

# DRAFT

## Proposed GRC Building Energy Recommendations by Strategy Category

### Recommendation Organization

Core: Recommendations that serve as the backbone of the building energy strategies.

Leadership: Actions that are essential to advancing the city's climate goals yet are also significant lifts to implement.

Quick Start Actions: Actions that can be done within the next 1-3 years to pilot new ideas, test new approaches, and build support for leadership actions.

Guiding: Recommendations that guide how building energy strategies are implemented.

### Pricing and Financing

The recommendations in this report strive to strike a balance between the call for deep energy reductions and the practical reality that retrofit decisions are often made based on cost-effectiveness. Energy pricing and efficiency incentive structures that make a strong business case are key to widespread uptake of energy efficiency. In fact, some important strategies only become cost effective if pricing, incentive, and financing programs are also implemented.

#### Core:

1. All of the recommendations will have some level of success individually, but finding the right package of pricing, financing, and incentives is key to making the energy efficiency upgrades more obvious economic wins. The **economics of energy efficiency investments must be compelling, and compelling for all**. With such diversity in our building stock and ownership structures, there is no "one-size-fits-all" solution.

#### Leadership:

- \* 1. **Outcome-Based Incentives:** Outcome-based incentives are utility incentive structures based on the actual energy savings of an energy upgrade rather than the projected savings of individual measures. This model has could allow higher incentive payments because there is no risk that the energy savings may not be realized (and therefore no need to discount the incentive level). Pilot (and if successful establish) outcome-based incentive structure at Seattle City Light. Also investigate what incentive levels and structures most effectively promote deep energy retrofits and move toward establishing those systems.
- \* 2. **Innovative Financing Options:** Ensure broad access to financing with alternative repayment structures by exploring meter-based financing programs and, potentially, PACE (Property Assessed

## **DRAFT**

Clean Energy) financing or a similar model. These tools are attractive for a number of reasons, such as:

- For business, they provide financing that allows them to side-step the capital budgeting process, and they can be characterized as an operating expense instead of a debt.
  - For residents, linking long-term repayment to a meter instead of an occupant so that repayment can be amortized over longer periods of time despite changes in ownership/tenants.
3. **Public Funding for Additional Energy Efficiency Incentives:** Seattle's mild climate and inexpensive energy create a challenge to realizing near-term paybacks for energy efficiency measures. The City should identify new sources of funding for incentives to encourage deeper energy retrofits. Because climate protection and energy conservation results providing long-term community benefits a property tax levy is one option to generate incentive funding. Public funding through a tax levy has the benefit of being fuel source neutral (utility incentives are fuel-specific), which means the incentives have considerably more flexibility to promote deep energy efficiency than utility incentives that have restrictions. In addition, the levy resources would be invested back into the building stock, preserving assets and potentially increasing property values. The benefits to the public include improved communities, local job creation, improved energy performance, and reduced carbon emissions.
  4. **Rental Housing Energy Efficiency Property Tax Exemption:** Establish a property tax exemption program for existing rental housing for owners who undertake energy retrofits. In situations where the tenant pays utility bills, there is little financial incentive for a landlord/building owner to undergo an energy retrofit. This program would provide a financial incentive for landlords/building owners to take action and lower utility bills for tenants.

### Quick Start:



1. **Outcome-Based Incentives:** Seattle City Light should coordinate with other utilities to pilot a performance-based utility incentive program that would pay incentive dollars over time as actual energy savings are verified, rather than paying an up-front incentive based on the projected savings of individual measures.
2. **Innovative Financing Options:** Launch a working group of downtown property owners and managers to evaluate financing tools for commercial buildings and identify those which are most likely to promote deepest energy efficiency investments. Develop a plan to bring the financing tools to market, including a legislative strategy if one is required.
3. **Public Funding for Additional Incentives:** Define the elements of an incentive program that a bond initiative would support. Link the message of public funding to tax exemption programs and rebates to make it clear that the public is collectively investing in their own building stock.
4. **Rental Housing Energy Efficiency Property Tax Exemption:** Pass legislation to get the authority to establish a property tax exemption program for existing rental housing owners who undertake significant energy retrofits.

