

SHIFT  
ZERO

# SHIFTING TO ZERO:

## ZERO CARBON BUILDINGS POLICY TOOLKIT

**A GUIDE TO MUNICIPAL INCENTIVES AND POLICIES TO DRIVE MARKET  
DEVELOPMENT OF ZERO CARBON BUILDINGS IN WASHINGTON STATE**



## SHIFT ZERO: WHO WE ARE

Shift Zero is an alliance of over 35 green building, energy efficiency, affordable housing, and climate action organizations, working together to catalyze a just transition to zero carbon buildings for all in Washington State to meet the urgency of the climate crisis. Shift Zero convenes members and allies to share technical, policy, and advocacy expertise and find alignment on policy and program solutions that can scale up equitably.

Collectively, we educate decisionmakers about how proven design approaches and building technologies can be leveraged to

create affordable access to high-performance, resilient buildings. A primary objective for Shift Zero is to provide a hub for thought leadership to ensure that Washington State is on a path to decarbonize both new and existing buildings. There is growing recognition that buildings need to be part of the climate solution, and Shift Zero will continue to harness this momentum by increasing awareness and advocacy for progressive building policies at the state and local levels.

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# SHIFT ZERO: MEMBERS



# ACKNOWLEDGEMENTS

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# EXECUTIVE SUMMARY: SHIFTING TO ZERO

Buildings are the fastest-growing source of carbon pollution in Washington state. In response to the climate crisis more than a dozen cities and counties within the state have adopted ambitious targets that will require eliminating most if not all emissions from new buildings by 2030, and from existing buildings by 2050.

This toolkit, developed with these targets in mind, is specifically designed to assist city, county, and other local government entities in Washington State develop policies to equitably scale up zero carbon buildings for all. Other government and non-governmental organizations from inside or outside of Washington may also find it a useful source of information and guidance to help shape local policy and advocacy.

## POWERFUL LEVERS TO ACCELERATE ZERO CARBON BUILDING

Local governments have a unique opportunity to make incentives and mandates work together to catalyze the adoption of zero carbon buildings for all. While incremental improvements are beneficial, the urgency of the climate crisis calls for big jumps forward. That means taking decisive steps now to enact policies, spur market leadership, and educate the community to begin scaling up healthy, high performance building practices, which still only represent a fraction of the overall construction market in most communities.

Shift Zero calls on our public officials to take the lead in transitioning our buildings and homes away from fossil gas and toward all-electric buildings. Pollution from burning gas in furnaces, water heaters, and stoves generates both indoor and outdoor air pollution, worsens asthma, and is especially harmful for children and seniors. All-electric high-efficient heating, cooling, water heating, and cooking appliances in new construction is the lowest-cost pathway for achieving our state's carbon reduction targets and can be a clean economic and jobs engine for our state now and for years to come.

## THIS TOOLKIT IS FOR:

- Municipal elected officials
- Planning, building, or economic development managers
- Permit issuers
- Community advocates



*Shift Zero defines a zero carbon building as a “highly energy efficient building that is fossil-fuel free and that produces on-site, or procures off-site, enough carbon-free renewable energy to meet building operations energy consumption annually.”*



## CREATING A ROADMAP FOR YOUR JURISDICTION

Determining the specific policies, actions and partnerships needed to meet these goals requires an approach tailored to the local context. Municipalities can start with research, community-wide climate planning, and stakeholder engagement, or they can choose a more direct route, starting pilot programs or adapting successful policies from other communities and taking bold decisive action to curtail carbon emissions from buildings. This toolkit is a guide to charting the most effective path to zero carbon for your community.

## BUILDING MORE EQUITABLE COMMUNITIES

Shifting to zero carbon buildings offers a wide range of benefits, including health, environmental and economic benefits, and infrastructure improvements, which can benefit the whole community. Yet historic inequities and escalating housing costs mean that low-income households and people of color already bear a disproportionate burden from pollution, high energy costs, and relatively poor housing conditions. Cities and counties can help reverse this trend by taking actions to increase production of zero carbon affordable housing that reduces energy bills and improves health and well being for those most vulnerable; and by prioritizing jobs and business opportunities for underserved communities.

## THIS TOOLKIT OFFERS:

**recommendations, resources and examples which municipalities can use to accelerate building practices beyond current requirements. It also includes:**

- A Policy Design Tool with guidance for municipalities to determine which incentives are effective in a given context. See [www.shiftzero.org/policy-design-tool](http://www.shiftzero.org/policy-design-tool)
- A recommended incentives structure using three levels of energy performance: zero carbon-ready, zero carbon, and deepest green buildings.
- Model legislation that local jurisdictions can adapt to their unique circumstances.

## UNDERSTANDING BUILDING FINANCIALS

For incentives to be effective and for mandates to be successfully adopted, it is important for policy makers and the public alike to understand the financial risk that developers take on. If a building project “doesn’t pencil” as designed, it simply won’t get built. Local governments can offer incentives that reduce the financial risk enough to outweigh the additional “first costs” of construction, making such projects much more likely to attract investment and to set a positive example in the marketplace. Incentives are most effective when leveraged with future mandates to provide an immediate catalyst which support private sector champions (i.e., “early adopters”) to voluntarily construct buildings that lead the market.

## TYPES OF INCENTIVES

There are many types of green building incentives used by municipalities that can be put into five broad categories: land use, expedited processes, technical assistance, marketing and publicity, and financial incentives. Beyond those available to local authorities, cities and counties can build partnerships to leverage state, federal, and utility incentives and additional financial tools to accelerate adoption of zero carbon buildings.





### **MAKING INCENTIVES WORK**

Shift Zero suggests building an incentive program with concrete plans for promoting and monitoring programs and projects, engaging stakeholders, and reporting to the public. Periodically evaluating and adapting your incentive program will help it stay relevant and effective. Enforcing incentives tied to building certification programs will require the use of third party verifiers and energy modeling software in addition to training internal staff.

### **PARTNER WITH GREEN BUILDING CERTIFICATION PROGRAMS**

Tying incentive programs to established 3-party certification programs and partnering with those organizations to promote beyond-code aspirational standards has distinct advantages - including having clear verifiable standards to determine eligibility and giving builders well-known options that have built-in marketing benefits. These programs' use of third-party verifiers provides a reliable way to streamline compliance and quantify the impacts of green buildings with measurable performance metrics. Shift Zero recommends a three-

tiered incentive structure using Built Green, PHIUS+ (Passive House), Living Building Challenge, National Green Building Standard (ICC-700), and LEED certifications to establish incentive levels for zero carbon-ready, zero carbon, and deepest green buildings.

### **CITIES AND COUNTIES SHIFTING TO ZERO**

Experience has shown that local governments can accelerate progress by adopting ambitious targets, setting the pace, and leading by example. Local governments are not alone in their efforts to create healthy, green, and sustainable buildings and communities. There are hundreds of local, regional, and national organizations that are willing to partner with and support public initiatives for zero carbon buildings. Partnerships with neighboring, and even cross-state, jurisdictions can have even more influence and greater impact on local policy.

Thank you for your interest. Please contact Shift Zero with questions or to share your own progress using the information in this policy guide to drive a market transition to a zero carbon future: [info@shiftzero.org](mailto:info@shiftzero.org).



# 01. INTRODUCTION

Buildings are the fastest-growing source of carbon emissions in Washington state. Fortunately, cities and counties across Washington and the Pacific Northwest are taking bold action with strategies to reduce pollution from commercial and residential buildings. The most proactive communities have plans and actions that align with targets laid out in state policy and the Paris Climate Accord. Each community is different, so there is no “one-size fits all” policy solution to meet these targets. This toolkit identifies how incentives and mandates can work together to catalyze the adoption of zero carbon buildings in local communities to address climate change.

## DEFINING ZERO CARBON BUILDINGS

[Shift Zero](#) defines zero carbon building as a “highly energy efficient building that is fossil-fuel free and that produces on-site, or procures off-site, enough carbon-free renewable energy to meet building operations energy consumption annually. To reach zero carbon, these buildings first maximize energy efficiency, then maximize on-site renewable energy generation as practical, and then procure off-site renewable energy that is additional, local, equitable, and legally assigned to the building.” “[Zero carbon-ready](#)” is an [EUI](#) (energy use intensity) of 15-25, depending on the type of building, before renewable energy is added.

## ELECTRIFYING BUILDINGS

Washington’s electricity grid is transitioning to provide increasingly clean, low-cost energy across the state. Municipalities can take advantage of this progress by utilizing Washington’s electricity infrastructure to reduce pollution from the building sector. Fossil gas, a fossil fuel that causes both carbon emissions and even more potent methane pollution, is one of the biggest and fastest growing sources of emissions from buildings. Pollution from burning gas in furnaces, water heaters, and stoves generates both indoor and outdoor air pollution, worsens asthma and is especially harmful for children and seniors.

Shift Zero calls on our public officials to take the lead in transitioning our buildings and homes to use modern, highly-efficient heating equipment that runs on clean electricity. It is especially critical to ensure access and choice for these upgrades in Black, Indigenous, and other communities of color already shouldering a disproportionate burden of the impacts from pollution and climate change. All-electric new construction has been [shown to be the lowest-cost pathway](#) for achieving our state’s carbon reduction targets, and it can be a clean economic and jobs engine for our state now and for years to come.

### Steps to a Zero Carbon Building

STEP 1:



#### Maximize Energy Efficiency

- Efficient building envelope
- Efficient systems and appliances
- Operations and maintenance
- Change in user behavior

STEP 2:



#### Minimize Embodied Carbon

- Prioritize materials that use less carbon in production and transportation

STEP 3:



#### Eliminate Fossil Fuels

- Electric space heating, hot water systems, and appliances
- No combustion of fossil fuels

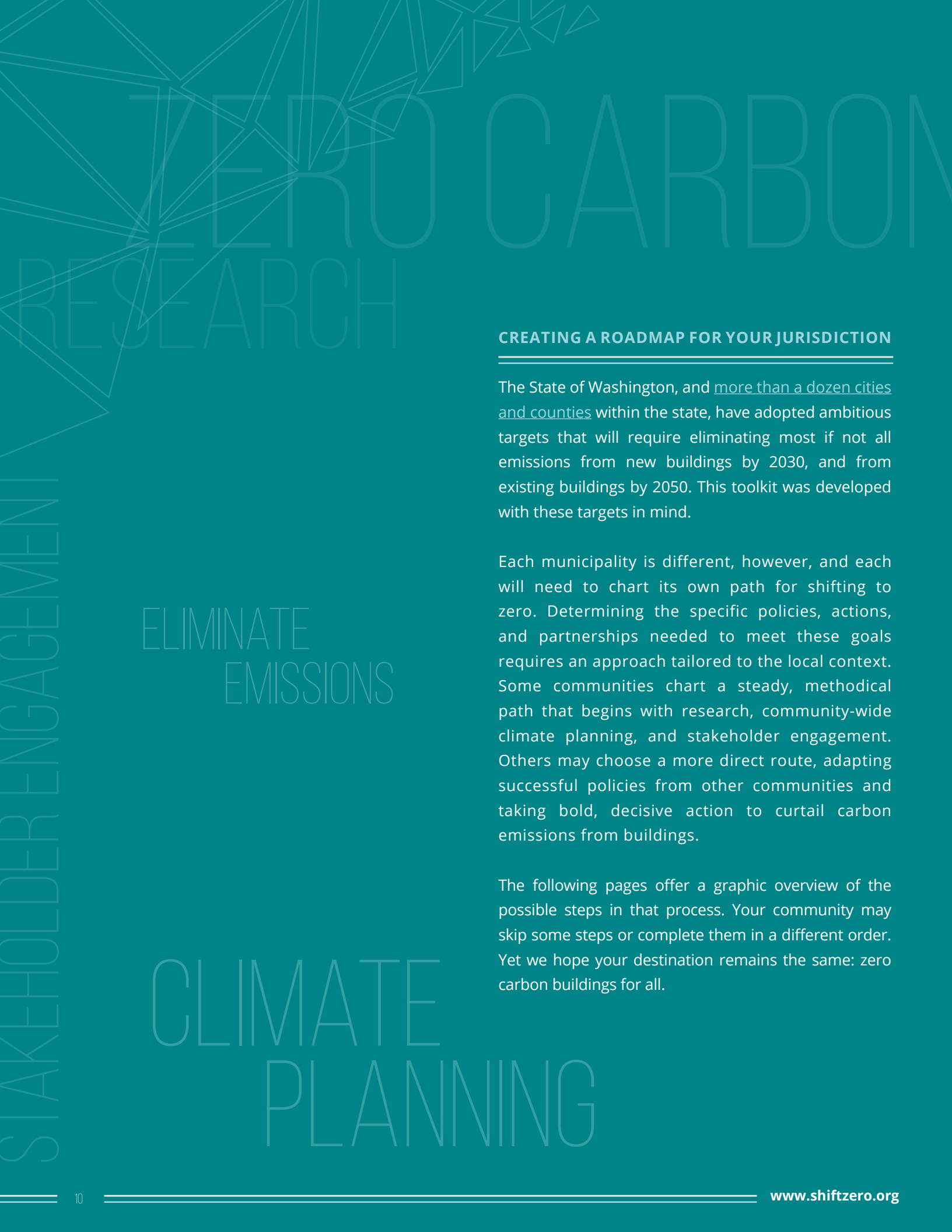
STEP 4:



#### Use Only Renewable Energy

- Maximize on-site renewable energy generation where practical
- Procure off-site renewable energy that is additional, local, equitable, and legally assigned to the building.





STAKEHOLDER ENGAGEMENT

ELIMINATE  
EMISSIONS

CLIMATE  
PLANNING

## CREATING A ROADMAP FOR YOUR JURISDICTION

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The State of Washington, and [more than a dozen cities and counties](#) within the state, have adopted ambitious targets that will require eliminating most if not all emissions from new buildings by 2030, and from existing buildings by 2050. This toolkit was developed with these targets in mind.

Each municipality is different, however, and each will need to chart its own path for shifting to zero. Determining the specific policies, actions, and partnerships needed to meet these goals requires an approach tailored to the local context. Some communities chart a steady, methodical path that begins with research, community-wide climate planning, and stakeholder engagement. Others may choose a more direct route, adapting successful policies from other communities and taking bold, decisive action to curtail carbon emissions from buildings.

The following pages offer a graphic overview of the possible steps in that process. Your community may skip some steps or complete them in a different order. Yet we hope your destination remains the same: zero carbon buildings for all.

# ROADMAP TO A ZERO CARBON FUTURE:

Each municipality's journey to a zero carbon future will be different, depending on the local context. The following milemarkers describe the steps you may want to take along the way.

## LEARN THE LANDSCAPE

Start the journey with research and analysis to develop an understanding of the local context, opportunities, and barriers for designing policies local developers will respond to.

## WATCH YOUR SPEED

Use a data-driven approach, by monitoring key indicators, tracking progress over time, and adapting methods and measures to improve your eMPG (eMissions Per Green building).

## PLAN YOUR ROUTE

Take an active role in shaping and driving climate policy by setting clear ambitious targets, and engaging the public to understand the topography and best route to take.

## SHARE THE ROAD

Incorporate social justice and equity into policies and programs, focus on inclusion, just transition and affordable housing.



# 02. THE BENEFITS OF SHIFTING TO ZERO

## ADDRESSING THE CLIMATE CRISIS

Now more than ever, state and local governments, businesses, and communities in Washington recognize climate change as a growing crisis that threatens our health, prosperity, and the local and global environment. Meeting targets to eliminate most if not all emissions from new buildings by 2030, and from existing buildings by 2050, means reducing the energy use intensity (EUI) of buildings by at least [30 percent](#) and prioritizing building electrification.

Fortunately, shifting to zero carbon buildings offers a wide range of benefits, including health, environmental and economic benefits, improving infrastructure, and building more equitable communities.



### **For people who live and work in them, zero carbon buildings promote:**

- Comfort, health, and wellbeing.
- Preparedness and resiliency during emergencies.
- Reduced energy consumption and lower utility bills.



### **For project stakeholders, zero carbon buildings offer:**

- Competitive advantage for developers, construction businesses, and designers,
- Design strategies which add to the attractiveness and value of a building,
- Demonstration of exemplary buildings that can catalyze market transformation.



### **For municipalities and local jurisdictions, zero carbon buildings:**

- Create local jobs, spur economic development, and enhance revenue growth,
- Reduce GHG emissions, which is critical to respond to the climate crisis,
- Support healthier, less energy cost-burdened residents,
- Support clean transportation through renewable electricity production.



