

ENERGY EFFICIENCY DRIVE

The story of Ghana

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Energy Commission



Presentation Outline

- Background
- What did we do?
- How did we do it?
- Results
- Where do we go from here?
- Conclusion

Background

- ❑ Energy resources overstretched:
- ❑ Ghana has experienced several periods of power shortfalls: 1984, 1994, 1998 and 2007
- ❑ Domestic electricity demand is growing at 7% p.a. where as generation is lacking.
- ❑ 30% of total electricity generated goes waste as a result of the use of inefficient appliances.
- ❑ It is high time the consumer used electricity wisely
- ❑ The need to act fast was clear

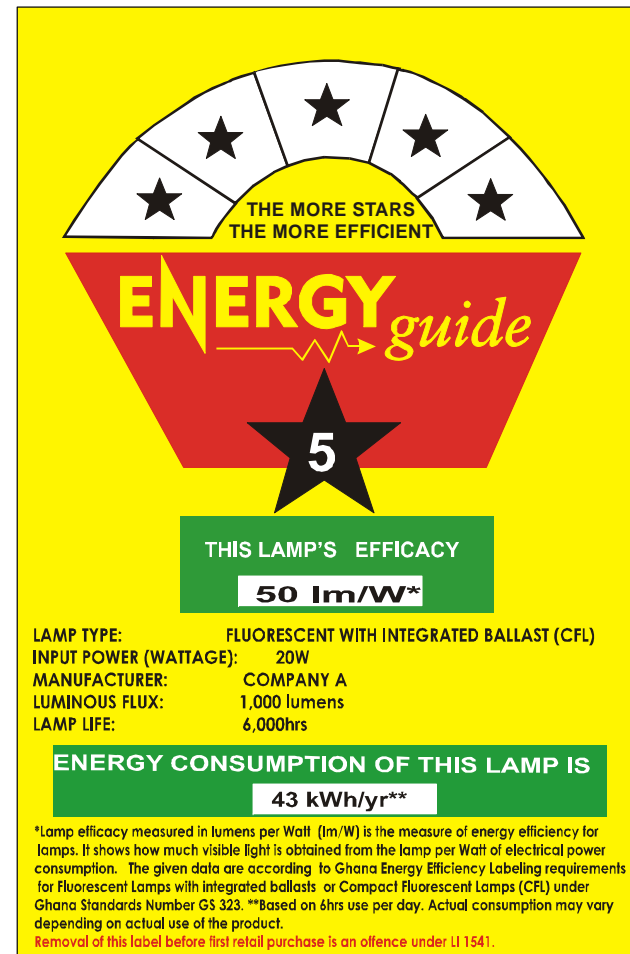
What did we do?

- Carrot and stick approach
- Government invested US\$12m to buy 6 million Compact fluorescent lamps (CFLS)
- The lamps were deployed to households at no cost to the consumer in exchange for incandescent lamps
- Rigorous public education campaign on conservation
- ✓ Town hall meetings
- ✓ Radio presenters and jingles
- ✓ Educational materials in post boxes



What did we do?

- The Stick (Appliance labelling regime)
- Enforcement of LI 1815 Energy Efficiency Standards and Labelling (Non-Ducted Air-conditioners and Self-Ballasted Fluorescent Lamps) Regulations, 2005



What did we do?

- Follow up regulation
- LI 1932 Energy Efficiency (Prohibition of Manufacture, Sale or Importation of **Incandescent Filament Lamp**, Used Refrigerator, Used Refrigerator-Freezer, Used Freezer and **Used Air-conditioner**) Regulations, 2008

Results – Economic benefits

- Peak savings of 124 MW or 172.8GWh/annum
- Delay in thermal energy generation expansion investment of US\$105million
- CO₂ savings of about 112,320 tons per annum
- Reduction of 148,000 barrels of light crude oil for thermal electricity generation
- At an average crude oil price of US\$105 per barrel recorded between Oct. 2007 and Oct. 2008, the energy cost savings is estimated at US\$33.3million per annum.