# DRAFT

## Efficient Operations

Most of the buildings we will see in Seattle in 2050 have already been built. Making deep efficiency gains in our existing building stock is imperative to meeting the City's climate protection goals. Seattle has a long history as a conservation leader thanks to robust programs from Seattle City Light and an aggressive Seattle energy code that requires significant energy efficiency for buildings undergoing a major renovation. But the City has much less experience and few programs or tools to reaching existing buildings outside those contexts (Community Power Works and the City's Energy Benchmarking requirements are notable exceptions).

The recommendations for existing buildings (found both in this section and in the Pricing & Financing section) recognize a role for mandates to create widespread action. However, implementing the incentives, financing and mandate recommendations should be staged to reflect the interactions, maximize synergies, and avoid unintended consequences. A key to doing so is to focus first on the Pricing & Financing strategies in the section above and the incentives within this section to enable the financial capacity for voluntary action before expanding to mandates.

### Core:

1. To make gains in energy efficiency, **energy use must be visible**. This requires real-time, easy to understand information about energy use, and building energy ratings that are easily accessible to the public.
2. Even with a strong economic case driving voluntary action, **there is a role for mandates** in the City's strategy. After providing ample opportunity and incentives for voluntary action, all buildings in the City should be mandated to take cost-effective action to improve their efficiency.

### Leadership:

1. **Benchmarking, Disclosure, and Rating:** Establish programs to increase the visibility and awareness of energy performance in our buildings. The right program design varies by building type.
  - For large multifamily and commercial buildings, expand the existing Benchmarking and Reporting program to make benchmarked information more publicly available, with an ultimate goal of having highly visible energy performance (such as by placing energy ratings or real-time meters in building lobbies). This program should follow incentive and assistance programs to improve building performance and promote voluntary disclosure.
  - For single family homes, establish a requirement for disclosing a home energy use or energy efficiency rating at the point of sale.
2. **Energy Efficiency Standard:** Even with attractive incentives and near-term paybacks, many buildings will continue to operate without even the most cost effective energy efficiency upgrades. Requirements for basic energy efficiency can ensure widespread improvements to our entire

## **DRAFT**

building stock. A standard can be strategically implemented to ensure required improvements are cost-effective, and can ramp up over time after tools and incentives are available to assist building owners. The right overall Building Energy strategy should define a clear and easy path for voluntary compliance before requirements are introduced.

- Expand inspections and enforcement for code compliance.
  - Require large multifamily and commercial building owners to improve the energy performance of buildings at established intervals (e.g. once per decade). Examples include a mandatory building “tune-up” (retro-commissioning), or a change-out of the most inefficient lighting systems.
  - Require cost-effective home energy upgrades for single family homes at the point of sale. This should be a longer-term strategy, enacted only after information, financing tools, and rebate programs are in place to incentivize voluntary action.
3. **City Leadership:** The City should show leadership in its municipal buildings. City buildings can serve as role models, test cases, and case studies for new policies.

### Quick Start:

- \* 1. **Retro-Commissioning Incentives:** Seattle City Light is currently developing a retro-commissioning pilot program, which will provide an audit to help building managers identify and implement operational and maintenance improvements. If pilot results are positive, identify resources to scale up and expand the program.
- 2. **Retro-Commissioning City Buildings:** Develop a strategy for retro-commissioning City facilities as part of the Resource Conservation Management Plan under development.
- 3. **Long-Term Program for Key Elements of Community Power Works:** A three-year pilot program, Community Power Works, is underway to establish and test new strategies that drive deeper energy efficiency upgrades for commercial and residential buildings. Build on the lessons from this pilot to establish a long-term program providing assistance, financing and other tools to help building owners identify and implement more comprehensive energy efficiency upgrades.
- \* 4. **Rapid Deployment of Smart Meters:** Through implementation of Seattle City Light’s Strategic Plan, support the rapid deployment of advanced metering infrastructure to better support residents with energy management. Smart meters help educate users by providing them with real-time information about their energy use and the impacts of conserving.
- 5. **Benchmarking, Disclosure, and Rating:** Define and test core program elements for a home energy rating requirement at the point of sale. For example, a near-term pilot could explore how a program would use home inspectors, appraisers, home energy assessors and/or previous utility bills in evaluating home energy performance.

