

## Housing, Buildings, Development

Housing and buildings can be designed to maximize energy efficiency and reduce the consumption of electricity and natural gas. These emissions come from residential, commercial, and industrial buildings consuming electricity and burning natural gas. Designing buildings to maximize efficiency and upgrading appliances can reduce these emissions and save money.

Climate change will impact housing, buildings, and development as warmer temperatures increase cooling costs and heavier rains increase the risk of local flooding. Flooding could damage infrastructure and limit mobility for neighborhoods in flood-prone areas of the city. The City's current stormwater infrastructure may not be able to handle the amount of runoff that is expected in the future as heavier rainstorms occur more often.

### **Strategies and Actions**

Improving energy efficiency in the built environment and managing energy demand has social and economic benefits. Strategies focus on increasing energy efficiency support through incentives, requirements, and energy performance ratings. Supporting energy efficiency for low-income residents through rebates and landlord requirements will help tenants spend less money on energy and reduce greenhouse gas emissions. Columbia Water & Light Utility Services has the opportunity to manage programs that incentivize efficient appliances and reduce peak demand. Additionally, building energy use disclosures can drive energy efficiency improvements. By monitoring their energy usage, commercial, industrial, and residential buildings can identify opportunities for energy savings. Strategies focus on reducing energy use across all sectors through monitoring, building upgrades, and behavior change.

These programs will require training programs for professionals (e.g. contractors, designers, landlords, realtors, etc.) in the built environment to be developed and implemented. Education and outreach will help show the impact of the built environment on a larger scale. Educational opportunities for residents will also be provided so that smart, sustainable choices can begin at home.

Columbia will work towards achieving zero-emissions buildings and increasing climate resilience. The City can develop policies and incentives that phase in electric appliances as the City adopts clean energy. Supporting development of buildings that can withstand projected weather changes through code updates will help new buildings be resilient to climate changes.

**Goal H-1. Reduce housing-, building-, and development-related energy consumption and improve resiliency.**

Strategy H-1.1: Increase energy efficiency in residential buildings.		
H-1.1.1	Promote and offer incentives for improving residential energy efficiency during retrofit projects that exceed existing building energy code requirements. For example, using higher performance insulation materials in order to meet new construction energy code standards.	Priority
H-1.1.2	Increase energy efficiency funding options for income-qualified families (low-interest financing, on-bill financing, Pay As You Save, PACE, etc.).	Priority
H-1.1.3	Establish a date by which all rental housing will be required to meet basic energy efficiency standards at license renewal.	Priority
H-1.1.4	Develop and test an energy performance rating/labelling program for homes listed for sale or upon rental license renewal.	Priority
H-1.1.5	Phase in Zero Net Energy or highly energy efficient building requirements into the building code.	Other
H-1.1.6	Develop standard "deep retrofit" specifications and incentives for existing residential building owners to reduce the carbon footprint of the building to zero.	Other
H-1.1.7	Promote and offer incentives for improving residential energy efficiency in new construction (e.g., insulation, energy-efficient windows, electric heat pumps). New construction incentives shall support measures for projects that exceed code requirements.	Other
H-1.1.8	Formalize a Community Cost Share Fund for tax advantaged donations to go towards energy efficiency education and improvements for renters. Track with event attendance and participation in rental efficiency improvements.	Other
Strategy H-1.2: Increase energy efficiency in commercial buildings.		
H-1.2.1	Provide assistance to commercial buildings above a minimum gross floor area to track energy and water usage. Require all such commercial buildings to disclose their energy and water use.	Priority
H-1.2.2	Develop specific energy efficiency programs for hard-to-reach segments of commercial properties (e.g., commercial rental, restaurants, large scale manufacturing, offices, multi-family housing).	Priority
H-1.2.3	Promote and offer incentives for improving energy efficiency (e.g., insulation, energy-efficient windows, electric heat pumps) in newly constructed commercial properties. New construction incentives shall support measures for projects that exceed code requirements.	Priority
H-1.2.4	Identify funding strategies to ensure rebate budgets are sufficient to meet expanded offers and goals.	Priority
H-1.2.5	Create W&L Utility Services rebate programs that provide incentives based on energy use reduction in addition to demand reduction (e.g., lighting controls, outdoor lighting, energy recovery ventilation, CO <sub>2</sub> controls, custom rebate).	Other
H-1.2.6	Require newly constructed buildings larger than 15,000 square feet to meet LEED Gold, Enterprise Green Communities, the 24 National Green Building Standard ICC/ASHRAE 700, or an equivalent certification.	Other
H-1.2.7	Require existing buildings larger than 15,000 square feet and exceeding minimum alteration thresholds to meet building certification of LEED Silver, Enterprise Green Communities, the 27 National Green Building Standard ICC/ASHRAE 700, or an equivalent certification.	Other
H-1.2.8	Develop "deep retrofit" standard requirements and incentives for owners of existing commercial buildings less than 15,000 square feet to reduce the carbon footprint of the building to zero.	Other

Strategy H-1.3: Increase energy efficiency in municipal and school buildings.		
H-1.3.1	Create a policy that all City buildings shall reduce energy usage by 20% over the next five years.	Priority
H-1.3.2	Create a policy, to be part of assigned duties and presented during new employee orientation that City employees shall turn off lights and equipment when they are done using them.	Priority
H-1.3.3	Introduce a policy that requires all new and existing municipal buildings to meet and maintain energy and resource efficiency standards (ENERGY STAR, LEED, HES or other).	Priority
H-1.3.4	Introduce a policy that requires all municipal buildings to be benchmarked with the current ES rating, the energy use intensity (kBtu/sqft) and the energy reduction goal. These benchmarks and goals shall also be posted on the City's website.	Priority
H-1.3.5	Create a target of net zero energy use at all municipal buildings by 2025.	Other
H-1.3.6	Work with school districts to support energy efficiency programs, geothermal energy, and solar energy installation.	Other
Strategy H-1.4: Decrease the impact of building stock on local air pollution and greenhouse gas emissions.		
H-1.4.1	Require that the City adopts the International Building and the International Energy Conservation Codes for municipal, commercial and residential buildings as written.	Priority
H-1.4.2	Improve training, certification and education opportunities for professionals involved in the disposal and use of refrigerants.	Other
H-1.4.3	Require, when cost comparable, that new air conditioning units use refrigerants with low global warming potentials (e.g., carbon dioxide or ammonia instead of hydrofluorocarbons).	Other
H-1.4.4	Develop incentive programs to transition lawn care companies and homeowners from using fuel-burning lawn equipment (e.g., lawn mowers, blowers) to electric.	Other
Strategy H-1.5: Decrease use of fossil fuels in housing and other buildings.		
H-1.5.1	Incentivize switching space and water heating from fossil fuel-based to electric heat pumps.	Priority
H-1.5.2	Invest in district heating and cooling for downtown City and County buildings.	Other
Strategy H-1.6: Support development of buildings that are resilient to anticipated future conditions.		
H-1.6.1	Require light colored roofs and/or a minimum specified reflectance for commercial roofs when new or at replacement.	Other
H-1.6.2	Develop affordable and efficient (temporary/transitional) housing options.	Other
H-1.6.3	Introduce a policy that limits new construction in the 500-year flood zone and/or requires infrastructure to be elevated two feet above anticipated flood level (no infrastructure equipment in lowest level).	Other