

Pushing the Energy Efficiency Envelope through Appliance Standards around the World

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Today over 75 countries with more than 80% of the world's population have energy standards & labeling



The Collaborative Labeling and Appliance Standards Program's (CLASP) primary objective is to identify and respond to the assistance needs of S&L practitioners around the world while making the highest quality technical information on S&L best practice available globally.



Established in 1999 by the Alliance to Save Energy, International Institute for Energy Conservation, and Lawrence Berkeley National Laboratory.



Became a ClimateWorks Foundation Best Practice Network (BPN) in March of 2009.



Formerly a small, distributed network of international experts, CLASP has expanded and matured with over 29 full time team members in 4 offices (Beijing, Brussels, DC, and Delhi)

CLASP has provided S&L technical assistance in over 50 countries on 6 continents, including Australia, Brazil, Egypt, Fiji, Ghana, Korea, Poland, South Africa, Thailand, Tunisia, Uruguay, and Vietnam.

Under support from the ClimateWorks Foundation, CLASP currently provides technical support in:

- China 
- European Union 
- India 
- United States 
- Global Research Projects 

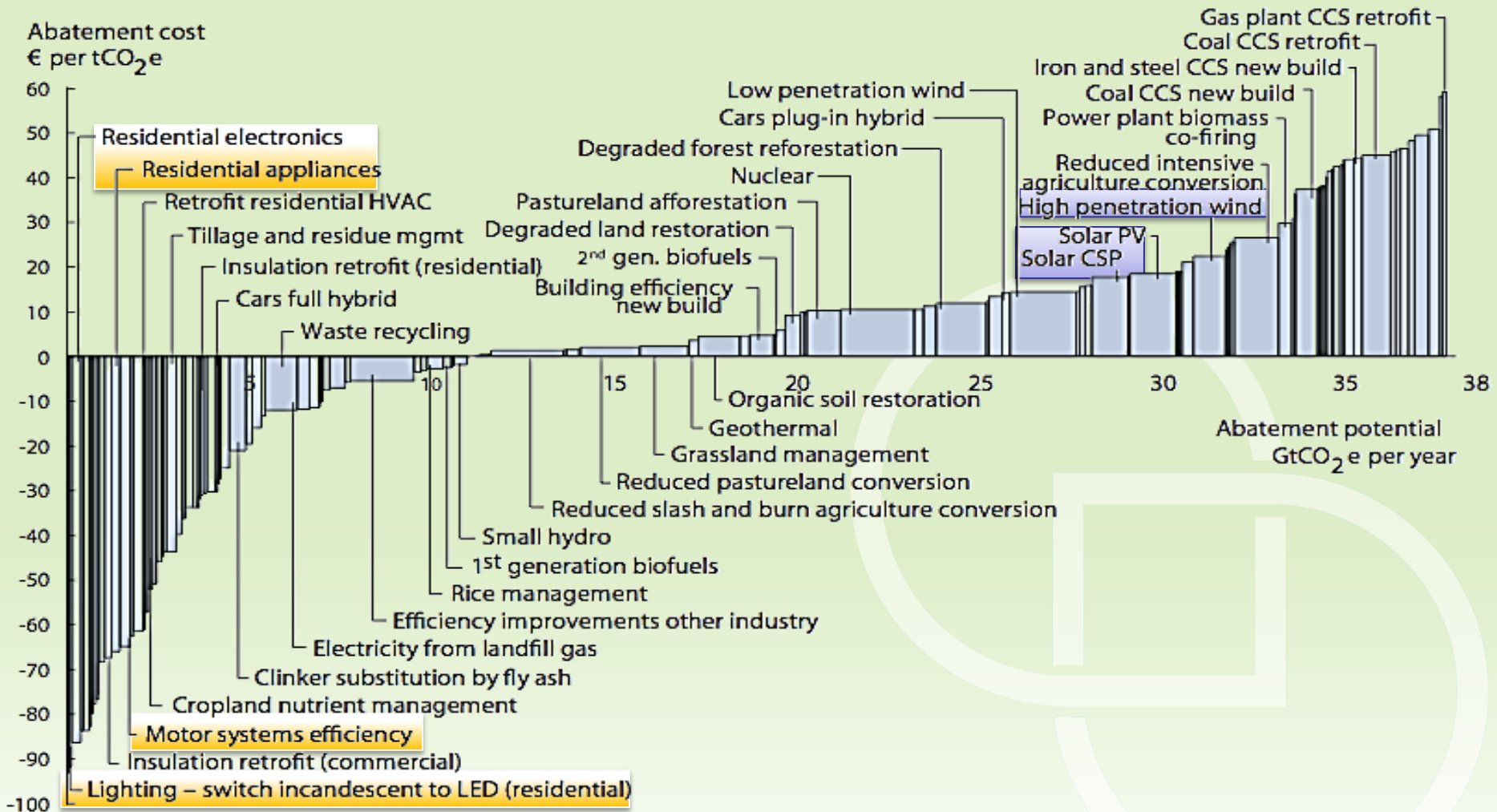
CLASP works in additional countries and regions pending funding and opportunity, and taking into account the global potential and country priorities.