### **For utilities, zero carbon buildings:**

- Reduce costs associated with upsizing their grid and power generation facilities to meet growing demand,
- Free up capacity to close costly, less-efficient fossil fuel energy plants,
- Reduce infrastructure strain and power disruptions during peak energy periods,
- Reduce liability risk during emergency situations and power disruptions.



## CASE STUDY: BREATHE EASY HOMES

Seattle Housing Authority partnered with Neighborhood House, Public Health - Seattle & King County, the University of Washington, and Enterprise Community Partners to build 60 “[Breathe Easy Homes](#)” as part of the High Point neighborhood redevelopment initiative. The homes were constructed with high-performance features known to decrease risk factors that cause asthma. A subsequent study of residents’ health outcomes found that asthmatic children had 63 percent more symptom-free days and greatly increased lung functioning than what they experienced where they lived previously - in worn out circa 1942 public housing. Improved health also raised the families’ quality of life: fewer sleepless nights, less missed work and school days, more outdoor exercise, and reduced medical expenses.



City of Seattle

## BUILDING MORE EQUITABLE COMMUNITIES

Historic inequities and escalating housing costs mean that low-income communities, people of color, and blue-collar workers - often referred to as “frontline communities” - already bear a disproportionate impact from pollution and economic displacement, as well as from the [localized impacts of climate change](#). In addition, frontline communities more often live in relatively poorly insulated, uncomfortable, and unhealthy housing that imposes a compounding burden of high energy bills on top of high rents on those least able to afford it. A [review of 48 major metropolitan areas](#) found that low-income households devote up to three times as much of their income to energy costs as higher-income households.

Cities and counties can help reverse this trend by taking actions that increase production of zero carbon affordable housing: healthy, ultra-efficient building practices offer sustainable, cost-effective housing solutions for both new and existing homes that can improve security, health, and well being for those most vulnerable. Counter to the common perception that green buildings always cost more, [data from research in major US cities](#) finds that healthy, ultra-efficient affordable housing can be produced at or near cost parity with standard construction under the right conditions.

### *Jobs and Equity*

New construction, building renovation, and weatherization projects offer a potential win-win-win solution, through skilled, living-wage [job creation and growth of small business](#). The transition to ultra-efficient, climate friendly buildings presents a unique opportunity to proactively link economic stimulus, business development, workforce development, and contractor training programs. To take advantage of this for greater equity, governments could prioritize opportunities for low-income and people of color to participate in and prosper from the clean energy economy when developing policy, budgets and programs.

### **To incorporate equity, municipalities should develop policies that:**

- Maximize housing units produced and preserved,
- Create jobs for low-income and people of color to produce housing,

- Offer long-term energy cost savings and life-cycle cost benefits,
- Improve health and add to quality of life for residents,
- Protect the climate.

This can be challenging because owners of newer and more efficient buildings, retrofitted homes, and homes that have converted from gas to electric appliances may pass costs to consumers in the form of increased home prices and rents. As more people shift to all-electric appliances, gas prices will inevitably increase, which will impact low-income communities still using the most gas. Local governments can mitigate this challenge in the following ways:

- Pair incentives or subsidies with limits on rent increases and evictions,
- Enact policies to prevent residential, business, and cultural displacement, and promote production of affordable green housing,
- Expand, streamline, and deliver utility assistance programs to low-income households whose homes have been electrified/retrofitted,
- Offset inevitable increases in gas prices by working with utilities to deliver discounts and assistance to low-income households that remain on gas and on-bill repayment programs to help them convert to electric,
- Provide these households with renewable energy resources through community solar, group purchasing, or on-site solar project grants to offset or eliminate electricity costs.

In order to incorporate social justice into policies and decision-making so that everyone benefits from zero carbon buildings, some cities and counties have adopted proactive measures to strive for greater justice and equity. For example, King County has a system of [Equity and Social Justice \(ESJ\) Credits](#), which includes a menu of ESJ efforts that must be integrated into all capital projects. The City of Seattle uses a [Racial Equity Toolkit](#), which lays out a process and a set of questions to guide the development, implementation, and evaluation of policies, initiatives, programs, and budget issues to address their impacts on racial equity.

## CASE STUDY: HOUSING DESIGN DEMONSTRATION PROJECT

The City of Bainbridge Island adopted the [Housing Design Demonstration Program \(HDDP\)](#) to encourage affordable housing, a vibrant pedestrian oriented-downtown, and innovative green building design. The program offers a 1.5x and 2.5x density bonus to green-certified affordable housing projects. In exchange for this incentive, the project must:

- Include a diversity of housing types) and sizes (800 – 1,600 square feet) that provide for a broad range of income and family sizes,
- Remain affordable for 50 years.

To date more than 250 new homes have been green building certified under the policy, including the solar-powered [Grow Community](#). See [appendix B](#) for a model ordinance based on the Bainbridge Policy.



Grow Community, Photo: A&R Solar



The [Housing Development Consortium](#), a regional alliance of non-profit, public and private affordable housing providers, is working to lead market transformation with the [Exemplary Buildings Program](#). The program supports a collective process of early integrative design, shared learning, and innovation through demonstration of zero carbon affordable multifamily projects. One result of this process is greater standardization and optimization of building units, which helps achieve high-performance on a budget. In 2020, HDC is actively facilitating four zero carbon affordable housing demonstration projects, totaling over 400 affordable units, with six more projects to start construction in 2021.



Their approach draws from lessons learned by developer Walsh Construction, an **early-adopter** of ultra-efficient affordable housing that has pioneered a process of “Cost-effective Design and Construction”, which has allowed Walsh projects to achieve construction costs within 3-5 percent of standard methods.

## 03. LEVERAGING MANDATES AND INCENTIVES

There are two main approaches municipalities can use to help build the market for zero carbon buildings: mandates and incentives. Mandates, now or in the future, set a baseline standard that all buildings must meet at a given time. Incentives are most effective when leveraged with future mandates, providing a bridge to help “early adopters” voluntarily construct buildings that lead the market. Knowing that a future mandate is coming and that incentives are available to help them adopt the higher standards now, can be powerful motivators for some builders and help spur zero carbon market development.

For incentives to be effective and for mandates to be successfully adopted, it is important for policy makers and the public alike to understand the financial risk that developers shoulder to plan and build a residential or commercial project. If a building “doesn’t pencil” as designed, it simply won’t get built. If a municipality can offer financial and development incentives to build a zero carbon project, it can reduce the financial risk enough to balance or outweigh the additional “first costs” of construction, making it much more likely to attract investment and set a positive example in the marketplace. To learn more, [Adventures in Commercial Real Estate](#) provides a variety of models and tutorials.

### BUILDING ENERGY MANDATES

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There are two existing mandates in Washington State which nearly all building incentives must synchronize with:

- The current [Washington State Energy Code \(WSEC\)](#) for Commercial and Residential structures,
- [State law RCW 19.27a](#), which mandates that the 2031 WSEC must achieve 70 percent less energy use than the 2006 WSEC.

Municipalities in Washington have limited authority to adopt more energy efficient regulations than the state code: cities and counties may not locally amend the residential building code, but they may:

- Adopt a [commercial energy code](#) more stringent than state standards, as the [City of Seattle](#) has done,
- Adopt residential code [Appendix U: Solar-Ready provisions](#) (Washington State adoption of the ICC-IRC Appendix T),
- Adopt commercial code [Appendix N: Solar-Ready provisions for multifamily buildings >3 stories and non-residential buildings](#),
- Make use of [Uniform Plumbing Code Appendix A](#) for efficient plumbing design.

The difference between the current Energy Code and the 2031 Code can be thought of as the “effective zone” in which incentives must function, at least for new construction. Incentives, including market-based certifications, are updated periodically to stay ahead of the code and within this zone. At a minimum, raising awareness about the 2031 mandate and incorporating this into policy-making discussions may help cultivate interest in early adoption.

Local governments can leverage their own authority to drive market transformation by passing legislation which imposes a clear future mandate, backed up with meaningful early adopter incentives, like the State of Washington did with the [Clean Buildings Act \(2019\)](#). This law requires all buildings over 50,000 square feet to meet an energy performance standard, beginning in 2026, while offering an incentive to achieve the standard early.

Cities and counties have some authority to pass mandates by ordinance which impose requirements on buildings within parameters established by state law, such as:

- Transition away from new gas hookups and/or infrastructure, or require all-electric buildings.
- Require energy efficiency upgrades at the time of sale or rental, major renovation or equipment replacement, or at point of a related subsidy (e.g. weatherization).
- Develop building performance standards that existing buildings will need to meet over a period of time.
- Build zero carbon requirements into zoning and development codes.

### **Cities leading the way on Building Energy Mandates Across North America**

- Vancouver, British Columbia's [Zero Emissions Building Plan](#) requires all new construction to be zero emission by 2030,
- New York City's [Local Law 97](#) sets mandatory greenhouse gas reduction goals for large buildings,
- Washington, DC's [Building Energy Performance Standards](#) mandate carbon neutral buildings by 2050,
- Berkeley, California's [Ordinance No. 7672](#) prohibits new gas hookups,
- [38 California municipalities](#) now require all-electric appliances.

In addition, local governments can lead by example by adopting requirements that all public buildings be certified to a green building standard. In Seattle, all new municipal buildings and major renovations of 5,000 square feet or larger are [required to achieve LEED Gold certification or better](#); are expected to be [fossil-fuel free](#); and must perform 15 percent more energy efficiently than the current code. Taking it a step further, [King County has committed itself](#) to registering at least ten Zero Energy and Living Building Challenge projects by 2020.

### **BEYOND-CODE INCENTIVES**

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Incentives are a proven way to accelerate adoption of green building practices if structured and implemented in a way that effectively motivates project owners and developers to reach beyond current requirements. Here are a few examples of incentives available at various levels of government:



### **Green Carrots in Seattle:**

By offering developers expedited permitting and density bonuses for certified green buildings, the City has enticed builders so that over 70% of new single family homes carry a Built Green Certification.



The **Clean Buildings for Washington Act** sets a required energy performance standard for existing buildings over 50,000 square feet starting in 2026, leveraged with financial incentives for early adopters to comply voluntarily.



### **Switch it Up!**

Cooperative utility Orcas Power & Light offers homeowners on-bill repayment of the cost to install energy efficient equipment via a meter conservation charge tariff attached to the meter's energy bill. At just 2% APR, the program will finance a ductless heat pump, a heat pump water heater, an electric vehicle charging station or fiber internet.



### **Deep Green Mobility in Shoreline**

The City of Shoreline offers reduced permit fees and height bonuses for deep green certified multifamily buildings. Near two future light rail stations, a minimum level of green building is required but projects that exceed this standard qualify for a variety of incentives, including expedited permitting. These transit-oriented developments will offer residents the best of green living in the city, with easy car-free access to transit and services.

While [evidence suggests](#) that zero carbon building projects can be achieved at or near cost-parity with code minimum construction, they are still only a small fraction of the overall construction market. This is primarily because of several barriers:

- A lack of financial data for understanding the return on investment (ROI) of ultra-efficient buildings creates a false perception that zero carbon buildings will always cost more to build,
- Supply chains for the equipment and materials needed for zero carbon building are underdeveloped,
- A lack of contractors and workers experienced in advanced construction techniques, as well as resistance to adopting new materials and technology, seriously undermine the ability of zero carbon building developers to deliver efficiency on a budget.





## Early Integrative Design

According to the Housing Development Consortium Exemplary Buildings Program, “Integrative design is a critical best practice because an exemplary [zero carbon] building is a set of interdependent systems that must work together in order to deliver the promised results of efficiency and durability. These systems involve design, technology, and construction techniques that can only be accomplished by integrating all of the professionals engaged in the development of affordable housing.”

## Equipment and material supply chains

The additional up-front costs of exemplary buildings result primarily from using superior technologies and materials that may be unfamiliar or difficult to obtain through accustomed supply chains. Over time, however, the pattern of green building advances has shown that as supply chains are developed and contractors gain experience, products become more mainstream and premium costs can drop by up to two-thirds. By actively connecting manufacturers, developers, and contractors, the premium cost of heat pumps and heat recovery technology, ultra-efficient windows and doors, low-carbon materials etc. will become less of a barrier.





### *Use Incentives to Create a Market Catalyst*

To be successful, local governments should adopt policies and tools that support voluntary leaders in the building industry as they navigate these challenges inherent in early innovation.

The marginal cost increase of going beyond code to zero carbon can be reduced to near normal cost margins if:

1. Incentives, technical assistance, and economic and workforce development programs are deployed to help overcome these barriers.
2. An integrative design process is followed which involves designers, contractors, and stakeholders early in the process.
3. High-performance material supply chains are developed and supported.

**Zero carbon policy incentives work as an immediate catalyst**, supporting voluntary private sector champions who are ready to lead the transition to buildings that will reach the targets for energy reduction required by 2031, starting now.

### **MUNICIPAL LEGISLATIVE ADVOCACY**

Municipalities can wield strong influence on legislation at the state or national level by adopting official positions on bills relating to climate change and building energy policy. Many potential policies and incentives are beyond the authority of local government and require legislative action to grant authority to cities and counties. In Washington State, city and county officials played a key role in winning passage of state C-PACER financing, the Clean Buildings Act, and more. It is important to develop a legislative agenda in the fall and to meet with legislators outside of the legislative session in order to have the most impact. Information on upcoming legislative issues relating to buildings policy can be obtained by contacting the [Northwest Energy Coalition](#), [Climate Solutions](#), [Sightline Institute](#), [American Institute of Architects](#) or other advocacy organizations.

# 04. TYPES OF LOCAL INCENTIVES

There are many types of green building incentives used by municipalities that can be put into five broad categories: land use, expedited processes, technical assistance, marketing and promotion, and financial incentives. Determining the best combination of policies and incentives depends on local economic, demographic, and political context. This toolkit will help you decide which is the right combination for you.



LAND USE INCENTIVES



EXPEDITED PROCESSES



TECHNICAL ASSISTANCE



MARKETING/PROMOTION



FINANCIAL INCENTIVES

## LAND USE INCENTIVES

Land use incentives allow for exemptions and bonuses from the base zoning and code laws. These incentives can include:

- Height or density bonuses,
- Floor area ratio (FAR) bonuses,
- Reduced or no parking requirements,
- Relax FAR calculations or property set-backs,
- Exemption for overhanging encroachments,
- Relief from required State Environmental Policy Act (SEPA) review, if a city- or county-led Area Master Plan Environmental Assessment (EA) or Environmental Impact Statement (EIS) has already been completed.

### *Density Bonuses*

Height, density and FAR bonuses can be used to encourage zero carbon design and construction of multi-unit or subdivision residential projects. By allowing developers to increase the number of housing units for sale or lease in a project, or relaxing certain zoning restrictions, municipalities can help them overcome the perceived additional risk and up-front cost of voluntarily adopting green building standards and/or including affordable housing units beyond what is required by code.

An FAR bonus would allow zero carbon buildings to exceed the maximum allowable floor area-to-lot size ratio under specified conditions, meaning the primary building could be larger or taller than zoning would otherwise allow. Seattle's [Green Building Standard](#) offers FAR bonuses for projects achieving Built Green, Passive House, Living Building Challenge and other green building certifications.

To ensure community benefit, some communities require projects receiving density bonuses or reduced parking requirements to be located near public transportation.



### ***Code Relaxation***

Relaxing FAR for zero carbon buildings would be to exclude the area used for extra insulation beyond minimum code requirements from the floor-area-ratio calculation; this allows for a thicker wall assembly without losing interior usable space.

Relaxing rear- or side-yard setbacks to allow for insulation to extend into the setback allows the owner to recoup usable space lost because of thicker walls. [Vancouver BC allows](#) relaxations of height, rear yard setbacks, building depth, and FAR for Passive House projects. When applied to existing building retrofits, this allows more insulation to be added to the exterior of buildings previously built up to the setback limit. An exemption for overhanging encroachment would allow certain structures to extend over a public right-of-way such as a solar [voltaic array](#) or [a shading device](#) extending over a sidewalk.

### ***Urban, Suburban or Rural?***

Land use incentives generally work best when applied within cities and Urban Growth Areas (UGAs) with high market demand, strict zoning codes, and untapped potential for denser urban and suburban development. While land use incentives could potentially work in rural areas - called Limited Areas of More Intensive Rural Development (LAMIRDS) - these would need to be evaluated on a case-by-case basis to ensure compliance with the Growth Management Act and to ensure these incentives are actually going to help achieve GHG reduction targets once infrastructure and transportation emissions are accounted for.

