

MEMORANDUM

DATE: 10/18/2022

TO: Mayor and City Council

FROM: Rebecca Small, CMO
Aaron Lande, CMO

RE: **Climate Action Framework – Building Energy Section**

Purpose:

The purpose of this Memo is to provide Council with an early review of the **Building Energy** section of the draft final Climate Action Framework (CAF); to note where action descriptions have been edited for clarity or succinctness; and to highlight how action descriptions have been changed in response to feedback from Council, the community, or City staff.

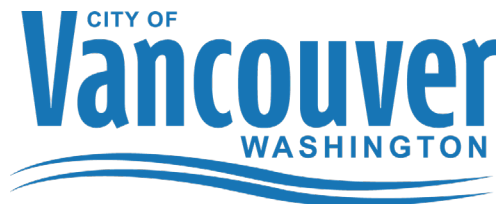
Background:

In preparation for the public hearing and final adoption of the Climate Action Framework on December 5th, and in response to Council's request for ample time to review the final CAF document prior to that adoption date, staff will be providing Council with a series of 6 memos to preview the content of the CAF.

Each memo will focus on one of the 6 sections of the CAF (Governance, Building Energy, Transportation & Land Use, Natural Systems, Equity and the Green Economy, and Solid Waste and Wastewater). Memos will present the sections' actions as currently worded for the final version that will come before Council in December alongside the draft text Council reviewed in August, along with an explanation for any changes made and how it reflects Council direction.

Schedule

These memos will be included as informational items in Council's weekly packet, starting Tuesday, October 11th. Councilmembers are encouraged to follow up with Rebecca Small and Aaron Lande with any questions or suggestions for how to clarify the proposed language. Ms. Small and Mr. Lande will also be available to answer questions during the November 7th and 21st Council Meetings under City Manager Communications. The complete revised CAF will be included in the November 22nd Council packet, two weeks prior to the December 5th public hearing as requested, to allow for a comprehensive review of the entire document.



Climate Action Framework – Building Energy Section

Introductory text

Vancouver will transition to 100% clean energy and significantly reduce per capita energy use.

Strategy BE-1. Increase the use and storage of renewable energy while reducing consumption

Work with Clark PUD to procure renewable energy ahead of Clean Energy Transformation Act (CETA) mandates and increase community-wide renewable electricity supply to 100%. Exceed state requirements for building efficiency. Work with businesses, property owners, and nongovernmental partners to establish policies that prevent displacement of those with low incomes and renters, and ensure equitable distribution of the costs and benefits of energy efficiency upgrades. Identify additional opportunities for climate-resilient, renewable, affordable, and environmentally just forms of renewable energy systems and electrification.

Action	Revised (Final) Action Description	Original Wording as of 06/06/22	Changes explained
1	Community energy efficiency incentives Educate and incentivize residents to reduce energy and water use, with a priority on supporting residents from overburdened communities, low-income residents, and residents in affordable housing. This may include: • Work with Clark PUD and NWN to support and promote home energy audits, energy efficiency improvements, and weatherization projects. • Create lists of existing energy efficiency programs and work with community organizations to share information about programs in culturally appropriate ways. • Incentivize electric HVAC retrofits for homes, prioritizing air conditioning and air filtration for neighborhoods that face extreme heat or particularly poor air quality. • Develop funding resources for efficiency improvements • Work with realtors to include “home energy scorecards” at point-of-sale.	Community energy efficiency incentives Educate and incentivize businesses and residents to reduce energy and water use, with a priority on affordable housing units and housing that serves low-and fixed-income populations. This may include: • Work with Clark PUD and NWN to subsidize home energy efficiency and weatherization retrofits for affordable housing units and housing that serves low- and fixed-income populations. Clark PUD incentives include loans and/or rebates for more efficient heat pumps, water heaters, and weatherization for single- and multi-family. They also include incentives for new homes exceeding state energy code standards and financial assistance for low-income customers. NWN provides resources on conserving natural gas in residential and commercial settings. • Evaluate existing energy efficiency programs and work with community organizations that represent and serve overburdened communities to share information in culturally appropriate ways. The state’s Matchmaker Program and Weatherization Plus Health are two available mechanisms to fund weatherization improvements. • Incentivize electric HVAC retrofits for homes, prioritizing indoor air quality improvements for those who face especially poor indoor air quality • Develop reserve funding for efficiency improvements • Work with realtors to include “home energy scorecards” at point-of-sale.	• Clarified that this action is focused on residential energy efficiency. • Clarified City’s role in supporting programs run by local utility companies. • Removed extraneous implementation-level details. • Consolidated redundant wording.
2	Energy efficiency upgrades for existing commercial buildings Encourage all municipal and commercial buildings to exceed WA Clean Buildings Act energy performance standards by at least 10% by 2030 and by at least 15% by 2040. (State law already requires newer buildings greater than 50,000 square feet to exceed the standard by 15%, so this	Energy efficiency upgrades for existing commercial buildings Encourage all commercial buildings to exceed WA Clean Buildings Act energy performance standards by at least 10% by 2030 and by at least 15% by 2040. State law already requires newer commercial buildings greater than 50,000 square feet to exceed the standard by 15%, so this action extends a	• Re-ordered to prioritize City-specific measures in the list; • Clarified the City’s role in working with utility partners.