For maximum impacts, CLASP:

- Provides technical assistance and expertise to national governments and other stakeholders including:
 - Product Specific Technical Analysis
 - Market Impacts Studies
 - Label design research
 - S&L Impacts Assessment
 - Product Prioritization Studies
 - Program Evaluation
- Assembles and oversees project teams from diverse and highly-qualified organizations
- Disseminates best practice information and training
 - Guidebooks on Best Practice S&L and Compliance
 - Studies on Harmonization and Product Benchmarking
 - Regulatory Agenda Tracking



Global GHG abatement cost curve beyond business-as-usual - 2030

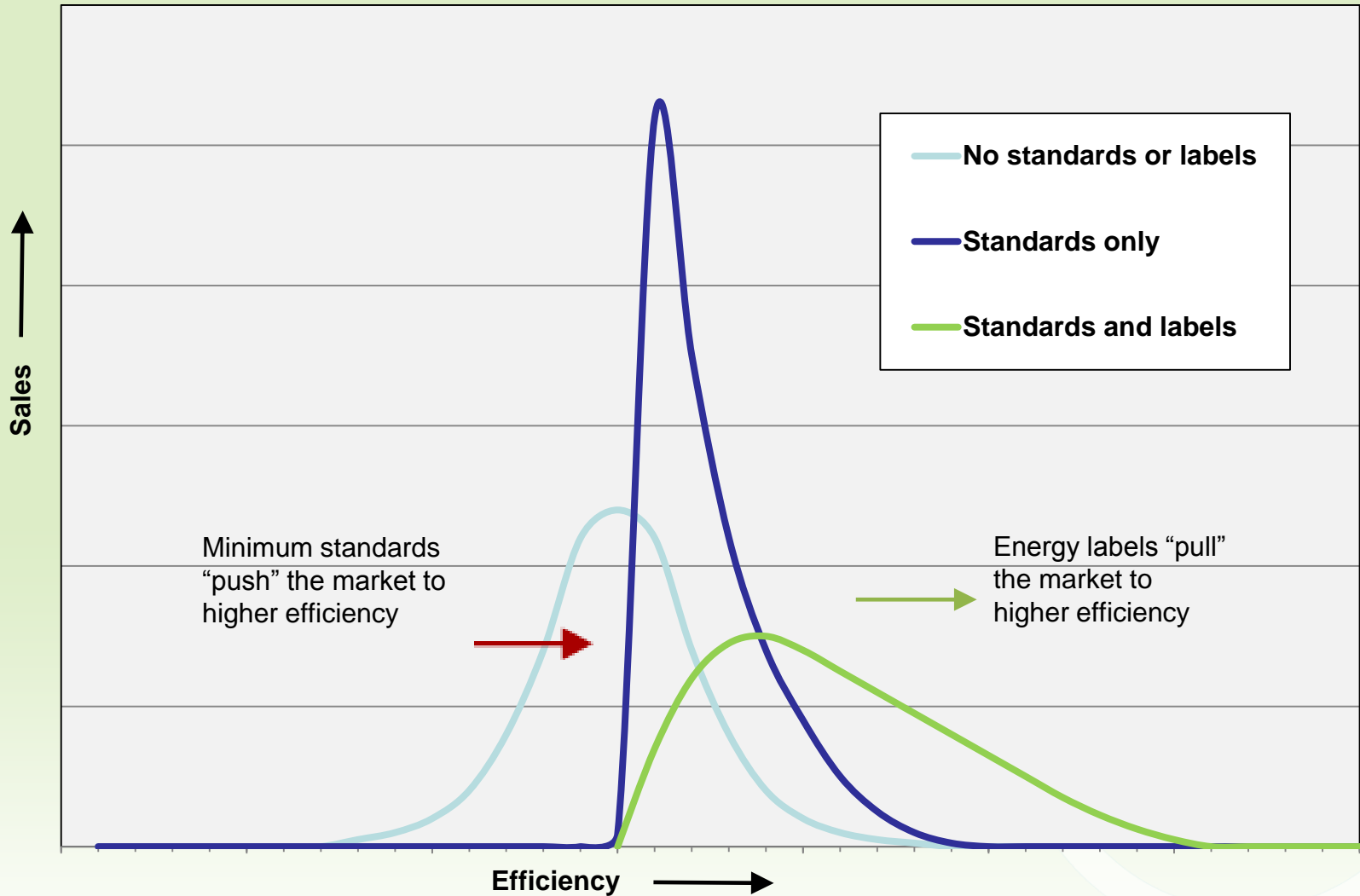


Source: [McKinsey & Company, Pathways to a Low-Carbon Economy. Version 2 of the Global Greenhouse Gas Abatement Cost Curve, 2009](#)

Note: The curve presents an estimate of the maximum potential of all technical GHG abatement measures below €60 per tCO₂ emissions of each never was pursued aggressively. It is not a forecast of what role different abatement measures and technologies will play.

