

# Mandatory Green Building Certification

## DESCRIPTION

The Green Building Mandate program would set specific targets for most new construction or refurbishment projects in the City of Seattle, based on a size or use threshold, and relying on a green building rating system such as the LEED® rating system (with specified energy credit requirements). A specific level of certification or number of points would be required, depending on the type of project; potentially with less stringent requirements for housing.

## POLICY OBJECTIVE

The objective of the Green Building Mandate policy is to use a required Green Building Standard as an adjunct to the Building Code to raise the requirements for all aspects of a building's design that could affect energy performance.

### SUMMARY RATINGS (★★★★ = best/most feasible)

ENERGY EFFICIENCY POTENTIAL

★★★★

COST EFFECTIVENESS

★★★★

ECONOMIC BENEFIT

★★★★

ADMINISTRATIVE FEASIBILITY

★★★

COST OF IMPLEMENTATION

★★★

## ENERGY EFFICIENCY POTENTIAL

★★★★

*Energy savings are dependent on the specific requirements of the mandate program.*

- **Energy Savings Potential:** The impact of the mandate program is dependent on the green building certification level required by the policy as well as any required energy credits. One example would be to require eight LEED EA1 credits, which would require a 35% increase in energy performance compared to ASHRAE 90.1-2004; equivalent to approximately 20% above current Seattle standards. Another determinant of energy savings potential is the target segment of the building market (which may exclude single family homes, smaller development etc).
- **Cumulative Energy Savings:** This policy would generate energy savings of between 1,300,000 and 1,600,000 MWhr through 2030, assuming a 20% improvement in energy efficiency above code (approximately the level of energy improvement which should be sought by Seattle in order to achieve compliance with current Architecture 2030 goals), and 60% of new development complying with that standard (assuming 30% of new development is single family housing which may be exempt from the mandate and a further 10% of other new construction within the City would also be excluded based on building size and use).
- **Consistent with targets outlined in 2030 Challenge targets:** To meet the 2030 Challenge Goals, the City should consider prescribing specific energy performance credits as a program qualification prerequisite.

## ECONOMIC IMPACTS

★★★★

*Substantial job creation potential for green building professionals, building inspectors and commissioning professionals if the policy is designed to drive a wholesale move towards green construction practices.*

- **Job creation potential:** If the policy is designed to impact the majority of new construction projects and the standards are sufficiently stringent, the policy would drive a wholesale move towards green construction practices in the City. Regardless of the green building rating system used in the policy - LEED or a local standard such as the Green Matrix - it is likely that new jobs would be created in sustainability consultancy (i.e. LEED accredited or green building professionals, commissioning and inspection professionals etc.).
- **Policy enforcement:** Where existing green building policies already exist, officials have noted that enforcement is crucial to a policy's real world success. Despite this, enforcement is an area often overlooked or poorly administered. Strong policy enforcement in Seattle could lead to the creation of numerous jobs through the creation of a green building inspection and enforcement industry within the city. A third party program such as LEED would have more impact on the creation of private sector jobs associated with the compliance process, while a City specific program would likely create more internal City positions for review and oversight (with the associated funding needs) unless the certification review process was carried out by third party organizations.
- **Overly stringent policy could negatively impact real estate market:** Increased costs to developer would either get passed on to consumers or eat into profit margins, either of which could adversely impact the real estate market.

## COST OF POLICY IMPLEMENTATION

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*Costs to City depend on whether Seattle uses a 3<sup>rd</sup> party certification or not. In either case, the majority of the implementation costs are borne by developers though start up costs to the City may also be significant.*