	action extends a similar goal to all commercial buildings.) This includes: • Provide education and technical support to building owners. • Pursue federal and state funding for efficiency improvements. • Work with Clark PUD to connect building owners with programs that reduce commercial energy use, such as the On-site Energy Assessment, Commercial/Industrial Lighting Incentive Program and Commercial Shell Measures Incentives. • Work with other utilities to increase the efficiency of provided services.	similar goal to all commercial buildings. This includes: • Work with Clark PUD to expand programs that reduce energy use, such as the On-site Energy Assessment, Commercial/Industrial Lighting Incentive Program and Commercial Shell Measures Incentives. • Work with other utilities to increase efficiency of provided services. • Pursue funding for efficiency improvements. • Explore options to provide education and technical support to building owners.	
3	Clean energy financing Explore funding and capital opportunities for organizations representing overburdened communities and individuals to own clean energy assets. Examples may include 0% interest loans, grants, and utility-specific programs.	Clean energy financing Explore funding/capital opportunities, such as 0% interest loans and Clark PUD's Solar Energy Program, for individuals and for organizations representing overburdened communities to own clean energy assets.	Minor edits to improve clarity.
4	Solar incentives Ensure rebates or other funding support (e.g., solar grants for neighborhoods, cooperative buying opportunities, Clark PUD's Solar Energy Program) are available for installation of solar on existing construction. Work with homeowners' associations to remove any existing restrictions on solar infrastructure.	Solar incentives Ensure rebates or other funding support (e.g., solar grants for neighborhoods, cooperative buying opportunities, Clark PUD's Solar Energy Program) are available for installation of solar on existing construction. Work with homeowners associations and condos with policies that prevent solar infrastructure to remove those restrictions.	No change.
5	100% renewable energy for municipal buildings Work with Clark PUD and other renewable energy providers to transition to 100% renewable energy for electricity use in municipal buildings, starting in 2022. This may include the direct production of renewable energy from on-site generation; the purchase of renewable energy generated from off-site generation; or the purchase of renewable energy credits (RECs). Priority shall be given to emissions-free resources.	100% renewable energy for municipal buildings Work with Clark PUD and other renewable energy providers to transition to 100% renewable energy for electricity use in municipal buildings, starting in 2022. This may include direct production of renewable energy from on-site generation (e.g., wastewater treatment facility), the purchase of renewable energy credits (RECs); or, the purchase/use of renewable natural gas if options to purchase energy from carbon-free energy sources are not available. Priority should be given to options that enable the City to either source its electricity directly from, or replaced in the power grid with, renewable, emissions-free resources.	• Removed direct references to renewable natural gas at several Councilmembers' request. • Re-worded to improve readability.
6	Natural gas demand management Work with Energy Trust of Oregon and NWN to reduce demand for natural gas.	Natural gas demand management Work with NWN to reduce demand for natural gas.	Added reference to Energy Trust of Oregon at Councilmember's request.
7	Green building policy (public sector) Develop comprehensive green building policies for City-owned and occupied buildings that are consistent with or exceed state standards. These policies should enable the City to demonstrate leadership in climate action and include provisions to: • Reduce consumption and adopt energy-saving technologies. • Incorporate drought-tolerant green infrastructure. • Develop an expedited process for energy-efficient construction. • Support smart lighting strategies in accordance with Dark Sky and Bird-Safe light pollution reduction principles. • Create a framework for making decisions on building energy efficiency projects in cost-constrained environments. • Provide Facilities with an on-call energy consultant who can conduct	Green building policy (public sector) Develop comprehensive green building policies for City-owned and occupied buildings that are consistent with or exceed state standards. These policies should enable the City to demonstrate leadership in climate action and include provisions to: • Reduce consumption and adopt energy- saving technologies. • Incorporate green infrastructure where applicable and feasible. Develop an expedited process for energy-efficient construction. • Support smart lighting strategies, including the use of passive lighting for daytime use, LEDs, and conservative use of lighting when buildings are unoccupied in accordance with Dark Sky and Bird-Safe light pollution reduction principles. • Create a framework for making decisions on building energy efficiency	Minor edits to improve clarity.