Standards and labels work together to “push” and “pull” markets toward greater energy efficiency

Benefits of standards and labels for product energy efficiency





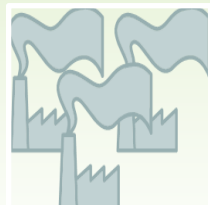
Reducing the energy consumption of a product...

on aggregate, reduces overall energy use.

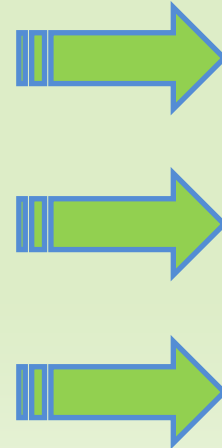


This reduces power demand...

which reduces electricity and fuel consumption in existing power plants...



and reduces the need to build new power plants to produce more electricity.



Resulting benefits include:

Reduced capital investment in energy supply infrastructure;

Enhanced national economic efficiency by reducing energy bills;

Enhanced consumer welfare;

Enhanced energy independence;

Strengthened competitive markets;

Reduced emissions to meet climate change goals;

Averted urban/regional pollution.

Energy efficiency standards “PUSH” the market towards greater energy efficiency by removing inefficient products from the market.

- **Prescriptive Standards** – require that a particular feature or device be installed in all new products.
- **Minimum Energy Performance Standards (MEPS)** – require that a manufacturer achieve in each and every product a minimum efficiency (or maximum energy consumption); but does not require a specific technology or design.
- **Class-average Standards** – specifies the average efficiency of a manufactured product, allowing each manufacturer to select the level of efficiency for each model so that the overall average is achieved.



Energy Efficiency Standards (Minimum Energy Performance Standards)

1. The government sets a limit on the total amount of energy a product can use annually

≤ 400 kWh/a

2. The manufacturer designs the product to use less energy than the limit
3. The manufacturer tests the product using a designated test procedure to certify it uses less energy than the limit
4. The manufacturer then submits these results to the government or self-certifies them.
5. The product can be sold on the market

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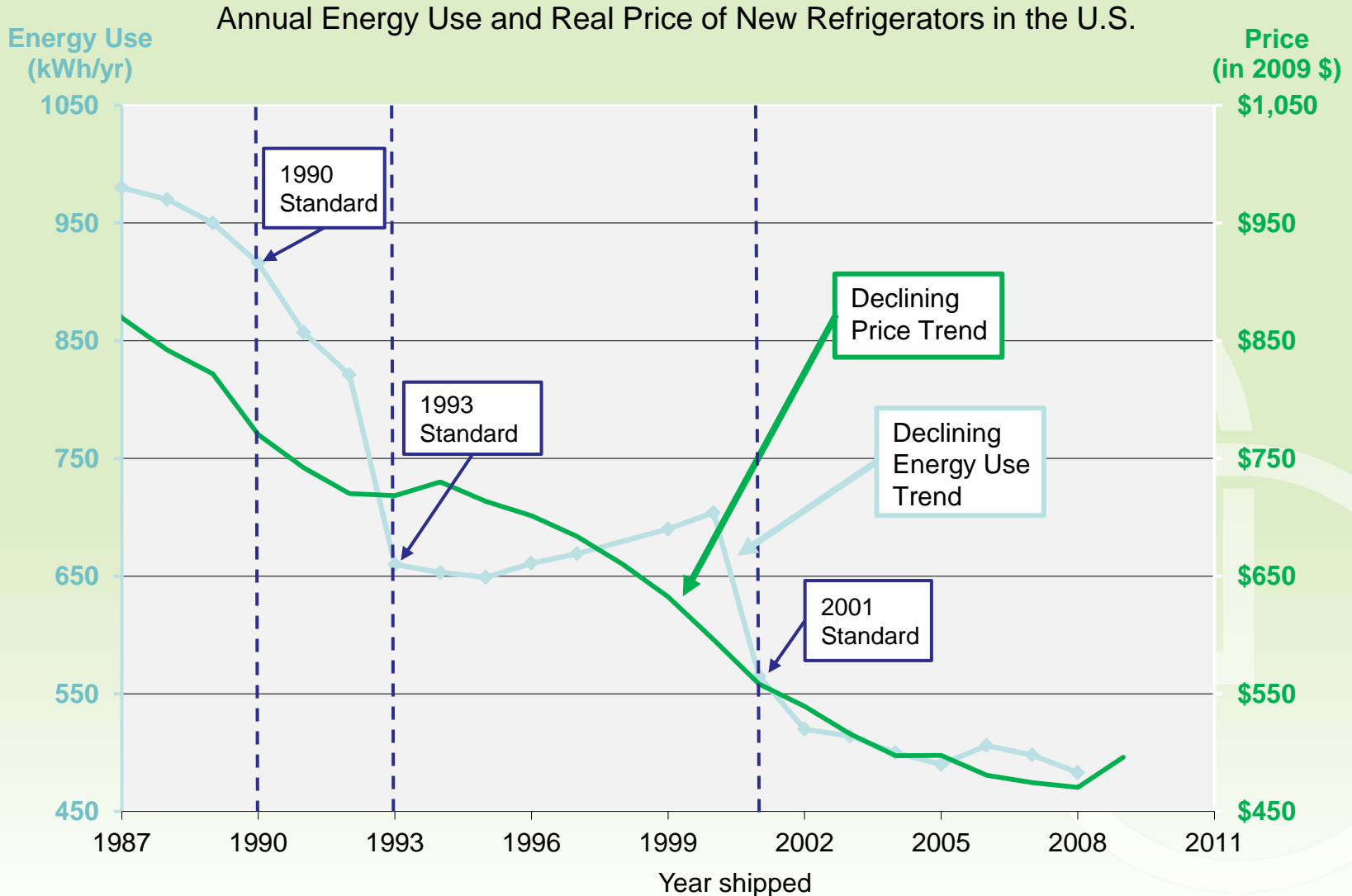
SECRETARIA DE ENERGIA

