



Pacific Northwest
NATIONAL LABORATORY

*Proudly Operated by **Battelle** Since 1965*

Finding large-scale energy savings in buildings: the role of material certification

Aaron Staniszewski and Meredydd Evans
Pacific Northwest National Laboratory

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Overview



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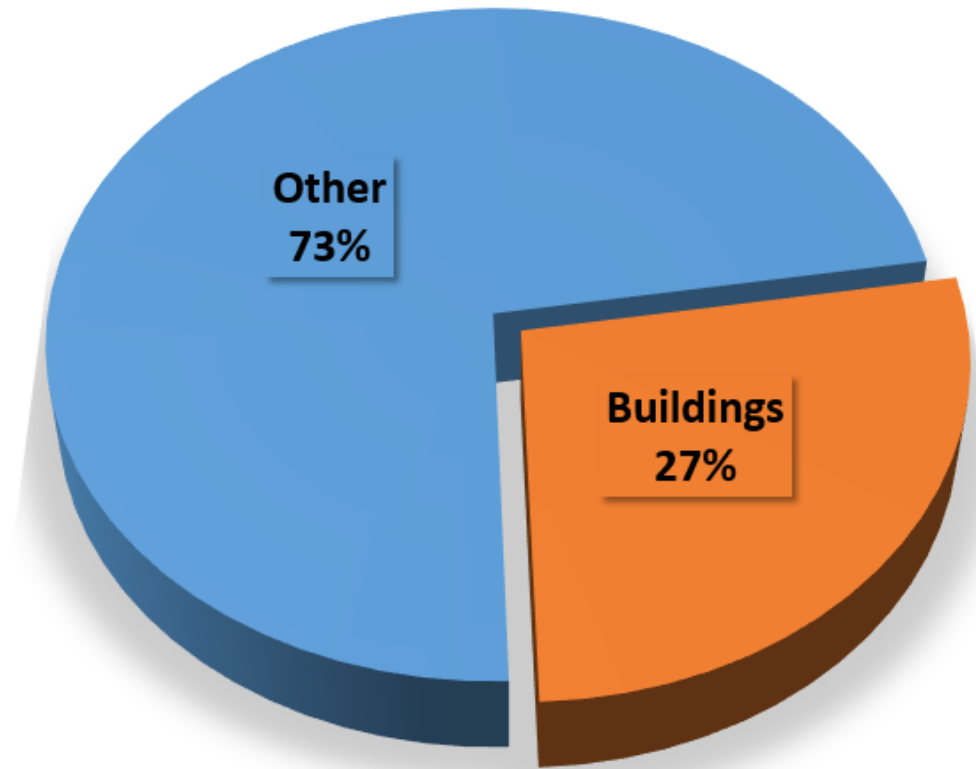
- ▶ Brief introduction of the topic and our project
- ▶ Propose ways we may be able to help your business through mutual interests
- ▶ Solicit your feedback

Our Overarching Goal

- ▶ Improve energy efficiency in buildings in China
 - Work is under U.S.-China Climate Change Working Group (CCWG) led by NDRC and DOE
 - China has the largest construction market and is second largest building energy consumer in the world
 - China's 13th Five-Year Plan requires energy efficiency improvement in the building's sector

