25 or more points.**					
4	INSTRUCTIONS: In Column F, please indicate selected measures/point values from the list to achieve 25 minimum points. Measures that already exist in the facility can be included in the total. All projects should include at least one measure from each category.			**AVAILABLE POINTS**	**POINTS APPLIED TO PROJECT**	**Provide brief description of how each measure selected is included in project.**
5	**Measure**	**Description**	**Detail**	**60**	**0**	
6	**Building Envelope Improvement**			**16**	**0**	
7	Insulate all exterior walls (U-Factor)	Enhance building efficiency by insulating exterior walls, including stud walls, with at least 1" of rigid insulation to prevent thermal bridging and air gaps; apply this strategy to masonry and curtainwall systems, prioritizing code compliance, thermal continuity, water drainage, air barrier repair, and eco-friendly insulation for sustainability.	**Stud walls of any type (metal stud or wood stud in any configuration)** •If uninsulated between the studs, fill the stud cavities with insulation, via a blown-in or pressure-blown process from the interior or exterior by punching access holes and repairing them after cavities are filled. •If there is no existing continuous insulation, apply rigid insulation of 1" minimum to the studs or to the sheathing on the exterior side of the wall. oRemove the cladding of the wall, apply the insulation, ensuring no air gaps between any existing cavity insulation and the rigid insulation, then replace the cladding to meet new wall measurements and impacted window and other transition detailing at corners, roofline, and grade-level. oThis is also applicable in panelized cladding and rainscreen systems including metal, stone, composite, or phenolic resin panels. **Existing masonry walls** •If the exterior beauty of an existing mass/masonry building needs to be preserved, apply semi-permeable rigid or open-cell spray insulation tight to the interior side of the wall. oTo ensure continuity at floor levels and at ceiling or roofline transitions, install cut pieces of semi-permeable rigid or use an open-cell spray foam or properly installed batt such as mineral wool between joists and rafters. oRepoint exterior masonry/mass walls and repair all cracks/damage to reduce water damage and freeze/thaw issues. •If the exterior is not visually worth saving, use an over-cladding approach. oInstall an insulated panelized system pre-manufactured off-site, or - oProvide furring and rigid insulation, with an added finish cladding layer. oEnsure no moisture will be trapped behind this over-cladding. **Curtainwall systems** •If replacement is an option, do so with a better performing system, and ensure transitions to other materials provide continuity of insulation and are appropriately sealed. •If the curtainwall is to be maintained, provide thermal break through removal and additional of material separation of the attachment elements. •If the renovation includes reduction of curtainwall area, replace those areas with opaque wall systems of at least code-compliant performance. •If curtainwall remains, increase of areas of spandrel panel, and add insulation to the spandrel panels. **In all cases:** •Additions to Existing Buildings should follow building code and energy code compliance measures. •Ensure a continuous thermal layer, with complete transitions around corners and when changing material planes or materials themselves. •Make sure there is the ability for water to drain (e.g. window sills) and that the wall can dry to at least one side of the wall. •Identify the air barrier system, repair it (see sections on sealing walls), and ensure continuity to new air barrier in renovated aspects of the wall. •Prioritize low Global Warming Potential (GWP) blowing agents in any rigid insulations or spray-foam applications for environmental alignment.	2		
8	Increase Attic Insulation , or Increase Roof Insulation	Insulate the attic or roof using continuous insulation, aiming for at least R-35 above or R-60 below the sheathing; for flat roofs with parapets, address drainage and consider cool-roof options, and for sloped roofs, insulate unconditioned attics tightly connecting to wall insulation, while conditioned attics require insulation on the roof sheathing and rafters with thermal breaks if exposed.	If there is no insulation at the roof or ceiling planes, provide continuous insulation to reach R-35 above the sheathing layer, or R-60 below the sheathing and in-between structural elements OR provide insulation above the ceiling to meet R-60. Do not do both. **Flat Roof with Parapets** Provide insulation at the roof sheathing level to support the complete conditioned space. •If placing or repairing insulation above the roof structure and sheathing - oEnsure there is drainage slope to parapet scuppers or internal roof drains. oIf repairing, remove all wet spots thoroughly and completely fill them with comparable insulation before adding insulation above. oChoose a cool-roof membrane option, when possible. A higher SR (solar reflectance) is better. •If installing the insulation under the roofing sheathing - oEnsure the batt, spray foam, or rigid insulation applications stay tight to the underside of the roof sheathing and tight to the roof joists or rafters. oUse spray foam or similar material to eliminate gaps and improve tightness especially at transition to walls. **Sloped-roof with overhangs and either cold or conditioned attic spaces.** If the attic or dead-space above the ceiling is unconditioned - •Ensure the ceiling plane provides an air barrier between the conditioned area and the cold space by sealing around any penetrations, including light fixtures, wires, and all tops of walls that pass through the ceiling "lid". •Provide blown-in cellulose insulation, mineral wool, open-cell spray foam, or other at the cold side of the ceiling structure, keeping insulation tight to any rafters, joists, or other impeding structures or mechanicals. •Insulation plane should connect to the wall insulation at roof/wall connection. •Vented unconditioned spaces may require installation of baffles to maintain open vents at eaves. If the attic is conditioned, or the space is open to the underside of the roof (cathedral) - •Install insulation tight to the roof sheathing and between the rafters or fully encapsulating the rafters. The insulation must not fall away from the underside of the roof sheathing surface over time. •If rafters are exposed to the interior, best practice is to provide a thermal break between rafters and sheathing or install a 1" layer of rigid insulation above the roof sheathing and under the roof finish material.	4		
9	Minimize Thermal Bridging	Minimize heat loss by keeping decks, porches, and canopies separate from the main building or using thermal breaks. Insulate and cover structures outside the building, and if not, internally seal and insulate up to 2 feet around them. Additionally, add 1-inch continuous insulation outside stud walls under exterior cladding to reduce heat transfer.	•Ensure any addition of decks, porches, and decorative canopies or roof are structurally separate from the main building or include detailing with thermal breaks. •Where structure penetrates the building thermal envelope, insulate, and cover the exposed structure if possible. If not possible, seal internally at the penetration, and insulate to 2' from the penetration. •Provide 1" continuous insulation on the outside face of stud walls under exterior cladding.	2		