Results – Consumer benefit

- Enhancement of consumer welfare
- Mean household income savings of about GHC31.00 in 25 districts across the country in over 6 months



Results

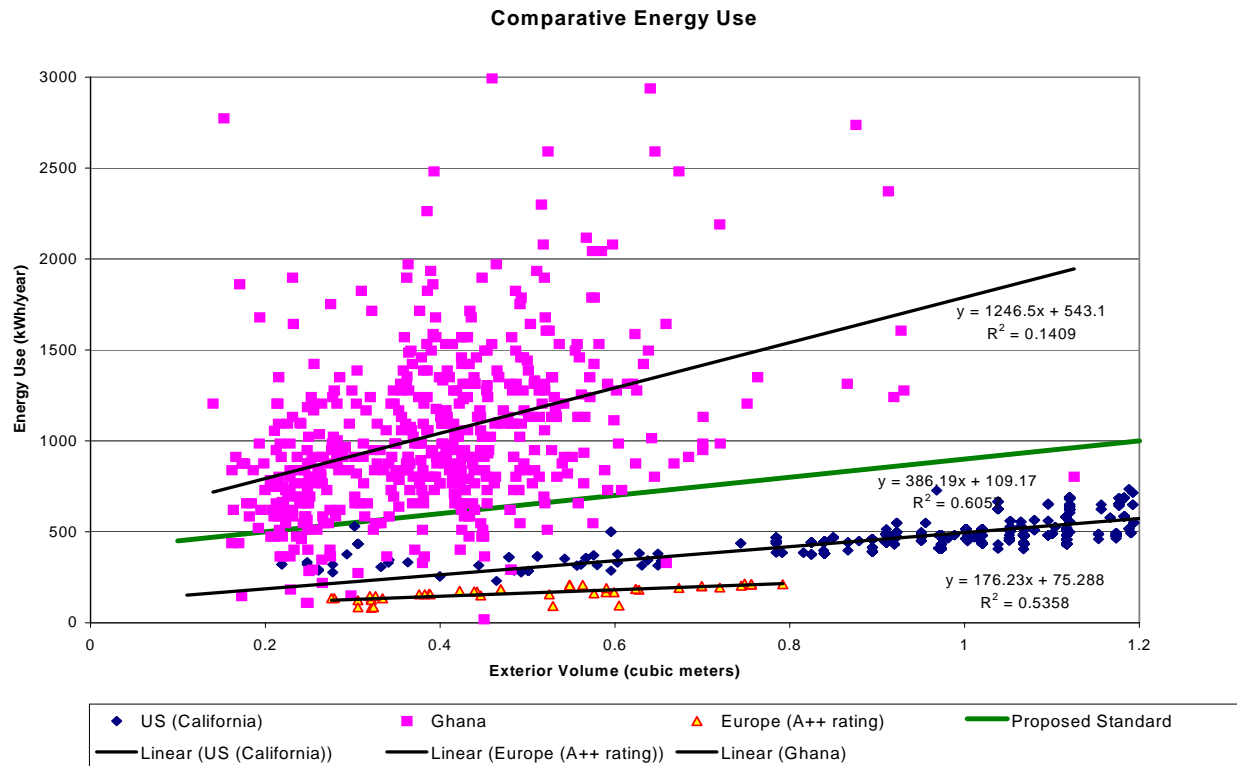
- By September 2009
 - CFL penetration rate had increased from 20% in 2007 to 79%.
 - Incandescent lamps had also decreased from 58% in 2007 to 3% in 2009.
 - Empirical evidence? Fly by night!

Where do we go from here?

- Transformation of the refrigerating appliance market.
- Passage in law LI 1958 Energy Efficiency Standards and Labelling (Household Refrigerating Appliances) Regulations, 2009.
 - Appliances must meet the minimum energy performance standards requirement.
 - Appliance must belong to tropical or sub-tropical climate specifications
 - Importation of used refrigerators are prohibited

Energy Consumption in Refrigeration in Ghana, 2006

A comparative study



13-Aug-07

Energy Consumption of Refrigerators in Ghana

7

Appliance labelling

□ Labelled appliance



□ Used refrigerators





Energy Consumption
kWh/yr*
*(Based on standard
test result for 24h)*

360

Refrigerator/Freezer Type:
Manufacturer:
Model No. :
Fresh Food Volume I:
Frozen Food Volume I:
Refrigerant:
Climate Class:
Cooling Star Rating:

zyx
Logo
abc1
XYZ
XYZ
Rxx
ST
☆☆☆☆



The Ghana Refrigerator Energy Efficiency Label

*Actual consumption will depend on how the appliance is used and where it is located. Further information is contained in product brochures