### ***Middle Density Housing***

Washington State recently enacted [RCW 36.70A.600](#) (pursuant to WA HB 1923, 2019), which incentivizes cities to increase urban residential density and the variety of housing types allowed under local land use codes. Middle density generally refers to urban infill development of building types other than single family or multifamily, including Accessory Dwelling Units (ADUs), duplexes, triplexes and four-plexes, courtyard apartments and townhomes. For cities that adopt local ordinances pursuant to RCW 36.70A.600 before the required deadline (as of publishing, April 1, 2021), there are planning grants available. For participating communities, the law would exempt certain housing types from appeal under the State Environmental Policy Act. This is a state-to-local government incentive rather than a public to private sector land use incentive, but represents an innovative land use policy option that may help cities address acute housing shortages, increase density, and expand affordable housing.

## **TACOMA: DENSITY BONUS FOR PLANNED RESIDENTIAL DEVELOPMENT DISTRICT (PRD).**

The City of Tacoma requires PRDs to achieve Built Green 4-Star or LEED Gold certification and offers an additional 50% density bonus for PRDs if the additional units are affordable housing units. If the affordability incentive is met, the development can earn an additional 25% density bonus for building to Built Green Emerald Star or Living Building Petal Certification (and, if new roadway sections are constructed, Greenroads Gold.)

Incorporating land use incentives requires changes to local zoning and development codes. The amendment process can take a significant amount of time and



resources and potentially face opposition. If the incentives significantly depart from existing code, the municipality may have to undergo additional planning to align with development goals. But this may also present the opportunity for municipal planners to holistically approach the development of sustainable communities alongside zero carbon buildings.

## EXPEDITED PROCESSES

Expedited process refers to an incentive that allows projects to have their plans and permit applications reviewed, permitted, and inspected more quickly than business as usual. Building projects that commit to pursue a high-level certification or zero carbon emissions are “moved to the front of the line”. This incentive normally has the largest impact in locales where permit reviews take a significant amount of time, such as a large urban area with rapid growth, yet it could be applied in creative ways in smaller communities.

To enhance the effectiveness of this incentive while balancing staff and budget constraints, a jurisdiction could consider actually lengthening standard review times for most projects, while offering expedited review for preferred projects. In addition to initial review, expedited permitting could also be applied to land use variance reviews, or conditional use permit reviews to enhance the incentive.

### *Single Point of Contact*

A single point of contact is often included as part of expedited processes, helping further reduce the time and cost of permitting. Qualifying project applicants are assigned a single point of contact in the permitting office to work with as soon as the application is processed. This contact is then able to help usher the project through the process as quickly and efficiently as possible, to expedite review, corrections, inspections, and approvals needed from various staff or departments, and to respond to any concerns or questions the project owners have. At the same time, they play a role in enforcing compliance with incentive program requirements. Such a “green permit liaison” may also provide or facilitate technical assistance (see next section below).

## CASE STUDY: PRIORITY GREEN EXPEDITED AND BUILT GREEN PARTNERSHIP

The [City of Seattle Priority Green Expedited](#) program has helped developers save significant time and money and motivated thousands of projects to go green. Priority Green offers certified green built project applicants:

- A single point of contact,
- Priority in scheduling intake appointments,
- Faster initial review of plans,
- Faster permit processing.



Eligible projects using Priority Green Expedited are issued permits on average 45 days quicker than conventional projects. Initial permit review time, which typically takes up to eight weeks, can be cut by four weeks for small residential projects and by two weeks for larger ones.

[Built Green](#) has been an integral partner with the City of Seattle. As an eligible certification for the program, Built Green coordinates with the City of Seattle to solicit feedback, analyze data, and ensure the Built Green Checklist is aligned with Seattle’s climate targets. This in turn makes it easier for builders and verifiers to comply with the program, saving time and money for everyone involved. From 2010 to 2017, over [1,000 permits](#) were issued through Priority Green. As of 2019, 73 percent of new single-family construction in Seattle is Built Green Certified.

### ***Beyond-Code Compliance***

In some cases, municipalities or states adopt alternative standards which can be used in lieu of standard compliance paths to avoid duplicating review processes that reach the same or a better standard. For example, the 2018 Washington Residential code [section R407](#) recognizes the Passive House Standard as an alternative compliance path, building on precedents from Vancouver, British Columbia and Brussels, Belgium.

In a different type of policy, “stretch” codes, such as the [Massachusetts Stretch Code](#) and the [British Columbia Step Code](#), are set at the state level and give local jurisdictions the option to adopt the code locally, either as a required or optional compliance pathway. There are currently no stretch codes adopted in Washington, but a residential stretch code proposal was considered by the state legislature in 2019.

In other cases, local or state governments have adopted green building codes such as the [International Green Construction Code / ASHRAE 189.1](#) for commercial buildings, or [ICC-700 National Green Building Standard](#) for residential buildings under three stories, as alternative beyond-code compliance paths. Stretch codes and green building codes may or may not be more efficient or less costly to comply with, but they may be an effective way to drive adoption of zero carbon buildings where available.

### ***Pre-Approved Plans***

A municipality can collaborate with architecture and design professionals to develop pre-approved plan sets designed to provide above code performance. Permit fees and approval times can be reduced for both officials and project applicants. This tends to work for smaller, replicable building types. These preapproved plan sets should be reviewed, minimally, with each state energy code update cycle. [The City of Lacey](#), WA has approved pre-approved plan sets for accessory dwelling units (ADUs), with several energy efficient variations available. The Municipal Research and Services Center of Washington has [more information](#) on using pre-approved plans for faster permitting.

### ***Streamlined Permitting***

Municipalities can form a task force at the jurisdiction or regional level to review building permitting processes, recommend code and process improvements, develop best practices, and create policy innovations to reduce time, costs, and otherwise streamline the planning and permitting process. The cities of Tacoma and Bellingham have undertaken such efforts with some success; Bellingham applied [Lean Design principles](#) to evaluate and improve their compliance process. Neither program had a specific focus on green building. Some local or state governments have acted to remove regulatory barriers to green building and/or allow code relaxations or departures for innovative designs, materials, and technology. For more on this see Code Innovation below.

### ***Code Innovation***

Innovative green building projects and technologies do not always fit the normal prescriptive path to compliance, which creates barriers that can slow or stop them from being approved or built. Yet, if the applicant can show that they meet or exceed the intent of the code’s requirements, building officials have the authority to approve such projects, usually after they review test data, evaluation reports, energy modeling, green certification or other documentation demonstrating required performance. It is written into most codes that they are not intended to prevent the use of innovative, alternative materials not specifically prescribed. To ensure that permitting such projects can go through, city and county officials need to be familiar with “alternative means and methods”, i.e., non-prescriptive compliance paths for innovative green building project applications.

Municipalities can also systematically seek out and eliminate code barriers to green building through a collaborative stakeholder-informed process and/or establish a task force to review and recommend code departures for approval as [Seattle](#) and [Portland](#) have done. See the Northwest EcoBuilding Guild's [Building Innovations Database](#) for more information and detailed case studies on code and policy innovations that make it easier to build green.

## TECHNICAL ASSISTANCE

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Building departments can encourage the development of zero carbon buildings by hiring consultants or staff to provide specialized technical assistance directly to their building permit customers. Construction industry professionals may face a steep learning curve when it comes to highly-efficient, zero carbon buildings. Providing them with ready access to green building knowledge, design guidance, and referrals to outside resources will make them more likely to choose and find a cost-effective path to zero carbon buildings.

Training to increase the knowledge, capacity, and scope of all staff to educate and facilitate ultra-efficient green buildings can help to change the dynamic of permit review from an adversarial relationship focused on minimum requirements to a collaborative one focused on aspirational goals. Some municipalities have technical advisory groups who assist project teams on a variety of aspects. Pairing technical assistance with incentives can provide additional momentum toward greater adoption of zero carbon buildings.

Technical assistance support from municipalities can take different forms.

- **Green Building Specialist:** Hire staff in the permit office to encourage and support energy, water, and resource saving-measures for applicants' projects and to facilitate the use of incentives,
- **"Green Team":** Assign senior staff to coordinate across departments to share knowledge and leverage contributions from municipal utilities, housing, and other agencies,
- Join neighboring jurisdictions through an interlocal agreement to cost-share dedicated green building staff to provide technical assistance and coordinate policy and programs for consistency,
- Collaborate with non-governmental organizations that provide technical assistance, such as Shift Zero, the Housing Development Consortium, Regional Code Collaboration, and others, to leverage scarce staff resources through partnerships and in-kind resource contributions.



1. The [City of Tacoma](#) hired a green building specialist to work side by side with plan reviewers to encourage green practices at the permitting counter, develop incentive policies and to organize educational events that highlight green designers and projects leading the way.

2. [King County, WA](#) convenes and leads the [Regional Code Collaboration](#), which develops innovative green building codes and coordinates adoption for greater consistency across a multi-county region while supporting smaller jurisdictions with no dedicated green building staff.

3. [Vancouver, British Columbia](#) and [New York City](#) have established "Building Exchange" centers to serve as a resource and trusted expert to the building industry.

## Resources:

Many organizations provide green building training appropriate for municipal staff, including:

- American Institute of Architects <https://www.aia.org/continuing-education>
- American Air Barrier Association <http://www.airbarrier.org/education/>
- Architecture 2030 <https://architecture2030.org/education/>
- Building Performance Center: <https://www.buildingperformancecenter.org/>
- Built Green [www.builtgreen.net](http://www.builtgreen.net)
- Earth Advantage [www.earthadvantage.org](http://www.earthadvantage.org)
- International Living Future Institute <https://education.living-future.org/>
- New Buildings Institute [www.newbuildings.org](http://www.newbuildings.org)
- Northwest EcoBuilding Guild [www.ecobuilding.org](http://www.ecobuilding.org)
- Passive House Institute US <https://www.phius.org/become-a-professional>
- Sustainable Connections [www.sustainableconnections.org](http://www.sustainableconnections.org)
- Smart Buildings Center <https://www.neec.net/programs/smart-buildings-center/>
- US Green Building Council <https://www.usgbc.org/education-listing/>
- Washington State University Energy Program [www.energy.wsu.edu/](http://www.energy.wsu.edu/)

## CASE STUDY: FORT COLLINS INTEGRATED DESIGN ASSISTANCE PROGRAM

In Colorado, the City of Fort Collins takes technical assistance further than most municipalities by working with projects from building design to operation and offering incentives along the way. As part of [Integrated Design Assistance Program \(IDAP\)](#), Fort Collins Utilities gets involved early in the design phase, including participating in a design charrette, and works with projects to completion. The IDAP pays incentives after successfully completing major phases of the project, and additional incentives are paid for building performance. The IDAP process and reporting requirements are similar to those of many green building certification programs, presenting opportunities to pursue more comprehensive energy improvements.

## MARKETING AND PROMOTION

Municipalities can help spur market demand through public awareness campaigns that recognize and showcase high profile exemplary buildings. Importantly, these efforts help motivate early adopters in the development, design, and construction fields who want to be seen as a leader and partner to the community or gain a competitive edge by adding green building to their project portfolio.

There are a variety of precedents for this type of incentive that have proved effective.

## Examples:

- The Brussels, Belgium "[Exemplary Buildings Program \(BatEx\)](#)" incentivized 243 buildings from 2007-2013. As a result of the program and policy, over 3000 buildings had achieved the Passive House standard before it became code-required in 2018.
- The US Department of Energy's [Housing Innovation Awards](#). Started in 2013, it has awarded roughly 30 net zero energy and net zero ready builders and projects each year across the categories of affordable housing, ADUs, custom buyer, custom on spec, multifamily, and production.
- King County, WA partners with Shift Zero's "[20 by 2020 Building Challenge](#)," modeled after the Brussels BatEx program, to show that zero carbon buildings are economically feasible and scalable. Seattle City Light, the City



of Seattle, and King County have promoted the program and provided incentives such as expedited permitting, land use bonuses, and energy efficiency incentives.

- The Northwest EcoBuilding Guild hosts the annual [Northwest Green Home Tour](#) in Seattle and other cities, showcasing accomplished green builders and their innovations - with financial and promotional support from the City of Seattle and King County.
- Built Green holds its annual [“Green Hammer” awards](#) to recognize leading developers and green building advocates at an event attended by many leaders from the private, non-profit, and public sectors.
- British Columbia’s [Net-Zero Energy-Ready Challenge](#) (NZERC) promoted net-zero energy ready buildings across the province. Clean BC provided design and construction incentives to 11 projects, and generated significant interest and support among over 100 partner organizations and suppliers.

As these examples illustrate, municipalities can use public information channels to promote and market green building programs and exemplary projects. They can also provide financial support for marketing and education efforts that advance legitimate public purposes - in the form of partnerships, sponsorships or grants - to encourage green building leadership from the private and non-profit sectors. Also, by simply participating in community partners’ events, city and county officials can send a signal that will not be lost on business owners and managers.

## FINANCIAL INCENTIVES

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Financial incentives are important for helping zero carbon buildings compete economically with code standard buildings. These incentives help to offset the potential higher costs that early zero carbon developers face as the building market begins to transition. Financial incentive policies will depend on the availability of funding and political backing and will require amendments to local ordinances, either through the approval of local governments or a public vote. Each will require differing levels of funding and support from stakeholders. Most municipalities do not have the funds or revenue capacity necessary to slash fees or give direct grants, nor do they have the authority to offer tax exemptions without state approval. Municipalities will need to recognize climate mitigation as a public good in local code to justify that financial incentives are not a gift of public funds. Yet, there are a variety of financial tools that may be within their means and direct authority.

### *Tax Exemptions*

Taxes are a significant cost of building development and ownership. Limited exemptions from either property or sales and use tax, or both, have potential to significantly help zero carbon buildings achieve cost parity with conventional buildings by lowering upfront and operating costs. Tax exemptions have been successfully used in other jurisdictions around the country. However, in Washington State, the Legislature would need to specifically authorize property or sales tax exemptions for healthy, energy efficient buildings. An example of this is the current [property tax exemption](#) for multifamily buildings that include affordable housing units and the [sales and use tax exemption](#) for solar energy systems.

## CASE STUDY: NEVADA GREEN BUILDING TAX ABATEMENT PROGRAM INTEGRATED DESIGN ASSISTANCE

The Nevada Governor’s Office of Energy (GOE) incentivizes building efficiency with partial property tax abatements for buildings meeting LEED or Green Globes certification. The [Green Building Tax Abatement \(GBTA\) Program](#) has expanded from state-owned buildings to new and existing commercial and multifamily. A newly constructed building meeting the highest levels of LEED or Green Globes can have as much as 35 percent of property taxes abated for up to ten years. To date, [over 170 buildings](#) across the state receive tax abatements through the GBTA.



### ***Impact Fee Waivers***

Local governments have authority to waive the impact fees charged to new development projects for affordable housing or if the activity has “[broad public purposes](#).” Some municipalities already offer [full](#) or [partial](#) reductions and exemptions from impact fees under this statute for affordable housing. Because impact fees are used to fund public facilities, municipalities must find new sources of revenue to cover funding shortfalls.

### ***Permit Fee Waivers***

Local jurisdictions are authorized to establish and amend their permitting ordinances and have the ability to waive or reduce permitting fees for green building. Fees for code departures (modifications) and conditional uses could also be reduced, if those departures help achieve policy goals. Fee reductions or waivers may be more feasible if a green building certification program with third party verification ensures a high-quality project while requiring less review time for city staff. Municipalities should conduct a technical and legal review of their permitting policies to ensure that reducing or waiving permitting fees aligns with their climate goals and demonstrates proper municipal purpose. Permit fees are often the sole source of funding for municipal staff who process permits, so other funding or offsetting fee increases would be needed to cover the shortfall from a permit fee waiver.

## **CASE STUDY: CITY OF SHORELINE DEEP GREEN INCENTIVE PROGRAM (DGIP)**

The City of Shoreline, WA adopted the [Deep Green Incentive Program](#) (DGIP) in 2017 to meet the city’s commitment to reduce emissions by 2030. DGIP incentivizes green building by reducing impact and permit fees and by allowing projects to depart from local code for meeting a verified green building certification. Projects that meet the highest level of the Living Building Challenge or Living Community Challenge are eligible to receive a 100 percent waiver of permit application and pre-application fees. Declining levels of fee waivers are given for projects that build to a lower tier of ILFI, BuiltGreen, PHIUS, or LEED certification. Additionally, a project can qualify for a reduced Transportation Impact Fee based on a Transportation Impact Analysis. [See Appendix A](#) for a model ordinance based on the Shoreline program.