	B	C	D	E	F	G
10	Improve Air Barrier	Improve building's air barrier by sealing gaps, cracks, and openings in walls, including around pipes and wires. Fix control joints in masonry, add weatherstripping to doors and windows, and ensure a continuous air barrier at transitions like floors and walls by sealing gaps and fitting insulation tightly to structural elements.	•If the air barrier is the interior wall surface, seal all joints, cracks, and holes including nail holes for picture hanging and mouse holes. Seal all penetrations for piping, ducts, or wires, with caulk, sealants, or gaskets. Repaint as needed. •If the wall system includes interior exposed masonry or stone, repair all control joints and expansion joints. •Provide weatherstripping at all doors and windows and caulk the interior casings for doors and windows. •Most existing buildings do not provide air barrier continuity past floors or at wall to roof transitions. If possible, open up these areas and improve air barrier continuity by installing insulations tight to the structural elements and to the rim joists, and sealing gasp as possible. •Once large gaps and penetrations are managed, consider using an aerosolized application system from inside the space to airseal completely.	4		
11	Install Cool Roof	When changing roofs, make sure the Solar Reflectance meets standards, and for green roofs or solar panels, consult a Structural Engineer to confirm the building can support the extra weight, varying from 4 to 30 pounds per square foot.	•When replacing roofing membranes or sloped-roof finishes, meet or exceed the SR levels of xxx •If installing a vegetated roof or roof-installed PV panels, consult with a Structural Engineer to ensure the existing building structure is sufficient for the added weight of 4-30 pounds per square foot? for even extensive vegetative roofs (low soil).	2		
12	Improve Fenestration Efficiency (Doors + Windows)	Enhance door and window efficiency by addressing issues, using thin film or heat-control panels, adding storm windows, and considering shading. When replacing windows, choose energy-efficient options, consider Passive House certification, and select Casement or Awning styles with attention to Solar Heat Gain Coefficient and optimal placement for wind and rain patterns.	**If existing fenestration is to remain -** •Repair any broken or loose glazing, loose frame corners, or gaping casings. •Apply thin film to control heat gain and glare or interior translucent panels to reduce heat transfer. •Install interior or exterior storm windows, which add a complete air film layer to the system. •Design and install exterior architectural elements for shading, such as awnings, horizontal or vertical sunscreens, or working shutter systems. •See also improved air barrier section. **If windows are being replaced –** •New windows should meet energy code window performance requirements. •Consider Passive house certified windows and reduction of overall window wall ratio (to below 30%) if appropriate. •Consider adjusting SHGC for the actual solar exposure of each side fo the building. •Select windows that are Casement or Awning operations for tighter fit and consider wind patterns and rain patterns for best placement.	2		
13	**Efficient Interior and Exterior Lighting and Controls**			**18**	**0**	
14	Reduce Interior Lighting Power Density	Enhance interior lighting efficiency with sensors for automatic shutoff, energy-efficient CFL or LED lamps, and controls for daylighting and occupancy; opt for LED fixtures with built-in wireless sensors for efficient activation and consider a design review for improved comfort, usability, and energy efficiency.	**Existing Interior Lighting –** •Provide Vacancy sensors in all spaces called out in energy code. These have manual on and then auto-off at set time limit when room is vacant. •Swap out lamps or lamp/ballast for improved LED lamps. •Provide daylighting and occupancy controls where applicable. •Circuit (wirelessly) to allow 50% off in even distribution or though dimming. **For Interior new fixtures -** •Select LED fixtures with fixture integrated sensors and controls that are wirelessly activated and grouped. •Perform design review to use layered overall lighting, task lighting, and accent lighting for better comfort, usability, and energy efficiency.	4		
15	Install Occupancy Controls	Install occupancy controls with vacancy sensors in all spaces, following energy code guidelines, to automatically turn off lights when rooms are empty, and explore wireless circuitry options for 50% dimming or complete light shutdown, including fixtures with built-in sensors for efficient lighting management.	•Provide Vacancy sensors in all spaces called out in energy code. These have manual on and then auto-off at set time limit when room is vacant. •Circuit (wirelessly) to allow 50% off in even distribution or though dimming. •Select fixtures with fixture integrated sensors and controls that are wirelessly activated and grouped.	4		
16	Install Daylighting Controls	Install daylighting controls by incorporating either dedicated controls where applicable or selecting new fixtures with integral sensors and wirelessly activated controls, enabling 50% dimming or turning off lights evenly.	•Provide daylighting controls where applicable or select new fixtures with integral sensors and controls that are wirelessly activated and grouped •Circuit (wirelessly) to allow 50% off in even distribution or though dimming.	2		
17	Reduce Exterior Lighting Lighting Power Density (LPD)	Reduce Exterior Lighting Power Density by using timers and motion sensors for existing lighting, and prioritize night sky labelled LED fixtures with timers and motion sensors for new fixtures, enhancing energy efficiency and safety.	Existing Exterior lighting – •Provide hour/day schedule timers for reduced or shut off lighting off-hours. •For parking areas, provide offset lighting schedule with motion sensors for EE and safety. For Exterior new fixtures – •Find night sky labelled fixtures to ensure all lighting goes where it is needed. •Select LED fixtures. •Provide hour/day schedule timers for reduced or shut off lighting off-hours. •For parking areas, provide offset lighting schedule with motion sensors for EE and safety.	2		
18	Increase Line-Voltage Efficiency	Improve line-voltage efficiency by installing current limiters in line-voltage track lighting systems and implementing a voltage smoother at the central electrical service for comprehensive building-wide voltage control.	•Install current limitors in line-voltage track lighting systems. •Install voltage smoother at central electrical service for full-building voltage control.	3		
19	Interior Lighting Plugloads	Install low power state controls and/or Schedule Timer Control Devices	Install low power state controls and/or Schedule Timer Control Devices	3		
20	**HVAC Improvement**			**20**	**0**	
21	Install High Performance Hot Water Heating	Upgrade water heating with efficient heat pump systems, particularly air-source heat pump water heaters that don't use conditioned air from the building, except for exhaust. In specific areas, consider electric resistance heat pumps for added efficiency.	•Select heat pumps to meet all service water heating requirements. •Air-source heat pump water heaters are not permitted to draw conditioned air from within the building, with the exception of exhaust air that would otherwise be expelled to the exterior. oElectric resistance HP may be more efficienct in specific point-of-use spaces.	4		