- **Cost of implementation:** If the policy was tied to an external green building rating system such as LEED, the cost of implementing the policy is likely to be more manageable, as the certification process would be administered by the external rating body. The burden of cost for demonstrating compliance would be passed onto the developer through LEED certification fees. It would be more onerous to develop an internal standard such as the Green Matrix used in the Priority Green Permit program, which specifies specific building performance goals and acceptable means of disclosure. In this case, the City would absorb more of the costs, as staff would play a role in reviewing compliance therefore this route is not recommended, as the advantages of using a 3<sup>rd</sup> party system (i.e. decrease cost) would be lost.
- **Cost of administration is dependent on certification requirements:** If policy dictated that projects must be *certifiable* with a green building rating system, but not *certified*, the cost of determining compliance would be borne by the City, which could increase implementation and administration costs. San Francisco expects the majority of developments to become LEED certified and this is likely to be the case in Seattle. However the City may require additional staff or 3<sup>rd</sup> party reviewers to determine compliance for projects which do not follow this route.
- **Cost to the developer:** Green building rating system compliance is likely to result in cost increases for the developer in order to make buildings compliant with the more stringent requirements of the code. The energy model estimate of the cost of achieving a 20% energy efficiency improvement is approximately 2.1% of project cost.
- **Performance bond:** A performance bond could be required by the City, to ensure that projects comply with the mandated performance standards, similar to the performance bond model implemented by Washington DC. The legal implications of this in Seattle are still being investigated. This could provide a method of funding green building policy development and education and outreach activities.

## COST EFFECTIVENESS

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*The cost-benefit analysis indicates that program is effective for the City, though developers will experience some financial burden in complying with the standard at initiation.*

- **Direct City Benefit Cost ~23:** \$23.00 of energy savings per \$1.00 of program costs to the City. This ratio is quite high due to the low cost to the City of administration and policy development, and high energy savings over time.
- **Net Benefit Cost ~0.2:** \$0.20 of monetized energy savings and financial benefit to developer for every \$1.00 of costs to the City and developer. This ratio is low due to the financial investment required on the part of developers (mainly on smaller projects where high levels of LEED certification are not already being sought) to comply with the standard (though the cost of compliance will decrease over time), with little corresponding financial benefit to the developer, in terms of additional rents or offset costs.
- **Cost per MWhr saved low:** ~\$2.05 per MWhr saved.

## ADMINISTRATIVE FEASIBILITY

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*Current City policy provides existing infrastructure and experience and could be extended to cover additional programs.*

- **Policy initiation and implementation:** A green building mandate policy already exists in the City, requiring all City Capital Projects over 5,000 square feet to gain at least LEED Silver Certification. This provides existing infrastructure and experience for extending the policy to cover all new buildings in Seattle, based on a threshold size and use. Extending this policy would require analysis of possible conflicts between the standards in the City's current building codes and the requirements of the relevant LEED certification standard. This would place additional administrative requirements on city staff (with associated costs). The ongoing administrative requirements are largely dependent on whether the City would require projects to be *certifiable* or *certified* with a green building rating system. By only requiring projects to be *certifiable* the City would have to shoulder some of the administrative burden for determining program compliance.
- **Good program flexibility:** Seattle could tailor the mandatory credit requirements in accordance with various levels of energy or green building targets, through the LEED rating system (e.g. by mandating that eight LEED EA1 credits be achieved).

## STAKEHOLDER IMPACT

*If the policy is phased in gradually, the impact on the development community will be mitigated.*

- **Phasing in policy could allow for the building and construction industry to adapt to the new regulatory environment.**
- **Stringency of requirements could vary depending on the impact to each stakeholder group:** Seattle could vary

the mandate requirements to reduce the burden on those most likely to be impacted by the policy requirements, for example by requiring small commercial developments (less than 25,000 sq ft) to only submit a LEED checklist or single family and mid sized residential developments to submit a Green Points checklist, rather than meet full certification requirements. Financial assistance may also be provided to assist in achieving green building targets, as in Washington DC, where grants are available to affordable housing projects meeting mandatory green building certification standards.

## **LESSONS LEARNED**

### **PROS**

- Cost effective policy for the City – low program costs for the energy savings benefits, though cost to developer is high

### **CONS**

- Program can place a relatively larger financial burden on smaller projects, as the cost of compliance for larger projects is lower as a percentage of total construction cost, than for smaller projects.
- Additional resources or staffing requirements may be needed to implement the policy depending on route taken
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### **CONSIDERATIONS IN POLICY DESIGN**

- Need to carefully consider the challenges and benefits of a mandatory Green Building Performance standard rather than more directly updating the codes themselves.
- Target of policy – what type/size of development should the policy target?
- Should projects be required to be *certified* or *certifiable*?
- Enforcement mechanisms such as using a bond system can ensure post-occupancy building performance.
- Threshold building performance qualifications – should additional specific credits (e.g. LEED EA1 energy credits) be mandated or additional local sustainability requirements included?