## **Efficient Construction**

The strategic point at which a City can most easily influence energy use in buildings is through the regulations placed on new construction and major renovations. Seattle has a strong history of doing so through its energy code and green building incentives. The energy code should continue to be at the core of the City's strategy to reduce energy use and carbon emissions in new buildings. The State of Washington is already planning to incrementally increase the efficiency of the state energy code, and the City should continue to achieve an even higher bar with its own energy code. Until energy codes requirements mandate deep energy efficiency, incentive programs should encourage new construction to voluntarily achieve those standards.

### Leadership:

1. **Outcome-Based Energy Code:** Move toward an outcome-based approach to managing energy code compliance to ensure buildings are attaining their modeled performance. Ultimately the energy code should include a combination of prescriptive elements, performance requirements, and outcome-tracking.
2. **Energy Upgrades with Substantial Alterations:** A substantial alteration is a building code term for a major change to a building or its use. Examples include replacing the interior after a major fire, or restoring a vacant building. Such extensive remodeling typically occurs once every 30 – 50 years in a building's life, and provides a rare opportunity to economically upgrade a building's energy performance. The City should require that the energy performance of buildings undergoing improvements of this magnitude must come close to (e.g. within 20%) of energy performance requirements for new buildings.
3. **Land Use Policy and Building Codes:** Think creatively about how land use strategies and building energy strategies can integrate to create highly efficient new construction. For example, regulation of building envelopes could strategically drive building designers to better capture passive heating, cooling, and daylighting opportunities. Infrastructure funding related to transportation and land use could also support district energy infrastructure. Integrating energy consideration into land use and zoning discussions could capture additional opportunities for multiple wins.

### Quick Start:

1. **Outcome-Based Energy Code:** Evaluate the findings of the existing outcome-based code pilot between the Preservation Green Lab and the City and develop a strategy for building upon the pilot.
2. **Living Building Pilot Implementation:** Work with stakeholders to continue improving the Living Building and Deep Green Pilot Program to promote deep green buildings in Seattle. As part of this work, consider additional protections for solar access to ensure that investments in solar energy can continue to be realized in the long-term.

## **DRAFT**

### **Infrastructure for Low-Carbon Energy**

Energy efficiency can only take us so far: carbon neutrality requires the city to further adopt low- or no-carbon energy sources. Seattle is fortunate to benefit from carbon neutral electricity through Seattle City Light, but there are many buildings that use fossil fuels—natural gas and oil—to heat and cool their buildings. On-site renewable energy systems and district energy systems are part of the solution. District energy systems provide a platform for using waste heat and renewable energy sources, and move these resources around in a system to where and when they are most needed. Given the high cost of infrastructure, the load requirements needed to make district energy cost-effective, and Seattle’s carbon neutral electricity, district energy is not a universal solution, but does have a valuable role in targeted locations.

#### Core:

1. Creating a diversity of **low-to-no carbon energy sources** should be a priority for the city. Hydronic heating infrastructure and connected network of district energy systems can bring versatility to the city’s low-carbon energy resources. On-site renewable energy systems help supplement the City’s carbon neutral electricity, create diversity in supply, and contribute to the market growth of renewable energy systems.