	B	C	D	E	F	G
22	Improve HVAC Equipment Efficiency	Boost HVAC efficiency by auditing existing systems, planning upgrades, and for new systems, use variable speed compressors and electric heat pumps surpassing minimum efficiency standards by 10%.	**Improve Existing Systems** •Phase 1 - Perform Retro Commissioning process to identify efficiency improvements and establish continual improvement methodologies. •Phase 2 - create upgrade plan for facility **New Systems** •Design the system or select equipment with variable speed compressors or variable frequency drives. •Select electric heat pump equipment. oSurpass the minimum heating efficiency standards by 10%, and 10% improvement above the minimum requirements for cooling and heat rejection efficiency.	6		
23	Upgrade HVAC Controls	Improve HVAC controls by setting a weekly schedule, adjusting operational settings twice a year, and if possible, allowing remote access via a wireless interface for easier monitoring and control by facility managers.	•Provide seven-day schedule functionality •Program controls for operational parameters fo the facility, and schedule retuning of programming 2xper year. •Preferred - remote access through a wireless interface, enabling facility managers to control and monitor performance from any network-enabled device. •Follow ASHRAE Guideline 36 for controls programming	4		
24	Upgrade Ventilation System	Enhance ventilation by installing an Energy Recovery System (ERS) or choosing a balanced system. Ensure the incoming and outgoing airflow is closely matched, with a maximum difference of 15%. Don't forget to include controls for the Energy Recovery System.	•Install an Energy Recovery System (ERS) or opt for a balanced ventilation system, ensuring that the supply airflow rate closely aligns within 15% with the exhaust airflow rate •Include controls on ERS	2		
25	Meet Fan System Design Conditions	Ensure fan systems meet design conditions by using separate motors for applicable fans, connecting them to the Building Management System (BMS), and integrating with Variable Frequency Drives (VFDs) along with comprehensive controls and programming.	•Provide motors distinct from packaged equipment for fans where applicable, with connection to BMS (Building Management System) •Ensure integration with Variable Frequency Drives (VFDs) and all controls and programming	1		
26	Install Dedicated Outdoor Air System (DOAS)	Install DOAS with Energy Recovery unless demand control measures are in place	•Install DOAS with Energy Recovery unless demand control measures are in place	1		
27	Efficient Refrigerants (Airflow and Refrigerant Charge Verification)	Ensure correct and consistent airflow in HVAC system with annual retuning.	•Ensure correct and consistent airflow in HVAC system with annual retuning.	2		
28	**Efficient Appliances**			**6**	**0**	
29	Install Energy Star Appliances (all that apply)	Switch to energy-efficient appliances meeting Energy Star standards, covering electronics, office equipment, heating and cooling, lighting, water heaters, and more; also, boost efficiency by implementing Computer Power Management and Plug Load/Plug Controls.	•Purchase equipment meeting Energy Star certification standards whenever available. » Electronics » Office equipment » Commercial food service equipment » Heating and cooling equipment » Lighting » Water heating » Residential dishwashers » Residential clothes washers •Implement Computer Power Management and Plug Load / Plug Controls.	3		
30	Reduce Refrigerant Leakage	Reduce refrigerant leakage by installing accessible piping for leak detection and repairs, and establish a Refrigerant Management Policy.	•Install piping containg refrigerants to be accessible for leak detection and repairs. Create Refrigerant Management Policy	2		
31	Appliance Plugloads	Ensure appliances have power management features to maximize efficiency for user controls.	Ensure appliances have power management features to maximize efficiency for user controls.	1		

SUBJECT: ZERO EMISSIONS MUNICIPAL BUILDINGS AND OPERATIONS POLICY
POLICY NO.: 900-03 UPDATE
EFFECTIVE DATE: ~~OCTOBER 11, 2022~~[Month Day], 2024

BACKGROUND:

I. California Law and Policy

Since 2006, the State of California has enacted laws and adopted policies designed to reduce *Greenhouse Gas* (*GHG*) *Emissions* within the state to prevent global warming. Among them:

- The Global Warming Solutions Act of 2006, Assembly Bill 32 (2018-2019 Reg. Sess.) (A.B. 32), requires a reduction in *GHG Emissions* to 1990 levels by 2020 and beyond.
- The Energy Efficiency Strategic Plan was adopted by the California Public Utilities Commission in response to A.B. 32. It requires all new commercial construction to be Zero Net Energy by 2030, and 50% of existing buildings to be Zero Net Energy by 2030.
- The Clean Energy and Pollution Reduction Act, Senate Bill 350 (2015-2016 Reg. Sess.) (S.B. 350), requires California to set a renewable electricity procurement goal of 50% by 2030, and double energy efficiency savings in electricity and natural gas end uses by 2030.
- The 100% Clean Energy Act of 2018, Senate Bill 100 (2017-2018 Reg. Sess.) (S.B. 100), sets a world-leading precedent by committing to 100% renewable and zero-carbon electricity in California by 2045, speeding up the state's timeline for moving to carbon-free power sources.
- The Zero Emissions Buildings and Sources of Heat Energy Act of 2018, Assembly Bill 3232 (2017-2018 Reg. Sess.) (A.B. 3232), required the California Energy Commission to assess, by January 1, 2021, how to reduce GHG emissions from the state's building stock by 40% below 1990 levels by 2030.
- The California Building Standards Code (California Code of Regulations, Title 24) sets prescriptive requirements and performance standards for building energy efficiency, use of electric appliances, provision of circuits and panel capacity to support electric appliances, onsite solar panels, onsite battery storage systems, and provision of electric vehicle chargers at nonresidential buildings.
- Executive Order N-79-20, issued by Governor Newsom on September 23, 2020, declared that by 2035, all new cars and passenger trucks sold in California must be zero-emission vehicles.
- The Advanced Clean Truck regulation issued by the California Air Resources Board in

2020 requires a steadily increasing share of medium and heavy trucks sold in California from 2024 onward to be zero emissions vehicles.

II. City of San Diego Policy

In 2014, the City Council (Council) of the City of San Diego (City) adopted Council Policy 900-14, the Sustainable Buildings Policy, which sets forth the City's commitment to follow green building practices in City facilities and provide leadership and guidance in promoting, facilitating, and instituting such practices in the community. In 2022, Council adopted the Climate Action Plan update (CAP), which calls for eliminating all GHG Emissions in the City and aims for all electricity to be generated from zero carbon sources by 2035. The CAP states that natural gas consumption at City facilities will be reduced by 50% by 2030 and eliminated by 2035. The CAP further states that 50% of all light, medium, and heavy-duty municipal fleet vehicles will be zero emissions vehicles by 2030, and that 100% of light duty and 75% of medium and heavy-duty municipal fleet vehicles will be zero emissions vehicles by 2035.

PURPOSE:

This Policy establishes a framework for achieving the goal of portfolio-wide zero *GHG Emissions* in City-owned and leased buildings and operations by 2035 by prioritizing proven energy efficiency strategies, eliminating the use of non-emergency *Fossil Fuel Systems*, requiring *Electric Vehicle* charging, and requiring the generation, or procurement of, renewable or zero carbon energy to power municipal building operations.

POLICY:

I. Definitions

A. *Automated Load Management System*: A system designed to manage load across one or more *Electric Vehicle Supply Equipment* (*EVSE*) to share electrical capacity and/or automatically manage power at each connection point.

B. *Battery Energy Storage System* (*BESS*): A technology developed for storing electric charge by using specially developed batteries. Stored energy can be discharged from the battery to supply building end uses later .

