Efforts for Improving Cooling Efficiency in China and suggestion for international collaboration on global cooling efficiency

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1. Transforming Markets in China

68 energy efficiency standards

- 18 for household appliances
- 14 for Lighting equipment
- 12 for commercial devices
- 18 for industrial equipment
- 6 for office equipment

Energy efficiency standards

- Minimum allowable values of energy efficiency
- Energy efficiency grades
- Evaluating index for energy saving product

Phasing out low efficient products (MEPS)

Energy Labeling Program

Certification scheme for energy saving products

Incentive policies
2. MEPS for cooling appliances in China

1) More products are covered

a. Household refrigerating appliances
   - refrigerator-freezer
   - freezer
   - refrigerator
   - wine storage appliance

d. Cold chain
   - refrigerated display cabinets
   - vending machine
   - walk-in freezer

e. Parts
   - Compressor for room air conditioners

b. Heating and heat water
   - Heat pump water heater
   - Solar hot water system assisted by air source heat pump
   - Low ambient temperature air source heat pump unit

c. Air-conditioners
   - Room air-conditioners
   - Unitary air-cons
   - Water chillers
   - Multi-connected air-conditioners
   - Water-source heat pumps
   - Lithium bromide absorption chillers
2) ways to enhance role of MEPS

- Revised per 4-5 years
- Market inspection strictly
- Chang along with the market
- Matching with Energy labeling, Certification label, Energy saving procurement,
  incentive polies

- Mandatory
- M Mandatory
- Revised
- Market
- Inspection
- Matching: Energy labeling, Certification label, Energy saving procurement, incentives policies

1st
- Minimum EE

2nd
- +EE certification

3rd
- +EE certification + grade

Phase 4
- Minimum EE + Energy grades

1989
2000
2004
2015
3) Energy efficiency & phasing down HFCs

- climatic change: to promote market penetration of high efficient and low GWP products
- Demonstration: MEPS for RAC, MEPS for Multi-connected air-conditioners (VRF)
  - improving energy efficiency
  - phasing down HFCs
    - refrigerant alternative
    - Reducing the amount of recharge
3. China EE Label

1) Mandatory since 2004

2) Covering till 2017
   37 types of energy-used products in 5 categories
   over 14,000 manufacturers
   over 1.36m models of products

3) Revised, add QR code since 2014
   to provide more information
   cover: “choose, use, repair, replace and supervision”
4) Success and lessons in enforcing Energy labels in China

- Consumer cognition level reached 98.1%
  - Prefer the more efficiency products
  - Think EE label is necessary for products
  - More info for consumers
- Market inspection strictly
  - quality supervision and inspection
- Incentive policies for Consumers

5) the challenges for export from China

Difference of MEPS in countries to promote harmonization and mutual recognition of MEPS & labels
Countries in the Belt and Road
Develop the same/comparable testing protocols
Establish technical working group (TWG)
4. International cooperation

- Test methods
  - Encourage to adopt ISO/IEC testing methods
  - Promote harmonization or comparable in testing methods
  - Promote mutual recognition of laboratory test result by conduct round robin test among energy efficiency labs and enhance the lab capacity

- MEPS
  - Methodology for MEPS development
  - Conduct benchmark analysis among the EES in different members
  - Promote harmonization or comparable in MEPS
4. International cooperation

• Label
  • Strengthen information communication.
  • More info
  • electronic label such as QR code
  • Service to facilitate global trade of efficient products
  • Promote the application of electronic label such as QR code in energy efficiency label to facilitate global trade of efficient products.
Thank you for your attention!

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