### ***What Financial Incentives are Best for Your Municipality?***

Subsidizing upfront costs by reducing permit fees is the most accessible form of municipal financial incentive available in Washington. Selecting which financial incentives are best for your jurisdiction depends upon the local government’s political confidence, financial capacity, and market conditions (see Shift Zero’s [Policy Design Tool](#)), and a comparison of advantages and challenges particular to your community (see Comparison Table next page).

## Financial Incentive Comparison

INCENTIVE TYPE	ADVANTAGES	CHALLENGES	DIFFICULTY OF IMPLEMENTATION
<b>Tax Exemption</b>	<ul style="list-style-type: none"> <li>• Most impactful financial benefit.</li> <li>• Long-term cost savings upfront and over operational life of the building.</li> </ul>	<ul style="list-style-type: none"> <li>• Need legislation.</li> <li>• Amend local code.</li> <li>• Finding alternative funding.</li> </ul>	High
<b>Impact Fee Waiver</b>	<ul style="list-style-type: none"> <li>• Upfront cost reductions.</li> <li>• Flexible option for municipalities.</li> </ul>	<ul style="list-style-type: none"> <li>• Finding alternative funding for essential services.</li> <li>• Amending local code.</li> </ul>	Medium
<b>Permit Fee Waiver</b>	<ul style="list-style-type: none"> <li>• Most flexible options for municipalities.</li> <li>• Reduces upfront development costs.</li> </ul>	<ul style="list-style-type: none"> <li>• Amending local code.</li> <li>• Finding alternate funding for the permit office.</li> <li>• Provide proper justification to ensure this does not constitute a gift of public funds.</li> </ul>	Low
<b>Grants</b>	<ul style="list-style-type: none"> <li>• Reduces upfront development costs.</li> <li>• Funds do not need to be paid back.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide proper justification to ensure this does not constitute a gift of public funds.</li> </ul>	High

There are additional incentives available from state, federal, and utility programs that cities and counties can leverage to reinforce their incentive program, discussed further in the next section.

## 05. LEVERAGING UTILITY, STATE, AND FEDERAL INCENTIVES

Municipalities can leverage their own incentives with third-party incentives by promoting those incentives to permit applicants, tax/rate payers and others. Utility, state, and federal incentives can vary significantly and often utilize tax credits and deductions.

### UTILITY INCENTIVES

Utility incentives are constantly being adapted to new trends, technology, and information in the market, and to stay ahead of code standards. Municipal staff should check local utility websites frequently and encourage applicants to take advantage of these incentives.

The website [DSIRE](#), the Database of State Incentives for Renewables & Efficiency, is a helpful tool for finding any applicable incentives from utility, state, and federal sources. [Better Built NW](#) also maintains a database of the latest utility incentives available on their website.

## CASE STUDY: PUGET SOUND ENERGY NEW CONSTRUCTION INCENTIVES

Puget Sound Energy (PSE) offers incentives for [high performance new construction](#) homes. Builders qualify for up to \$2,000 per home that exceeds the Washington State Energy Code (WSEC) by at least 30 percent or is certified Built Green 5-Star or higher.

### STATE INCENTIVES

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The Washington State Legislature passed the [Clean Buildings Act](#) in 2019, making Washington one of only four jurisdictions in the nation with performance standards for existing buildings. It directs the Washington State [Department of Commerce](#) to develop energy performance standards for commercial and multifamily buildings 50,000 square feet or larger. Beginning in 2021, building owners who have buildings that are more than 15 [EUI](#) outside their target and who voluntarily make energy improvements to meet the standards are eligible for incentives of [\\$0.85 per square foot](#). The energy performance standards become mandatory for all large commercial buildings beginning in 2026.

The Washington State Department of Commerce also incentivizes energy efficiency in affordable housing through the [Housing Trust Fund](#) (HTF) [Ultra-High Energy Efficiency \(UHEE\)](#) enhancement. Applicants are required to demonstrate energy savings that can achieve net-zero energy or Passive House. Nearly \$100 million is available through the HTF, and there is \$7 million available for UHEE in the 2019-21 Capital Budget. The UHEE enhancement is an opportunity to leverage public funding to address energy use, the housing crisis, and affordability.

The Washington State Housing Finance Commission's [Sustainable Energy Trust](#) offers low-interest loans up to \$1 million for energy-efficiency or renewable energy projects for:

- New construction of high efficiency single-family homes,
- Energy and water efficiency upgrades for multifamily housing and nonprofit facilities,
- Clean energy projects.

The WSHFC's [2017 Report](#) to the Legislature, "Tax Incentives and Strategies for Renewable & Distributed Energy Finance," contains tools and information that municipalities can use in their incentive programs.

### FEDERAL INCENTIVES

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A range of federal tax incentives are available for projects that deliver beyond-code energy efficiency or renewable energy projects. These include:

- [45L - Energy Efficient Homes Tax Credit](#): Builders of efficient single-family homes or multifamily buildings qualify for up to \$2,000 per unit. Eligible units must consume 50 percent less heating and cooling energy than a dwelling unit designed to meet the 2006 International Energy Conservation Code (IECC),
- [Investment Tax Credit \(ITC\)](#): The ITC is a non-refundable tax credit for the installation of renewable energy, currently worth 26 percent of the value of the installed system. Both residential and commercial buildings are eligible for the ITC. However, the value of the credit has begun to phase down, and by 2022 it will be completely phased out for homeowners unless extended again by Congress,
- [Modified Accelerated Cost Recovery System \(MACRS\)](#): MACRS allows eligible businesses to depreciate the value of a renewable energy system, and therefore claim a greater tax deduction, over a five-year time period. This front loads the benefits of depreciation, speeding up the payback time that businesses realize on an investment in a renewable energy system.

Municipalities can encourage developers and builders to combine federal, state, and utility incentives to realize greater cost savings on projects. At the time of writing these incentives are available, but availability can vary depending on economic conditions and federal policy priorities.

## UTILITY, STATE, AND FEDERAL GRANTS

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There are various grants offered by utilities, as well as state and federal agencies, that zero carbon developers can utilize to finance projects. These programs change often, so [check the DSIRE website](#) regularly for info on the latest programs.

- **Utility:** Puget Sound Energy offers [Green Power Community Support Grants](#) to support the installation of solar electric projects on nonprofit, public housing authority buildings and tribal facilities serving low-income or Black, Indigenous, and People of Color (BIPOC) community members in PSE's electric service area. Other utilities may have grant programs as well, check with your local utility for the latest offerings.
- **State:** Washington provides a handful of grant opportunities, primarily for renewable energy and emerging technology, through the [Department of Commerce](#).
- **Federal:** The [U.S. Department of Agriculture](#) (USDA) Rural Energy for America Program (REAP) has two grant programs that fund [renewable energy and energy efficiency](#) for small businesses and [energy audits for public buildings](#) in rural areas.

# 06. EXISTING BUILDINGS INCENTIVES AND TOOLS

Most of the incentives and financing tools in the previous sections apply to new buildings, but existing homes and buildings will continue to be the largest source of emissions from the state's building sector unless local governments can motivate private building owners to scale up building retrofits for health, efficiency, and renewable energy.

The basic strategy for existing buildings is to weatherize, airseal, and insulate; upgrade heating/cooling and water heating systems with electric appliances (eliminating fossil gas appliances); and then power them as possible with renewable electricity. Retrofitting existing buildings can dramatically reduce energy use, health impacts, and operating costs and thus represent a huge win-win solution for the environment, social equity, local green jobs, and economic development. A 2020 study found that enhanced weatherization programs alone could save the US [\\$3 billion in avoidable health impacts](#) over ten years.

Yet the authority and tools that municipalities need to encourage or compel upgrades of existing buildings are different, and less common, than those used for new buildings. In particular the challenges related to upfront costs are even more complicated due to the split incentive issue (see below) and potential impacts on low income communities. Fully exploring this topic would require an entire toolkit of its own and is beyond the scope of this document. However, we do want to offer a few guideposts and points of reference for municipalities.



## UNDERSTANDING THE LANDSCAPE

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Prior to embarking on an existing buildings strategy, municipalities should gather and analyze data on the existing building stock and assess how the benefits and burdens of housing costs and conditions affect low-income and people of color in their communities. To do so, they can:

- Use Architecture 2030's [Zero Tool for Portfolios](#) with local assessor's data to characterize the energy use intensity (EUI) of the local building stock in a few simple steps,
- [Assess Healthy Housing on a Community Level](#),
- Develop a [risk of displacement index](#) and an [access to opportunity index](#) as the City of Seattle has done,
- Consult with the private sector to understand the business case, value proposition, and technology landscape.

## CASE STUDY: THE OPPORTUNITY COUNCIL AND SUSTAINABLE LIVING CENTER

Expanding energy efficiency incentives and resources to low- and moderate-income households is an equitable strategy to scale up existing building retrofits. Two organizations on opposite sides of Washington, with funding from the WSU Energy Extension's [Community Energy Efficiency Program](#) (CEEP), are engaged in this work. The [Opportunity Council](#), a Community Action Agency (CAA) based in Bellingham, serves Island, San Juan, and Whatcom counties. Among programs such as weatherization and federal Low-Income Home Energy Assistance Program (LIHEAP), the Opportunity Council is also a partner in the [Community Energy Challenge](#), which offers incentives to moderate-income homeowners and renters for energy efficiency improvements. In addition, businesses can qualify for up to [\\$5,000 of incentives](#) for energy saving projects. The [Sustainable Living Center](#) (SLC) in Walla Walla serves households in Walla Walla, Columbia, and Franklin counties, providing low-cost home energy audits and financial incentives for home energy upgrades. From [2018 to 2019](#), SLC provided over \$800,000 in financial assistance for energy upgrades.

## SPECIFIC CHALLENGES FOR RENTAL PROPERTIES

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### *Split Incentives*

A major obstacle to increasing the number of building retrofits is the financial calculus building owners have to consider, especially if their property is a residential rental or commercial leased property. To upgrade the energy efficiency of their property, the owner must make an upfront investment. Yet it is the tenant who reaps the financial benefit of lower energy bills and a healthier space, which means the landlord has a disincentive to invest. To overcome this split incentive, a combination of outreach and education, pilot projects, and financial incentives can help show a [positive business case for building owners](#) to make those investments. For example, a healthy energy efficient building can have lower tenant turnover which saves a lot of money.

### *Protecting Low-Income and Vulnerable Communities*

To pay for extensive energy retrofits and improvements, property owners might increase rents on their tenants. This can effectively price out low-income individuals or small businesses, excluding them from the benefits of a greener building. Municipalities need to consider the best strategies for ensuring that more existing buildings get retrofitted with the least impact to vulnerable communities. Property owners should be encouraged to take advantage of as many incentives and financing tools as possible in order to minimize increases in rent.

To address emissions from existing buildings, jurisdictions will need to pursue innovative policy approaches. Some cities and states are piloting [larger-scale retrofit programs](#) and with a comprehensive strategy, many more communities can promote and scale up investment to [retrofit the current building stock](#). Examples of policies to explore include:

- The City of Portland's Home Energy Score Ordinance (took effect 1/1/2018) requires most sellers of single-family homes to provide a [Home Energy Score](#) and Report at time of listing. Click here for [text of ordinance](#), [city code](#), and recent [report to City Council](#),
- Benchmarking and disclosure of commercial and multifamily buildings, such as [City of Seattle's](#) and the [City of Portland's programs](#),
- Requirements to retrofit older homes at time of sale or rental, such as the [City of San Francisco Residential Conservation Ordinance](#),
- Require conversion from gas to electric appliances for heating, water heating, and/or cooking appliances at time of sale or renovation,
- [Sustainable Energy Trust](#) low-interest loans for retrofit of affordable multifamily buildings and non-profit properties,
- "Energy Efficiency as a Service" pilot program by Seattle City Light, modeled after the [Metered Energy Efficiency Transaction Structure](#).
- Establishing free or subsidized energy audits and/or retrofits through programs like the [Building Performance Center](#), [Sustainable Living Center](#) (SLC) in Walla Walla, and others funded by 2008-2012 federal stimulus aid (see case study above).

Several financial tools, which can applied to retrofit existing buildings are further described in the next section:

- C-PACER Financing for existing commercial buildings
- Energy Efficient Mortgages for single family homes
- Solar Energy Loans
- On-bill repayment programs,
- Credit Enhancements
- Community Reinvestment Act

Some innovative public resources are available, which municipalities can refer applicants and building owners to, including:

- [The EcoCool Remodel Tool](#)
- Built Green [Remodel Handbook](#) and [Checklist](#)
- LEED [Existing Buildings website](#)
- Rocky Mountain Institute [Zero Over Time for Building Portfolios Guide](#)

For more information on these and other potential strategies, see Section 8 on Financing Tools and the Shift Zero Existing Buildings webpage.

# 07. ADDITIONAL FINANCING TOOLS



Beyond mandates and incentives, there are a variety of financing tools which can be used effectively to support zero carbon new construction and retrofit of existing buildings. By working with lenders, utilities and suppliers, municipalities can leverage mandates and incentives to enhance the effectiveness of these financing tools through public-private partnerships and coordination. By helping establish and promote specialized financing products and programs, cities and counties can create synergy between policy and private-sector financial tools with little or no investment of public funds.

Ideally, these tools can be leveraged to help build a market for zero carbon buildings one project at a time. Understanding how lower rates, longer loan terms, and other advantages of green lending tools improve the pro forma analysis of building projects is key to using them effectively. Every zero carbon building successfully financed and built creates a real estate valuation “comparable” that can support further investment in zero-carbon buildings.

*Martha Rose, president of Martha Rose Construction, “the market-rate net-zero homes I build give me a selling edge. My home buyers will experience fresh air and comfort that exceeds most expectations. To top it off, instead of paying an electrical bill, the utility will pay them.”*



## C-PACER FINANCING IN WASHINGTON

Commercial Property Assessed Clean Energy and Resilience (C-PACER) enables low-cost, long-term funding for qualified energy, water conservation, and seismic improvements for new or existing buildings. Financing is made by a third-party financial institution as a lien on the property. Washington’s [C-PACER legislation](#) authorizes counties to establish local C-PACER programs. C-PACER is specific to commercial, large multifamily (five or more dwelling units), industrial, and nonprofit properties.

Creating a county C-PACER program is simple: first, a county adopts an ordinance and guidelines that govern how its C-PACER program works. Then, when a private lender files a lien against the property, a county only has to review the lien application for compliance with the C-PACER state law, and then record a unique agreement that includes the acknowledgment of a special property “assessment” by the county. In coordination with national and local experts, Shift Zero has developed a [set of model program documents](#) with guidance for County governments to use in adopting a C-PACER program, along with an [FAQ, briefing presentation and more](#).

### How can building owners benefit from C-PACER financing?

C-PACER loans are used to finance upgrade costs that are tied to the property, rather than the owner, which can allow for longer terms and lower cost financing that does not impact the owner’s debt to equity ratio. The extended loan term means that payback is spread over the expected life of the improvements, and the loan repayment obligation transfers automatically to the next owner if the property is sold. Lower energy costs mean that owners pay less to operate their buildings, which lowers the risk of defaulting on their loan. Lenders can therefore offer lower rates or issue larger loans for energy improvements. Finally, 100 percent of the cost of energy improvements can be covered by C-PACER financing with little to no upfront costs out of pocket. This can significantly improve the pro forma financial analysis for an energy efficient building, making it more likely to get built or upgraded.



## ENERGY EFFICIENT MORTGAGES

Energy efficient mortgages (EEM) are for the purchase of new and existing energy efficient buildings and allow borrowers to include the cost of energy improvements in the mortgage. EEM programs are limited in Washington, but there are [several federal programs](#) available to certain borrowers.

Municipalities could help increase these programs by strategically partnering to deliver targeted education and technical assistance designed to drive demand at the point-of-sale. Olympia Federal Savings offers [fee reductions and a lower down-payment](#) for borrowers who use their “Green Choice” loans. The WSHFC [EnergySpark Program](#) offers home buyers using the WSHFC’s [Home Advantage](#) loan program a 0.25 percent interest rate reduction if they purchase a new home with a recognized green building certification or make energy improvements to an existing building. EEM programs help to increase the affordability of healthier and energy efficient homes while also [lowering risk](#) for lenders, which allows them to expand their programs to underserved markets.



## SOLAR ENERGY LOAN PROGRAMS

A great deal of private investment money has been earmarked for renewable energy loans, which means that attractive loans are available to finance residential and commercial solar projects. Some Washington credit unions and other banks offer [specialized solar loans](#) with favorable terms and some include loans for electric vehicle charging stations as well.