NORMA Oficial Mexicana NOM-021-ENER/SCFI/ECOL-2000,
Eficiencia energética, requisitos de seguridad al usuario y
eliminación de clorofluorocarbonos (CFC's) en acondicionadores
de aire tipo cuarto. Límites, métodos de prueba y etiquetado.

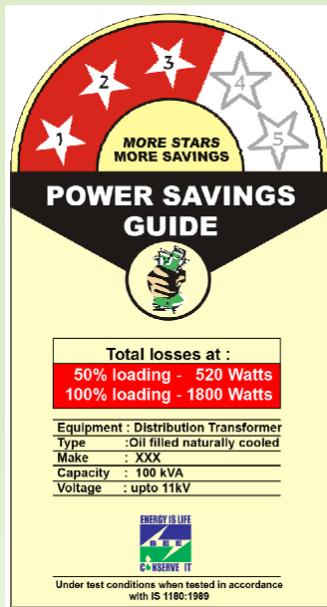
TABLA 1.- Valores de la Relación de Eficiencia Energética

Clase	REE
1	2,84
2	2,84
3	2,87
4	2,84
5	2,49
6	2,64
7	2,64
8	2,49
9	2,49
10	2,49

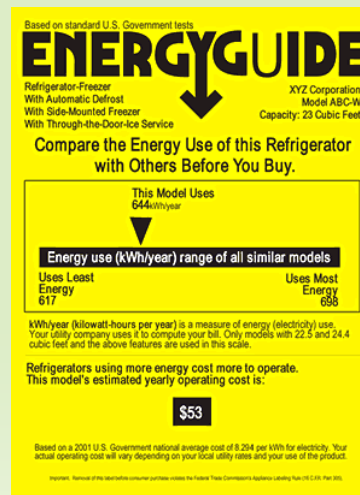
US Energy Efficiency Standards for Refrigerators Reduce Costs & Energy Consumption



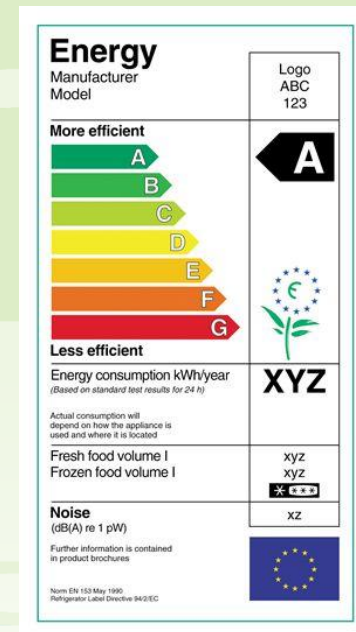
Comparative energy efficiency labeling “PULLS” the market towards greater energy efficiency by allowing consumers to compare the energy efficiency of products while making a purchasing decision, thus motivating manufactures to build products that that are more efficient then their competitors.



