Labeling programs for energy efficient appliances

National and regional approaches for implementation and testing

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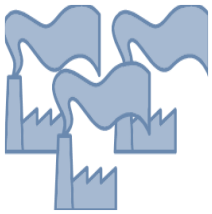
Benefits of S&L

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.

Source: S&L Guidebook, CLASP

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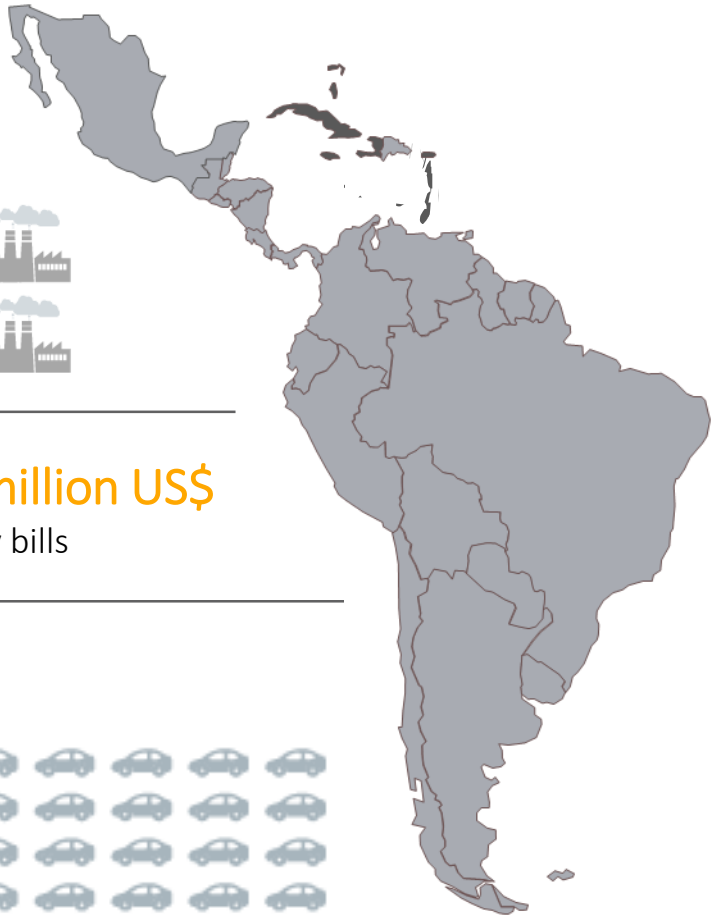
efficient appliances & equipment
Global Partnership Programme

Results from a transition to more efficient cooling appliances: potential annual savings for the Caribbean

Reduce electricity use
→ by over 1.8 TWh
→ More than 5% of current electricity use

…equivalent to
3 100MW
power plants



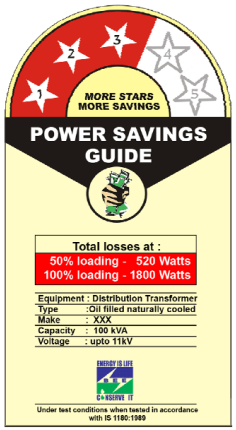
Save 342 million US$
on electricity bills

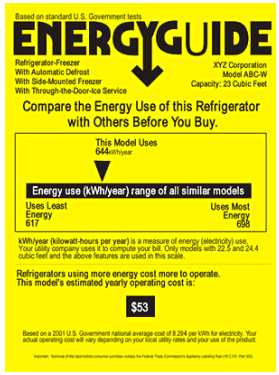
Reduce CO2 emissions by
1.4 million tonnes