#### Leadership:

1. **Waste Heat Recovery:** Develop district energy systems and incentive programs to capture and utilize waste heat (e.g. from industrial operations, data centers, or sewage lines). In the longer-term, and where appropriate, mandate waste heat recovery. Heat recovery not only makes use of a waste product, but in some cases can reduce other energy needed to cool the excess heat.
2. **Use of Public Space for Alternative Energy:** Where appropriate, allow public space, including the public right-of-way, to be used for alternative energy, such as solar panel encroachment, and inserting ground source heat wells to provide heating and cooling to nearby buildings. This alternate siting of ground source heating can provide benefits to the construction schedules and budgets because construction will not need to cease on the building site while the wells are being installed.

#### Quick Start:

1. **District Energy Pilot:** The City is currently undertaking a study to test the feasibility of developing a district energy system with a private utility partner. If results of the feasibility analysis are positive, support development of the system while ensuring its commitment to low-carbon fuel sources.
2. **Low Carbon Energy Master Plan:** Successfully establishing low-carbon energy infrastructure requires a long-term strategy and careful coordination. The City should develop a master plan to guide the

## **DRAFT**

establishment of low-carbon energy systems in the City. The plan should identify priority locations, priority energy sources, and e policies on utility coordination, as well as consider the advantages of hydronic heating in future code evolutions and identify associated land use impacts or other policies, requirements, and incentives. The plan should recognize and build upon existing district energy successes in Seattle, and focus growth of district energy in ways that minimize carbon and other emissions that impair air quality.

- \* 3. **Carbon Neutral Electricity:** Maintain SCL commitment to meet load growth with conservation and renewables, as well as to providing zero net emission electricity. SCL should also facilitate the adoption of electric vehicles in Seattle to help reduce our dependence on oil.

### **Guiding Recommendations**

*Recommendations intended to guide how building energy strategies are implemented.*

1. **Taking broader view of policy design can enable building energy strategies to achieve additional community outcomes.** For example, expanding some incentive programs beyond a focus on energy to also consider green building and health goals can help Seattle achieve greater energy and water conservation, healthier indoor environmental quality, more use of recycled materials, and improved housing and business affordability. The City should explore options for capturing broader environmental, health, and equity goals into the implementation of the recommendations.
2. The recommendations should be implemented to recognize and **enhance shared prosperity among Seattle residents and businesses.** Investments in energy efficiency support local job growth, keep utility bills low, and improve the quality of our community's building stock.



**Additional TAG Recommendations Anticipated to be Included as CAP Actions  
(Not Included in GRC Recommendations)**

<p><b>Pricing &amp; Financing</b></p>	<ul style="list-style-type: none"> <li>• <b>Energy Price Structuring:</b> Establish energy pricing structures in our utilities that incentivize conservation and help improve the customer's cost-effectiveness of deeper efficiency improvements. Examples to explore could include rate design, commodity costs, and connection pricing for conservation.</li> </ul>
<p><b>Efficient Construction</b></p>	<ul style="list-style-type: none"> <li>• <b>Energy Code Improvements:</b> Continually increase energy efficiency standards, and require an energy monitoring interface for all.</li> <li>• <b>Incentive Zoning:</b> Incentivize deep energy efficiency in construction through density bonuses (via floor-area ratio) for green building practices including energy efficiency. Balance this incentive with other objectives (e.g. affordable housing).</li> <li>• <b>Fee-Bates:</b> Permit review fees can be structured to incentivize deep green and energy efficient buildings (although legislative authorization would be required in Washington State). The City should study how such a program may be effective in Seattle and take further steps to implement a program if the study suggests a beneficial outcome.</li> </ul>
<p><b>Infrastructure for Low-Carbon Fuels</b></p>	<ul style="list-style-type: none"> <li>• <b>Coordinated Planning for Synergistic Land Uses:</b> Integrate land use and infrastructure planning to maximize opportunities for heat exchange, such as through synergistic land uses, and optimizing infrastructure.</li> </ul>



