LEGISLATIVE CONCEPT

Concept subject or title: Energy Performance Certificates for new and existing commercial buildings and residential dwellings.

Brief description of proposal:
Energy Performance Certificates (EPCs)— a rating system that reflects the energy and GHG (and potentially water) performance of a building compared against Oregon Energy Code compliant buildings —provides a defensible and clear measurement of the environmental footprint of new and existing buildings in Oregon.

- An EPC creates a mechanism to disclose energy and other environmental information, providing a consumer "right to know" mechanism to raise awareness of the importance of energy performance to the total cost of a building at time of sale.
- For residential buildings, a new EPC specification needs to be developed. A pilot funded by ETO, and supported by NEEA and the City of Portland is underway to develop and test the EPC for residential dwellings.
- For commercial buildings, the existing Energy Star Portfolio Manager can be used as the tool to measure the environmental footprint of commercial buildings.

Proposed Actions:
<u>Commercial and Large Multi-Family Buildings:</u>

- ODOE is directed to work with the US DOE and EPA to calibrate the Energy Star Portfolio Manager to Oregon conditions, addressing building and use types, statewide energy use intensities, carbon dioxide emissions and other relevant metrics to be completed by January 2010.
- Oregon electric and gas utilities are directed to maintain energy consumption records for all commercial buildings to which they provide service in a format compatible for uploading to the US EPA's ENERGY STAR Portfolio Manager on-line tool. Utilities must have the data in the appropriate format and ready for upload at a customer's request by July 1, 2010.
- Commercial building owners or operators are required to disclose US EPA's ENERGY STAR Portfolio Manager benchmarking data and ratings, for the most recent 12-month period, to a prospective buyer, lessee, or lender. The information disclosed would be considered adequate to inform the prospective buyer, lessee of the entire building, or lender that would finance the entire building of the benchmarking data and ratings for the building.
- Disclosure of EPA Energy Star building performance will be phased-in beginning with larger buildings first followed by smaller buildings in the state of Oregon:
  - By January 1, 2011 for buildings greater than 100,000 square feet
  - By January 1, 2012 for buildings between 50,000 and 100,000 square feet
  - By January 1, 2013 for buildings greater than 20,000 and less than 50,000 square feet

<u>Residential Buildings:</u>

- An entity (ODOE, Energy Conservation Board, Global Warming Commission, other) is designated to develop an EPC specification for residential units (SFR and small multi-family buildings) by Dec 31, 2009. Specifically it will:

  - Review the findings of the 2008 ETO EPC pilot as part of the EPC specification development.
  - Analyze the cost and implementation impacts.
  - Recommend the structure to support a voluntary, incentive-based program. The entity to recommend what thresholds of adoption need to be realized in the voluntary period before the initiative moves into 2011.

- Recommend public outreach and education initiatives to ensure smooth deployment.