Categorical Label (Dial)



Continuous Label



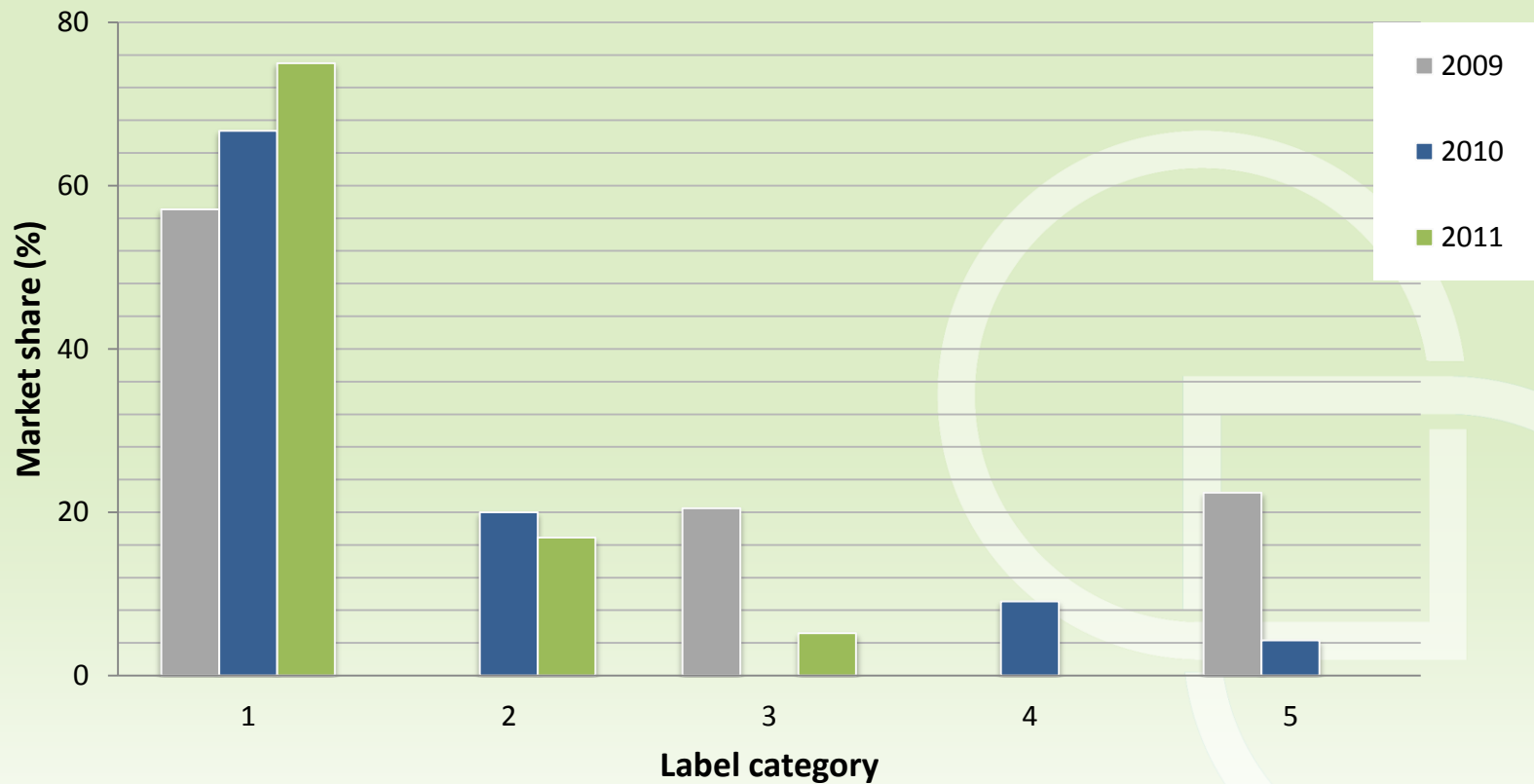
Categorical Label (Bars)

1. The government sets discreet categories based on specific ranges of energy use allowing comparison between products

Category:	Energy Range:
A	<400 kWh/a
B	400 – 499 kWh/a

2. The manufacture builds the product and test it's energy use using a designated testing procedure in order to determine the proper category
3. The manufacture submits the results to the government or self certifies
4. The manufacturer labels their product with the correct category

China Refrigerators Energy Efficiency Level Distribution



Source: White paper for the energy efficiency status of China energy-use products (2011, 2012), China National Institute of Standardization (CNIS).

Endorsement Label

Endorsement energy efficiency labeling “PULLS” the market towards greater energy efficiency by identifying for consumers the most energy efficient products, thus providing an incentive (market advantage) for manufacturers to build highly efficient product.



