

Cooling your home: How to connect residential buildings to district cooling?



DISTRICT ENERGY IN CITIES

A GLOBAL INITIATIVE TO UNLOCK THE POTENTIAL OF ENERGY EFFICIENCY AND RENEWABLE ENERGY



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IN FOCUS: DISTRICT COOLING

WEBINAR SERIES

- District Cooling in the Global South
- Cooling your home: How to connect residential buildings to district cooling?
- District cooling – benefits to real estate developers and building owners
- District cooling – unlocking efficiencies, renewables and waste heat
- District cooling and the Kigali Amendment
- Developing a district cooling project: planning, procurement and financing
- Local government actions and policies to scale-up district cooling



**DISTRICT ENERGY
IN CITIES
INITIATIVE**



3.9

**TOTAL
FUNDING**
(\$ MILLION)

9.7

**TOTAL CO-FINANCE
UNLOCKED**
(\$ MILLION)

36

**NUMBER
OF CITIES**

45

**NUMBER OF
PARTNERS**

215

INVESTMENT COMMITTED
(\$ MILLION)

22

**INVESTMENT
ACHIEVED**
(\$ MILLION)

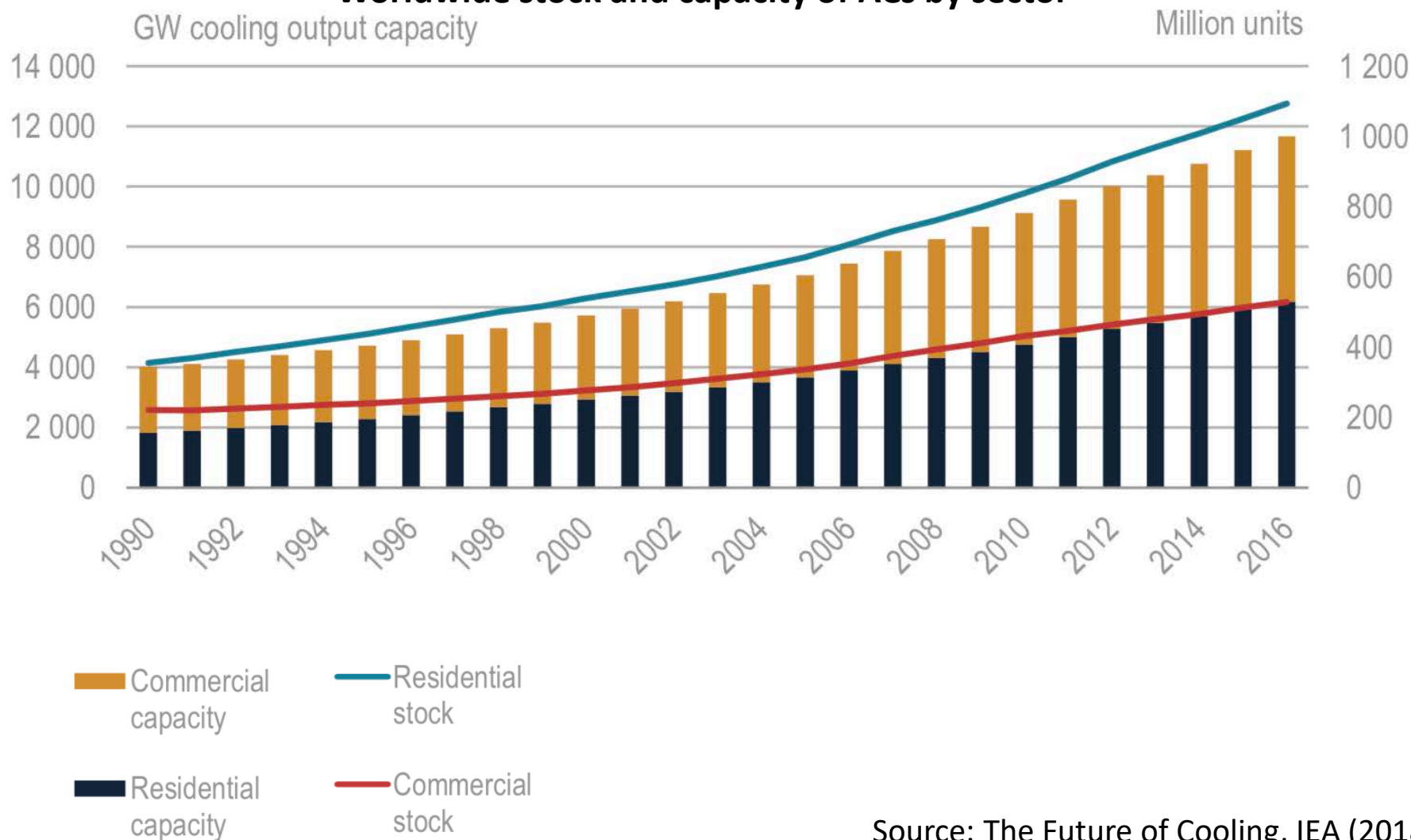
290 000

**CO₂ PROJECTED
REDUCTIONS**
(tCO₂/yr)





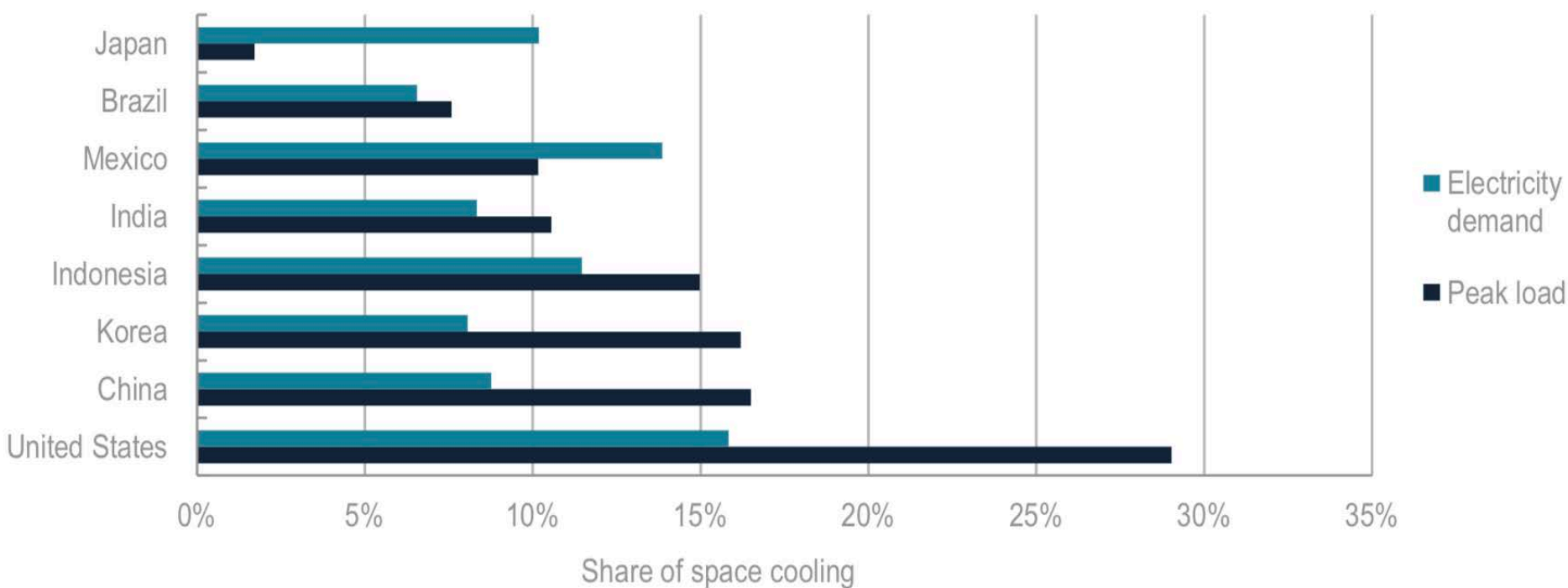
Worldwide stock and capacity of ACs by sector



Source: The Future of Cooling, IEA (2018)

