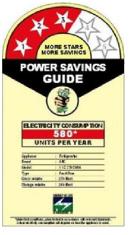


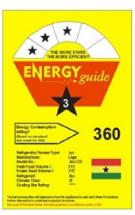


### International Database of Efficient Appliances (IDEA): A Novel Tool for Efficiency Program Development and Evaluation

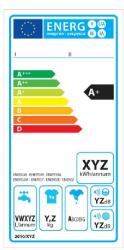
Brian F. Gerke, Lawrence Berkeley National Laboratory 2015 IEPEC Conference — Long Beach, California Appliance efficiency standards & labeling (S&L) programs are an important part of many nations' energy policy portfolios.

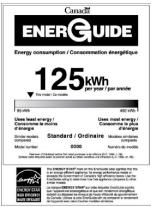








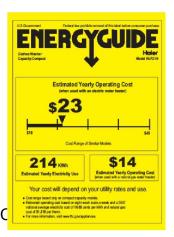














Product-level data for developing and evaluating S&L programs is available online, but it is scattered and disjoint.

### **Retailers**

- Market price
- Some features
- Popularity
- Availability

### **Manufacturers**

- MSRP
- Features & specifications
- Some energy data

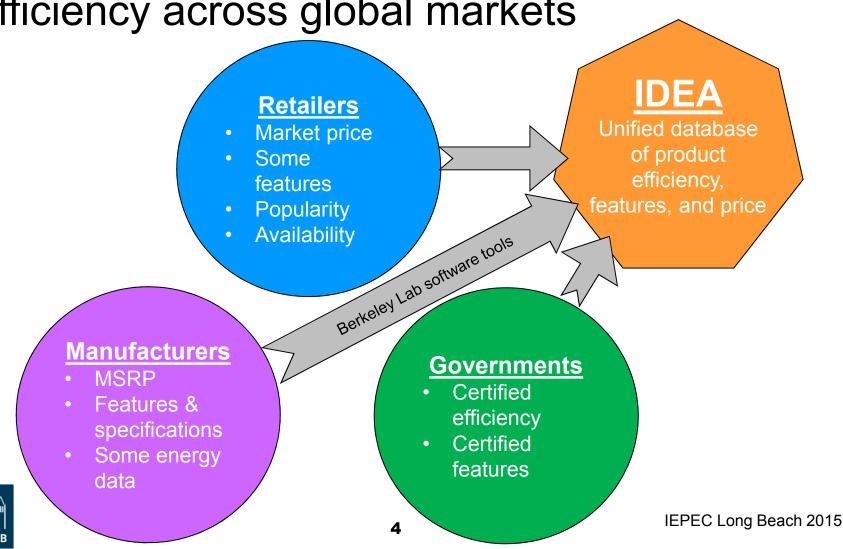
#### **Governments**

- Certified efficiency
- Certified features



IEPEC Long Beach 2015

IDEA draws together public data sources to create a unified database of appliance efficiency across global markets



# IDEA eliminates barriers to analysis and enables rapid assessment of policy impacts within and across markets.

- Identifies and combines identical products within markets.
- Standardizes the names of data fields (e.g., "volume" vs. "capacity").
- Cross-references against government certification records (even when generalized to represent multiple products per record).
- Identifies identical products across different markets.
- Regular (and frequent) data updates are easy to perform.
- Archives all data that may be of interest (not just for today's analysis), to enable future retrospective analyses.
- IDEA's flexible data framework can be applied to any energyconsuming product.



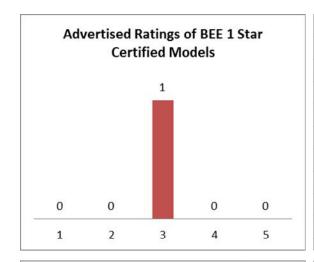
## IDEA has a wide variety of applications in S&L program evaluation and design.

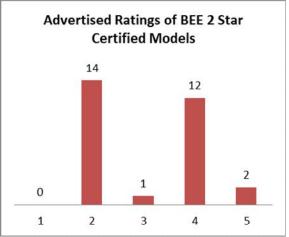
- International efficiency indicators and benchmarking.
- Tracking of price and efficiency trends.
- Evaluation of program impacts within markets.
- Evaluation of cross-market program impacts.
- Market monitoring for program-compliance verification.
- Determining efficiency baselines and distributions within markets.
- Estimating the present day potential for cost-effective energy savings.
- Leveraging large-nation S&L programs for small importer nations.
- Sourcing ultra-efficient appliances for developing world applications.

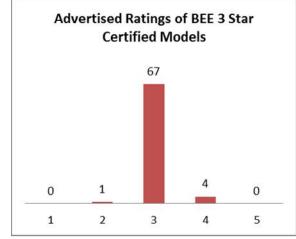


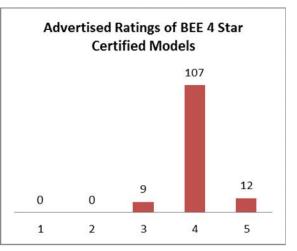
Initial IDEA data indicates possible "starrating inflation" in the Indian refrigerator

market.