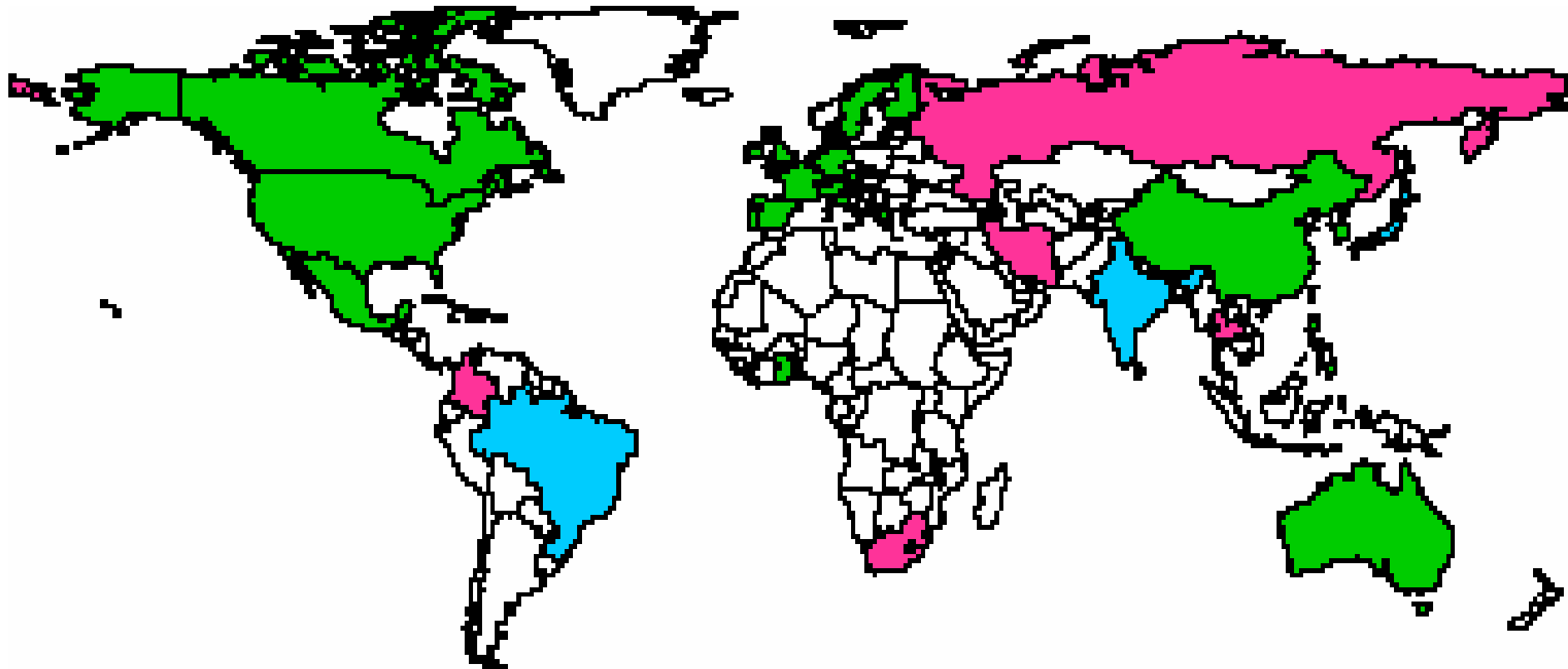
Removal of this label before first retail purchase is an offence under LI 1541.

What we seek to achieve





- To prevent Ghana from being a dumping ground for energy inefficient appliances
- offer consumers incentives to purchase energy-efficient products
- The bigger objective is to achieve an energy efficient economy



Appliance Standards Worldwide



Status of Standards

-  Mandatory
-  Proposed or Considering
-  Voluntary
-  None

*as of 1999

THE GHANA AIR CONDITIONER LABEL



Conclusion

- It is cheaper to conserve than to build
- Appliance standards and labelling regime has proven to be the most effective tool in achieving energy efficient economy
- Our axiom is no label no good

THE END

THANK YOU

