



# Climate Action Plan

## Building Energy TAG

### *Preliminary Recommendations*

April 23, 2012

The policy and program recommendations summarized below represent an aggressive suite of actions to dramatically reduce greenhouse gases in Seattle by 2050. The actions are developed at a high level, and require additional analysis, policy development, and, in some cases, piloting to be implemented effectively. The package of policies largely focuses on building upon Seattle's already strong emphasis on energy efficiency, as demonstrated through aggressive energy codes, utility programs for conservation, and permitting incentive programs for green building.

**~58%**  
Estimated projected reduction in GHG emissions from buildings by 2050

These recommendations function largely as a package: there are interactions between individual recommendations that enable and strengthen each other. The implementation of these recommendations should be staged to reflect the interactions, maximize synergies, and avoid unintended consequences. In general terms, the TAG recommends that early steps should focus on offering the right information and tools to enable action. Setting the right price signals within utility rate and fee structures is also an important early step that helps generate market response for increased energy efficiency. Later, with the appropriate set of assistance tools and incentives in place, mandates for improving efficiency in a cost-effective manner help reach the remainder of the building stock.

Emissions from Seattle's buildings predominantly stem from natural gas and oil used for building heating. No emissions are attributed to Seattle City Light's (SCL's) electricity because its electricity is carbon neutral. Nonetheless, electricity reductions in buildings do help achieve climate action plan objectives because (a) all energy reductions reduce energy bills and make building retrofits more cost-effective, which helps build public support for these programs; (b) electricity conservation helps SCL meet long-term energy demands, thereby sustaining its ability to remain carbon neutral; (c) electricity conservation in Seattle extends the supply of clean energy, ultimately supplanting fossil fuel use elsewhere on the grid; and (d) electricity conservation in the building sector helps ensure adequate supply for electrifying the transportation sector, another important strategy in the climate action plan.

Finally, it is important to note that, even with aggressive action, it is difficult for one city acting alone to fully reach carbon neutrality. Some strategies are more appropriately enacted at a larger scale (e.g. carbon pricing) and could generate substantial energy savings. Further, market forces can respond better to consistent action across jurisdictions. These recommendations could be strengthened through City effort to enact the approaches more regionally.

## **Pricing and Financing**

### **1. ENERGY PRICE STRUCTURING**

Establish energy pricing structures in our utilities that incentivize conservation and help improve the customer's cost-effectiveness of deeper efficiency improvements. Examples to investigate could include rate design, commodity costs, and connection pricing for conservation.

### **2. INNOVATIVE FINANCING OPTIONS**

Ensure broad access to financing with alternative repayment structures by exploring on-bill meter-based financing programs and, potentially, PACE (Property Assessed Clean Energy) financing.

### **3. OUTCOME-BASED INCENTIVES**

Pilot and, pending outcomes of the pilot, establish utility incentive structures based on the actual energy savings of an energy upgrade, rather than the projected savings of individual measures. Also investigate what incentive level and structure promotes deep energy retrofits and move toward establishing the system(s).

**PILOT PROJECT**

**PERFORMANCE/OUTCOME-BASED UTILITY INCENTIVES**

## **Efficient Operations**

### **1. BENCHMARKING, DISCLOSURE, AND RATING**

Expand the existing Benchmarking and Disclosure program to make benchmarked information more publicly available. Establish a home energy rating system at point of sale and share comparative energy use on bills for single-family homes.

### **2. MANDATORY IMPROVEMENTS**

Require multifamily and commercial building owners to improve energy performance of buildings at established intervals (e.g. once per decade). Require home energy upgrades for single family homes at point of sale. Stage the implementation of these programs to ensure information, financing tools, and incentive programs precede mandates.

### **3. RETRO-COMMISSIONING**

Establish a voluntary retro-commissioning program to provide large multifamily and commercial building managers with the information and technical assistance to optimize building performance (this is an additional voluntary program to the point-of-sale mandate mentioned above).

### **4. COMMUNITY POWER WORKS**

A three-year grant program is underway to establish and test community retrofit assistance programs touching a variety of building sectors. Utilizing lessons from this pilot, establish a long-term program providing assistance, financing as other tools to help achieve building retrofits.

### **5. RENTAL EFFICIENCY TAX EXEMPTION**

Establish a property tax exemption program for existing rental housing owners who undertake significant energy retrofits.

**PILOT PROJECT**

**RETRO-COMMISSIONING**

## **Efficient Construction**

### **1. ENERGY CODE IMPROVEMENTS**

Continually increase energy efficiency standards, and require an energy monitoring interface for all tenants to promote conservation. Energy codes affect new buildings and existing building renovations.

### **2. OUTCOME-BASED ENERGY CODE**

Move from a prescriptive or modeling-based code to an outcome-based code where projects must demonstrate they achieve the performance criteria after the building is occupied.

### **3. INCENTIVE ZONING**

Incentivize deep energy efficiency in construction through density (via floor-area ratio) bonuses, but balance this incentive with other objectives (e.g. affordable housing).

### **4. FEE-BATES**

Structure development review fees to incentive deep green buildings, including energy performance as a key criterion. Require lower fees for buildings exceeding standards, and higher fees for buildings meeting minimum standards.

### **5. ZONING FOR EFFICIENT BUILDING TYPES**

Attached, multi-unit housing and business space are, on average, more energy efficient than their detached single-unit counterparts. Continue the trend of up-zoning around urban centers, and consider options for expanding attached housing in a contextually sensitive way in single-family zones.

***PILOT PROJECT***

**OUTCOME-BASED ENERGY CODE**

## **Infrastructure for Low-Carbon Fuels**

### **1. WASTE HEAT RECOVERY**

Develop district energy systems and incentive programs to capture and utilize waste heat generated from other processes or operations (e.g. industrial operations or sewage heat recovery).

### **2. COORDINATED PLANNING AND SYNERGISTIC LAND USES**

Integrate land use and infrastructure planning to maximize opportunities for heat exchange, such as through synergistic land uses, and optimizing infrastructure.

### **3. USE OF RIGHT OF WAY FOR ALTERNATIVE ENERGY**

Allow the public right-of-way to be used for ground source heat wells, where appropriate, to provide heating and cooling to nearby buildings.

***PILOT PROJECT***

**FIRST HILL DISTRICT ENERGY STRATEGIC PARTNERSHIP**