United States



European Union



Korea

Endorsement Label

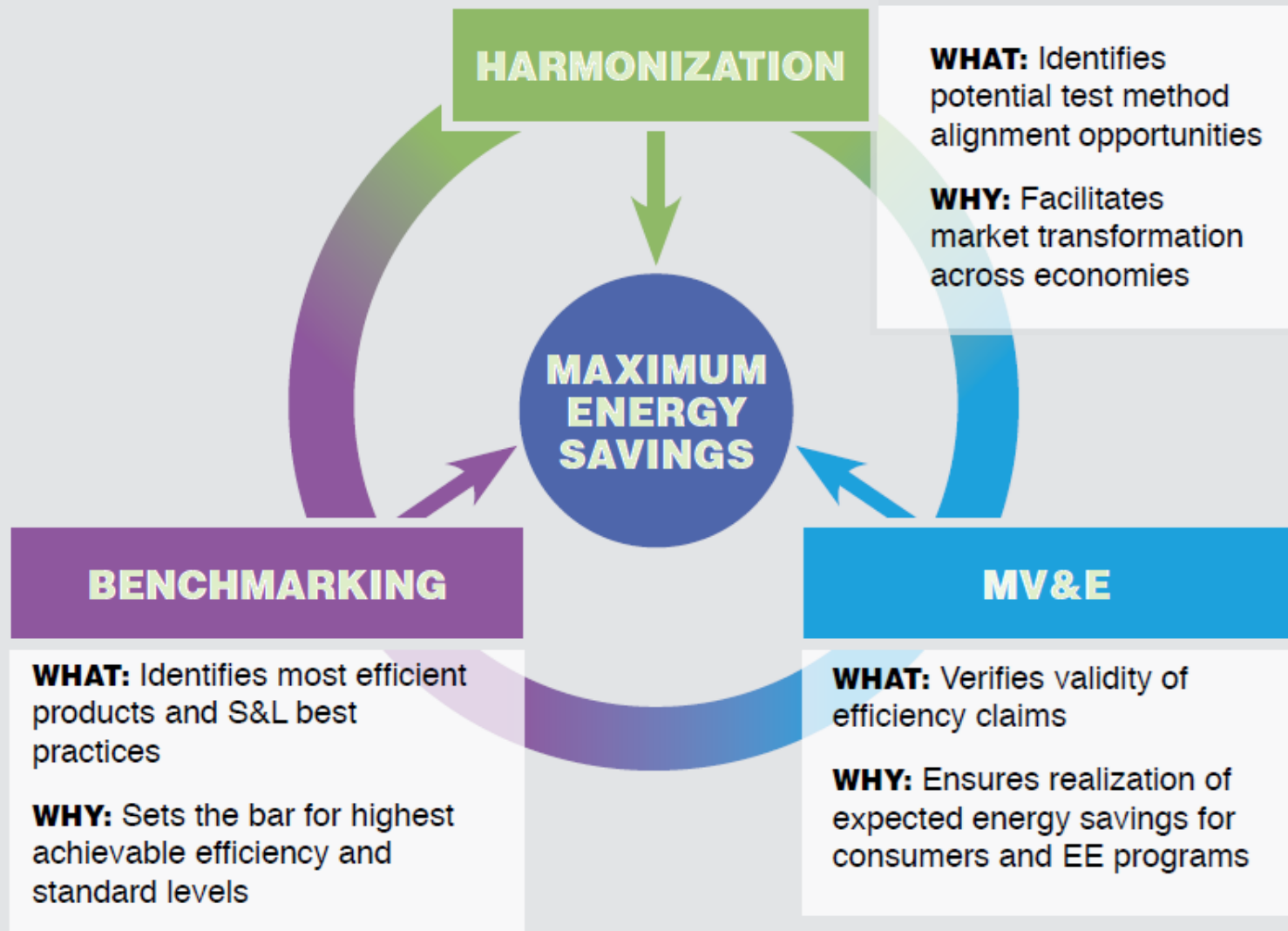
1. The government sets a minimum energy use threshold for entry into a program which recognizes highly energy efficient products

$$\leq 100 \text{ kWh/a}$$

2. The manufacturer designs the product to use less energy than the threshold so that the product can receive this recognition
3. The manufacturer tests the product using a designated test procedure to certify it uses less energy than the threshold
4. The manufacturer then submits these results to the government who review and approve it
5. Once it has been approved the product's packaging can be labeled with the endorsement label, the manufacturer can advertise the product's endorsement, and usually the product will be listed on a government website