C. *Cost Effective*: The economic analysis indicates that the cost of installation of renewable electricity generation plus energy storage equipment at the site could be recouped through savings, revenue under Net Energy Metering, or other available utility programs using a 20-year time horizon, or within the term of a third-party ownership agreement, such as a Power Purchase Agreement Energy Management Services Agreement or similar agreement, which shall not exceed 20 years.

~~C~~D. *Design Target*: The annual energy use intensity calculated for a *Proposed Design.*

~~D~~E. *Direct Current Fast Charger* (*DCFC*): A device capable of charging an electric car

with direct current electricity at a rate of at least 50 kilowatts and meeting the definition and requirements of a *DCFC* stated in the California Code of Regulations, Title 24.

~~E~~F. *Electric Vehicle* (*EV*): A vehicle whose drivetrain is powered exclusively by electricity.

~~F~~G. *Electric Vehicle Supply Equipment* (*EVSE*): The conductors, including the ungrounded, grounded, and equipment grounding conductors, and the *Electric Vehicle* connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the *Electric Vehicle*.

~~G~~H. *Energy Retrofit*: Any construction, retrofit, renovation, or equipment replacement to an existing building other than a *Major Renovation,* that alters, reconfigures, or replaces the *Thermal Envelope* of a building, its *Fossil Fuel Systems*, or other energy-consuming systems and equipment.

~~H~~I. *Energy Use Intensity* (*EUI*): A measurement that quantifies a building's site energy use relative to its size. A building's energy use intensity is calculated by dividing the total net energy consumed in one year by the gross floor area of the building, excluding the parking garage. EUI is reported as a value of thousand British thermal units per square foot per year (kBtu/sq.ft./yr).

~~I. *EV Capable Space*: An automotive parking space that is provided with some of the infrastructure necessary for the future installation of *Electric Vehicle Supply Equipment* (*EVSE*) at a specified level (Level 1, 2, or DCFC). Infrastructure shall include a raceway that is capable of accommodating a dedicated branch circuit of the appropriate level from a building electrical service panel to the parking space, sufficient electrical capacity and physical space in the same building electrical service panel to accommodate a dual-pole circuit breaker sized to the appropriate level, and sufficient physical space at the parking space for installation of *EVSE*.~~

J. *EV Ready Space*: An automotive parking space that is provided with one dedicated branch circuit for *Electric Vehicle Supply Equipment* that is terminated at a receptacle, junction box, or *Electric Vehicle Supply Equipment* within the parking space.

K. *EVSE Space*: An automotive parking space equipped with a dedicated branch circuit and installed *Electric Vehicle Supply Equipment*. Level 2 *EVSE* shall be capable of supplying at least 30 amperes at 208/240 volts.

L. *Fossil Fuel*: For the purposes of this Policy, *Fossil Fuel* refers to any solid, liquid, or gaseous fuel consumed in buildings, generators, equipment, or vehicles, other than those that are sourced exclusively from a verified renewable

source accepted for credit under the California Renewables Portfolio Standard. *Fossil fuels* include, but are not limited to, coal, natural gas (methane), gasoline, diesel, kerosene, and propane. All fuels are presumed to be *fossil fuels* unless proven otherwise.

M. *Fossil Fuel System*: a combination of equipment and auxiliary devices by which fossil fuel energy is transformed so it performs a specific function, such as heating, ventilation, and air conditioning (HVAC) and service water heating.

N. *Global Warming Potential* (*GWP*): The equivalent amount of carbon dioxide associated with the warming effect of a given quantity of a *GHG* expressed as CO2-equivalent (CO2e).

O. *Greenhouse Gas* (*GHG*) *Emissions*: A measure used to determine and compare the emissions of various greenhouse gases based upon their *Global Warming Potential*. Carbon dioxide equivalent (CO2e) emissions from carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O) are included. The CO2e for a gas is calculated by multiplying the weight of the gas by its associated *GWP*.

P. *Heavy Duty Vehicle*: A road vehicle with a gross vehicle weight rating of greater than 26,000 pounds.

Q. *Light Duty Vehicle*: A road vehicle with a gross vehicle weight rating of 10,000 pounds or less, such as a sedan, sport utility vehicle, pickup truck, or utility van.

R. *Level 1 Electric Vehicle Space*: A parking space, which is either ~~*EV Capable, EV Ready,*~~ or has an *EVSE* installed and which has or is designed to receive a dedicated 120 volt branch circuit with 16 or 20 ampere capacity.

S. *Level 2 Electric Vehicle Space*: A parking space, which is either ~~*EV Capable,*~~ EV Ready, or has an EVSE installed and which has or is designed to receive a dedicated 208/240 volt, 40 ampere branch circuit.

T. *Major Renovation*: A *Major Renovation* shall mean:

1. Any repaving, alteration, addition, or improvement of a parking lot or parking garage where the work area exceeds 50% of the parking area; or

2. Any repair, alteration, addition, or improvement of a building, which includes replacement of two or more of the following:

   a) HVAC unitary systems or HVAC central heating or cooling equipment serving the alteration area.

   b) 50% or more of the internal lighting fixtures in the building.

   c) 50% or more of the external lighting fixtures on the building exterior

and in the parking lot.

d) 50% or more of the area of interior surfaces in the building.

e) 50% or more of the area of the building's exterior wall envelope.

U. *Medium Duty Vehicle*: A road vehicle with a gross vehicle weight rating of between 10,001 and 26,000 pounds.

V. *New Construction*: Any newly constructed building, facility, or parking lot that has never been previously used or occupied for any purpose.

W. *On-Site Renewable Energy System*: Photovoltaic, solar thermal, geothermal, wind, hydroelectric, landfill gas, and digester gas systems used to generate energy and located on any of the following:

1. The building;

2. The property upon which the building is located;

3. An adjacent property that shares a boundary with and is under the same ownership or control as the property on which the building is located; or

4. A property that is under the same ownership or control as the property on which the building is located and is separated only by a public right-of-way from the property on which the building is located.

X. *Prescriptive Energy Efficiency Measure Menu for Major Renovation Projects:* A menu consisting of prescriptive energy efficiency measures for a major renovation project to an existing building that must meet the requirements set forth in this Policy, as an alternative to demonstrating compliance by way of conducting a Title 24 Part 6 energy model and/or calculating an EUI.

Y. *Proposed Design*: A description of the proposed building, or portion thereof, used to estimate annual energy use and *Fossil Fuel* combustion, used as the basis for calculating the *Design Target*.

Z. *Renewable Energy System*: Photovoltaic, solar thermal, geothermal, wind, hydroelectric, landfill gas, and digester gas systems used to generate energy.