## ON-BILL REPAYMENT PROGRAMS

Utilities and Energy Service Companies (ESCOs) can work with customers and third-party lenders to use on-bill repayment for energy efficiency improvements. On-bill repayment refers to customers repaying the cost of energy improvements for their building through their regular utility bills.

On-bill repayment addresses several key issues that are often barriers to implementing energy efficiency improvements, including:

- **Affordability:** Financing is sized so that the utility bill savings are greater than or equal to the loan payments, which ensures that customers’ bills remain the same or less, also known as “bill neutrality”. Additionally, because financing energy efficiency involves less risk of default, lenders can offer better rates or larger loans to customers.
- **Split Incentives:** The owners of leased buildings often do not pay the utility bills, discouraging them from pursuing energy efficiency improvements and leaving tenants paying higher bills. On-bill repayment incentivizes landlords to make investments that improve the property because repayment is associated with the meter and not the owner (unless utilities are paid by the owner). If the tenant moves, the next tenant continues repayment of the energy financing.

Some utilities in Washington, such as [Orcas Power and Light](#) and [Benton Rural Electric Association](#), offer on-bill financing options for residential and commercial customers, and there are many examples of successful programs [around the country](#). The non-profit lender [Craft3](#) works with electric utilities across Washington to offer energy efficiency financing with on-bill repayment. Communities served by investor-owned utilities that do not offer this option may consider advocating for state legislation or Utilities and Transportation Commission (UTC) rulings to require investor-owned utilities to support on-bill repayment.



## CREDIT ENHANCEMENTS



[Credit enhancements](#) leverage funds to help reduce private lenders' risk, which allows them to offer better financing terms and significantly increase financial options to projects and borrowers that are perceived as risky. Several credit enhancement strategies utilized by municipalities around the country include [loan-loss reserves](#), [revolving loan funds](#), and interest rate buy-downs.

An example of a credit enhancement program at work in Washington State is the Washington State Housing Finance Commission's (WSHFC) Sustainable Energy Trust. The Sustainable Energy Trust is a revolving loan fund that provides loans for energy projects across Washington. The Washington State Constitution, however, prohibits municipalities from loaning their credit, which limits their ability to implement credit enhancement strategies. Municipalities should consult with their legal teams before exploring specific proposals or advocating for legislation that would authorize these programs.

## COMMUNITY REINVESTMENT ACT



The [Community Reinvestment Act](#) (CRA) encourages banking institutions to invest in low- and moderate-income (LMI) communities. The regulations are not specific as to the type of projects that banks should, or can, pursue, but they include [performance criteria](#) for innovative lending practices and investments and responsiveness to community development needs. Affordable housing is a common investment that meets the CRA requirements. Due to the subjectivity of the performance criteria, activities that address climate change and resilience [could meet the CRA](#). Recently, the CRA regulating agencies [proposed new rules](#) for investing in "green" retrofits and determined that construction of affordable housing can include renewable energy and energy efficiency improvements. Municipal governments could encourage local banks to direct investments to projects such as green infrastructure and green buildings and use the investments to leverage local incentives.

# 08. HOW TO DESIGN AN EFFECTIVE INCENTIVE POLICY

Making incentives work requires a unique approach tailored to the local context. This toolkit emphasizes the fact that incentives leveraged with future mandates is one of the most powerful ways to quickly shift to zero carbon buildings. Earlier, we covered various types of mandates and incentives. Municipalities can use that information to design and implement policies that will drive market transformation and meet their climate goals.

Beyond building codes, municipalities can enact requirements set to go into effect in the future and use incentives to catalyze developers and builders to champion near zero-emissions buildings in the interim. Incentives such as expedited process, land use bonuses, and recognition and promotion work as an immediate catalyst, supporting voluntary private sector champions who are ready to lead the transition to zero carbon building standards that will be required by 2031. With a policy package designed to show building owners that it will cost more to wait until a practice is required than it will to take advantage of incentives now, more developers and builders will become early adopters.

CHALLENGES FOR SMALLER COMMUNITIES

Many of the incentives described in this toolkit were pioneered in large Metropolitan and Urban Growth areas with robust market demand, local government support, and private sector green building leadership. Smaller cities and counties face different market conditions, and different challenges in developing policies that will work especially with regard to land-use incentives, expedited process, and financial incentives. While these incentives may not be as powerful as they are in large urban areas, we encourage smaller communities to get creative and find ways to make them work for you. [Let us know](#) what you come up with!

Recognition/promotion and technical assistance incentives are likely to be effective in communities of any size, and we recommend offering them to projects qualifying for all 3 tiers of incentives. These can be enhanced through partnerships with neighboring jurisdictions, industry stakeholders, and green building certification programs.

Funding may be a key constraint. Consider developing new revenue source mechanisms described later in this section, and lean on interlocal collaboration and cost-sharing. Federal, state and utility incentives, and additional financial tools may be even more important if funding is tight. Be creative and consult with experts to find the right package of incentives to motivate local builders, and to develop funding sources to support them.

MAKING INCENTIVES WORK

An effective incentive program should consider the local population, the condition of building stock, the building production rate, market demand, and more. To be most effective, rural, suburban, and urban municipalities will need to tailor their incentives to meet needs within their local context.

Shift Zero has analyzed various markets to determine which incentives are most likely to be effective market drivers. Shift Zero has developed a Policy Design Tool matrix to help jurisdictions design their own policy, with three recommended tiers: zero carbon-ready, zero carbon, and deepest green. These tiers are aimed at encouraging project teams to take their project further toward zero carbon. Below we have included most of the certification programs that meet these targets and are active in Washington. When possible, we encourage the most valuable incentives to be offered for the deepest green buildings. Although individual jurisdictions may choose to incentivize less ambitious certifications or levels (e.g. Built Green 3 or 4 Star), these would not qualify as “zero carbon” as Shift Zero defines it.

Table 1: Zero Carbon  
Certification Levels, 3  
Tiered

ZERO CARBON-READY	ZERO CARBON	DEEPEST GREEN
Built Green 5 Star Passive House (PHIUS+) National Green Building Standard Gold or Emerald level LEED Platinum	Built Green Net Zero PHIUS+ Source Zero International Living Future Institute Net Zero Carbon, Net Zero Energy, or Petal Certification if zero carbon	Built Green Emerald Star International Living Future Institute’s Living Building Challenge



*In [the] pre-regulatory phase of transforming the building industry to a near zero emissions standard, a significant obstacle is in persuading the private sector to take on a new voluntary building standard that has incremental cost for early adopters. Civic policy can play a bridging role in mitigating risk for early champions who are advancing the sustainability agenda.”*

- Sadhu Aufochs Johnston, City of  
Vancouver BC City Manager  
  
- City of Vancouver Zero Emissions  
Building Catalyst Policy

Appendices A-C offer example legislation that can be adapted for local adoption, including a Deep Green Incentive Program, an Affordable Green Building Demonstration Program, and an All-Electric Building Requirement to streamline the adoption process for municipalities. Shift Zero is available to work with municipalities to help identify what incentives are best suited for each unique area.

## ZERO CARBON BUILDINGS POLICY DESIGN TOOL

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This Toolkit is accompanied by a free [Policy Design Tool which can be downloaded](#) from the Shift Zero website. The Tool provides a step-by-step process to help a local government consider a range of factors to determine policies and incentives tailored to the local context.

The Policy Design Tool includes:

- A “Community Context” scoring system,
- Ten “Matrix Keys” which suggest tools and policy options by incentive type,
- An example matrix with mandates and a recommended 3-tiered incentive structure based on City of Shoreline’s “Deep Green Incentive Program” policy (see next page),
- A blank form to develop a basic policy design.

The intended output of this Policy Tool is a completed Policy Matrix Form which provides a starting point for a municipality to consider its policy options, but this is not intended to provide a prescriptive solution. As you go forward, use this Matrix to keep learning, analyzing, and engaging stakeholders as you develop individual policy actions or a package of policies. Ultimately it’s up to your jurisdiction to create your own roadmap to policies that you have the confidence, capacity, and market demand to bring to a vote and adopt.

We want to hear from you! How is this working for you? Share your success stories and lessons learned, to help improve this tool for others! Email [info@shiftzero.org](mailto:info@shiftzero.org).

**TABLE 2: EXAMPLE - CITY OF SHORELINE DEEP GREEN INCENTIVE MATRIX**

		Tier 3: ZC-Ready Buildings		Tier 2: Zero Carbon Buildings				Tier 1: Deep Green Zero Carbon		
Application	Type of Incentive	PHIUS+	Built Green 4-Star	LEED Platinum	Built Green 5-Star, Net Zero	PHIUS+ Source Zero + Salmon Safe	ILFI Net Zero C/E + Salmon Safe	ILFI's Living Bldg Challenge Petal Cert.	Built Green Emerald Star	ILFI's Living Building Challenge
Mixed Use Residential: TOD Station Areas (I)	Land Use	No density limits, 25% parking reduction, height bonus up to 20' (zones with ≥45' limit).								
	Expedited Processes	Expedited permit review without additional fees.								
	Technical Assistance	Development handout provided by the city. Deep Green Incentive Program recommended to projects.								
	Recognition & Promotion	Deep Green Incentive Program is publicized on the City website and in the annual sustainability report								
	Financial Incentive	Waive 25% fees, lower transportation impact fee.		Waive 50% of fees, lower transportation impact fee.				Waive 75% of fees, lower transportation impact fee.		Waive 100% of fees, lower transportation impact fee.
Non-Residential: Town Ctr, Business, etc	Land Use	Density+ 1.25x, parking- 5%, height+ 10' (35' zones).		Density+ 1.5x, Parking- 20%. Height+ 10 feet (35' limit).				Density+ 1.75x, parking- 35%, height+ 10 feet (35' zones).		Density+ 2x, parking- 50%, height+ 10' (35' zones).
	Expedited Processes	Expedited permit review without additional fees.								
	Technical Assistance	Development handout provided by the city. Deep Green Incentive Program recommended to projects.								
	Recognition & Promotion	Deep Green Incentive Program is publicized on the City website and in the annual sustainability report.								
	Financial Incentive	Waive 25% fees, lower transportation impact fee.		Waive 50% of fees, lower transportation impact fee.				Waive 75% of fees, lower transportation impact fee.		Waive 100% of fees, lower transportation impact fee.
Single Family	Land Use	n/a		n/a		n/a		n/a		n/a
	Expedited Processes	Expedited permit review without additional fees.								
	Technical Assistance	Development handout provided by the city. Deep Green Incentive Program recommended to projects.								
	Recognition & Promotion	Deep Green Incentive Program is publicized on the City website and in the annual sustainability report.								
	Financial Incentive	Waive 25% fees, lower transportation impact fee.		Waive 50% of fees, lower transportation impact fee.				Waive 75% of fees, lower transportation impact fee.		Waive 100% of fees, lower transportation impact fee.

(1) Mandate: Built Green 4-star, PHIUS+ or Evergreen Sustainable Development Standard required for all buildings in MUR Zone.



Shift Zero suggests designing an incentive program with concrete plans for the following:

### ***Consider a pilot program***

Some jurisdictions would rather start with one or more pilot projects before committing to a long-term implementation strategy. Pilots are a good option for demonstrating the feasibility of zero carbon buildings and gaining additional backing from policymakers and stakeholders for expanding incentives, as the [20 by 2020 Building Challenge](#) was designed to do. These jurisdictions have the opportunity to implement incentives on a smaller scale and evaluate the pilot's success before entering into long term commitments. State funding, such as the [Clean Energy Fund](#) or [Ultra-High Energy Efficient Affordable Housing Demonstration](#), may be available for support in starting a pilot project.

### ***Promote your incentive program***

Municipalities should promote incentives to industry professionals, stakeholders, and the public, and they should make sure staff at relevant city departments know about the incentives, how they work, and when to promote them. Informing stakeholders at local utilities and in the local building industry will help ensure they are aware and encouraged to take full advantage of the incentives you are offering. Also, please let Shift Zero and other industry thought leaders know about your new incentives, so they can be incorporated into future editions of this toolkit and other resources.

### ***Monitor your program***

Developing an incentive program should be an iterative process. Municipalities will want to establish key indicators early in the program, conduct baseline research, and develop or enhance systems to monitor progress toward desired outcomes. This may involve tracking:

- The number of green certified homes,
- Total commercial square footage that meets a zero-carbon standard,
- How much incentives are being used, and by whom,
- Energy code compliance enforcement.

### ***Engage with stakeholders***

It is important to engage with the local construction industry and other stakeholders to find out what policies and incentives they feel would provide the most effective motivation to build to a zero-carbon standard. Going forward, ongoing engagement will help maintain an open line of communication to receive feedback and address any challenges and opportunities early in program implementation.

### ***Monitor your projects***

Project monitoring will help municipalities further understand success in the field and identify opportunities for additional development. This should include cooperation with local utilities and green building certification programs such as Built Green, ILFI, LEED, PHIUS, and others (see Section 9). [ENERGY STAR Portfolio Manager](#) is a free tool that jurisdictions across the country use for reporting and disclosure of building energy use and greenhouse gas emissions, an incentive program local jurisdictions could consider using.

### ***Report to the public***

Building a reporting requirement into an incentive program and publishing an open source database of projects and metrics from your incentive will create transparency for stakeholders and the public and provide a resource that

municipalities can use to further market and drive a shift to zero carbon buildings. Sharing this data with key industry stakeholders, such as Shift Zero, Regional Code Collaborative, Northwest Energy Efficiency Alliance, Northwest Energy Efficiency Council, ACEEE, and others, will also facilitate greater consistency and market transformation.

### ***Update your incentive program***

Periodically re-evaluating the performance of your incentive program will help it be relevant and effective. If the market has shifted and the vast majority of building production is zero carbon-ready, then perhaps examine retiring the incentives in whole or in part or increase the certification level necessary to obtain the incentives. Note that removing incentives before zero carbon buildings become the standard could lead to momentum loss. Shift Zero recommends reviewing the incentive program after a year, and periodically thereafter (e.g., after each new building code cycle), depending on the pace of the market shift toward zero carbon.

### ***Enforce building certification tied to incentives***

To ensure that incentives are having the desired environmental and social impact, jurisdictions will need assurance that those receiving the incentives are meeting their obligations. This assurance can come in the form of enforcement mechanisms such as penalties. Shift Zero recommends limiting penalty amounts to one to four percent of the building value, which is enough to make non-compliance undesirable, but not so much that it scares builders from attempting to certify their project under an incentive program. Making the fee too large will be a disincentive for projects, so ensuring the penalty does not exceed five percent of building value is very important for the program to attract projects.

For incentives involving fee waivers, municipalities should put into the program language a section that allows for retroactively charging permit, inspection, and impact fees on buildings that fail to meet their intended certificate. These fees may be enforced in different ways depending on whether the project follows a prescriptive building path that uses modeling or a performance path that requires at least a year to guarantee that zero net energy is achieved.

### ***Use third-party verifiers***

When selecting certification programs with which to partner, cities and counties should select only those which require third-party verification. This adds efficiency, quality assurance, and improved outcomes from enforcement of code and certifications. Having private professionals perform quality assurance and functional testing, such as blower door tests, can replace the need for jurisdictions to analyze data and submittals for each project to ensure compliance.

Verifiers use energy modeling software to predict energy use in a building before it is constructed and occupied. Some programs like Passive House and Built Green require energy modeling for certification. There are multiple energy modeling applications available, and it is important that the chosen software and protocol for using it do a good job of gauging energy consumption. The certifications recommended in the next section have comprehensive energy modeling procedures. Local utility incentives, federal tax credits, and some energy efficient loan products may also utilize energy modeling for verification, or they may require a post-construction HERS rating be conducted. Municipalities should consult with utilities to ensure you are using accepted tools.

### ***Dedicate Resources***

The kinds of resources needed to make incentive programs successful will depend on factors including the complexity of the incentive program, the size of the municipality, the level of maturity of the zero carbon building market, and the types of incentives offered. Dedicated resources needed may include:

- Staff or consultants with the necessary expertise to develop and facilitate incentive programs, and assist and coordinate with stakeholders.
- Marketing, education, and outreach materials, including a website, to raise awareness about incentives and the benefits of going green.
- Dedicated funds.

The scope and scale of incentives, as well as municipal climate goals, will ultimately determine the needs of the program. This is also an opportunity to leverage federal, state, and utility incentives and form partnerships with industry experts to strengthen incentive programs.