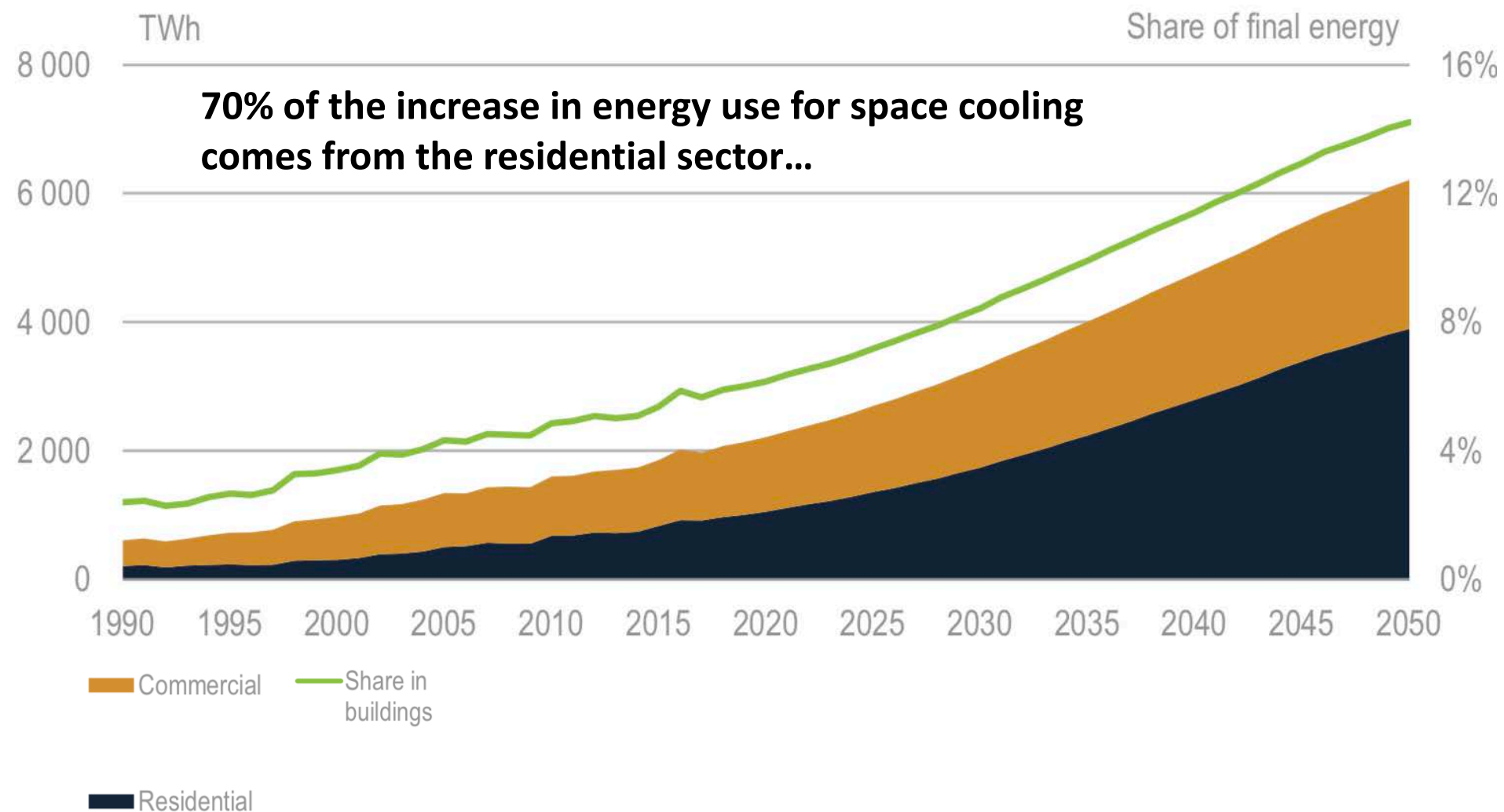


Share of cooling in peak load and total electricity demand by country/region, 2016