Importance of Building Efficiency to Climate Goals

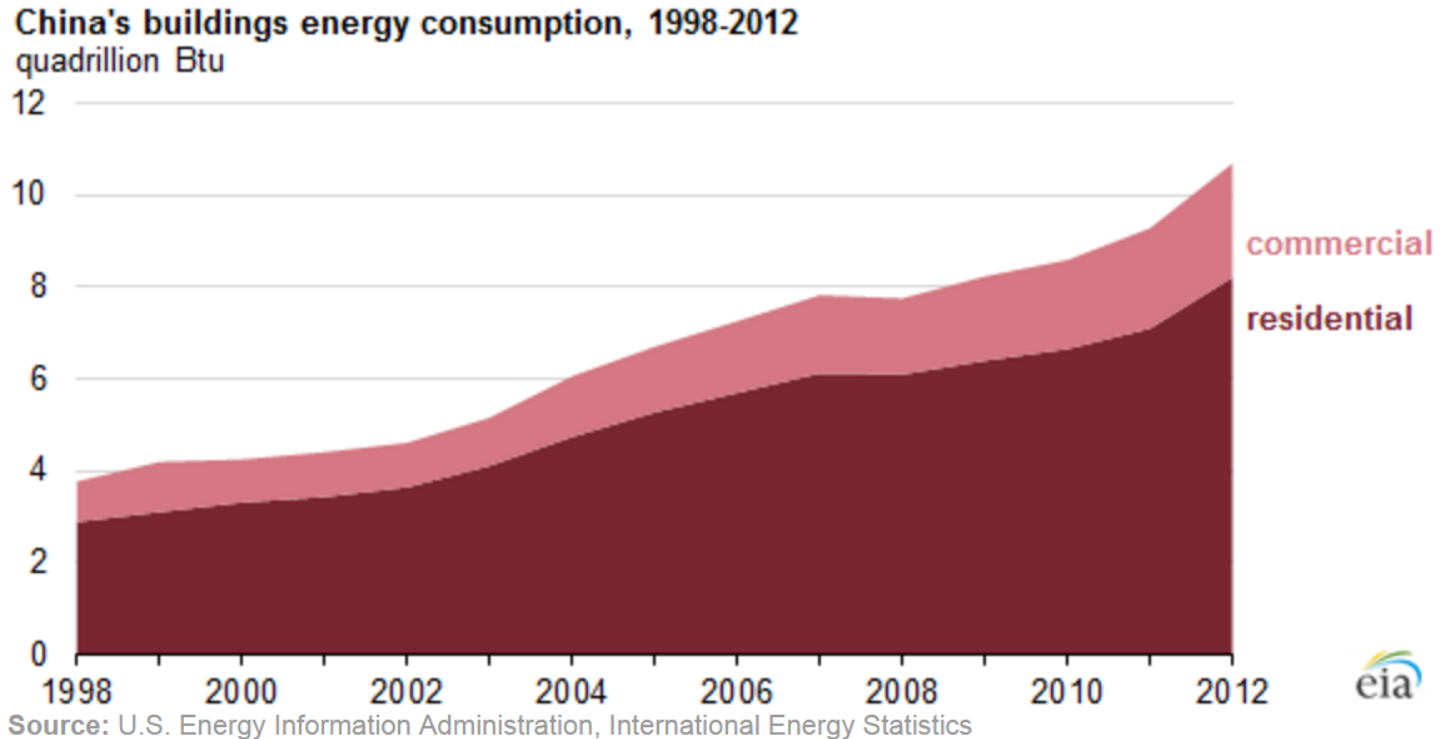
Primary Energy Consumption by Buildings in China, 2014



Source: IEA statistics
Buildings defined as residential, commercial and public services, and non-specified

