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# **Ozone and Climate Friendly Refrigerants – Overview Asia**

## Current trend in Asia

- Domestic Refrigerator – R600a
- Air-conditioners – HC 290 (upto 1.5 TR capacity)
- Super markets – CO<sub>2</sub>
- Freezing and cold storage system - R717/R744
- Heat pump - CO<sub>2</sub> and Ammonia
- Visible coolers – CO<sub>2</sub>

## China Jiaxing Nanyang Vocational & Technical College - Air-conditioner R290



*Project by UNIDO*

# Project Malaysia – Pilot Project in Super Market – CO<sub>2</sub>



## Some more upcoming projects (in pipeline)

- Maldives – Replacement of all air-conditioners at one resort (HCFC 22/HFC410A to R290)
- Nepal – Hospital (HCFC 22 to R290)
- Procurement of small equipment related to HC 290 for RAC technicians and training centre

## Challenges

- Unavailability of suitable refrigerant for large capacity (more than 2 ton) air conditioners
- Unavailability of suitable natural refrigerant fisheries vessels and mobile sector
- Lack of trained technicians to handle flammable refrigerants
- Lack of awareness in end users about refrigerant
- Safety during installation
- Costly tools for flammable refrigerants

## Way forward

- Development of safety standards and safe installation procedures
- More research on HC based air-conditioners with higher capacity
- Conducting Training of Trainers and Technicians to handle flammable refrigerants
- Development of more compact and safer products for fisheries sector with low GWP
- Incentivizing purchase of energy efficient ozone and climate friendly equipment
- Development of competency standards, certification and licensing
- Development of system for Storage, transport and disposal





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**Thank you very much!**