	building energy efficiency evaluations, recommend upgrades, perform cost-benefit analyses, and recommend staged approaches for large/ expensive projects. When developing new municipal buildings, include evaluation of the potential for renewable energy projects in the scope of work.	projects in cost- constrained environments. Provide Facilities with an on-call energy consultant who can conduct building energy efficiency evaluations, recommend upgrades, perform cost-benefit analyses, and recommend staged approaches for large/ expensive projects. When developing new municipal buildings, include evaluation of the potential for renewable energy projects in the scope of work.	
8	Green building policy (private sector) Develop comprehensive green building policies for the private sector that are consistent with or exceed state standards. These policies should include provisions to: - Avoid areas vulnerable to climate change (e.g., low-lying areas) and maintain affordability and accessibility to current residents. - Collaborate with large energy users on reducing consumption and adopting energy-saving technologies. - Incentivize drought-tolerant green infrastructure and community gardens. - Develop an expedited process for energy-efficient construction. - Support smart lighting strategies in accordance with Dark Sky and Bird-Safe light pollution reduction principles.	Green building policy (private sector) Develop comprehensive green building policies for the private sector that are consistent with or exceed state standards. These policies should include provisions to: - Avoid areas vulnerable to climate change (e.g., low-lying areas) and maintain affordability and accessibility to current residents. - Collaborate with large energy users on reducing consumption and adopting energy- saving technologies. - Incentivize the development community to include community gardens in all developments. - Require drought-tolerant planting and efficient irrigation systems on all new development. - Develop an expedited process for energy efficient construction, accepted by City of Vancouver and based on criteria that are already accepted and approved. Support smart lighting strategies, including use of passive lighting for daytime use, LEDs, and conservative use of lighting when buildings are unoccupied.	Minor edits to improve clarity.
9	Resilient energy grid Adapt energy grid infrastructure to be prepared for future climate-related changes. This may include: - Support efforts to improve infrastructure resilience to climate impacts and determine if new standards need to be adopted to protect or strengthen infrastructure systems. - Ensure backup power or dual fuel for City- controlled critical infrastructure (e.g., fire stations) and encourage regional partners to do the same. - Investigate the use of energy storage in place of generators and promote the use of lower-carbon fuels where generators are necessary. - Explore with Clark PUD and the local community the feasibility of Community Choice Energy (CCE) in Vancouver (before 2030). - Encourage installation of onsite energy generation in critical community spaces (i.e., schools, senior care facilities, community centers, etc.) - Work with local utilities to store excess energy produced by on-site generation.	Resilient energy grid Adapt energy grid/ infrastructure to be prepared for future climate-related changes (e.g., conduits, distribution lines, ducts). This may include: - Support efforts to improve infrastructure resilience to climate impacts and determine if new standards need to be adopted to protect or strengthen infrastructure systems. - Ensure adequate backup power for City- controlled critical infrastructure (e.g., fire stations) and encourage regional partners (i.e., hospitals) to do the same. - Investigate the use of battery storage in place of generators. - Provide dual fuel for extreme cold events. - Explore with Clark PUD and the local community the feasibility of Community Choice Energy (CCE) in Vancouver (before 2030). - Develop incentives and promote the use of lower-carbon fuel sources for backup generation. - Partner with Clark PUD to increase community resilience by installing microgrids, community solar, and renewable energy systems in critical community spaces (i.e., schools, senior care facilities, community centers, etc.) Work with local utilities on storage systems for excess local production of renewable energy. In addition to increasing local renewable energy ahead of CETA, this action supports a reliable energy supply during severe storms.	Minor edits to remove redundancies and improve clarity.
10	Municipal energy and water savings	Municipal energy and water savings	Minor edits to improve clarity.