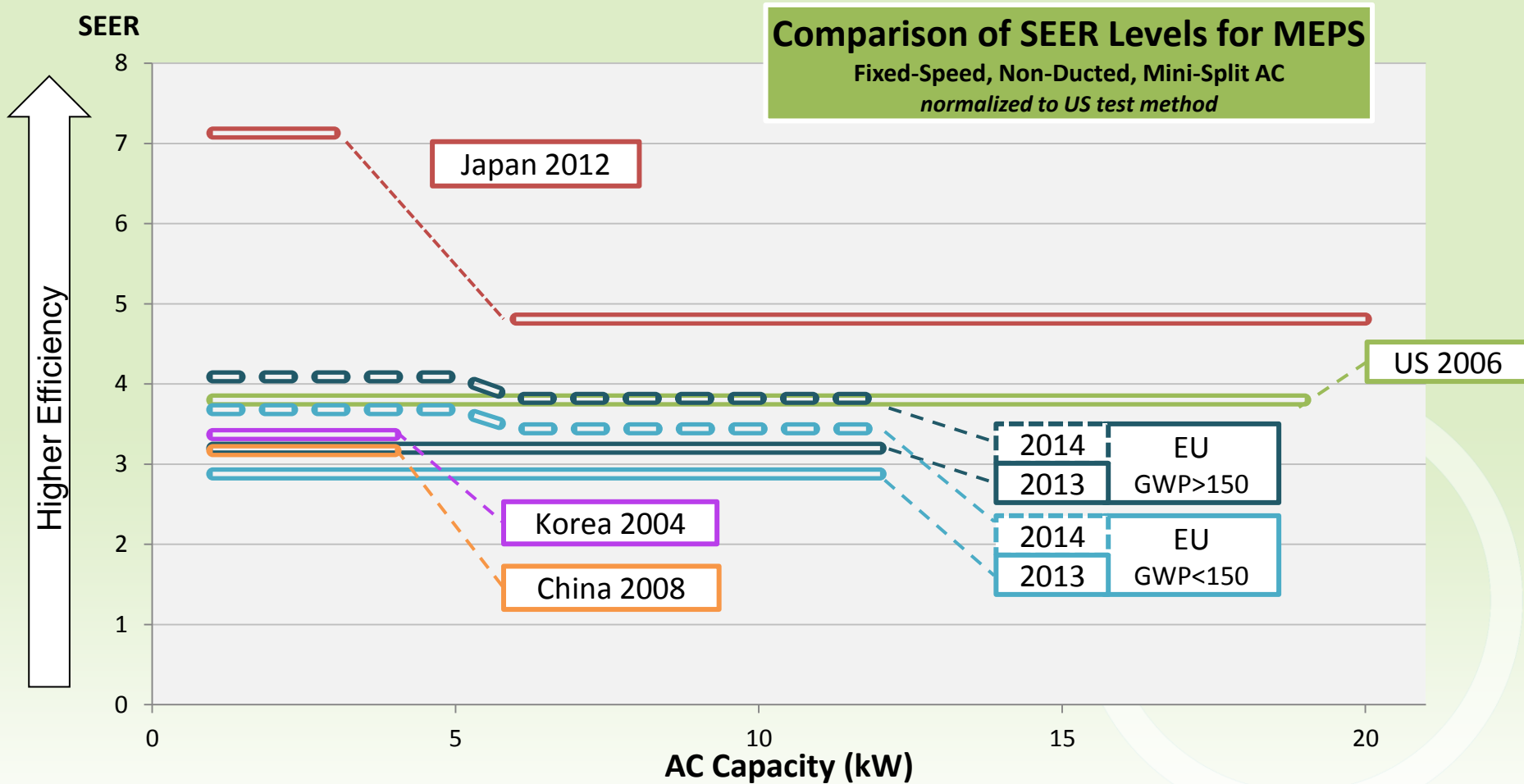
CLASP Global Programs

Collaborate to Accelerate Impacts of S&L



CLASP's Cooling Benchmarking Analysis Compares Stringency Across S&L Programs

- First-of-their-kind conversion formulas enable policymakers to compare seasonal performance metrics
- Identifies opportunities to adopt S&L best practice

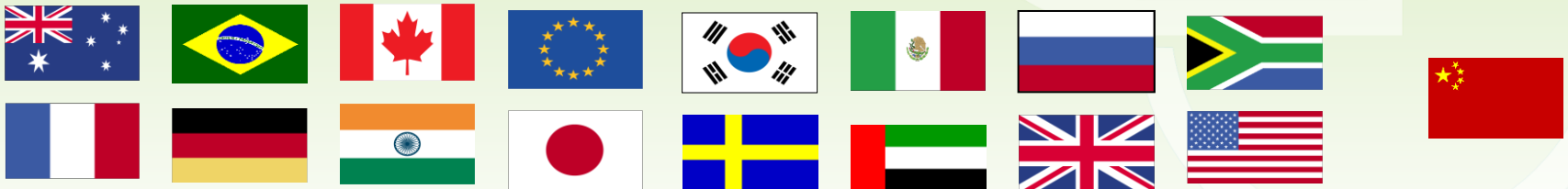


Product groups	Standards or labels (number of records)
Building Materials	20
Compressors	5
Computers & ICT	57
Cooking & Dishwashing	100
Heating & Air Conditioning	208
Laundry	82
Lighting	254
Miscellaneous	53
Motors	46
Office Equipment	46
Power Supply & Power Conversion	50
Pumps	22
Refrigeration	185
Standby	5
Televisions, Displays, & Audiovisual	129
Ventilation, Fans & Blowers	37
Water Heating	73