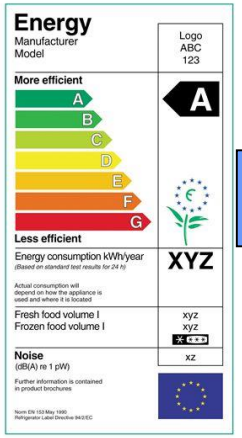
…equivalent to
760,000
passenger cars

Energy Efficiency Labels

Comparative Labels





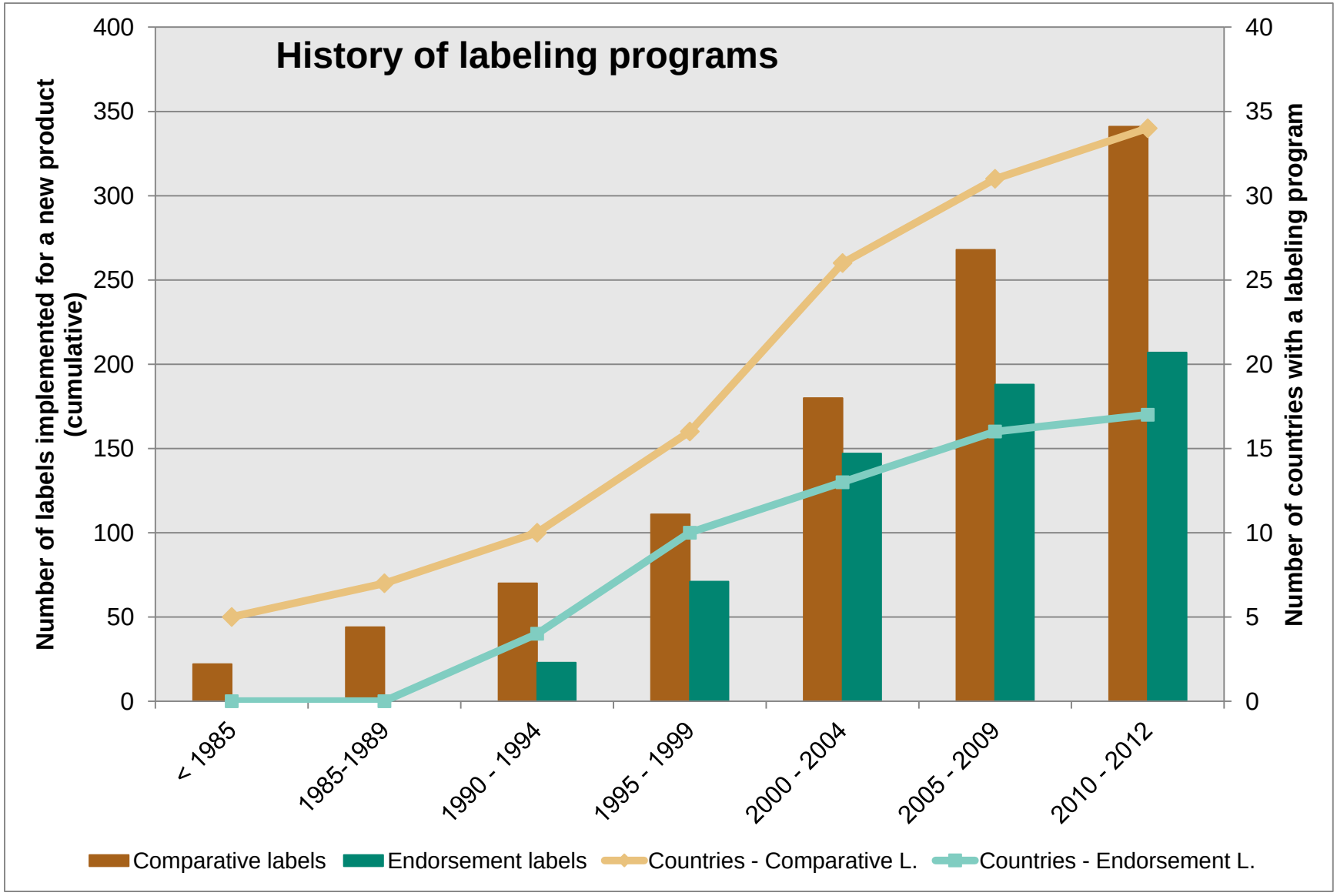


- Levels (“tiers”) of efficiency
- Allow consumers to compare different products
- Display several kinds of information: cost per year, water consumption, etc.

Endorsement Labels

- Denotes that the product adheres to a set efficiency level
- Simple design
- “This product is efficient”

More than 60 economies have implemented a labeling program for appliances and equipment



*EU countries are accounted once (34+27 EU countries)

Source: CLASP Global S&L Database

The Brazilian labeling program implemented by various agencies

- **Programa Brasilero de Etiquetaje (PBE)** established in 1984

Comparative label, mandatory for 21 products

- **Programa Nacional para la conservación de electricidad (PROCEL)** established in 1985

Endorsement seal for electric equipment

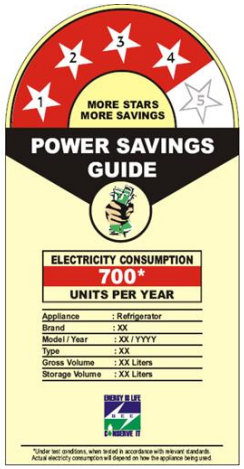
- **Programa Nacional para el uso racional de combustibles y gas natural (CONPET)** established in 1991