AA. *Thermal Envelope*: The basement walls, exterior walls, floors, ceilings, roofs, windows, and any other building element assemblies that enclose conditioned space or provide a boundary between conditioned space and exempt or unconditioned space.

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II. Scope

A. Commencing with this Policy, all managers of City-owned and occupied buildings and facilities must take action as provided in this Policy to achieve net zero emissions. This shall be achieved in *New Construction, Major Renovation, and Energy Retrofit* projects by implementing the following strategies:

1. Prioritizing energy efficiency by achieving appropriate site *Energy Use Intensity* (*EUI*) or *Prescriptive Energy Efficiency Measure Menu for Major Renovation Projects* targets;

2. Specifying electric sources for space conditioning, water heating, cooking, lighting, and all other non-emergency functions;

3. Offsetting building operational energy use with *Renewable Energy Systems*; and

4. Providing parking spaces equipped to charge *Electric Vehicles*.

B. Additionally, City departments shall develop plans for the elimination of all sources of *Fossil Fuel* combustion within their existing buildings and facilities and for the provision of vehicle chargers for all *Light Duty Vehicles* in their fleets by 2035.

C. ~~The requirements of this Policy shall be incorporated into the terms of~~ Additionally, all new leases, and lease renewals of City-owned buildings and land (i.e., leases where the City is the landlord) that require Council approval~~. Generally, San Diego Municipal Code section 22.0901 requires Council approval of a new lease if its duration will exceed three years (or will exceed ten years in the case of a telecommunications facility using wireless technology)~~ shall incorporate portions of this Policy into the lease terms.

III. Implementation

A. Building Efficiency

1. All *New Construction* projects of buildings larger than 1,000 square feet shall use energy modeling to demonstrate that the *Proposed Design* yields energy consumption which is either no greater than the applicable site *EUI* targets specified in Table 1 or at least 10% lower than the Standard Design annual time dependent value energy use calculated by the methodology established in the California Code of Regulations, Title 24 Part 6.

Table 1: Proposed Site *EUI* Targets for *New Construction* Projects

Building Type	Site *EUI* Target for *New Construction* (kBtu/sq.ft./year)
Community Center	20
Fire Station	28
Laboratory	160
Library	28
Medium Office (≤100,000 Sq. Ft)	20
Museum	18
Non-refrigerated Warehouse	8
Operations Yard (Vehicle service)	25
Police	45
Recreation Center	20
Refrigerated Warehouse	15
Restaurant	150
Senior Center	30
Theater	20

Industrial facilities such as landfills, pump stations and treatment plants are exempt from this requirement because their energy consumption is determined by industrial process factors which are not proportional to their floor area. Where an industrial facility includes onsite office buildings, laboratories, warehouses, or other uses listed in Table 1, which are larger than 1,000 square feet, this requirement applies to those portions of the buildings or areas with those uses.

2. All *Major Renovation* projects to buildings larger than 1,000 square feet shall use energy modeling to demonstrate that the *Proposed Design* yields energy consumption which is either no greater than the applicable site *EUI* targets specified in Table 2 or no greater than the Standard Design annual time dependent value energy use for new buildings calculated by the methodology established in the California Code of Regulations, Title 24 Part 6.

Table 2: Proposed Site *EUI* Targets for *Major Renovation* Projects

~~Table 2: Proposed Site EUI Targets for Major Renovation Projects~~

Building Type	Site *EUI* Target for *Major Renovation* (kBtu/sq.ft./yr)
Fire Station	35

Building Type	Site *EUI* Target for *Major Renovation* (kBtu/sq.ft./yr)
Library	35
Medium Office (≤50,000 Sq. Ft)	27
Non-refrigerated Warehouse	12
Operations Yard (Vehicle service)	35
Police	55
Recreation Center	25
Refrigerated Warehouse	25
Restaurant	200

If the project team does not include an energy designer/consultant and an energy model is not being produced, selecting energy efficiency measures that add up to 25 points on the *Prescriptive Energy Efficiency Measure Menu for Major Renovation Projects* can also meet this requirement.

Industrial facilities such as landfills, pump stations and treatment plants are exempt from this requirement because their energy consumption is determined by industrial process factors which are not proportional to their floor area. Where an industrial facility includes onsite office buildings, laboratories, warehouses, or other uses listed in Table 2, which are larger than 1,000 square feet, this requirement applies to those portions of the buildings or areas with those uses.

B. Zero Emission Buildings

1. All *New Construction* and *Major Renovation* projects shall be designed and operated with exclusively electric systems or appliances for space conditioning, water heating, cooking, and lighting, and without using any *Fossil Fuel* energy source for non-emergency electricity generation or any other non-emergency functions. In the case of *Major Renovation* projects, this requirement shall apply to the entirety of the building or facility being renovated.

   a) Exceptions:

      i. Facilities which use an onsite source of renewable gas (limited to landfill gas and wastewater treatment plant digester gas) for digester heating, renewable electricity generation, or other essential functions may use nonrenewable gas at times when the supply of renewable gas is disrupted.

ii. Flares at landfills, wastewater plants, and similar facilities may use supplemental natural gas to the extent necessary to meet air quality regulations.

2. All *New Construction* and *Major Renovation* projects of buildings larger than 1,000 square feet shall install onsite renewable electricity generation and storage. Sizing of renewable energy generation equipment shall be sized to *match* the annual average building electricity consumption. If a Fleet Charging Plan has been adopted, renewable energy generation equipment sizing shall also consider the annual average light-duty vehicle consumption. This equipment shall be installed either as part of the construction or renovation project or separately within two years of final inspection on the facility construction or renovation. Sizing of *Battery Energy Storage Systems* shall be evaluated based on their economic impact to facility operations ~~and~~, reliability benefits, and availability of physical space for BESS. The generation and storage equipment may be City-owned or third party-owned. Facility designs shall anticipate the addition of solar panels or other renewable generation and energy storage.

a) ~~Exceptions~~Solar Ready:

i. *New Construction* and *Major Renovation* projects planning to install solar separately within two years of final inspection will be designed solar-ready and meet the following requirements:

a. The solar zone total area shall be comprised of areas that have no dimension less than five feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet.

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b. The solar zone shall comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9, other Parts of Title 24, or in any requirements adopted by the City of San Diego.

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b) Exceptions:

i. The generation and storage requirement may be reduced or avoided if economic analysis indicates that the ~~cost of installation of renewable electricity generation plus energy~~

~~storage equipment at the site could not be recouped through savings, revenue under Net Energy Metering, or other available utility programs using a 20-year time horizon~~project is not *Cost Effective*.

ii. The generation requirement may be reduced or avoided if existing or planned tree canopy cover makes a location unsuitable for solar power. Due to the availability of clean grid power through San Diego Community Power, opportunities for establishment of new tree canopy shall be prioritized above establishment of new onsite solar power at City facilities in cases of conflict.

