

April 11, 2010

APPROACHES TO ENERGY EFFICIENCY RETROFIT

Sonoma County is proposing a two tiered system. It is intended to give the property owner a choice between a fixed (prescriptive) set of minimum upgrades and an "Advanced" path which requires more extensive pre and post modification testing under the California Home Energy Rating System (HERS II). The Build It Green (BIG) residential energy retrofit system is mentioned as somehow integrated with HERS II, but this relationship is currently rather unclear in the documentation.

Below are the approaches utilized by other entities and their status if known.

1. A prescriptive approach, where specific upgrades are prescribed in priority order. No testing would be needed and minimal effort by City forces. **Boulder Colorado** is implementing a version of this. I understand they struggle frequently with political resistance. **Portland** has extensive voluntary residential guidelines, as well, but include window replacement in the current (2005) document.
2. A performance approach, where a defined level of improvement (%) is required without specific recommendations. Extensive pre and post project testing is required. Funding at risk if performance not achieved.
3. Attaining a defined number of points under an existing evaluation system. **Palo Alto** is following this course and reduces the points (BIG and LEED) required when renovating historic or older structures. Additionally, EXTRA points are awarded if structure is historically listed, and character-defining elements are retained. Substantial City review and verification seems to be required.
4. A testing and recommendation process. Extensive testing is required and the testing organization reports with specific actions and priorities. **Berkeley** appears to have gone this route with HERS II. Testing firms have invested heavily in their automated systems and do not seem to be flexible enough to accommodate diverse historic structures, at least for now. Similar to the performance approach, but capped at dollar figure rather than a performance outcome. I believe Berkeley may have switched to a performance approach.
5. Straight out exemption of "qualified historic structures". This is the path of most the California energy codes. Originally the requirements applied only to state-owned structures, but a new code applying to all construction goes into effect in January 2011.
6. Testing and disclosure only. This is the **Portland** model for their 2009 existing commercial ordinance. Prospective buyers or tenants would receive a copy of the buildings performance and typical utility costs. Stakeholder objection has led to the exclusion of existing residential until better funding sources are available.
7. "FEEBATE" : Compliance is voluntary, but City fees are based on owner's selected level of Green compliance. In **Portland**, the previous mandatory measures were superseded by FEEBATE in January of 2009 for new commercial structures.
Combines a substantial fee for conventional construction, a fee waiver for moderate green improvements and several tiers of rewards for high performance green building projects. Will also apply to new residential if targets are not met by voluntary compliance after a fixed period.
8. Some version with or without testing that applies Build It Green and/or LEED points. Write local modifications to improve point awards for historic reuse and lower point awards for areas likely to damage historic fabric.
9. Some combination of the above. May include exemptions for limited types of the most significant historic structures.