Endorsement seal for equipment using natural gas

India S&L Program Evolution

2001-2002

Energy Conservation Act and establishment of Bureau of Energy Efficiency



2006

Voluntary Labeling program launched for refrigerators

2010

Mandatory Labeling for four products

2011

Endorsement Label Launched

2014

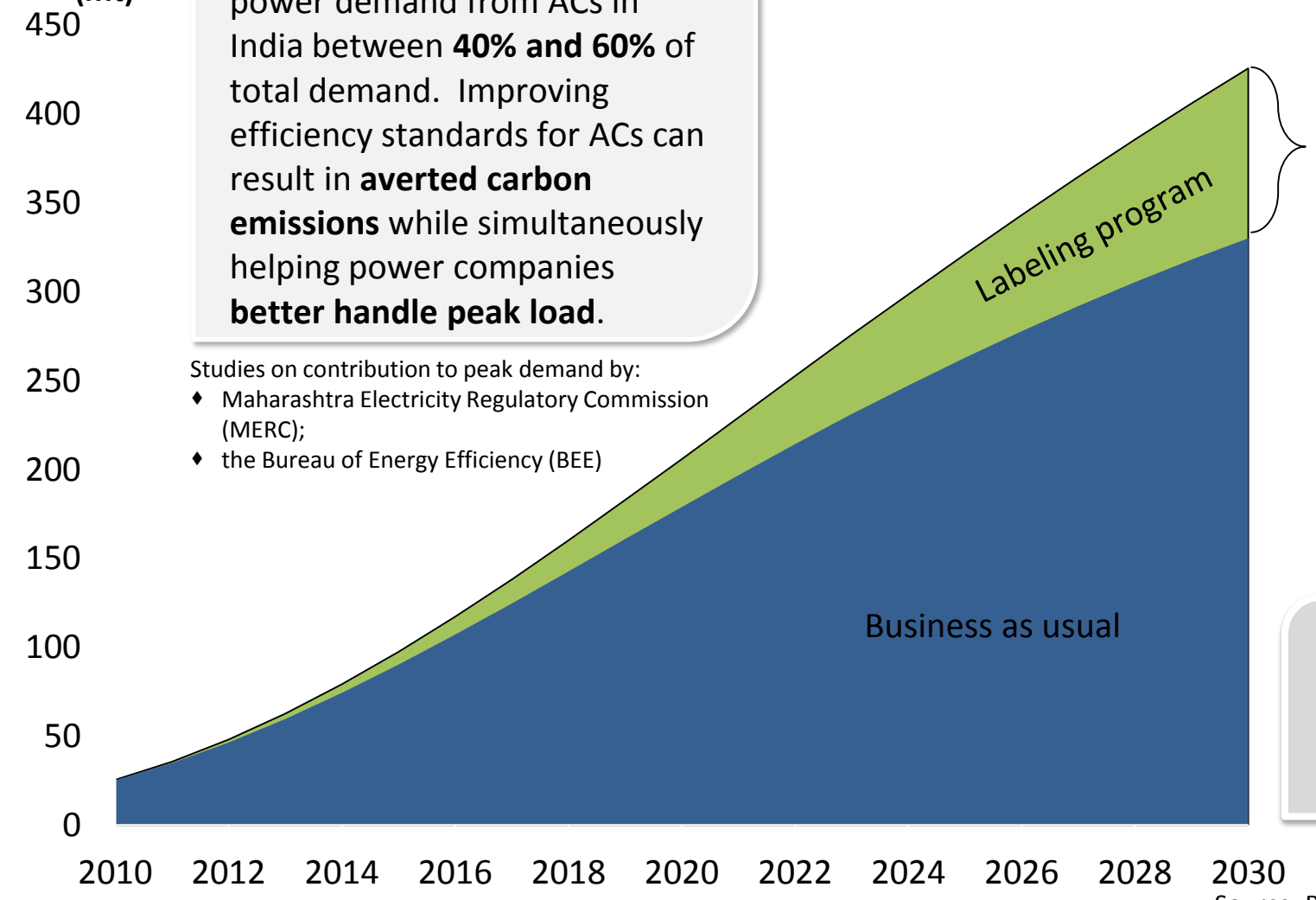
14 Products labeled & more to come

Benefits of S&L in India

Recent studies estimate peak power demand from ACs in India between **40% and 60%** of total demand. Improving efficiency standards for ACs can result in **averted carbon emissions** while simultaneously helping power companies **better handle peak load**.

Studies on contribution to peak demand by:

- Maharashtra Electricity Regulatory Commission (MERC);
- the Bureau of Energy Efficiency (BEE)

