

# China's actions for improving cooling efficiency

China National Institute of Standardization

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# Background

- ▶ In 2016, the total building commercial energy consumption was 896 megatonnes of coal equivalent (Mtce), accounting for about 20% of the total primary energy consumption. Total electricity consumption of ACs is 288.9 billion kWh, accounting for 19% of building electricity consumption.
- ▶ Consumption of cooling products increased rapidly. The ownership of ACs in urban area changed from 31 to 129 (sets per 100 households)
- ▶ China has the biggest production of ACs and cooling products. So improvement of cooling efficiency in China during this progress would be an important contribution to global energy efficiency and climate change.

# Key issues

- Space Cooling In Buildings
- Industrial Cooling
- Cold-Chain
- Refrigeration
- Transportation Cooling
- Maintenance and Service



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# Objectives

- Improvement of efficiency of all cooling products and system
- Scaling up supply of green cooling products
- Enhancement of green cooling consumption

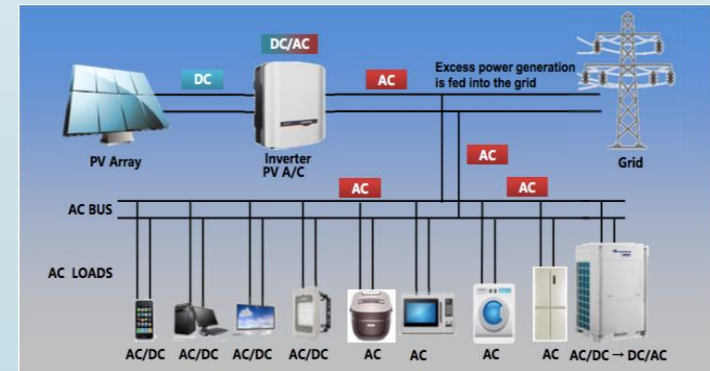
# EE Standard and Labeling

- ▶ To improve energy efficiency standards and some standards would be comparable to international best practice (16% improved in past 10 years)
  - ▶ Split room AC, VRF AC
- ▶ To cover all important cooling products and operation performance of cooling system
  - ▶ Refrigeration storage, AC in data center
- ▶ To improve energy labeling program and leading efficiency program with disclosure of GWP of refrigerant



# Cooling Technology Innovation

- Development and commercialization of efficient cooling technology
  - Roadmap of cooling technology innovation
- Customized and systematic cooling solution
  - District cooling system
  - Smart ACs



# Green consumption (1)

- ▶ Demonstration of public institution
  - ▶ Procurement of efficient cooling product and equipment
  - ▶ Operation performance of cooling system
- ▶ Incentive policy for consumers' adoption of efficient cooling products



# Green consumption (2)

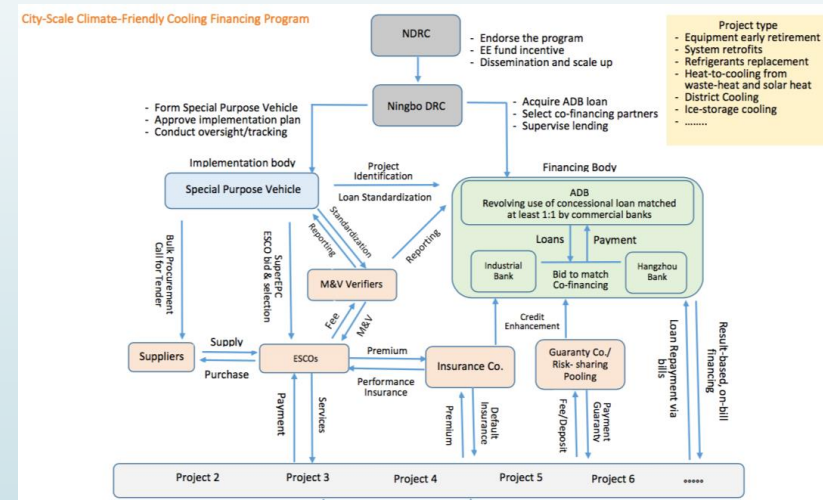
- ▶ Creative measures by local governments
- ▶ Policy evaluation
- ▶ Market surveillance





# Cooling System Retrofitting

- Pilot projects of cooling system retrofitting
- New business model
  - Super EPC
  - Special Purpose Vehicle
  - Performance-based Loan



# International Cooperation

- Regional collaboration on cooling efficiency supporting market transformation of efficient and low-GWP cooling product
- To support policy exchange, information sharing and capacity building in relevant partnership such as G20 EELP, CEM SEAD/ACC

G20 Energy Efficiency Leading  
Programme(EELP)



Super-Efficient Equipment and Appliance Deployment (SEAD)





Thank you!

谢谢!