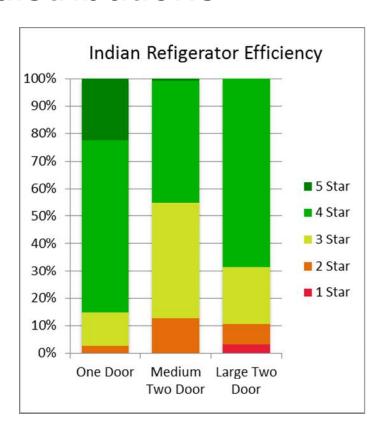


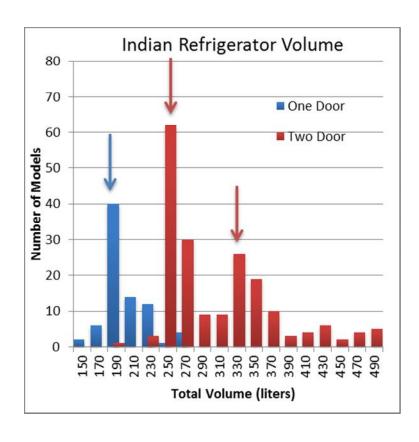






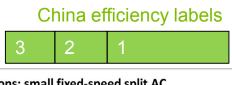
# IDEA allows determination of typical product efficiency levels and features, and their distributions.

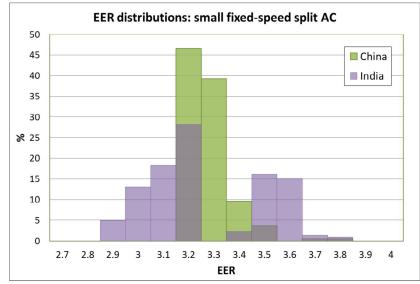






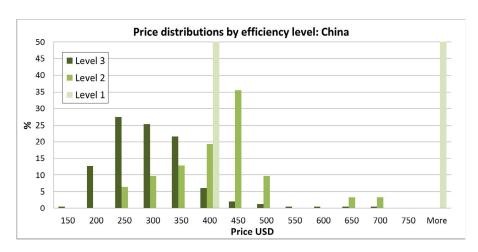
## IDEA enables real-time benchmarking and cross-market comparison.

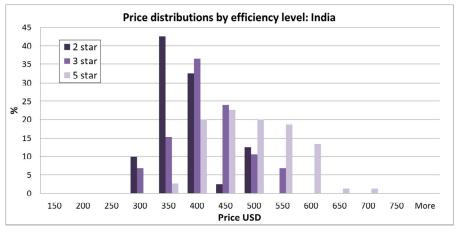






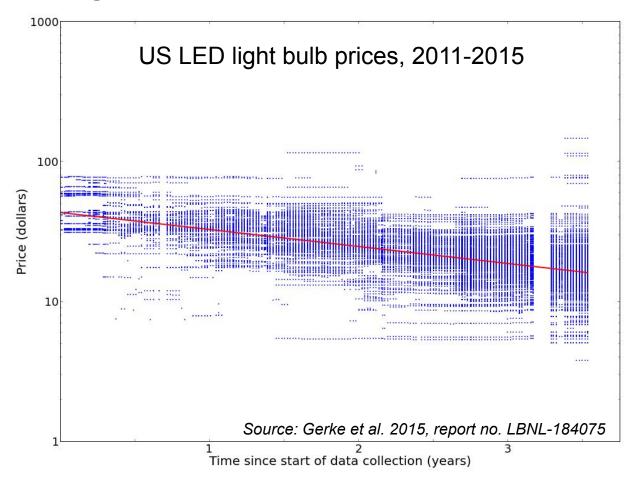
India efficiency labels





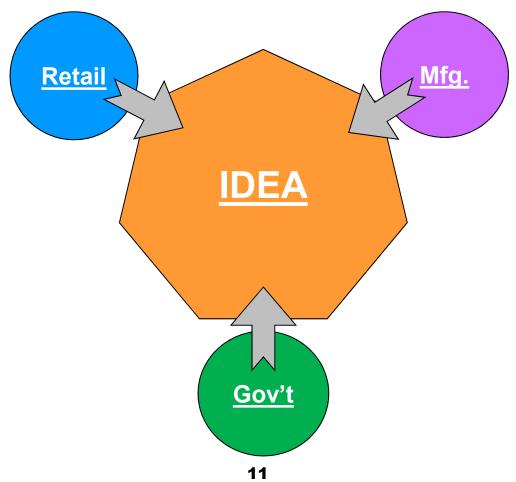


## Regular updates make IDEA a powerful tool for tracking market trends.





### Questions?





## An IDEA prototype exists and is collecting data in several countries.