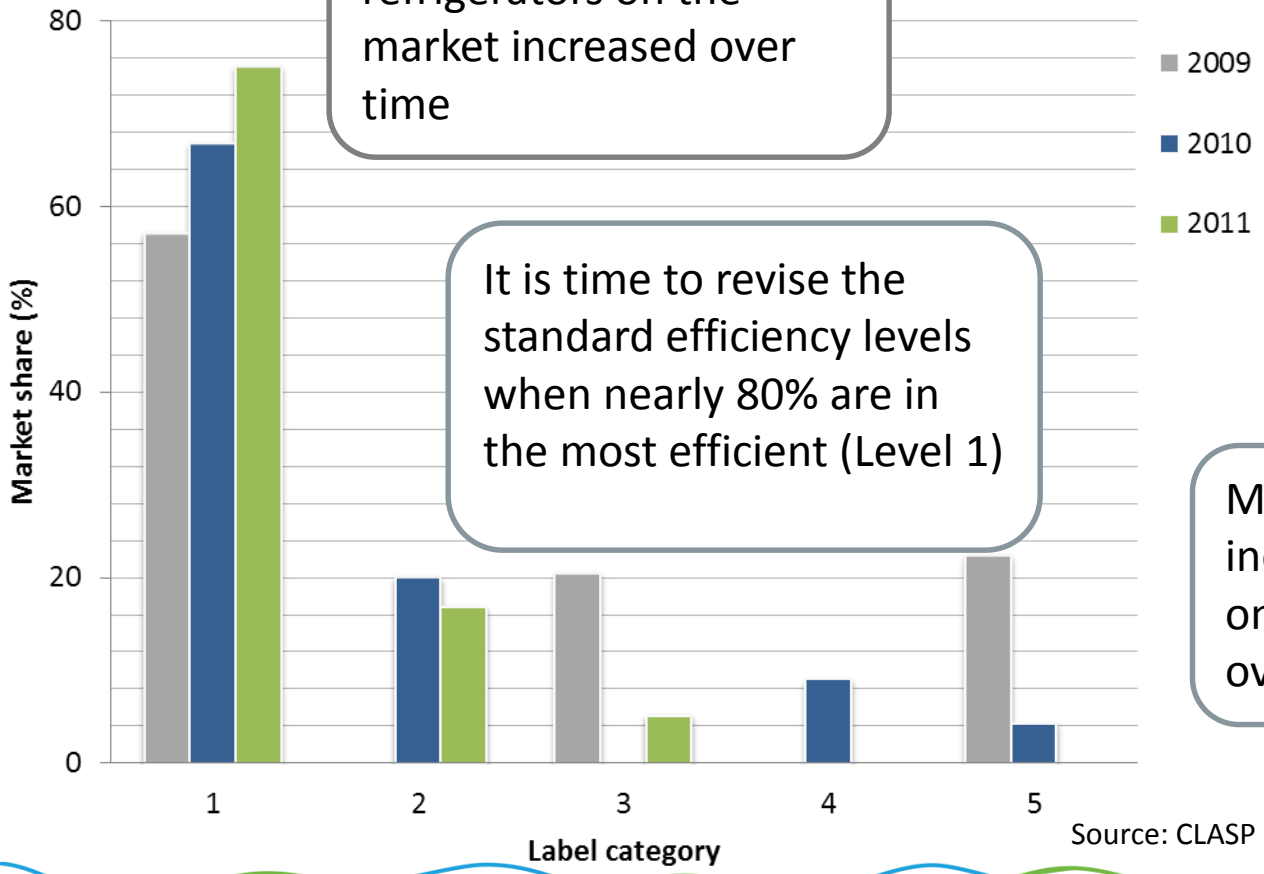


Cumulative mitigation from 2010 – 2030: 735 Mt CO_2

Source: BUENAS, LBNL

Labeling Tiers Must Be Upgraded Over Time ("Ratcheting")

China Refrigerators Energy Efficiency Level Distribution by Model Type



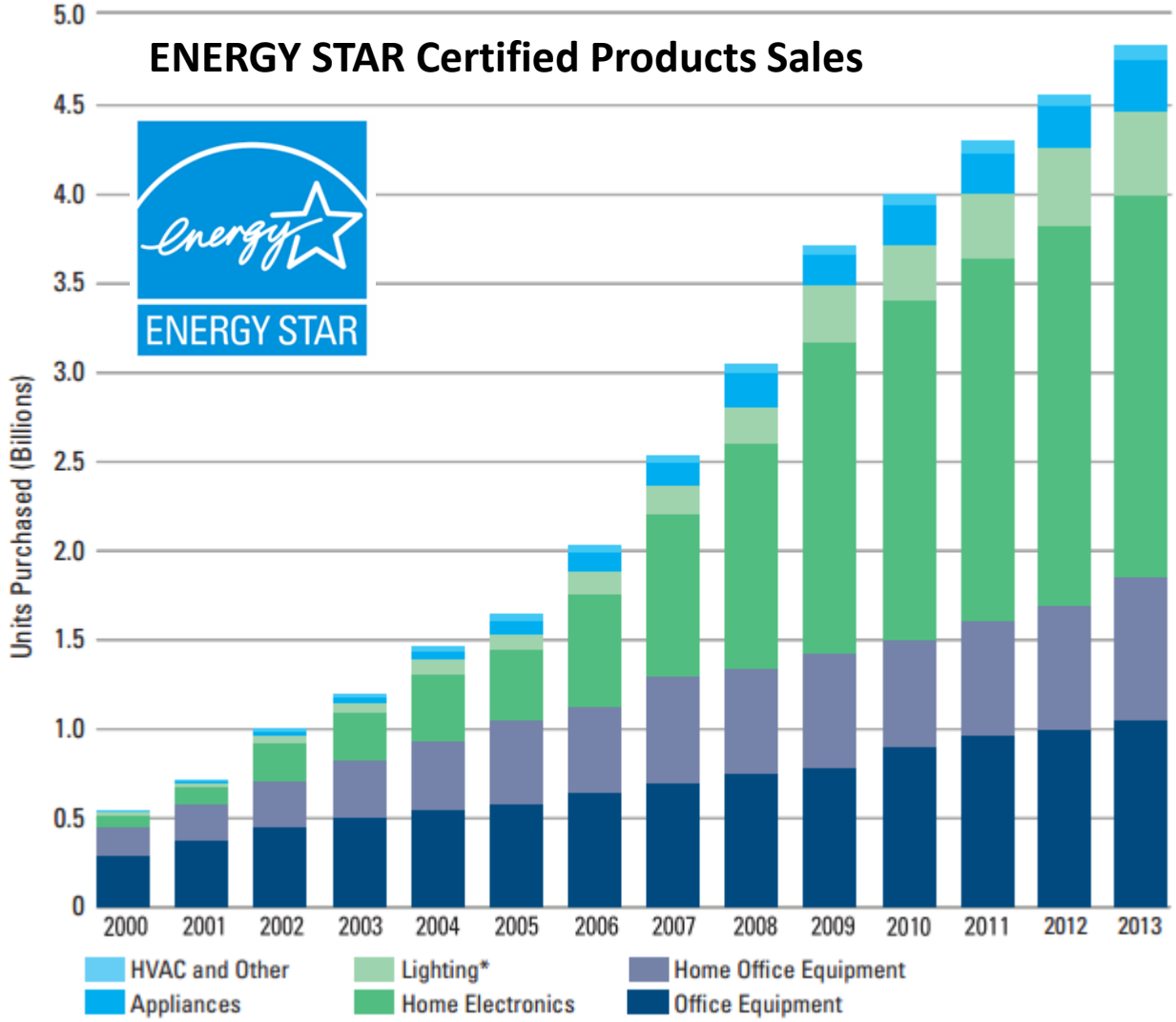
Models of more efficient refrigerators on the market increased over time