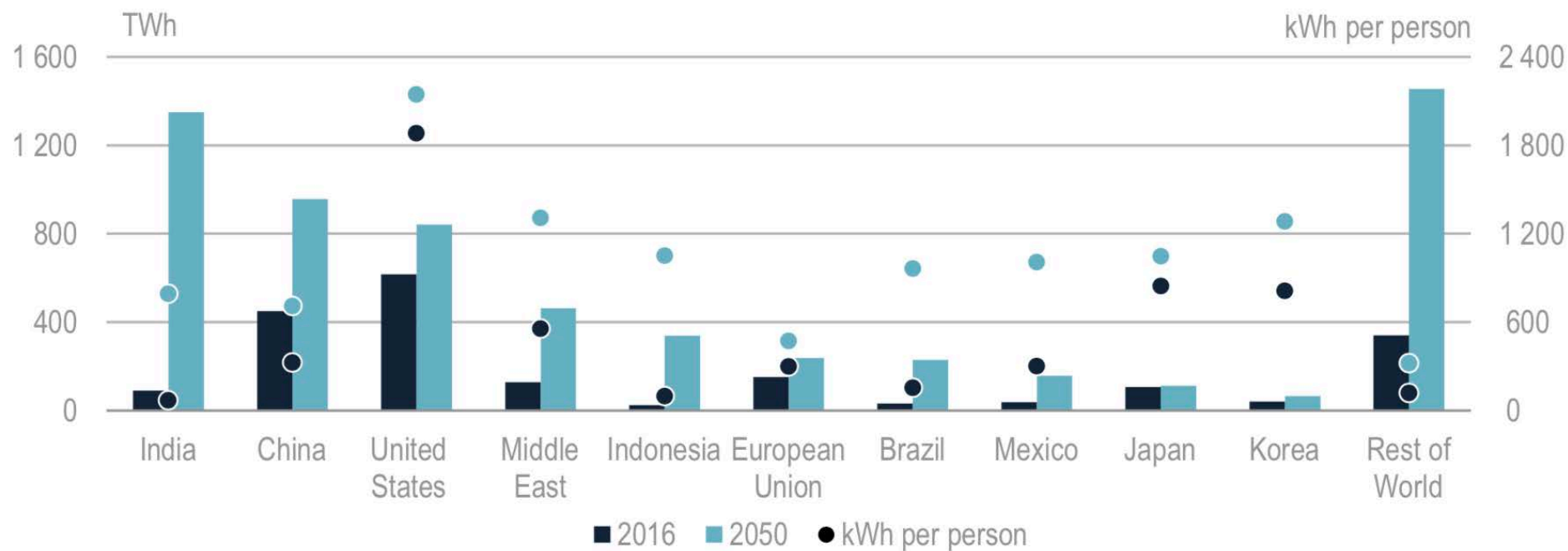
SPACE COOLING GROWTH



Source: The Future of Cooling, IEA (2018)