3. All *New Construction* and *Major Renovation* projects shall obtain 100% of their energy, except for emergency generation, from zero-carbon or renewable sources, using one of more of the following acceptable sources:

i. *Onsite Renewable Energy System*;

ii. Directly owned off-site *Renewable Energy System*;

iii. Power purchase agreement;

iv. Zero-carbon or renewable fuel purchase agreement; or

v. 100% zero-carbon electricity rate options offered by the facility's community choice aggregator (San Diego Community Power (SDCP)) or electric utility.

a) *Onsite Renewable Energy Systems* are preferred over other acceptable zero-carbon or renewable sources.

b) Energy sources used must be 100% zero-carbon or renewable on an annual net basis. Sources for which the zero-carbon or renewable energy generation is matched to the time of consumption are preferred.

c) The zero-carbon or renewable energy generating source shall be a source which is classified as zero-carbon under the 100% Clean Energy Act of 2018 (S.B. 100) or recognized for credit by the California Renewables Energy Portfolio Standard, such as the following: photovoltaic systems; solar thermal power plants; geothermal power plants; wind turbines; hydroelectric plants; and fuel cells, turbines, or internal combustion engines powered by landfill gas or digester gas.

d) Fuel cells, turbines, or internal combustion engines powered by renewable energy sources may use nonrenewable energy sources only for incidental or emergency use when supply of the renewable fuel is temporarily disrupted and within the limitations on nonrenewable fuel use by such facilities described in the California Renewables Energy Portfolio Standard.

e) Off-site zero-carbon or renewable energy (including electricity and fuels) delivered or credited to the facility shall be subject to a legally binding contract to procure qualifying off-site zero-carbon or renewable energy. Qualifying off-site energy shall meet the following requirements:

i. The City shall sign a legally binding contract to procure qualifying off-site zero-carbon or renewable energy with a minimum duration of 20 years.

ii. The generation source shall be located where the energy can be delivered to the building or facility by the same utility or distribution entity, the California Independent System Operator, or the Western Electric Coordination Council.

iii. Exception: Purchase of 100% zero-carbon or renewable electricity from San Diego Community Power is acceptable without a long-term contract.

4. New and existing buildings and facilities, which obtain energy from onsite or off-site zero-carbon or *Renewable Energy Sources*, shall continue to use zero-carbon or renewable energy from that source or a replacement source throughout the life of the building/facility.

5. All municipal buildings and facilities not covered by the above requirements shall obtain 100% of their electricity and other energy, excluding emergency generation, from zero-carbon or renewable sources to the greatest extent feasible and cost effective as soon as is feasible, and in no case later than by 2035.

6. Projects that are not classified as *New Construction* or *Major Renovation* projects shall meet the following requirements:

a) *Energy Retrofit* projects shall prioritize measures that result in the replacement of *Fossil Fuel Systems* used to meet space-conditioning loads and provide hot water with efficient all-electric systems.

b) All *Fossil Fuel Systems* used for space conditioning, water heating, cooking, lighting, and all other non-emergency functions shall be

replaced with all-electric systems upon the end of that system's useful life.

c) No new *Fossil Fuel Systems* used for space conditioning, water heating, cooking, lighting, or any other non-emergency function shall be installed.

C. Electric Vehicle Charging

1. *New Construction* and *Major Renovation* projects with parking facilities for passenger and *Light Duty Vehicles* shall include *Electric Vehicle* charging infrastructure that meets the following requirements:

a) The parking facility shall include sufficient reserved parking spaces for the number of City-owned *Light Duty Vehicles* expected to be parked there overnight. *Light Duty Vehicle* fleet spaces shall be made *EV Ready Spaces* at the time of construction in a manner consistent with the approved light Fleet Charging Plan for the facility. In absence of an approved ~~charging plan, all~~Fleet Charging Plan, every two parking spaces designated for overnight parking of City-owned *Light Duty Vehicles* shall be *Level 2 EV Ready Spaces* to achieve a vehicle charger ratio of 2:1.

b) At newly constructed buildings, parking lots, or parking garages, ~~at least 50% of parking spaces not designated for City-owned vehicles~~EV charging infrastructure requirements shall be ~~*EV Capable Spaces*~~designed to meet the requirements of CALGreen Tier 1. If any local, state, and/or federal code contains requirements more stringent than CALGreen Tier 1, *EV* ~~*Ready Spaces*, or *EVSE Spaces*~~charging infrastructure shall be designed to meet the more stringent code compliance requirements.

i. EV spaces accessible to the public or to employee private vehicles shall be connected to a separate electric panel and meter other than the panel and meter used for the City building and fleet charging.

~~ii. *Direct Current Fast Chargers* of 50 kilowatt capacity or greater may be substituted for *Level 2 EV Capable Spaces* at up to 40% of parking spaces not designated for City-owned vehicles, with one parking space with *DCFC* installed counting as equivalent to five *Level 2 EV Capable Spaces*.~~

~~c) The electrical panel that contains the physical space to accommodate the future installation of circuit breakers for *EV Capable Spaces* shall have sufficient electrical capacity to provide~~

~~no less than 3.3 kilowatts per *EV Capable Space* and no less than required by state code.~~

~~d)~~ ~~On a case-by-case basis where there is insufficient utility-side electrical supply to meet the above requirements, the number of *EV* spaces not designated for City-owned vehicles may be reduced to the amount which can be accommodated by the supply. If there is not sufficient electrical supply for the facility's planned allocation of City-owned vehicles, adequate supply must be created or the number of City-owned vehicles allocated to the lot must be reduced.~~

~~e)~~ ~~At large parking lots primarily used for special event overflow parking or where a large proportion of spaces are normally not occupied, the EV charging requirements may be calculated based on the number of spaces to be regularly occupied rather than the entire lot. Such reductions shall be done on a case-by-case basis and each case shall require approval by the Sustainability and Mobility Department Director or their designee.~~

D. GHG Emissions Reporting

1. All *New Construction* ~~projects~~ and *Major Renovation* projects larger than 1,000 square feet shall meet the following requirements: ~~completed after the adoption of this Policy, the Asset Managing Department (AMD) must disclose the following information to the Mayor or City Manager~~:

   a) Prior to submission of final building permit inspection, the architect or engineer of record shall submit to the City Manager or their designee, with a carbon copy to the Sustainability and Mobility Department Director, a GHG Emissions Compliance ~~report to the Sustainability and Mobility Department Director or their designee~~Report that includes:

      i. Documentation of the applicable energy efficiency requirements under this Policy and energy modeling documentation that the *Proposed Design* meets the *Design Target*, or a completed *Prescriptive Energy Efficiency Measure Menu for Major Renovation Projects* indicating the minimum number of points (25) has been achieved.

      ii. An inventory of all *Fossil Fuel* consuming appliances and equipment and confirmation that space conditioning, hot water heating, and other non-exempt energy-consuming needs are met with all-electric systems and appliances.

      iii. An estimate of the annual *GHG Emissions* associated with

the project. The estimate shall be made in accordance with ASHRAE Standard 105, Section 7 using GHG emissions factors published by the EPA.

iv. A renewable energy assessment that identifies the zero-carbon or renewable energy sources that will be used to meet the energy needs of the building or facility.