It is time to revise the standard efficiency levels when nearly 80% are in the most efficient (Level 1)

Models of more inefficient refrigerators on the market decreased over time

Source: CLASP refrigerators benchmarking

ENERGY STAR helps businesses and individuals save money and protect the climate



A U.S. Environmental Protection Agency (EPA) voluntary program established since 1992

Defines criteria for eligibility (energy performance requirements, water usage, others) and requires third-party certification testing

Today, an ENERGY STAR clothes washer uses about 70 % less energy and 75 % less water than a standard washer used 20 years ago

Source: http://www.energystar.gov/

India's First Endorsement Label

The first endorsement label for laptops will save .2 TWh of electricity and abate of .2 million tons CO_2e per year in 2020

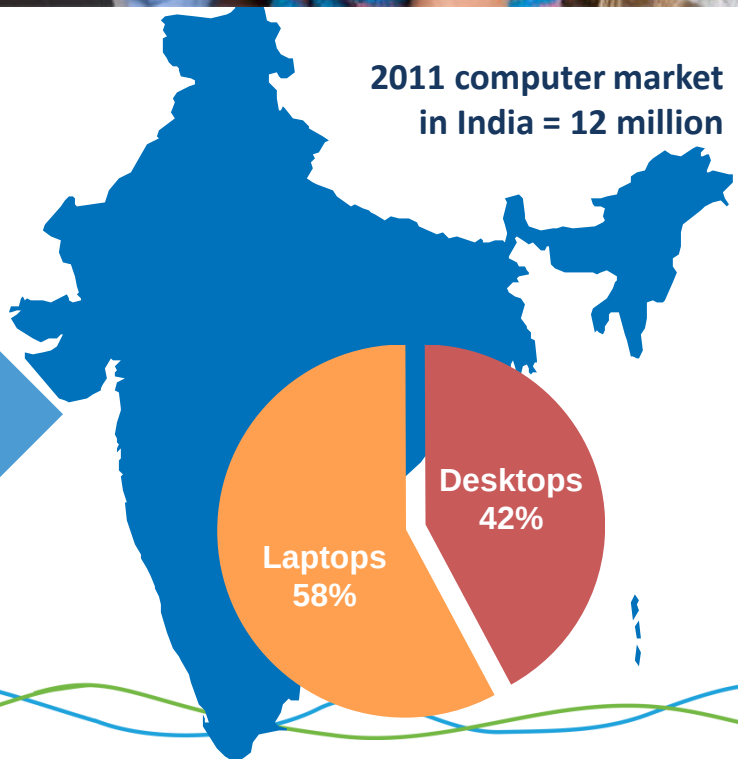
CLASP provides technical support to BEE for label design

(references ENERGY STAR 5.2 specifications for computers)