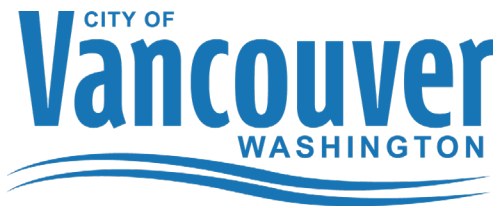
	Increase on-site renewable energy storage and energy and water savings. This includes: • Work with local utilities to store excess energy produced by on-site generation. • Maintain annual water distribution system leakage (DSL) to 6% or less by implementing the current (ca. 2022-2025) and future (2025+) supply-side Water Use Efficiency (WUE) Program measures	The City will increase on-site renewable energy storage and energy and water savings. This includes: Work with local utilities to store excess energy generated from municipal solar arrays Maintain annual distribution system leakage (DSL) to 6% or less by implementing the current (ca. 2022-2025) and future (2025+) supply-side Water Use Efficiency (WUE) Program measures	
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Strategy BE-2. Decarbonize homes, businesses, and other buildings

To pursue the lowest-carbon pathway toward a fully decarbonized building sector, this strategy encourages home and business electrification and over time, phases out natural gas in new and existing construction.

Action	Revised (Final) Action Description	Original Wording as of 06/06/22	Changes explained
11	Home electrification incentives (existing homes) Work with local partners to transition existing homes from fossil fuels to high-efficiency electric energy for space heating/cooling, water heating, and cooking). This includes: • Identify all available electrification incentive programs, particularly those that are applicable to low- and middle-income homeowners. • Prioritize providing electric heat pumps for households that suffer from poor air quality or extreme heat-related safety concerns. • Encourage transitions to electric appliances and HVAC equipment at the time of equipment replacement for cost-effectiveness. • Work with contractors to offer electrification as an option in existing homes. • Work with realtors to encourage electrification at the point of sale. • Advocate for statewide legislation that would expand or create additional incentives for fuel switching. <i>Due to current (2021) state law, Clark PUD's programs cannot be used to incentivize a switch from natural gas to heat.</i>	Home electrification incentives Work with local partners to transition to high- efficiency electric energy for existing homes that are using fossil fuels for energy (e.g., space heating/cooling, water heating, cooking). This includes: • Identify federal, state, business, and local incentive programs for Vancouver, with particular attention to ensuring low- and middle- income homeowners can afford to electrify. • Leveraging the contractor training action, work with contractors to encourage electrification in existing homes. • Work with interested realtors to encourage electrification as a condition of sale. This may include providing education and outreach to realtors about electrification, so they can be responsive to buyer and seller interests. • Incentivize electric HVAC retrofits and other retrofits for homes. This can occur at any time: some may prefer to explore retrofits at end-of- life, at ownership transitions, or at other points. <i>Due to current (2021) state law, Clark PUD's programs cannot be used to incentivize a switch from natural gas to heat.</i>	• Per direction of Council at the 09/19/22 Workshop, references to electrification requirements at point-of-sale were removed. • Also following direction from this Workshop, a recommendation for state-level advocacy and a reference to equitable protection from extreme heat and poor air quality were added.
12	Commercial building electrification incentives Work with Clark PUD and NWN to electrify existing commercial buildings and address fossil gas emissions. This includes: • Work with Clark PUD to expand programs that incentivize commercial building owners to electrify water and space heating in existing buildings, such as the Commercial Heating System Incentives. • When working with those who own buildings larger than 20,000 square feet, incentives should be focused on compliance with WA Clean Buildings Performance Standards.	Commercial building electrification incentives Work with Clark PUD and NWN to electrify existing commercial buildings and address fossil gas emissions. These incentives will be available to buildings of all sizes. However, when working with those who own buildings larger than 20,000 square feet, the incentives should be focused on assisting with compliance with Washington's new energy performance standard. This includes: Work with Clark PUD to expand programs that incentivize commercial building owners to electrify water and space heating in existing buildings, such as the Commercial Heating System Incentives.	Minor edit to improve clarity.
13	Heat pumps in new commercial and multi-family residential buildings	Heat pumps in new commercial and multi-family residential buildings	No change.