In November 2012:

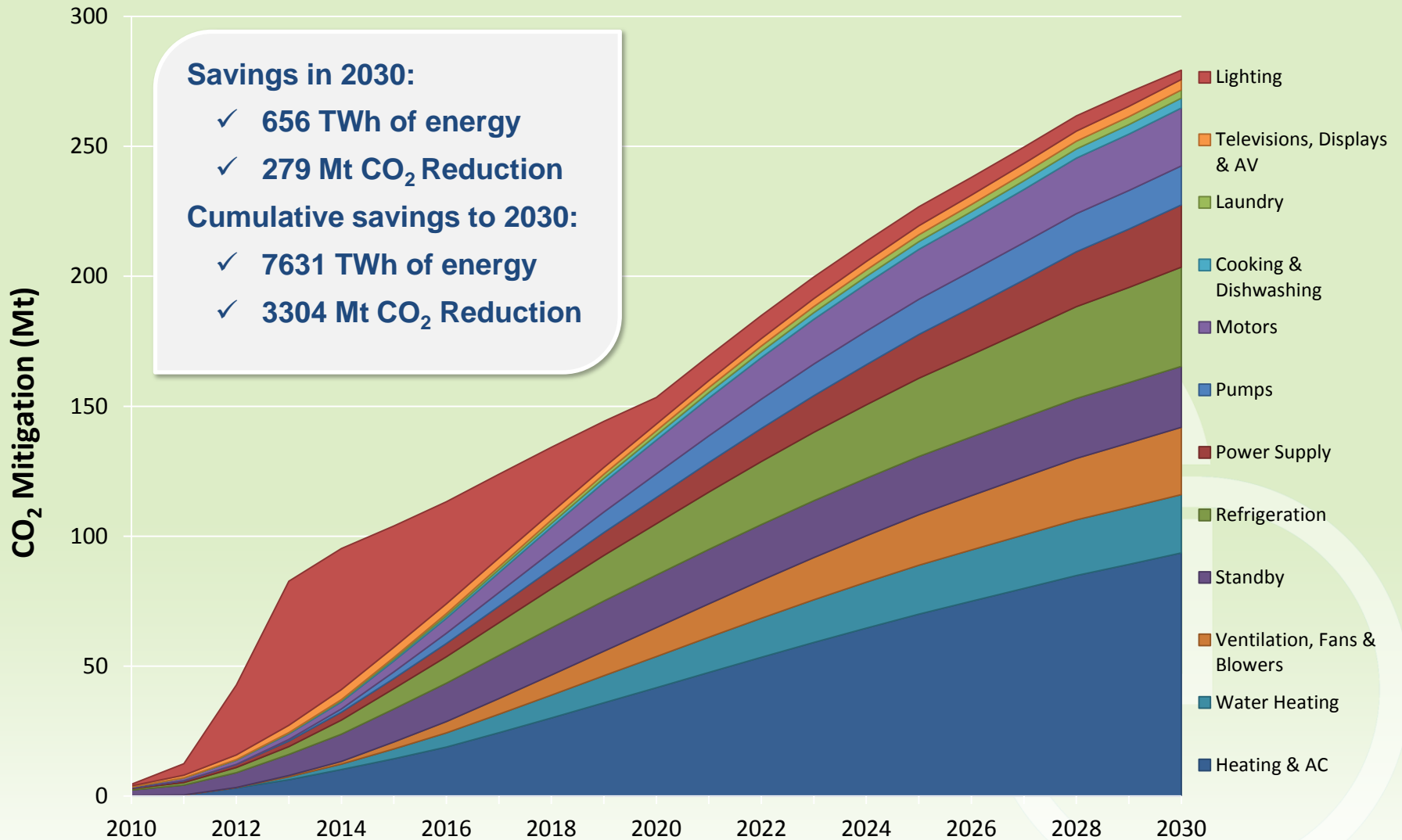
- ◆ A total of **33 economies countries**
- ◆ Over 1,372 records for standards or labels
- ◆ HVAC, lighting and refrigeration, the most regulated products
- ◆ More economies to be included in 2013

- A **global market transformation initiative** for super-efficient equipment and appliances
- Funded by US Department of Energy, UK, Sweden, and ClimateWorks
- CLASP is the Operating Agent
- Coordinates with international initiatives including APEC, IEA, SE4All



Participants

Observers



Thank You!!!!

CLASP

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