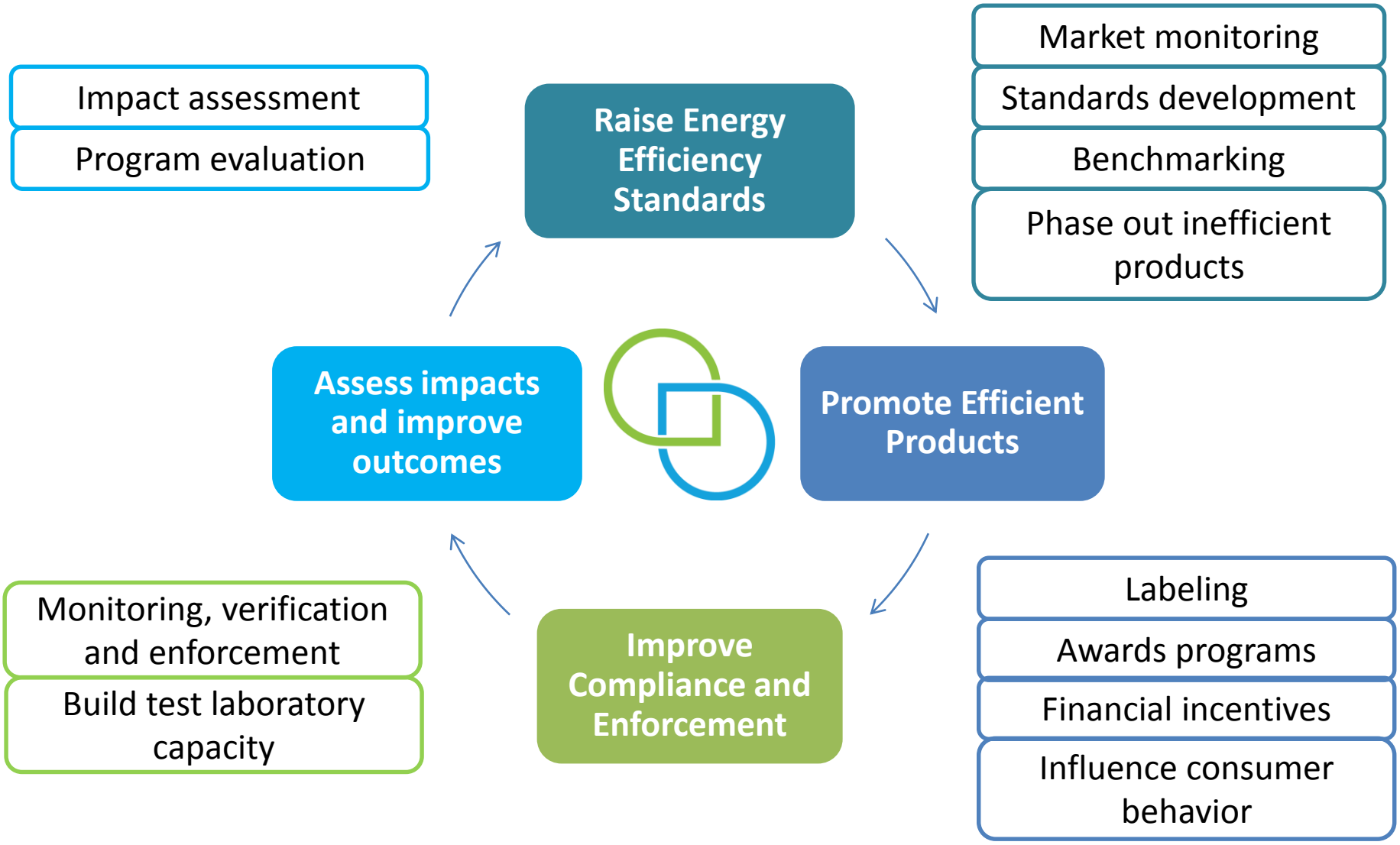
2010–2011

March 2011

BEE launches India's first endorsement label



The virtuous cycle of appliance energy efficiency programs



Testing for compliance

There are two main forms of **verification testing**:

Screening tests
Typically used to provide a preliminary assessment of products likely to fail a full verification test

Full verification tests
Full procedure verification testing carried out in accordance with regulation is typically the process followed in support of subsequent enforcement action

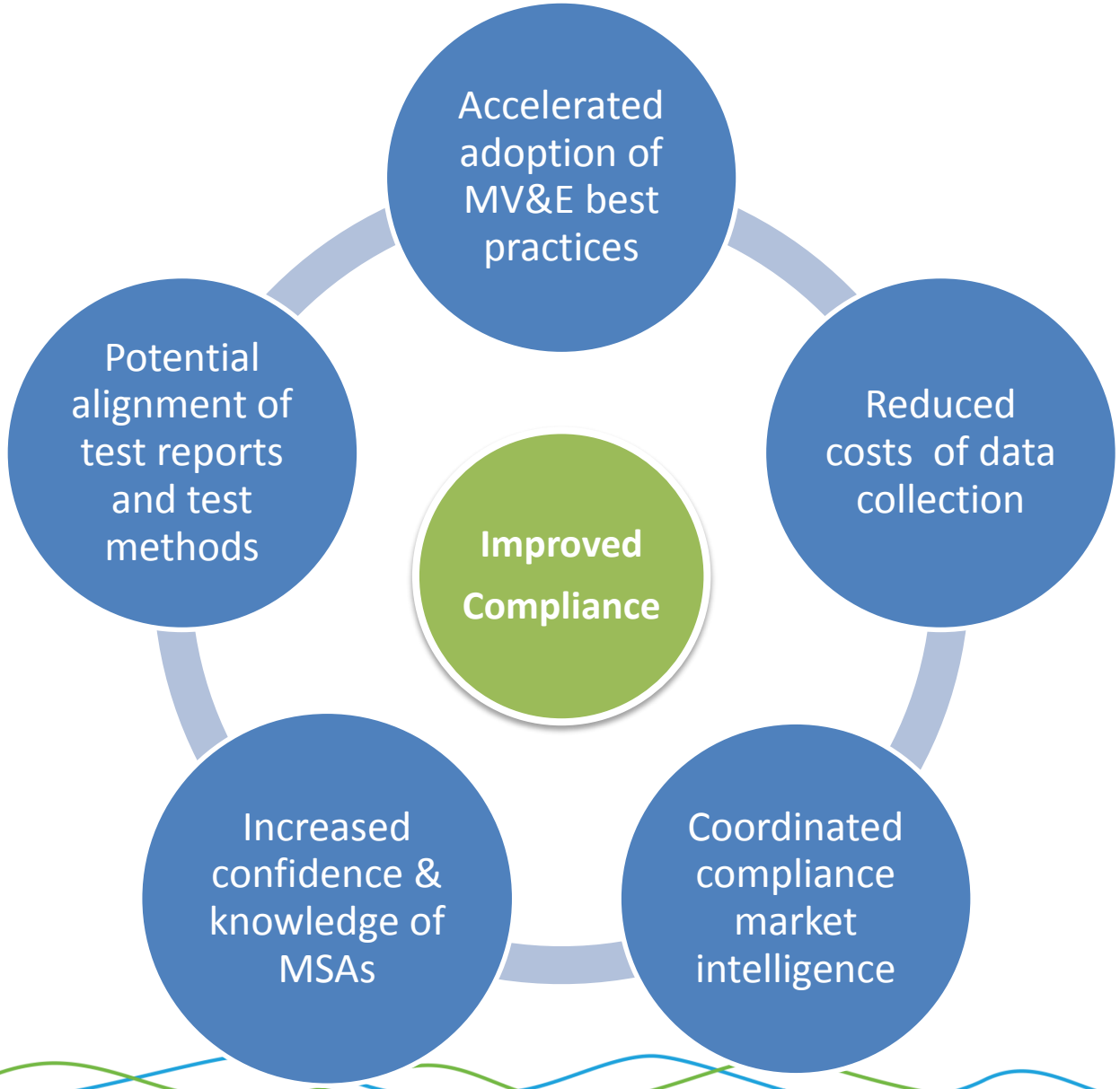
Value of market sampling and testing:

- Key steps to determine whether energy performance claims have been met
- Data used to provide a picture of compliance levels and/or market data on products

Other tools to support compliance

- Regional resource sharing
  - Sharing test results
  - Co-ordinated MVE planning
  - Establishing a regional registration database
- Product registries
  - Product registration/certification → initial compliance gateway
  - Information portal for stakeholders
  - Informs verification and testing programmes

Benefits of coordinating MV&E activities

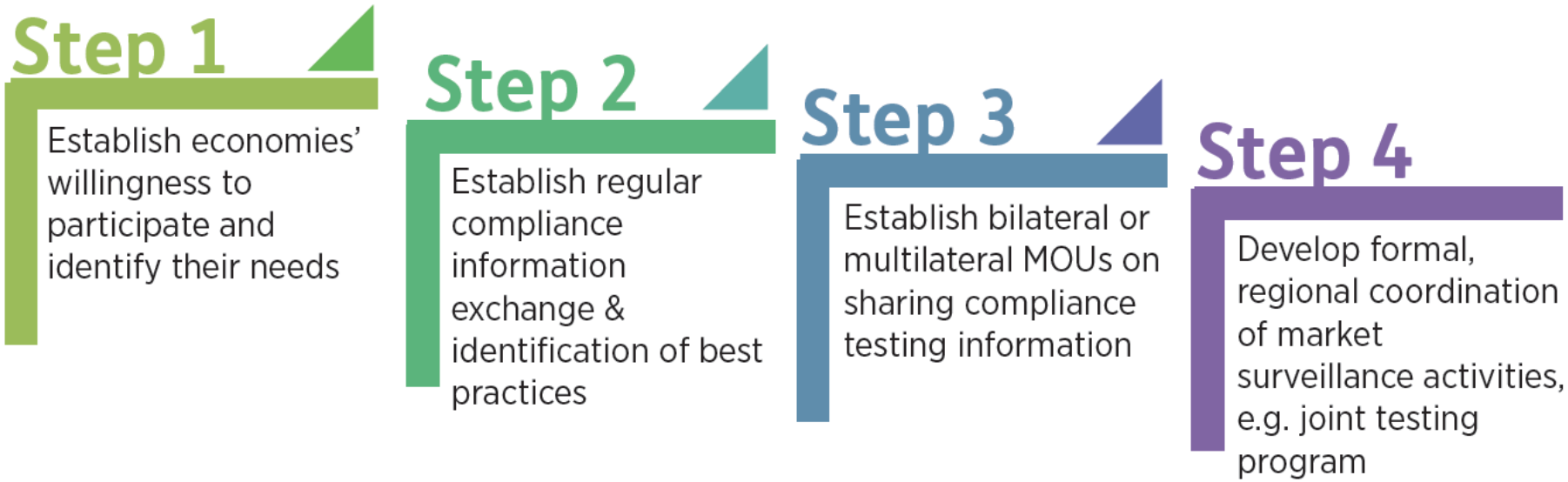


Asia Pacific Economic Cooperation (APEC): Regional coordinated MV&E activities

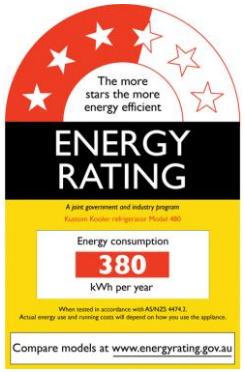
A strategic regional, cost-effective approach to reduce non-compliance

- A network for MV&E authorities (government to government collaboration)
- Focus on compliance intelligence-sharing and peer learning