## FUNDING INCENTIVE PROGRAMS

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Funding incentive programs will likely require raising new revenue. Cities and counties can generate new revenue from an additional [one percent sales and use tax](#) or a [“restricted” sales tax](#) in addition to the state sales and use tax. Other potential funding options include:

- **Issue bonds:** Bonds are commonly used by municipalities to raise funds for large projects. They allow municipalities to borrow for longer terms and at lower rates. “Green Bonds” and “Microbonds” are two bonding options for funding green infrastructure projects. [Green Bonds](#) are similar to standard municipal bonds with the exception that they are earmarked for green projects. While typical bonds are issued in large denominations, microbonds are [issued in smaller denominations](#), making them more accessible to the broader community.
- **Carbon tax or fee:** Municipalities have authority to charge [various fees to cover specific services](#), or to create [special purpose districts](#) to charge fees for certain activities. A tax or fee on carbon emissions will generate revenue from consumption of fossil fuels. Carbon taxes can be structured to redistribute revenue, such as in [British Columbia](#), or invested in incentives or projects that reduce emissions, create jobs and improve social equity. In Washington, two such initiatives have failed at the state level ([I-732](#), [I-1631](#)), prompting several municipalities to consider local carbon fee ordinances to fund local climate mitigation and affordable housing projects. Examples from outside of Washington State of a funding mechanism policy-in-progress are the [Portland Healthy Climate Fee](#), and the [Cambridge MA Carbon Fund](#).
- **“Green New Deal”:** A broader term that refers to new taxes or fees imposed to create a source of ongoing revenue to invest and finance projects advancing sustainability, including environmental, social equity, economic development, and job creation. For example, the City of Seattle in 2020 passed the [JumpStart ordinance](#) that taxes large employers’ highest wage earner salaries to generate over \$200M/year for affordable housing, health care, and green new deal investments. In 2018, the City of Portland passed [the Clean Energy Fund](#) which taxed their largest employers to invest over \$50M/year in healthy home energy retrofits and job opportunities for low-income communities, communities of color, and frontline workers. A “Green New Deal” policy is also being considered in the US Congress.

# 09. CERTIFICATION PROGRAMS AND PARTNERSHIPS

One powerful way to design effective green building incentives is for municipalities to tie their incentives to third-party building certification programs and to partner with those programs to promote an aspirational standard for beyond-code, zero carbon building practices. Advantages of partnering with certification programs to design incentives include:

- Having clear, verifiable standards to determine eligibility for incentives.
- Providing builders with well-known options for qualifying that come with built-in marketing benefits.
- Saving resources by using credible, recognized standards supported by third-party organizations and independent verifiers.



Pax Futura, Seattle

This toolkit recommends several certification systems that municipalities can use to design tiered incentive programs that meet the definitions of zero carbon-ready, zero carbon and deepest green buildings referred to in this document. These systems all meet minimum requirements for third-party verification, robust energy modeling, and strong reliable partnerships, including Built Green, LEED, **National Green Building Standard**, Passive House, and the Living Building Challenge. While these systems are recommended, other certifications that meet these definitions and requirements may be used if recognized and supported in your community.

Certification programs provide proven, market-based incentives that motivate construction and design teams to build beyond code. They also provide a reliable way to quantify the impacts of green buildings with measurable performance metrics. TRC Solutions' [Guide to Certification Program-Government Partnerships](#) provides several case studies and best practices for more information on how this can work.

One of the biggest advantages for local jurisdictions of relying on established certification protocols and agencies is that they do not need to train staff on technical details of complex technologies, and instead can rely on 3rd-Party verifiers to confirm proper installation and use.

By including green building certification programs in a zero carbon building policy, municipalities can leverage all of the climate-positive outcomes of green buildings. This provides one of the most effective ways to make significant progress on a city's or county's climate action, environmental stewardship, or community development goals. Through partnerships, certification programs and municipalities can align with each other to make incentivizing building above code more effective and easier to manage.



## RECOMMENDED CERTIFICATION PROGRAMS

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### ***Built Green***

[Built Green](#) is a holistic green home certification program of the Master Builders Association of King and Snohomish Counties, serving communities across the state. In addition to certifying all types of green homes, remodels, apartments, and communities, the program hosts a membership network of companies and individuals involved in the green building industry and researches and markets the human and environmental benefits of green building. The program consists of required and voluntary credits across six different areas of sustainability. All projects must be third-party verified and demonstrate improvement above the Washington State Energy Code.

Built Green currently certifies 800-1,100 projects each year in the Puget Sound region and more statewide. Built Green does not certify projects that are solely commercial.

This toolkit recommends Built Green 5-Star, Emerald Star, and Net Zero Energy certifications, as these levels will achieve Shift Zero's definition of zero carbon-ready or zero carbon. While Built Green 4-Star can achieve this high level of energy efficiency, it does not necessarily do so in all cases.

### ***Passive House Institute US (PHIUS+)***

Passive House methodology has an established record of delivering buildings of all types (new and existing; residential, multifamily, and commercial) that are able to minimize energy consumption while maximizing comfort and quality. Passive House certified buildings can deliver structures with energy consumption of:

- 70-80% less than existing buildings.
- 50% less than current WSEC.

These reductions are achieved by an emphasis on reducing space heating/cooling energy with passive measures such as air-sealing, insulation, and ventilation heat recovery. Space heating is still the largest energy savings opportunity for most types of buildings in the cold climates of Washington State. The methodology also emphasizes other equipment efficiency measures to reduce energy needs before the inclusion of any renewable energy systems, allowing owners and operators to achieve zero carbon status with significantly smaller renewable energy production.

The Passive House approach is based on energy modeling, designing to limits on both total building energy and heating/cooling energy in particular. Additionally, construction must meet quality assurance benchmarks, including air-tightness levels significantly more stringent than current Washington State Energy Code.

Two Passive House certification programs exist, one administered by [Passive House Institute US \(PHIUS+\)](#) in Chicago, Illinois, and the other administered by [Passive House Institute \(PHI\)](#) in Darmstadt, Germany. Currently, PHIUS+ certification requires more substantive third-party verification for on-site construction quality.

When combining zero carbon incentives with utility incentives, PHIUS+ has an advantage that it includes DOE Zero Energy Ready Homes, which is gaining popularity with utility programs.

### ***International Living Future Institute (ILFI)***

The following [International Living Future Institute \(ILFI\)](#) certifications are recommended by this toolkit as zero carbon certifications:

- **Net Zero Carbon Building Certification (new construction and renovations):** This certification requires that one hundred percent of the project's energy use must be offset by on-site or off-site renewable energy resources on a net annual basis. Projects must achieve a level of energy efficiency as established by the ILFI (this varies from Shift Zero's definition of energy efficiency). New projects may not include combustion.
- **Net Zero Energy Building (NZEB) (new and renovations):** One hundred percent of the building's energy needs must be supplied by on-site renewable energy on a net annual basis. No combustion is allowed.
- **Living Building Challenge (LBC) (new residential and commercial):** The Living Building Challenge (LBC) calls for the creation of building projects that generate all of their own energy with renewable resources, capture and treat all water onsite without the use of chemicals, promote health, remain free of toxins, and operate efficiently with maximum beauty while addressing equity. LBC projects require a twelve-month performance period and are audited by a third-party before they can receive certification.
- **Petal Certification:** Petal Certification requires the achievement of at least three of the seven Petals of the LBC, one of which must be the Water, Energy, or Materials Petal. In addition, two specific imperatives in the certification - 01 Limits to Growth and 20 Inspiration + Education - are also required. This toolkit, with its focus on energy, only recommends incentivizing this certification level if the Energy petal is chosen.

### *National Green Building Standard ICC-700.*

The [National Green Building Standard \(NGBS\)](#) is the only green building rating system for homes and apartments approved by the American National Standards Institute (ANSI) as an American National Standard. The NGBS provides a blueprint for builders to follow for the design and construction of new and renovated single-family homes and multifamily apartment buildings. The NGBS allows four certification levels – Bronze, Silver, Gold, and Emerald. Gold and Emerald are levels that represent a near-zero carbon certification. NGBS also includes other sustainability factors for reduced water usage, walkability, landscaping, protection from chemicals, safety, and many other factors that build upon reduced energy usage for a deeper green home.

### *Leadership in Energy and Environmental Design (LEED)*

LEED projects earn points by adhering to prerequisites and credits across nine measurements for building excellence. Prerequisites are required elements, or green building strategies, that must be included in any [LEED certified project](#). Credits are optional elements, or strategies that projects pursue to gain points toward LEED certification. Projects can earn recognition at Certified, Silver, Gold, and Platinum levels in order of the most points needed to achieve certification at that level; Platinum is the most difficult to achieve. In addition, the [LEED Zero program](#) recognizes buildings that achieve net zero carbon or energy. LEED Platinum is the level this toolkit recommends as an incentive basis that comes close to, or achieves a zero-carbon ready level of efficiency.

### *Other Certifications*

The following certifications are also used to distinguish beyond code buildings, but are not “zero carbon” as Shift Zero defines the term:

- LEED Silver or Gold
- Green Globes
- Evergreen Sustainable Development Standard
  - This certification is required for state-funded housing or school projects
- Salmon Safe
  - Applies to site development and stormwater management
- Home Energy Rating System (ResNET)
- Energy Star

For more information, including international certifications, see the [Whole Building Design Guide](#).

To incentivize low-impact stormwater management along with energy efficiency [Salmon Safe certification](#) could be used in conjunction with zero carbon certifications, or separately with land use or other incentives awarded to certified projects.

## 10. NEXT STEPS FOR ZERO CARBON BUILDINGS

This toolkit is intended to support cities and counties striving toward a zero carbon future for buildings. Experience has shown that local governments can accelerate progress by adopting ambitious targets, setting the pace, and leading by example. Proactive cities often begin by requiring all municipal buildings to meet emissions and green building standards while showing that healthy, zero carbon buildings can be achieved cost-effectively.

Local governments are not alone in their efforts to create healthy, green, and sustainable buildings and communities. There are hundreds of local, regional, and national organizations that are willing to partner with and support public initiatives for zero carbon buildings. Partnerships with neighboring, and even cross-state, jurisdictions can have even more influence and greater impact on local policy.

For cities and counties whose citizens and elected leaders are concerned about pollution from gas used in homes and buildings, they can join the conversation about building electrification by following the work of [Climate Solutions](#) and other advocacy organizations or participating in [Shift Zero's](#) building electrification task force. These initiatives have engaged local leaders statewide to develop policy, code, and incentive solutions for an equitable transition away from gas.

Regardless of the pace and path a community chooses for shifting to zero, municipalities can amplify their local efforts by using the considerable influence they wield to advocate in support of legislation at the state and national levels on climate change initiatives and building energy policy and incentives.

Local jurisdictions can stand with others at a national level, as five in Washington State have already done, by joining over 170 other cities and counties signed onto the [Global Covenant of Mayors for Climate and Clean Energy](#), which affirms a commitment to the agreements declared in the 2015 Paris Climate Accord.

### CONCLUSION

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The climate crisis poses the most urgent threat to the planet's ecosystems and its people, with disproportionate impacts on frontline communities. At the same time, our communities face simultaneous crises of health, housing, and systemic racism. We believe that given the right policy catalysts, zero carbon buildings of all types can scale and equitably transform the market.

Right now, we have cost-effective means to build and retrofit zero carbon buildings at scale, and a variety of local policy tools have demonstrated that they can help develop that market. Cities and counties have a unique opportunity to transform the built environment - if they adopt policies and programs that are ambitious, scalable, equitable, and quantifiable. This can help reverse historic and ongoing inequities in access to healthy and efficient buildings while

minimizing displacement. A balanced and coordinated approach can ensure that the benefits of creating zero carbon buildings – economic activity, wealth creation, improved health outcomes, jobs and career pathways, and improved living and working conditions – are equitably shared by all members of our communities.

Thank you for your interest. Please contact Shift Zero with questions or to share your own progress using the information in this policy guide to drive a market transition to a zero carbon future. Contact email: [info@shiftzero.org](mailto:info@shiftzero.org).

## GLOSSARY OF TERMS

**Climate Action Plan:** Climate action plans map out future guidelines, steps, actionable items, indicators, and other tasks that should be pursued in order to reduce greenhouse gas emissions in an area, usually specified by the group that developed the climate action plan.

**Energy Use Intensity:** According to [www.energystar.gov](http://www.energystar.gov), Energy Use Intensity or EUI “expresses a building’s energy use as a function of its size or other characteristics. For most property types the EUI is expressed as energy per square foot per year. It is calculated by dividing the total energy consumed by the building in one year (measured in kBtu or GJ) by the total gross floor area of the building.” For example, zero carbon buildings have an EUI ranging from 15-25 kBTU/sf/year.

**Floor to Area Ratio:** The FAR is the amount of floor area of a building compared to the area of the lot. If you have a lot size of 1,000 square feet, and a building on the lot that is 2,000 square feet, it has an FAR of 2.

**Third-Party Verification:** Third-party verification of green buildings comes from an organization that is independent of the contractor, designer, or developer. The verification ensures that the building meets the requirements of the building standard and is meeting the desired energy targets.

**Zero Carbon:** Shift Zero defines a [Zero Carbon](#) building “as a highly energy efficient, all-electric building that produces on-site, or procures off-site, enough carbon-free renewable energy to meet building operations energy consumption annually. To reach zero carbon, these buildings first maximize energy efficiency, then maximize on-site renewable energy generation as practical, and then procure off-site renewable energy that is additional, local, equitable, and legally assigned to the building.”

**Zero Carbon-Ready:** Shift Zero’s understanding of what energy efficiency means for zero carbon buildings aligns with Washington State’s mandate to reduce energy use in new buildings by 70% by 2031 (compared to a 2006 baseline). For most buildings, this means a site Energy Use Intensity (EUI) of 15-25 kBtu/sf/yr, with the specific target varying depending on building type, before renewable energy is added.



# APPENDIX A: MODEL ORDINANCE #1

## Deep Green Incentive Program (DGIP)

### Example Legislation based on [City of Shoreline's DGIP](#).

Legislation has been modified from original for the purposes of this Toolkit.

#### *Definitions:*

**Zero Carbon** - refers to a highly energy efficient building that is fossil-fuel free, and that produces on-site, or procures off-site, enough carbon-free renewable energy to meet building operations energy consumption annually.

**Deep Green Zero Carbon** - refers to projects that achieve ZNC and water efficiency, indoor air quality, and/or materials efficiency that exceeds current Code and typical building practice.

**Zero Carbon-Ready** - refers to buildings that are more energy efficient than required by code and are likely to achieve an Energy Use Intensity (EUI) of 15-25 depending on building type.

With regard to the Deep Green Incentive Program, this definition is divided into tiers based on certification programs as follows:

- Tier 1 (Deep Green Zero Carbon): International Living Future Institute's (ILFI) Living Building Challenge™, or Built Green™'s Emerald Star certification
- Tier 2 (Zero Carbon): ILFI's Petal Recognition™ utilizing the Energy Petal, or ILFI's Zero Carbon certification, or ILFI's Zero Energy certification, or Built Green's Net Zero Energy Label, or Passive House Institute US PHIUS+ Source Zero; and
- Tier 3 (Zero Carbon-Ready): US Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) Platinum™, or Passive House Institute US PHIUS+, or Built Green 5-Star, or National Green Building Standard (NGBS) Gold™ or Emerald™ certification.

#### *Pre-application meeting.*

A pre-application meeting is required prior to submitting an application for any project requesting departures through the Deep Green Incentive Program to discuss why departures are necessary to achieve certification through International Living Future Institute, Built Green, US Green Building Council, National Green Building Standard, or Passive House Institute US. A representative from the prospective certifying agency(ies) will be invited to the meeting, but their attendance is not mandatory. If the project would not otherwise require a pre-application meeting, the fee for the pre-application meeting will be waived.

#### *Administrative Design Review (Type A).*

1. Administrative Design Review approval of departures from the design standards in [APPLICABLE MUNICIPAL CODE] shall be granted by the Director upon their finding that the departure is:
  - a. Consistent with the purposes or intent of the applicable subsections; or
  - b. Justified due to unusual site constraints so that meeting the design standards represents a hardship to achieving full development potential.
2. Projects applying for the Deep Green Incentive Program by certifying through ILFI's Living Building Challenge, ILFI's Petal Recognition (Energy Petal), Built Green Emerald Star, PHIUS+, LEED Platinum, Built Green 5-Star, NGBS Gold, PHIUS+ Source Zero, NGBS Emerald, ILFI's Zero Energy, or ILFI's Zero Carbon program may receive departures from development standards under [APPLICABLE MUNICIPAL CODES] upon the Director's finding that the departures meet A and/or B above, and as further described under Subchapter [X]. Submittal documents shall include proof of enrollment in the programs listed above.