E. Fossil Fuel Elimination Plans

~~1.~~ ~~By May 1, 2023, all AMD shall submit a *Fossil Fuel* equipment inventory to the Mayor or City Manager which shall include:~~

~~a)~~ ~~An inventory of each facility's *Fossil Fuel Systems*, their install dates, and the useful life remaining for those systems.~~

~~b)~~ ~~Any known or anticipated equipment-specific obstacles that would prevent replacement with electric equipment.~~

~~2~~1. By January 1, ~~2024~~2025, all AMDs shall submit a detailed *Fossil Fuel* ~~elimination plan~~ Elimination Plan to the ~~Mayor or~~ City Manager or their designee that identifies and prioritizes the strategies needed to eliminate *Fossil Fuel* combustion within each facility by 2035. This plan shall include:

a) The necessary actions, funding, and investments needed to eliminate *Fossil Fuel* Systems;

b) A timeline for substantial alterations and system replacement efforts;

c) Priority actions for system replacement efforts that have the greatest potential return on investment based on cost analysis that includes the cost of carbon emission impacts; and

d) Demonstration that the plan achieves at least a ~~33~~50% reduction of the department's direct *GHG Emissions* from *Fossil Fuel* combustion relative to 2019 levels by January 1, ~~2028; 55% reduction by January 1, 2030; 67% reduction by January 1, 2031; and 100% reduction by January 1, 2035; and~~2030 and 100% reduction by January 1, 2035.

~~e)~~ ~~Potential locations for the installation of *On-Site Renewable Energy Systems*.~~

~~3~~2. All AMDs shall submit a report by January 1, ~~2025~~2026, to the ~~Mayor or~~ City Manager or their designee and each year thereafter documenting their

progress made in *Fossil Fuel* elimination. This annual report shall include an update to the *Fossil Fuel* ~~elimination plan~~ Elimination Plan reflecting documented progress and remaining work.

F. Fleet Charging Plans

~~1. By January 1, 2024, all AMDs shall submit a detailed light fleet charging plan to the Mayor or City Manager.~~

~~2~~1. By January 1, 2026, all AMDs shall submit a detailed ~~-~~Fleet Charging Plan to the City Manager or their designee that identifies and ~~heavy fleet charging plan the Mayor or City Manager.~~

~~3. The fleet charging plans shall identify prospective charging locations for all City-owned vehicles which park overnight at each facility, which the respective AMD manages,~~ prioritizes the strategies needed to transition *Light Duty Vehicles*, *Medium Duty Vehicle*s and *Heavy Duty Vehicles* to *EV,* in order to support electrification of all City-owned *Light Duty Vehicles* and 75% of City-owned *Medium Duty Vehicles* and *Heavy Duty Vehicles* by 2035. ~~For each facility, these plans shall include:~~

2. The Fleet Charging Plans shall identify prospective charging locations for all City-owned vehicles that park overnight at prioritized facilities managed by the respective AMD. For each facility, these plans shall include:

a) The necessary actions, funding, and investments needed to electrify vehicles.

~~a~~b) A list of all City-owned vehicles organized by vehicle classification of *Light Duty Vehicles*, *Medium Duty Vehicles* and *Heavy Duty Vehicles*, which use the facility as their primary parking location or otherwise use the facility as an overnight parking location. The list shall include the AMD's vehicles as well as any vehicles from other departments that normally park at the facility.

~~b) An estimate of the daily mileage and charging requirement of each vehicle, assuming all *Light Duty Vehicles* are replaced with an equivalent *Electric Vehicle*.~~

c) An assessment of the number ~~and,~~ type, and power level of ~~chargers~~ *EVSE's* most suitable for the location.~~, considering both vehicle usage needs and cost.~~

~~i.~~ The ~~quantity shall support electrification of all vehicles~~ assessment is based ~~at~~ on the ~~facility.~~

ii. By default, plans should assume one *Level 2* charging port per *Light Duty Vehicle*.

iii. For *Light Duty Vehicles* with modest daily mileage, cost, and charging requirements, plans may specify a single *Level 2* charger to be shared between multiple *Electric Vehicles* or use *Level 1* chargers in terms of Vehicle per Port ratio for each vehicle.

iv. If *EV* chargers will be shared, the plan shall specify how sharing will be managed, such as by assigning alternating days.

d) A map of the facility, which indicates the proposed charging locations, the location of the electric panel, and any additional panel or subpanel to be used.

e) An estimation of the quantity of circuits and length of conduit required to be installed, the required and available capacity in the electrical panel, whether an *Automated Load Management System* should be used, and whether panel upgrades are required.

f) An estimate of the cost to install the specified chargers.

4. Each AMD's medium and heavy fleet charging plan shall include an option and timeline to achieve 100% electrification, going beyond the initial 75% target.

5. Departments shall additionally submit a list of all vehicles owned or operated by their department, as well as additional vehicles anticipated to be acquired, which indicates the vehicle's assigned parking location and which facility fleet charging plan will accommodate the vehicle. Departments shall ensure that any of their vehicles which park on a facility managed by a different AMD are included in the relevant charging plan. Departments shall include a plan to provide charging to any of their vehicles which currently park at a location not owned and operated by the City.

d)A timeline for installation of *EVSE*.

e)Potential locations for the installation of *EVSE*.

63. All AMDs shall submit a report an update to the Fleet Charging Plans by January 1, 20252027, to the Mayor or City Manager or their designee and each year thereafter documenting their progress made in installing vehicle chargers for their department's fleet. This annual report shall include an update to the fleet charging plans reflecting documented progress and

work remaining ~~work~~.