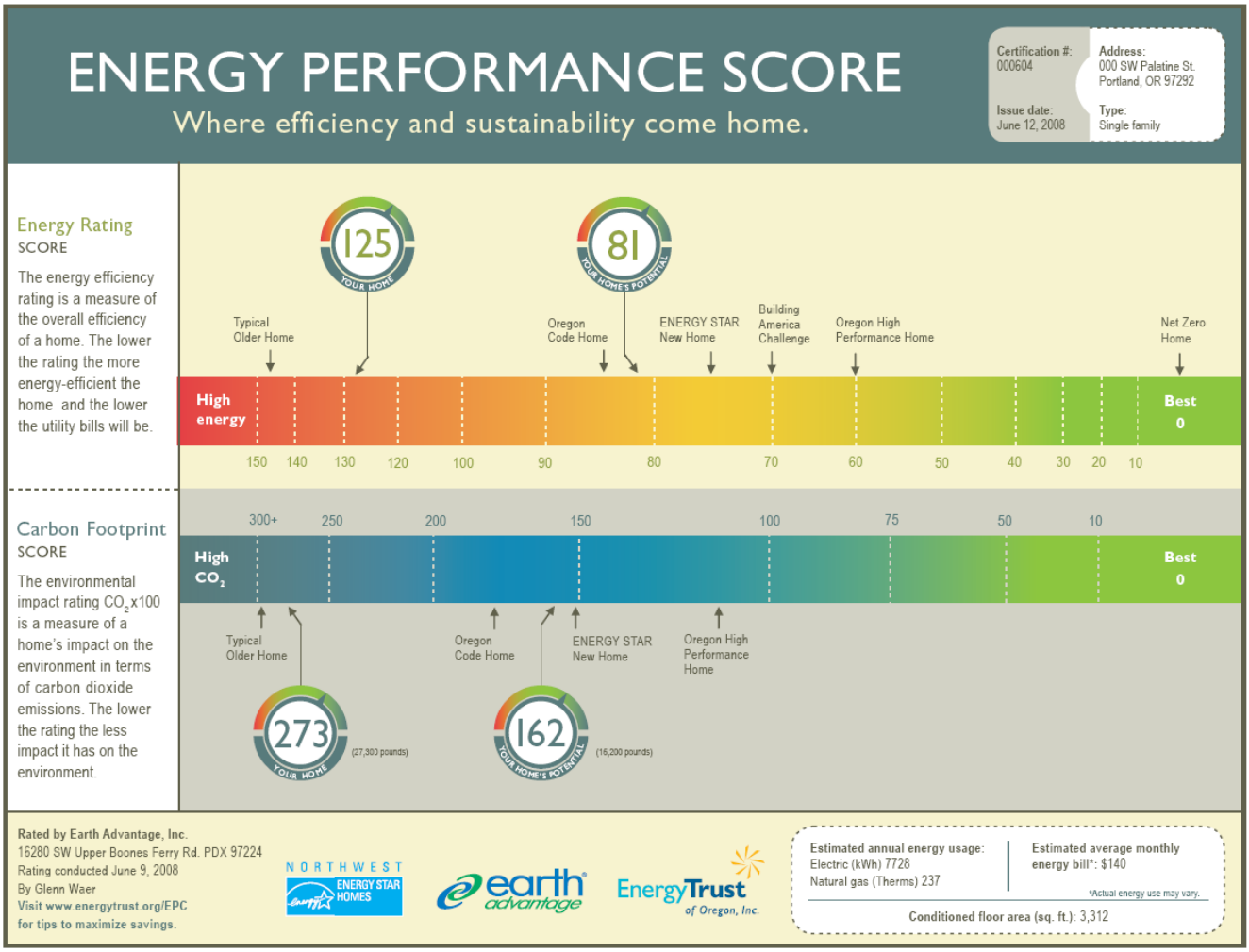
- ETO and non-IOU utilities to use the recommendations of the entity to refine a voluntary implementation incentive program to test the implementation of an EPC program starting Jan 1, 2010.
- Provided that the performance criteria in the voluntary period have been met:
  - All new dwellings will carry an EPC beginning Jan. 2011.
  - All existing dwellings will carry an EPC at time of sale beginning Jan 2012
  - The designated entity directed to develop minimum EPC performance levels that align with state building codes, and energy efficiency and Greenhouse Gas reduction goals, beginning Jan 2015.

What does the residential EPC proposal intend to do?

According to the Pew Center's "Agenda for Climate Action," emissions can be addressed through labeling and expanded, tightened standards for products and buildings, focusing on those that would result in significant GHG reductions through reduced energy use. By requiring a minimal level of efficiency and providing consumers with information on homes that do better than the minimum, standards and labeling can overcome the obstacles described earlier—insufficient and imperfect information; market distortions; and split incentives—and advance building efficiency.

In this regard, much work has been done in the area of bringing a labeling performance metric to the residential market in the United Kingdom. The new label released for implementation in August of 2007 is called an Energy Performance Certificate (EPC). Energy Performance Certificates, which rate the energy efficiency and carbon (CO_2) impact of buildings (including residential), are part of the Home Information Packs (HIP) the U.K. Government is promoting.

Energy Performance Certificates describe how energy efficient a home is on a scale, and informs on the impact the home has on the environment. The most efficient homes have the lowest utility bills and better-rated homes should have less carbon dioxide (CO2) emission impact. The EPC is also accompanied by a list of recommended measures that will improve the EPC score, thereby saving energy and cutting carbon emissions from the home.



DRAFT version of the Residential EPC (Energy Performance Score)
Top scale: Energy Efficiency. 125 is current score. 81 is potential score if recommended upgrades executed
Lower scale: Carbon Footprint. 273 represents 27,300 lb of CO_2, with 16,200 being the target score.

Introduction of the residential EPC will do the following:
Allow measurement of carbon impact of new and existing housing stock.