#### **20.50.400      *Reductions to minimum parking requirements.***

- A. A project applying for parking reductions under the Deep Green Incentive Program may be eligible based on the intended certification. Reductions will be based on the following tiers:
  - 1. Tier 1 – up to 100% reduction in parking required;
  - 2. Tier 2 – up to 75% reduction in parking required;
  - 3. Tier 3 – up to 50% reduction in parking required.
- B. In the event that the Director approves reductions in the parking requirement, the basis for the determination shall be articulated in writing.
- C. The Director may impose performance standards and conditions of approval on a project, including a financial guarantee.
- D. Reductions of up to 50 percent may be approved by the Director for the portion of housing providing low income housing units that are 60 percent of AMI or less as defined by the U.S. Department of Housing and Urban Development.

#### ***Subchapter [X]: 20.50.630 – Deep Green Incentive Program (DGIP)***

- A. **Purpose.** The purpose of this section is to establish an incentive program for Zero Carbon-Ready, Zero Carbon, and Deep Green Zero Carbon Buildings in [MUNICIPALITY]. The goal of the DGIP is to encourage development that meets the ILFI's Living Building Challenge, ILFI's Petal Recognition (Energy Petal), Built Green Emerald Star, LEED Platinum, Built Green 5-Star, PHIUS+, NGBS Gold, PHIUS+ Source Zero, NGBS Emerald, ILFI's Zero Energy, or ILFI's Zero Carbon program by:
  - 1. Encouraging development that will serve as a model for other projects throughout the city and region resulting in the construction of more Highly Energy Efficient, Zero Net Carbon, and Deep Green Buildings; and
  - 2. Allowing for departures from Code requirements to remove regulatory barriers.
- B. **Project qualifications.**
  - 1. Application requirements. In order to request exemptions, waivers, or other incentives through the Deep Green Incentive Program, the applicant or owner shall submit a summary demonstrating how their project will meet each of the requirements of the relevant certification program, such as including an overall design concept, proposed energy balance, and descriptions of innovative systems.
  - 2. Qualification process. An eligible project shall qualify for the DGIP upon determination by the Director that it has submitted a complete application pursuant to [MUNICIPAL CODE Administrative Design Review], and has complied with the application requirements of this subsection.
  - 3. The project must be registered with the appropriate third-party certification entity such as the International Living Future Institute, Built Green, US Green Building Council, or Passive House Institute US.
  - 4. Projects requesting departures under the DGIP shall meet the current version of the appropriate certification program, which will qualify them for one of the following tiered packages of incentives:
    - a. Tier 1 (Deep Green Zero Carbon): International Living Future Institute's (ILFI) Living Building Challenge™, or Built Green™'s Emerald Star certification;
    - b. Tier 2 (Zero Carbon): ILFI's Petal Recognition™ utilizing the Energy Petal, or ILFI's Zero Carbon certification, or ILFI's Zero Energy certification, or Passive House Institute US PHIUS+ Source Zero or Built Green's Net Zero Energy Label;
    - c. Tier 3 (Zero Carbon-Ready): US Green Building Council's (USGBC) Leadership in Energy and Environmental Design LEED Platinum™, or Passive House Institute US PHIUS+, or Built Green 5-Star, or National Green Building Standard (NGBS) Gold™ or Emerald™ certification.
- C. **Director's determination.** All [MUNICIPALITY] Deep Green Incentive Program projects are subject to review by the Director under [MUNICIPALITY CODE]. Any departures from the [MUNICIPALITY] Development Code must be approved by the Director prior to submittal of building permit application.
- D. **Incentives.** A project qualifying for the [MUNICIPALITY] Deep Green Incentive Program will be granted the

following tiered incentive packages, based on the certification program for which they are applying:

1. A project qualifying for Tier 1 may be granted a waiver of up to 100% City-imposed pre-application and permit application fees. A project qualifying for Tier 2 may be granted a waiver of up to 75% of City-imposed application fees. A project qualifying for Tier 3 may be granted a waiver of up to 50% of City-imposed application fees.
2. Projects qualifying for the DGIP may be granted a reduced Transportation Impact Fee based on a project-level Transportation Impact Analysis.
3. Departures from Development Code requirements when in compliance with [MUNICIPAL CODE].
4. Expedited permit review without additional fees provided in [MUNICIPAL CODE]

**E. Departures from Development Code requirements.** The following requirements must be met in order to approve departures from Development Code requirements:

1. The departure would result in a development that meets the goals of the [MUNICIPALITY] Deep Green Incentive Program and would not conflict with the health and safety of the community. In making this recommendation, the Director shall consider the extent to which the anticipated environmental performance of the building would be substantially compromised without the departures.
2. A Neighborhood Meeting is required for projects departing from standards in the [SMALLER RESIDENTIAL ZONES if applicable].
3. Departures from the following regulations may be granted for projects qualifying for the [MUNICIPALITY] Deep Green Incentive Program:
  - a. [MUNICIPAL CODE] Residential density limits
    - i. Tier 1 – up to 100% bonus for the base density allowed under zoning designation;
    - ii. Tier 2 – up to 75% bonus for the base density allowed under zoning designation;
    - iii. Tier 3 – up to 50% bonus for the base density allowed under zoning designationMinimum lot size of X,XXX square feet is required in all zones with a density maximum in order to request a density bonus. Any additional units granted would be required to be built to the same green building standard as the first.
  - b. [MUNICIPAL CODE] Parking requirements:
    - i. Tier 1 – up to 75% reduction in parking required under [MUNICIPAL CODE];
    - ii. Tier 2 – up to 50% reduction in parking required under [MUNICIPAL CODE];
    - iii. Tier 3 – up to 25% reduction in parking required under [MUNICIPAL CODE].
  - c. Lot coverage standards, as determined necessary by the Director;
  - d. Use provisions, as determined necessary by the Director
  - e. Standards for storage of solid-waste containers;
  - f. Standards for structural building overhangs and minor architectural encroachments into the right-of-way;
  - g. Structure height bonus up to 10 feet for development in a zone with height limit of 35 feet. [POTENTIALLY NOT APPLICABLE IN ALL RESIDENTIAL ZONES, OR MORE LIMITED.] Structure height bonus up to 20 feet for development in a zone with a height limit of 45 feet or greater; and
  - h. A rooftop feature may extend above the structure height bonus provided in [MUNICIPAL CODE] if the extension is consistent with the applicable standards established for that rooftop feature within the zone.

**F. Compliance with minimum standards.**

1. For projects requesting departures, fee waivers, or other incentives under the Deep Green Incentive Program, the building permit application shall include a report from the design team demonstrating how the project is likely to achieve the elements of the program through which it intends to be certified.
2. For projects applying for an ILFI certification (Tiers 1 or 2), after construction and within six (6) months

of issuance of the Certificate of Occupancy, the applicant or owner must show proof that an LBC Preliminary Audit has been scheduled; such as a paid invoice and date of scheduled audit. After construction and within twelve months of issuance of Certificate of Occupancy, the applicant or owner must show a preliminary audit report from ILFI demonstrating project compliance with the Place, Materials, Indoor Air Quality, and Beauty/Inspiration Imperatives that do not require a performance period.

3. For projects pursuing for Built Green Emerald Star (Tier 2), or 5-Star or the Net Zero Energy Label (Tier 3), after construction and within six (6) months of issuance of the Certificate of Occupancy, the applicant or owner must show proof that the project successfully met Built Green certification by way of the Certificate of Merit from the program.

4. For projects pursuing LEED certification (Tier 3), the applicant or owner must show, after construction and within six (6) months of issuance of the Certificate of Occupancy, that the project has successfully completed the LEED Design Review phase by way of the final certification report.

5. For projects pursuing PHIUS+ (Tier 3), the applicant or owner must show, after construction and within six (6) months of issuance of the Certificate of Occupancy, that the project has successfully obtained the PHIUS certification.

6. For projects pursuing NGBS certification (Tier 3), the applicant or owner must show after construction and within six (6) months of issuance of the Certificate of Occupancy, that the project has successfully obtained the NGBS certification.

7. No later than two years after issuance of a final Certificate of Occupancy for the project, or such later date as requested in writing by the owner and approved by the Director for compelling circumstances, the owner shall submit to the Director the project's certification demonstrating how the project complies with the standards contained in this subsection. Compliance must be demonstrated through an independent certification from ILFI or USGBC/Green Building Cascadia Institute (GBCI). A request for an extension to this requirement must be in writing and must contain detailed information about the need for the extension.

a. For projects pursuing ILFI certification performance-based requirements such as energy and water must demonstrate compliance through certification from ILFI within the two-year timeframe noted above.

b. For projects pursuing LEED certification, the applicant or owner must show proof of certification by way of the final LEED Construction Review report and LEED Certificate issued by USGBC/GBCI.

8. If the Director determines that the report submitted provides satisfactory evidence that the project has complied with the standards contained in this subsection, the Director shall send the owner a written statement that the project has complied with the standards of the [MUNICIPALITY] Deep Green Incentive Program. If the Director determines that the project does not comply with the standards in this subsection, the Director shall notify the owner of the aspects in which the project does not comply. Components of the project that are included in order to comply with the minimum standards of the [MUNICIPALITY] Deep Green Incentive Program shall remain for the life of the project.

9. Within 90 days after the Director notifies the owner of the ways in which the project does not comply, or such longer period as the Director may allow for justifiable cause, the owner may submit a supplemental report demonstrating that alterations or improvements have been made such that the project now meets the standards in this subsection.

10. If the owner fails to submit a supplemental report within the time allowed pursuant to this subsection, the Director shall determine that the project has failed to demonstrate full compliance with the standards contained in this subsection, and the owner shall be subject to penalties as set forth in subsection [MUNICIPAL CODE].



# APPENDIX B: MODEL ORDINANCE #2

## Housing Design Demonstration Policy

### Example Legislation based on City of Bainbridge Island's HDDP

(See [BIMC 2.16.020](#), scroll to subsection S)

Legislation has been modified from original for alignment with this Toolkit

An ordinance establishing housing demonstration projects with innovative design to result in a diversity of size and ownership, more affordable housing and sustainable design among new development

#### *Definitions:*

**Zero Carbon-Ready** refers to buildings that are more energy efficient than required by code and are likely to achieve an Energy Use Intensity (EUI) of 15-25 depending on building type.

**Zero Carbon** means... refers to a highly energy efficient building that is fossil-fuel free, and that produces on-site, or procures off-site, enough carbon-free renewable energy to meet building operations energy consumption annually.

**Deep Green Zero Carbon** refers to projects that achieve ZNC and water efficiency, indoor air quality, and/or materials efficiency that exceeds current Code and typical building practice.

**"Affordable housing" or "affordable dwelling unit"** means a dwelling unit for use as a primary residence, which may be rented or purchased (including utilities other than telephone and cable TV) without spending more than 30 percent of monthly household income. Income level eligibility threshold levels shall be set using HUD levels for the [jurisdiction local area]

NOTE: The following code sections, and possibly others, should be amended to correspond and align with this ordinance, depending on the jurisdictions municipal code provisions:

- Planning Commission and Design Review Board duties, responsibilities and criteria sections
- Land Use Review General Provisions for sections defining preapplication conference, public participation, review process, conditional uses and code modifications
- Design standards, dimensional standards, floor area ratio, parking requirements and other related standards or tables.

#### **A. Housing Design Demonstration Projects.**

1. Purpose and Goals. The purpose of this subsection is to allow the development of housing design demonstration projects that increase the variety of housing choices available to residents across underserved portions of the socio-economic spectrum, and to promote compact, low-impact development where it is most appropriate. Further, its purpose is to encourage high quality and innovation in building design, site development, and zero carbon green building practices.

The goals of this program are to increase the housing supply and the choice of housing styles available in the community; to promote socio-economic diversity by adding to the stock of income-qualified housing; to encourage development of smaller homes, at reasonable prices, in neighborhoods attractive to a mix of income and age levels; and to demonstrate that innovative design and building techniques (reducing greenhouse gas emissions, conserving water and energy, using sustainably sourced materials, limiting environmental impacts) are compatible with market considerations.

2. **Applicability.** An application for a housing design demonstration project may be applied to single-family residential subdivisions, mixed-use/multifamily and multifamily developments [and/or designated geographical area].
3. **Review and Approval Process.** Housing design demonstration project applications shall be reviewed as specified in the same manner as other applications for the same type of underlying land use permit, with additional review steps done in the order below as outlined in this subsection.
  - a. **Conceptual Proposal Review.** Applicants proposing a demonstration project shall meet with city staff during the conceptual phase to discuss the goals and evaluation parameters of the proposed project. The conceptual proposal review is an informal discussion between the applicant and city staff regarding a proposed project. There are no required application materials for this stage. Applicants shall contact the planning department staff to request a meeting, and the meeting shall be scheduled by staff for no more than three weeks after the request date. The purpose of the conceptual proposal review is to determine if the proposal is eligible to be considered as an application for a housing design demonstration project and to assist the applicant by identifying (i) requirements for submittal, including types of supplemental materials for application; (ii) compliance with applicable city plans, goals, policies, codes, or guidelines and possible revisions to the project that will enhance the proposal with respect to these requirements; (iii) areas of [relevant sections on subdivisions, and zoning], where the applicant seeks flexibility; and (iv) required plans, studies, reports, and/or other materials specific to the proposal that will provide necessary information for staff and the design review board, and to review the project under the criteria outlined in subsection 4 of this section.
  - b. **Public Participation Program.** The applicant is required to participate in one or more community meetings, either through (i) the city's public participation program following the procedures outlined in [public participation procedures section], or (ii) an equivalent public meeting that includes participation by city staff, as approved by the director.
  - c. **Preapplication Conference.** The applicant shall apply for a preapplication conference pursuant to subsection I of this section. Housing design demonstration projects shall be reviewed by both staff and the design review board, pursuant to subsection F of this section. The applicant shall submit an HDDP proposal consistent with the requirements in the administrative manual. The applicant shall consider input received during the public meetings and conceptual review with city staff in crafting the proposal. The proposal will be evaluated pursuant to subsection 4 of this section by city staff with the design review board serving in an advisory role, in addition to their review of applicable design guidelines. The director shall prepare written findings of facts, and applicants will receive preliminary notification from the director whether the proposal will qualify as a housing design demonstration project, or feedback about how to improve the proposal to qualify. If the applicant changes the proposal in any significant manner other than a response to feedback from the public meeting, conceptual review, or the preapplication review, an additional preapplication conference may be required.
  - d. **Application Submittal.** An applicant may submit a land use permit application (subdivision, site plan and design review, or conditional use permit) for a housing design demonstration project after completion of a required conceptual and preapplication review and notification by the city that the proposal qualifies as a housing design demonstration project. Upon receipt of an application, the director shall provide notice to the applicant and public in accordance with subsection M of this section and commence the application review process. Housing design demonstration projects that require more than one land use permit must utilize the consolidated project review process outlined in [relevant land use procedure section]. All housing design demonstration project applications, including subdivisions, shall be reviewed by the design review board and the planning commission at public meetings. The design review board and the planning commission shall make recommendations on all housing design demonstration projects.

e. Permit Decision. The decision to approve or deny a housing design demonstration project shall be made as part of underlying land use permit approval. The decision shall be based upon the decision criteria of the underlying planning permit, and the decision criteria outlined in subsection 5 of this section. Housing design demonstration project approval conditions shall be included in the final permit approval and shall address any ongoing compliance requirements, including compliance with approved design plans. The city may require that the applicant record covenants to ensure ongoing compliance or maintenance for required project components.

f. Building Permit. The applicant shall submit a building permit that is consistent with all conditions of the land use permit approval.

g. Green Building Certification: The applicant shall submit documentation that the project has applied for required certification by a green building rating system, such as LEED Platinum, Passive House Institute PHIUS+, National Green Building Standard (Gold level or better) or BuiltGreen 5-star or better, or other equivalent standard that meets the definition of zero-carbon ready as defined in this subsection. Proof of ongoing certification shall be required during construction and project certification must be completed prior to final occupancy.

g. Living Building Challenge. For projects pursuing the Living Building Challenge standard of the International Living Building Institute, the applicant must show proof of pursuing ongoing certification during construction for all required elements. After construction, and prior to issuance of the certificate of occupancy, the applicant must show proof of initial project compliance as to the site, materials, indoor quality and beauty/inspiration components of the Living Building Challenge and that the project is likely to achieve the elements of energy and water following 12 months of occupancy as required under Living Building Challenge certification. For those elements of energy and water that require occupancy of the building for 12 months for Living Building Challenge certification, the applicant must submit a report to the city following 12 months of occupancy, demonstrating its progress towards meeting these remaining elements of the Living Building Challenge standard. If certification of those elements has not been achieved, the applicant must provide quarterly reports of progress towards certification of these elements, including additional steps and timeline that will be taken to achieve certification.