G. Leased Properties

1. ~~The requirements of this Policy for buildings and facilities shall be incorporated into all~~ All new leases and lease renewals of City-owned ~~property with an effective date of January 1, 2024, or later~~ buildings and land (i.e., leases where the City is the landlord) that require Council approval~~. The lease language~~ shall include in the terms and conditions Policy provisions that apply the following requirements ~~to~~ at all leased buildings and land.

a) The lessee is required to obtain for leased buildings and facilities 100% of electricity and other energy, excluding emergency generation required by local, state or federal code, from zero-carbon or renewable sources no later than by 2035.

b) All leases shall meet the following requirements:

i. *Energy Retrofit* projects shall prioritize measures that result in the replacement of *Fossil Fuel Systems* used to meet space-conditioning loads and provide hot water with efficient all-electric systems.

ii. All *Fossil Fuel Systems* used for space conditioning, water heating, cooking, lighting, and all other non-emergency functions shall be replaced with all-electric systems upon the end of that system's useful life and in no case later than by 2035, regardless which party maintains the systems (i.e. City or lessee).

iii. No new *Fossil Fuel Systems* used for space conditioning, water heating, cooking, lighting, or any other non-emergency function shall be installed.

c. GHG Emissions Reporting

i. For all *New Construction* projects larger than 1,000 square feet completed after the incorporation of this Policy into the lease agreement:

a. Prior to submission of final building permit inspection, the architect or engineer of record shall submit to the City Manager or their designee, with a carbon copy to the Sustainability and Mobility Department Director, a GHG Emissions Compliance

Report that includes:

1. Documentation of the applicable energy efficiency requirements under this Policy and energy modeling documentation that the *Proposed Design* meets the *Design Target*, .

2. An inventory of all *Fossil Fuel* consuming appliances and equipment and confirmation that space conditioning, hot water heating, and other non-exempt energy-consuming needs are met with all-electric systems and appliances.

3. An estimate of the annual *GHG Emissions* associated with the project. The estimate shall be made in accordance with ASHRAE Standard 105, Section 7 using GHG emissions factors published by the EPA.

4. A renewable energy assessment that identifies the zero-carbon or renewable energy sources that will be used to meet the energy needs of the building or facility.

d)Exemptions

i. Facilities which use an onsite source of renewable gas (limited to landfill gas and wastewater treatment plant digester gas) for digester heating, renewable electricity generation, or other essential functions may use nonrenewable gas at times when the supply of renewable gas is disrupted.

ii. Flares at landfills, wastewater plants, and similar facilities may use supplemental natural gas to the extent necessary to meet air quality regulations.

iii. Industrial facilities such as landfills, pump stations, and treatment plants because their energy consumption is determined by industrial process factors which are not proportional to their floor area.

e) Exceptions

Lessees can follow the exception process outlined in section I. below if a

portion of Council Policy 900-03 cannot be met.

2. If the City has been leasing City-owned buildings or land to a specific tenant since before January 1, 2024, and if the City proposes to grant a time extension or a new lease to that same tenant effective on or after January 1, 2024, that will require Council approval, the ~~Mayor~~ City Manager or ~~Mayor's~~ their designee may propose to revise or omit specific provisions of this Policy when negotiating the lease terms on a case by case basis if the ~~Mayor~~ City Manager or ~~Mayor's~~ their designee determines that the tenant has presented compelling reasons for the revision or waiver. ~~A full explanation and justification for any Policy revision or waiver shall be presented to Council as part of the staff report when the time extension or the new lease is being presented to Committee and Council for approval~~.

H. Exemption~~s~~

- Projects to construct or provide emergency shelter are exempt from all requirements of this Policy, except buildings shall procure their electricity from a zero-carbon or renewable source, such as through qualifying options offered by San Diego Community Power.

I. Exceptions

1. An exception from portions of Council Policy 900-03 can be requested if part of Council Policy 900-03 cannot be met. A memo requesting the exception and providing justification is needed to make a formal request for an exception. The Asset Managing Department or the Lessee shall submit the memo to the City Manager or their designee, with carbon copy to the Sustainability and Mobility Department Director. The request shall be approved or denied at the sole discretion of the City Manager or their designee. Once the request is approved or denied by the City Manager or their designee, the AMD or Lessee will be informed via email.

2. On an annual basis, staff shall report to City Council the number of projects approved for exception from the policy, accompanied by a brief description of each exception.

~~I~~J. Effective Date

1. This Policy shall apply in full to ~~*New Construction* and *Major Renovation*~~ *all* applicable projects ~~for which a design contract is issued 120 days or greater~~ after the passage of the Policy ~~or for which in-house design or planning begins after final passage of the Policy~~ update.

~~2. Any *New Construction* or *Major Renovation* project which does not have a 30% design completed and approved by the City prior the final passage of~~

~~this Policy shall be designed and built with no Fossil Fuel Systems, excepting the emergency or backup uses permitted by the Policy.~~

~~3. All other portions of this Policy, including portions related to operation of existing buildings and replacement of building equipment, shall take effect 120 days after final passage of the Policy.~~

REFERENCES:

- ~~California Department of General Services Zero Net Energy – https://www.dgs.ca.gov/OS/Resources/Page-Content/Office-of-Sustainability-Resources-List-Folder/Zero-Net-Energy~~
- ~~California Zero Code - https://zero-code.org/wp-content/uploads/2018/09/ZERO-Code-California.pdf~~
- ~~2019 CalGreen - https://codes.iccsafe.org/content/CAGBSC2019/cover~~
- California Department of General Services Zero Net Energy - https://www.dgs.ca.gov/OS/Resources/Page-Content/Office-of-Sustainability-Resources- List-Folder/Zero-Net-Energy
- California Zero Code - https://zero-code.org/wp-content/uploads/2018/09/ZERO-Code- California.pdf
- 2019 CalGreen - https://codes.iccsafe.org/content/CAGBSC2019/cover
- ASHRAE Standard 105 (Methods for Determining, Expressing, and Comparing Building Energy Performance and Greenhouse Gas Emissions) - ~~https://webstore.ansi.org/standards/ashrae/ansiashraestandard1052014~~https://webstore.ansi.org/standards/ashrae/ansiashraestandard1052014
- International Organization for Standardization (ISO) standard 14025 - ~~https://www.iso.org/standard/38131.html~~ https://www.iso.org/standard/38131.html
- International Organization for Standardization (ISO) 21930 - ~~https://www.iso.org/standard/61694.html~~https://www.iso.org/standard/61694.html
- ~~European Standard (EN) 15804 - https://www.en-standard.eu/csn-en-15804-a2-sustainability-of-construction-works-environmental-product-declarations-core-rules-for-the-product-category-of-construction-products/~~
- European Standard (EN) 15804 - https://www.en-standard.eu/csn-en-15804-a2-sustainability-of-construction-works-environmental-product-declarations-core-rules-for-the-product-category-of-construction-products/
- Prescriptive Energy Efficiency Measure Menu for Major Renovation Projects

HISTORY:
~~"Zero Emissions Municipal Buildings and Operations Policy"~~

~~Adopted by Resolution R-314377 – 10/11/2022~~[History]

STRIKEOUT