- Provide a valuable guide to consumers.
- Stimulate improvement of EPC scores for higher resale values.
- Reflect the improved performance of the home receiving an energy efficiency remodel.
- Stimulate mortgages; refinance packages, and homeowner insurance that are favorable to those homes with higher performing EPCs.
- Link public purpose incentives to higher performing EPC scores.
- Allow the EPC to be listed on the Multiple Listing Service databases alongside a property listing.
- Allow high performance home builders to showcase their inventory with high scoring EPCs.
- Stimulate technology investment in smart technologies and materials that improve EPC scores.
- Promote green collar job development in the building trades.
- Enable prospective rental tenants to know ahead of time the impact of their utility bills based on the availability of the EPC.
- Provide a tool that can guide minimum performance scores over time, in concert with Oregon's climate goals and/or the 2030 Challenge. This will effectively link new and existing housing stock to defined carbon reduction goals.

- Assuming that a massive infusion of funds was procured for the state (ref Financing Proposal) the investment made into upgrading existing housing stock (up $50,000 per home) would be reflected by the issuance of EPCs.
- The universally understood 'MPG' for automobiles will be replicated for a homes' 'EPC' performance.

What problem does concept this address?

- Allow easy comparison of performance between two similar homes.
- Provide a concise performance ranking tool for a homeowner/buyer who is unfamiliar with the multitude of green building brands in the current market.
- Links high performance building to consumer choices, and the associated carbon impact.
- Provides the ability to assess the carbon footprint of new and existing homes in Oregon.
- The EPC can reflect the increased value of a home following a retrofit.
- Addresses carbon reduction in a sector ignored by the proposed WCI cap and trade structure.
- Minimum performance thresholds can be ratcheted up in line with climate mitigation goals.

What elements of the current policy context are necessary to understand the concept?

The current design of the Western Climate Initiative, with its associated carbon emission reduction goals, frames the policy context in the following way: The WCI will address all capped sectors and drive emission targets. Since the residential housing sector accounts for 20% of GHG emissions, it is a worthy area of focus. Having a tool—the EPC—to track the baseline, the increased levels of energy performance, and carbon mitigation efforts will allow Oregon to account for this uncapped sector and advance it in line with the state's target.

What happens if this concept isn't implemented?

Without the EPC, we lose the ability to quantify and objectify energy efficiency and carbon performance which can slow improvements in the existing housing stock. Green washing is allowed to proliferate, and the consumer continues to be confounded by performance claims. High performing buildings have no guiding benchmark that is easily comprehensible. Adjusting appraisal values of a high efficient home is complicated without the EPC score.

Would you characterize energy and GHG benefits of this proposal as a major, medium, or minor? What data are needed to quantify these benefits?

The energy and GHG benefits are major and central to this proposed concept.

- House characteristics including insulation levels, window type and area, furnace efficiency, and lighting are included in the modeling and diagnostic testing of the home to raise to the EPC score. This approach relies on the Carbon Intensity data of the fuel mix for the region to ensure accuracy for the carbon metric.

Who is affected by this proposal? Who will support it? Who's likely to oppose it?

Homeowners, builders, Home Builders Associations (HBAs), remodelers, realtors, financiers, insurance providers, public purpose and state agencies [ETO, NEEA, ODOE, OHCS], utilities, and green building programs will be affected.

- Green building programs, homeowners, remodelers, green builders, state agencies, public purpose agencies, and certified green realtors will support the EPC. The City of Portland, US Department of Energy, New York State Energy Research and Development Authority (NYSERDA) and the Association of State Energy Research and Technology Transfer Institutions (ASERTTI) would support the deployment of the EPC.

- Some homebuilders, consumers, utilities, HBAs, and realtors may resist the concept.

Will there be a fiscal impact? Order of magnitude estimate?
The fiscal impact to the state would occur in three areas: covering the EPC audit cost, administrative costs of archiving EPC data in a registry, and providing training to boost the EPC delivery infrastructure.

The cost of having an EPC audit assessment available for Oregon homes that participate will be in the range of $600 to $900 per home using current methodologies. The intent of the pilot is to explore ways to reduce time spent conducting the audit and the cost of the EPC audit. The ideal EPC audit target price is in the $150 - $225 range.

What are the likely training and infrastructure needs?
Training of Home Performance with Energy Star contractors, Home Energy Rating System (HERS) raters, and other performance contractors will need to be delivered across the state. Earth Advantage, Inc. is completing an EPC pilot in Portland. It will then deliver a curriculum to support EPC training in Portland. Through the support of this proposal, this will be extended statewide.

The existing Home Performance with Energy Star infrastructure of around 14 teams will need to be bolstered to roughly 25 teams across the state.

"If you cannot measure, you cannot manage" – **Michael Gillenwater**