	Support implementation of State Building Code requirements regarding use of heat pumps for space and water heating in new commercial and multi-family residential buildings, beginning in 2023.	Support implementation of State Building Code requirements regarding use of heat pumps for space and water heating in new commercial and multi-family residential buildings, beginning in 2023.	
14	All-electric incentives for new residential development Incentivize all-electric development for new single-family residential developments and remodels. This may include: • City advocacy in support of State-level electrification requirements for new residential construction. • Provide education and encouragement for use of heat pumps for space and water heating. • Explore options to extend city tax credits or expedited permitting to new construction developing with all-electric utilities.	All-electric incentives for new development Incentivize building electrification in new single-family residential developments and remodels. This action reduces barriers to electrification and paves the way for the “all-electric reach code for new development” (Action BE2.15) that will go into effect in 2030. This may include: • Encourage ground source heat pumps for new construction. Explore options to extend city tax credits to new construction developing with all-electric utilities.	Per direction of Council at the 09/19/22 Workshop, a reference to City advocacy in support of state-level electrification requirements has been added.
15	N/A – Action has been removed from the CAF.	All-electric reach code for new development Adopt an all-electric building reach code for new construction that limits the development of new fossil fuel infrastructure, with exceptions for industrial uses without a suitable alternative. This action will go into effect in 2030 and builds on the “all-electric incentives for new development” (Action BE2.14).	Per direction of Council at the 09/19/22 Workshop , this action was removed from the CAF.
16	N/A – Action has been removed from the CAF.	All-electric reach code for existing residential buildings at point of sale Adopt an all-electric building reach code that transitions at least 50% of buildings to all-electric at point of sale in 2030 and 90% of existing buildings transitioned to all-electric at point-of- sale by 2040, with exceptions for industrial uses without a suitable alternative.	Per direction of Council at the 09/19/22 Workshop , this action was removed from the CAF.
17	Natural gas carbon intensity Work with Energy Trust of Oregon and NWN to reduce the carbon intensity of natural gas.	Natural gas carbon intensity Work with NWN to reduce the carbon intensity of natural gas through renewable natural gas, hydrogen technologies, and offsets. This may include expanding participation in the Smart Energy program (carbon-neutral option) to offset natural gas emissions.	Reference added to Energy Trust of Oregon at several Councilmembers’ request.
18	Contractor training for electric transition Work with local trade organizations and workforce development organizations to develop contractor training for the installation of electric heat pumps, conversion from gas to electric appliances, and integration of other electric technologies.	Contractor training for electric transition Work with local trade organizations and workforce development organizations to develop a contractor training and rebate program for the installation of electric heat pumps, conversion from gas to electric appliances, and integration of environmental technologies. Include a component to identify opportunities at point-of-sale, to support the actions focused on the electrification of existing residential and commercial buildings.	• Removed reference to “point of sale” conversions per Council direction at the 09/19/22 Council Workshop. • Removed reference to “rebate program” because it is discussed in a different action.



Impact of changes made

Council gave several policy directions at the 09/19/22 Workshop related to energy supply for new and existing buildings that are reflected in these revised CAF action descriptions. These policy directions included:

- Remain consistent with existing state minimum standards for new commercial and residential construction, and advocate for stronger state standards for new residential construction, rather than pursuing the development of an all-electric reach code for the City of Vancouver that would prevent the integration of new fossil fuel infrastructure in new homes and businesses.
- Refrain from introducing any requirements for existing homes to transition from fossil fuel heating and cooling to high-efficiency electric systems starting in 2030 or at some other point in the future. The option suggested in the 06/06/22 draft CAF was a transition of equipment at the point of home sale; Council declined this option or exploration of other options, such as a requirement to transition equipment at the end of equipment service life.

Avoiding fossil fuel usage in new buildings and transitioning away from fossil fuel usage in existing buildings are key strategies for reducing GHG emissions in the built environment. Removing Action #15 ("All-electric reach code for new development") and Action #16 ("All-electric reach code for existing residential buildings at point of sale") without introducing other standards or requirements to start the City on a transition towards using clean, renewable electric energy in homes and businesses undermines the City's ability to implement those strategies.

State standards for new commercial construction, which will require electric heat pumps for space and water heating, will limit the amount of new fossil fuel usage introduced by new commercial developments; it will not eliminate it entirely, since gas is still allowed for other uses (like cooking). Current State standards do not address fossil fuel usage in new or existing residential structures.

Advocating for more comprehensive State-level requirements (as Council has directed the City to do) is a wise first step but ultimately, stronger local standards and requirements will be required to achieve the GHG reductions that Vancouver is seeking to achieve. The incentive-based actions remaining in the City's CAF are less likely to result in a substantial transition to cleaner energy in Vancouver's built environment. It is expected that the revisions made to this CAF draft will make it more difficult for the City to achieve its 2040 carbon neutrality goal.