- ▶ Building sector is a big part of energy demand

Importance of Building Efficiency to Climate Goals

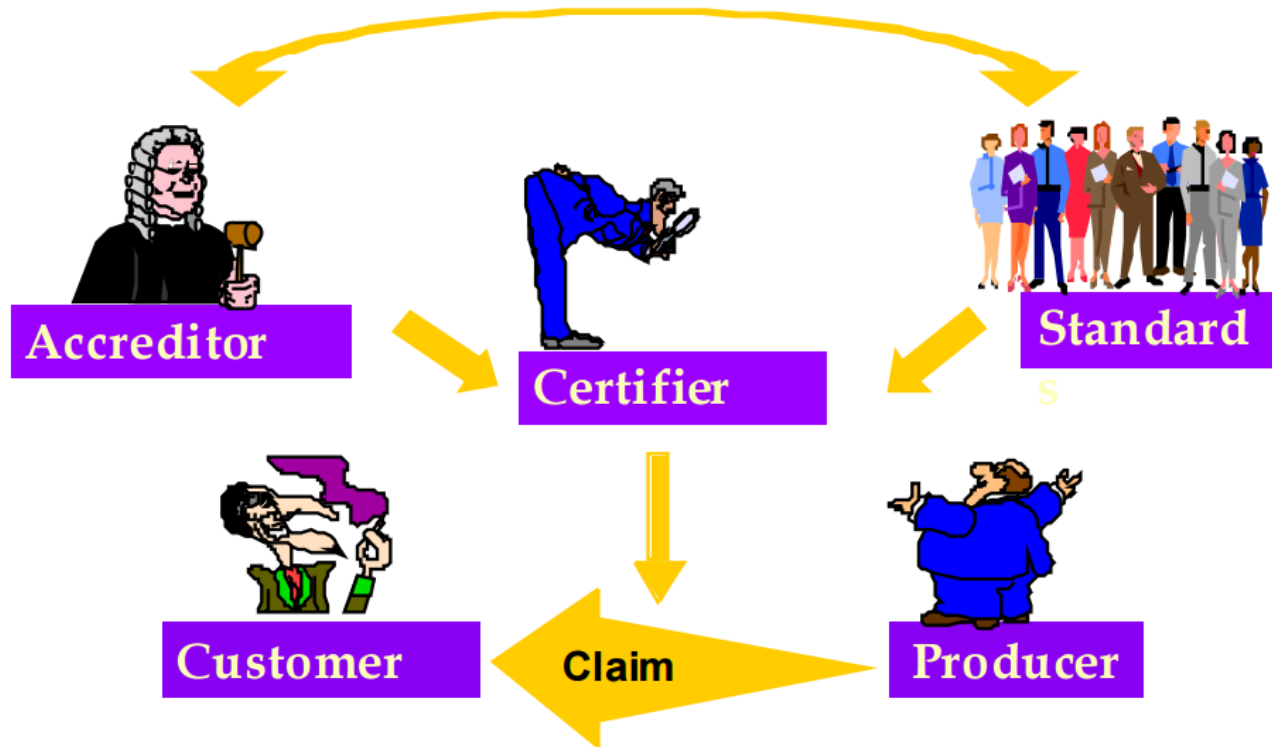


- ▶ Clear trend to improve efficiency in buildings
- ▶ Certification of green building materials is a proven way to improve building energy efficiency

Certification of Building Materials

- ▶ Ensures that the material will perform as advertised, which is the cornerstone of a certification system
 - Gives assurance to consumers and is a marketing tool for manufacturers
 - Helps implementation of building energy codes and building rating systems
 - Stages of design, development, and compliance

Components of Certification



Source: Tasso Azevedo
Retrieved from
<http://www.rainforest-alliance.org>

Including also promoting the certification through
incentives and linkages to policies

- ▶ Conduct gap analysis
- ▶ Implement a pilot program of 1-2 initial product categories under a green building material certification program
 - By advancing standard development, strengthening certification, or linking certified-products with policies
 - In collaboration with NDRC, AQSIQ, MIIT, MOHURD, and Chinese researchers to carry out the work
- ▶ Stakeholder meetings

Gap Analysis Collaborators

- ▶ Chinese certification and testing groups, standard groups, research organizations, and government are collaborating
 - CQC, CNIS, and CSCA are coauthors
- ▶ NDRC and MOHURD are also participating



How This Work May Help Businesses

▶ Promote green products

- Increase customer awareness
- Link to policies, put on procurement lists
- Expand market
- Strengthen the labeling program through improved testing and oversight

▶ Reduce the burden to get effective certification

- Reduce the clutter of labels
- Harmonize standards



Potential Areas for Improvement

- ▶ **More consistency in testing among laboratories**
 - For example, four certification groups do green building material assessment labeling
- ▶ **Reduce number of certifications for a product category**
 - Better awareness of certification
 - Avoid different standards of performance
 - Standards from government, industry, certification groups
- ▶ **Greater degree of harmonization of standards**
 - Alignment of standards reducing burden to manufacturers
- ▶ **Incorporate categories of products that are presently overlooked**
 - For examples, window coatings, organic insulation
- ▶ **Better linkage with policies**
- ▶ **Stronger incentives strategy**

Overarching Themes for Discussion

- ▶ What are some challenges that your business faces from the current certification system?
- ▶ What could be improved? And how?

Prospective Actions

More robust testing and oversight

Reduce number of certifications for a product category

Greater degree of harmonization of standards

Incorporate categories of products that are presently overlooked

Better linkage to policies

Stronger incentives strategy



Thank you!

Questions?

Aaron Staniszewski
Research Associate
Email: aaron.staniszewski@pnnl.gov

Meredydd Evans
Senior Staff Scientist
Email: m.evans@pnnl.gov