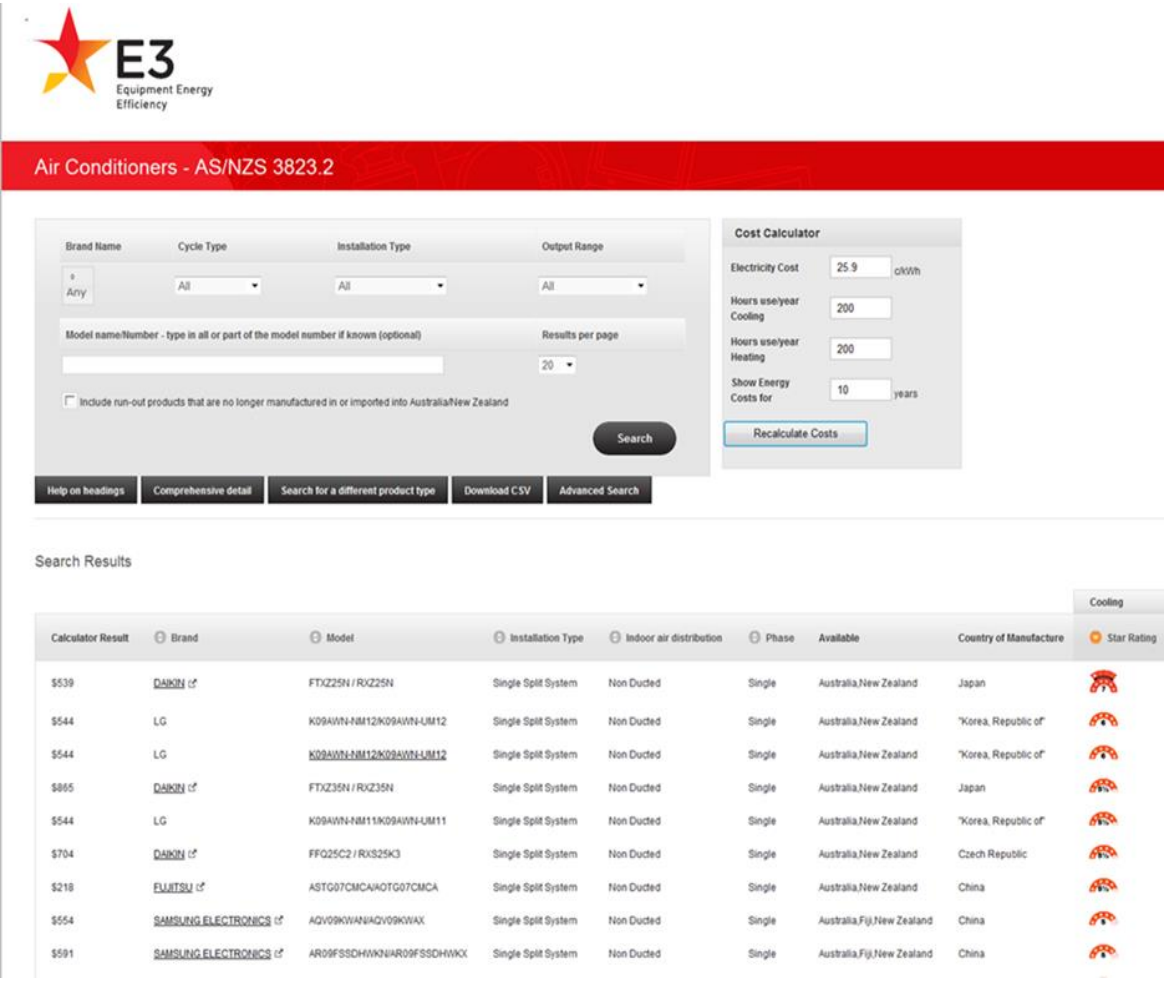
Taking small steps towards regional coordination



Australia's E3 Energy Rating Label Tool



Regional co-funded collaboration between the Australian Government, Australian State and Territory Governments and the New Zealand Government



- All regulated products must be registered before being offered for sale
- Around 18,000 approved registrations
- Information on energy efficiency, MEPS and product star ratings
- Supports the verification testing compliance programme
- Around 70,000 visitors a month

CLASP improves the environmental and energy performance of appliances & equipment

- Policy design & implementation
- Promoting highly efficient products
- Monitoring & evaluation
- Resources & tools for practitioners
- Training & capacity building
- Off-grid & energy access
- Phase down of HFCs and high GWP refrigerants
- Raising consumer awareness & comprehension

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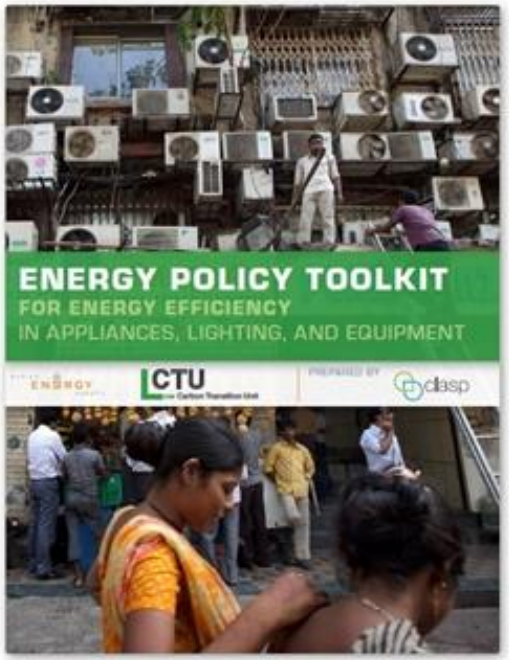
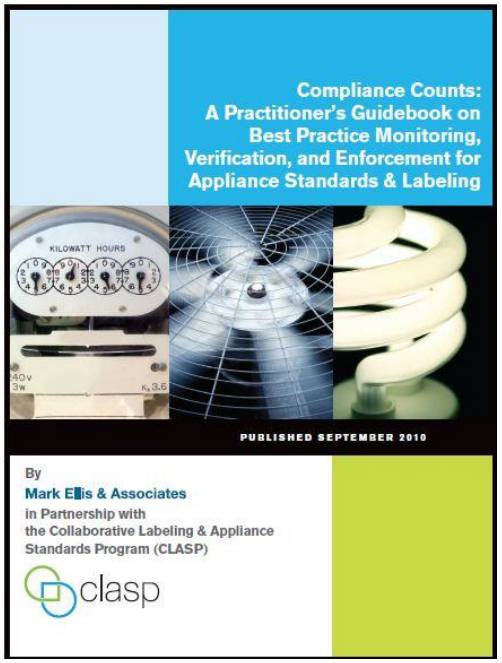
...worldwide

CLASP Resources & Tools for Policy Makers



S&L Policy Toolkit

S&L Guidebook



MV&E Guidebook

Product and Policy Analysis Tool (PPAT)

Thank you!

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