4. Evaluation Method. Each project will be evaluated for innovation and achievement of the goals of this section using a number of factors. The evaluation factors are divided into three categories, Green Building and Innovative Site Development, Affordable Housing and Housing Diversity. Projects that qualify as housing design demonstration projects are eligible to use the flexible development standard incentives outlined in subsection 6 of this section, and are eligible for the residential incentives outlined below. Table 1 shows how projects are scored to qualify for the housing design demonstration project program (Note, the Innovative Site Development and Housing Diversity scoring tables are omitted for brevity, for an example see [BIMC 2.16.020](#) Section S.4, Tables S-2 and S-3).

Table 1: Housing Design Demonstration Project Incentive Levels

- a. Housing Diversity. Evaluation will review:
  - i. Unit Type. The project includes a variety of unit types, for example, single-family, townhomes, flats, duplex, cottages, age-in-place or accessory dwelling units;
  - ii. Unit Size. The project includes a variety of housing unit sizes that provide for a broad mix of income levels and family size (e.g. 800-1,200 sf); and
  - iii. Affordable Housing. The project includes housing units that are affordable to the spectrum of income levels. For Home ownership projects, required affordable house units should serve  $\leq$  80% AMI.

TABLE 1: HOUSING DESIGN DEMONSTRATION PROJECT INCENTIVE LEVELS		
Density Incentives	Requirements to Receive Incentives	
	Green Building and Innovative Site Development	Affordable Housing and Housing Diversity
Tier 1: Deepest Green Zero Carbon		
2.5 x Base Density OR Max. Bonus Mixed-Use FAR	Living Building Challenge (LBC) or Built Green Emerald Star + 30 Points in Innovative Site Development Practices	10% of units affordable housing Home size not larger than 1,600 sf. 10 Housing Diversity points
Tier 2: Zero Carbon		
2.5 x Base Density OR Max. Bonus Mixed-Use FAR	Built Green Net-Zero Certification, PHIUS+ Source Zero, ILFI Net Zero Energy or Net Zero Carbon Certification, or LBC Petal Recognition + 25 Points in Innovative Site Development Practices	50% of units affordable housing Home size not larger than 1,600 sf. 20 Housing Diversity Points, at least 3 points in Unit Type category
Tier 3: Zero Carbon Ready		
1.5 x Base Density OR Max. Bonus Mixed-Use FAR	LEED Platinum, BuiltGreen 5 star, or PHIUS+, NGBS Gold or Emerald Level + 25 Points in Innovative Site Development Practices	Home size not greater than 1,600 sq. ft. 10% of units affordable housing 12 points for projects <20 units (at least 2 points in Unit Type category; 15 points for projects >20 units, at least 3 points in Unit Type category)
<ul style="list-style-type: none"> <li>• Home ownership projects: required affordable house units should serve <math>\leq</math> 80% AMI</li> <li>• Rental projects: required affordable house units should serve <math>\leq</math> 60% AMI.</li> </ul>		

For Rental projects required affordable house units should serve  $\leq$  60% AMI. Designated affordable housing shall remain affordable for 99 years from the time of final inspection on the affordable unit. The applicant shall record covenants that demonstrate how the unit will remain affordable and be managed for 99 years.

b. Innovative Site Development. Evaluation will review:

- i. Water Quality and Conservation. Projects use methods to decrease water usage and improve stormwater runoff quality through an integrated approach to stormwater management such as greywater use, stormwater collection in cisterns, vegetated roofs and covered parking, and follow the WA Department of Ecology's 2012 Stormwater Management Manual (amended 2014).
- ii. Landscaping. The project uses low maintenance landscaping that integrates a high proportion of native plants or drought-tolerant plants that are climate appropriate. The project limits the amount of lawn in private yards in favor of common open space. Projects are encouraged to use cisterns to collect rainwater for irrigation or garden use.
- iii. Common Open Space. The project provides connected common open space area set aside as active open space and designed and integrated into the project. The open space could include active elements such as a neighborhood garden/pea patch and composting facilities, or a playground. Critical areas and their buffers and required roadside buffers do not contribute to "common open space" under the housing design demonstration project program.
- iv. Transportation. The project (A) uses a design that provides enhanced sensitivity to pedestrian travel; (B) internally preserves existing informal, internal connection to external trail(s), or creates new connections where appropriate, to implement the [jurisdiction transportation plan]; (C) reduces reliance on automobiles and trip counts, and promotes alternative transportation and public transit; (D) minimizes the visual dominance of automobiles throughout the project; or (E) the project accommodates needs of alternative vehicles through techniques such as parking and charging facilities for electric cars, locating rechargeable electric vehicle (EV) parking in a conspicuous and preferred location close to a main building entrance, and integrating a parking space for a vehicle



sharing program, such as Zipcar™.

c. Innovative Building Design. The project is constructed under a green building certification program that requires third-party verification such as the Evergreen Sustainable Development, Living Building Challenge standard of the International Living Building Institute, Passive House Institute US/International, National Green Building Standard, LEED or the BuiltGreen Program of the Master Builders of King and Snohomish Counties.

5. Approval Criteria. In addition to decision criteria required by the underlying planning permit or approval, an application for a housing design demonstration project may be approved if the following criteria are met:

- a. The applicant clearly demonstrates evaluation factors listed in subsection 4 of this section as shown in the housing design demonstration project scoring system as evaluated by the planning department;
- b. The applicant has demonstrated how relief from specific development standards, including setback reductions, lot coverage and/or design guidelines, is needed to achieve the desired innovative design and the goals of this chapter;
- c. The project does not adversely impact existing public service levels for surrounding properties;
- d. The project complies with all other portions of the municipal code, except as modified through this housing design demonstration project process;
- e. If a project will be phased, each phase of a proposed project must contain adequate infrastructure, open space, recreational facilities, landscaping and all other conditions of the project to stand alone if no other subsequent phases are developed; and
- f. The applicant is meeting required housing diversity standards.

6. Development Standard Incentives. The applicant may request that development subdivision standards and zoning code standards be modified as part of a housing design demonstration project. The city will review the request to modify development standards through the project review process outlined in subsection 3 of this section. Environmental standards requirements may not be modified. The following development standards may be modified:

- a. Minimum Lot Dimensions and Size. Reductions in lot size or dimensions are subject to approval by [authority having jurisdiction].
- b. Maximum Lot Coverage. Maximum lot coverage can be increased above zoning district requirements with no maximum.
- c. Natural Area. For projects in Mixed Use or Commercial/Urban Core zones, the project shall integrate at least 50 square feet of natural area per unit. For projects Residential Zones, the project shall integrate at least 400 square feet of natural area per unit.
- d. Residential Parking. Parking requirements may be modified to require one parking space for homes under 800 square feet and one and one-half parking spaces for homes between 800 and 1,200 square feet. This reduction may not be combined with any other reductions to result in less than one space per unit, and additional guest parking may be required pursuant to [parking requirements table]. A limited number of parking spaces may be designed to accommodate alternative fuel or subcompact vehicles such as Smart™ cars, with parking stall dimensional standards reduced from the standards outlined in [Development Standards and Guidelines section]. The applicants are encouraged to work with neighboring property owners to ensure street parking is not overburdened. If the project is requesting a reduction in required parking through the housing design demonstration project program, then the development shall integrate at least one guest parking space for every five dwelling units.
- e. Setbacks. Unless required for public safety purposes, such as sight distance, setbacks may be reduced [as determined by jurisdiction, outlined in setback provisions for respective zones]. This section does not supersede lesser setback requirements in the as outlined in [Subdivision dimensional standards table, and

Lot area/coverage/setbacks table].

f. Building Height. Alternative height limits may apply for nonresidential uses if conditional use permit provisions are met. Some encroachments through height limits are permitted.

7. Density Bonus Incentives. An increase in residential base density may be permitted as outlined in Table 1.

8. Housing Project Visit. In order to learn from the innovative design practices used, all projects completed under this subsection shall allow city staff to conduct occasional site tours. City staff will make a request of the property owner prior to conducting a tour and will not access the properties for tours more than once every three months. The site tours will be limited to the exterior and common grounds of the property and conducted during regular business hours. Visits will be coordinated through the staff and property owner, and the owner will receive written notice no less than two weeks in advance of each visit. Any additional access to private property or at alternative times shall be at the permission and cooperation of the individual homeowner only.

9. Demonstration Period: This Section and related subsections will expire on [sunset date, if any].

## APPENDIX C: MODEL ORDINANCE #3

### Example Legislation Prohibiting Natural Gas in New Buildings

Model Ordinance Language based on Legislation Introduced to Seattle City Council, author Councilmember Mike O'Brien

For more information contact Climate Solutions [info@ClimateSolutions.org](mailto:info@ClimateSolutions.org)

AN ORDINANCE OF THE [JURISDICTION], WASHINGTON PROHIBITING NATURAL GAS PIPING SYSTEMS IN NEW BUILDINGS.

WHEREAS, an October 2018 United Nations Intergovernmental Panel on Climate Change 11 (IPCC) report states that human beings have only until 2030 to limit devastating global warming and avoid a climate catastrophe; and

WHEREAS, the 2018 IPCC report also states that every bit of warming matters, so every fraction of a degree less of warming will save lives and pay dividends across the world's economies; and

WHEREAS, the [jurisdiction name] government is responsible for promoting the public health and safety of its residents including access to clean air, clean water, and a livable environment; and

WHEREAS, the [jurisdiction name] also has a responsibility to Washington state's climate goals to reduce emissions to 95% below 1990 levels by 2050; and

WHEREAS, buildings are the largest source of toxic air pollution in the United States; and

WHEREAS, the combustion of natural gas in buildings impacts the cardiovascular and respiratory health of vulnerable population, including children, elders, and people with pre-existing conditions;

WHEREAS, communities of color are disproportionately impacted by air pollution in addition to lower access to healthcare; and

WHEREAS, moving towards all-electric buildings now will prevent increased conversion costs in the future; and

WHEREAS, the burden of future conversion costs would be disproportionately borne by low-income residents; and

WHEREAS, prohibiting the inclusion of natural gas infrastructure in new buildings would both improve public safety and public health and reduce greenhouse gas emissions;

[Other whereas statements to include based on the specific jurisdiction:

- Commitments the jurisdiction has made to addressing climate change in the past, including greenhouse gas reduction goals
- Impacts of climate change already felt and/or expected in the region

- Responsibility of the jurisdiction to steward their land for local indigenous peoples and Tribal Nations, as well as disproportionate impacts of climate change to indigenous peoples
- Data on the impact of fossil gas from buildings on the emissions of the jurisdiction area
- Prior commitments made by the jurisdiction towards building electrification, such as in a Climate Action Plan or other plan]

NOW THEREFORE, [JURISDICTION] DOES ORDAIN:

Legislative facts and findings:

1. Scientific evidence confirms that emissions of greenhouse gases (GHGs) including carbon dioxide, methane, nitrous oxide, and others have risen globally at an unprecedented rate since the beginning of the industrialization, and that GHG emissions have led to a global temperature increase of almost two degrees Fahrenheit in the last 150 years.
2. Impacts of climate change have been felt across Washington, including through increased temperature extremes, record droughts, warm ocean temperatures leading to ocean acidification, and more volatile wildlife seasons.
  1. [Specific impacts experienced by the jurisdiction.]
  2. Communities already facing socioeconomic and health inequities, including youth, elders, communities of color, and low-income communities, will suffer disproportionately from these impacts.
  3. [Impacts of climate change on local Tribal Nations or other indigenous communities.]
3. [Commitment by the jurisdiction to addressing climate change, including any GHG reduction goals that have been set through past legislation or climate action planning process.]
4. Eliminating the use of natural gas in new buildings is necessary to further reduce emissions from the buildings sector in [jurisdiction].  
[Specifics around building emissions and growth of buildings sector in jurisdiction.]
5. In addition to producing emissions, the use of natural gas in buildings increases indoor and outdoor air pollution.
  1. Natural gas cooking appliances emit nitrogen oxides (NOx), carbon monoxide (CO), fine particulate matter (PM 2.5), ultrafine particles, and formaldehyde, which compromise indoor air quality.
  2. Homes with gas stoves have 50 to 400% more NOx emissions than homes with electric stoves.
  3. Living in a home with gas cooking increases a child's chance of developing asthma by 42%.
  4. Combustion of fossil fuels in buildings also impacts outdoor air pollution: buildings in Washington generate more than two times as much NOx as power plants do.
  6. Indoor and outdoor air pollution create significant public health risks that disproportionately impact vulnerable and historically disadvantaged populations, leading buildings to be the primary source of pollution-related deaths in Washington state.
  1. Pollutants emitted by natural gas cooking appliances impact the respiratory and cardiovascular health of vulnerable populations such children, the elderly, and those with existing health conditions.
  2. Black, Latinx, and Asian people, as well as people with lower socioeconomic status, have higher risks of death from particle pollution, in part due to the historical impacts of segregation and redlining that have led communities of color to be pushed to live in places with greater exposure to air pollution.
  3. Lower-income households may also be at higher risk of exposure to gas stove pollution because of smaller unit sizes, more people per home, older homes with poorer ventilation, and using stoves or ovens for supplemental heat.
  4. Lack of access to healthcare, jobs, grocery stores, and more also lead to disparate health impacts for vulnerable communities.
  5. The COVID-19 pandemic creates additional urgency to reduce the use of gas in buildings as soon as possible,

as even small increases in long-term exposure to PM 2.5 leads to a large increase in the COVID-19 death rate, with more severe impacts to people over the age of 65.

7. The use of natural gas in buildings also poses safety risks to communities due to the potential for gas leaks and pipeline explosions.

1. [911 stats on calls for suspected gas leaks from jurisdiction.]

2. In August 2020, a natural gas explosion in Baltimore, Maryland killed two and injured seven people from three row houses in a neighborhood.

3. A natural gas explosion in 2016 in Seattle's Greenwood neighborhood 2016 leveled two buildings, impacted 36 businesses, and created \$3 million dollars of damage.

4. [Specific information on pipeline explosions that impacted the jurisdiction.]

5. Earthquake risk makes Washington state particularly vulnerable because highly pressurized gas pipelines run a high risk of exploding during earthquakes.

8. Research shows that all-electric new homes and buildings will save customers money over the lifetime of the building.

1. Requiring clean new buildings will also prevent an unnecessary expansion of gas infrastructure that poses a risk of stranded assets in the future, given that new buildings constructed with natural gas infrastructure will last for over 50 years.

2. If new buildings are not required to be built without natural gas infrastructure, low-income residents will bear the highest burden of costs for rising gas prices and retrofit conversion to all-electric buildings.

### ***Definitions***

"Natural gas" means a natural gas, naturally occurring mixtures of hydrocarbon gases and vapors consisting principally of methane, whether in gaseous or liquid form, including methane clathrate, as the terms are used in the definition of "fuel gas" in the International Fuel Gas Code. Natural gas does not include renewable natural gas or the portion of renewable natural gas when blended into other fuels.

"Natural gas infrastructure" means a system of fuel gas piping, valves, and fittings that, if installed, extends from the outlet of the point of delivery to a premises or in a building and utilized to convey natural gas, as "fuel gas," "piping," "valves," "outlet," and "point of delivery" are defined in the International Fuel Gas Code.

"New building" means any new building, including detached accessible dwelling units, proposed to be constructed as part of a complete building permit application beginning [date] or thereafter.

### ***Applicability***

1. The requirements of this legislation apply to applications for all building or mechanical permits for new buildings.

2. The requirements of this legislation do not apply to the use of portable propane appliances for outdoor cooking and heating.

3. The requirements of this legislation apply to detached accessory dwelling units.

### ***Prohibition of natural gas infrastructure systems***

1. Effective [date], natural gas infrastructure is prohibited from being installed in new buildings.

### ***Enforcement***

1. If any provision of this legislation is in conflict with any other provision, limitation, or restriction which is now in effect under any other part of the [jurisdiction's code or other regulation], or any rule or regulation promulgated thereunder, this chapter shall govern and control and such other code or rule or regulation promulgated thereunder shall be deemed superseded for the purposes of this chapter.