Energy use for space cooling by country /region in the IEA Baseline Scenario

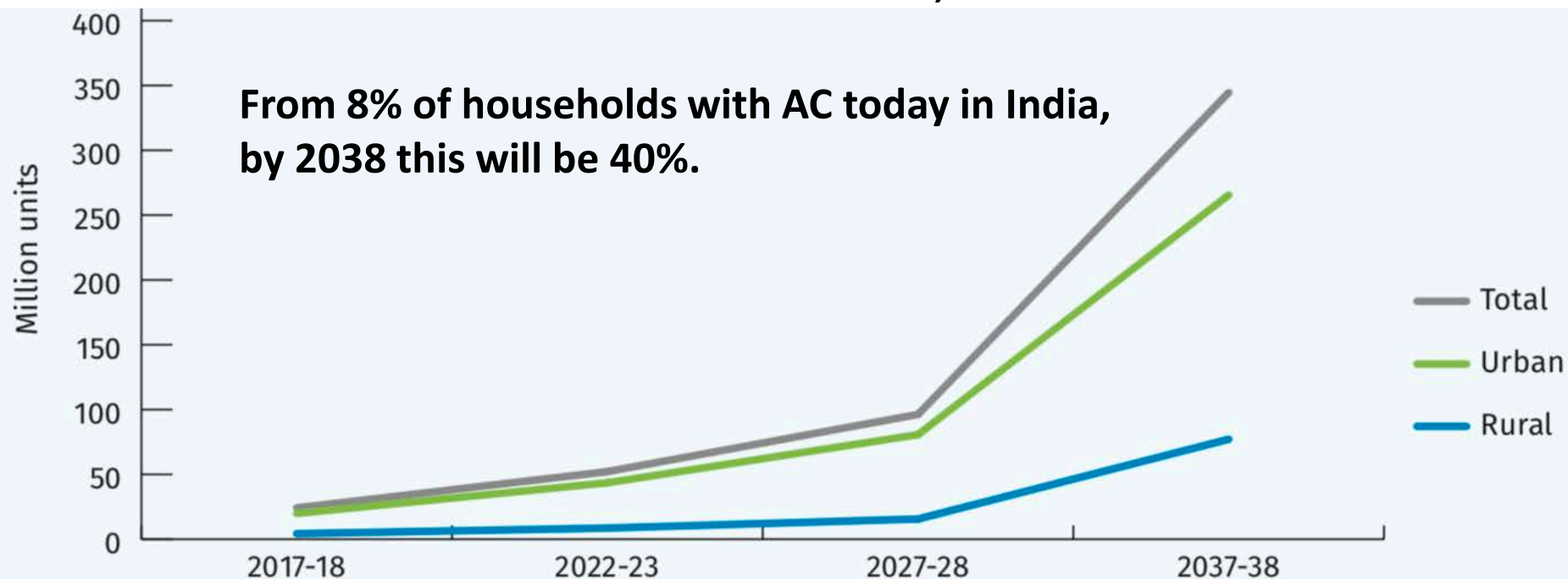


Source: The Future of Cooling, IEA (2018)



Residential AC Stock, India

From 8% of households with AC today in India, by 2038 this will be 40%.



WHAT IS DISTRICT COOLING?



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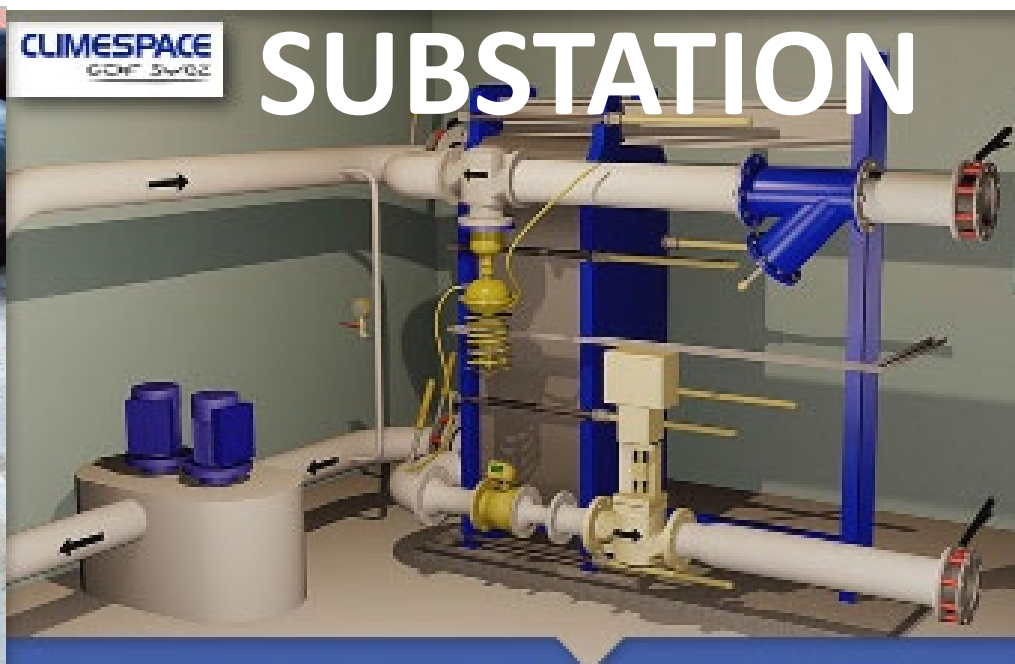
PLANT ROOM



CONTROL CENTRE



PIPE NETWORK



SUBSTATION



- District cooling industry has developed historically in more developed countries.
- In these countries – residential sector cooling has either been a luxury or necessity – depends on geography.
- Not true for district heating which has long history in less developed countries where heat was a necessity – China, Eastern Europe, Balkans, Russia etc.
- Now cooling demand is rocketing in developing countries and becoming a necessity in residential sector and inevitable
- Public intervention in district cooling will be greater if public service increased and can support residential sector
 - Supportive tax policies
 - Supportive power prices
 - Mandated development

Challenge: How can we supply district cooling to non-luxury residential buildings?

Can the technology be simplified?

What are the benefits of doing this?

What are the barriers?



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THANK YOU!



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For more information on the District Energy in Cities Initiative and to become a partner, please visit the website or contact:

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<http://www.districtenergyinitiative.org>