

# Antitrust Guidelines



## Antitrust Guidelines for Copper Industry Trade Association Meetings

The following guidelines with respect to compliance with antitrust laws of the United States, Japan and European Community are intended to govern the conduct of participants in copper industry trade association meetings, both at the meeting itself and in informal discussions before or after the formal meeting.

**Price:** Competitors should not discuss future prices (including terms of sale) of their products. There is no blanket prohibition against the mention of or reference to current or past prices but limits must be observed. Such references or mentions should occur only when necessary in connection with the development of association programs. For example, reference to a particular price level in comparing the cost of a copper product to a competing product is permitted. Whenever possible, such references should be discussed in advance with legal counsel.

**Competitive Information:** Competitors should not discuss the market share of a particular copper producer or copper fabricator's products. Furthermore, nothing should be said at a meeting which could be interpreted as suggesting prearranged market shares for such products or producer production levels. The overall market share of copper products may be discussed with regard to competition with non-copper products and general market acceptance.

**New Products:** Competitors should not encourage or discourage the introduction of a new product by another competitor or reveal a particular copper company's plans to change the production rate of an existing product or to introduce a new product. No company should disclose to another company whether it is in a position to make or market a new product. New products may be discussed in a technical manner or from the standpoints of competition with non-copper products and general market acceptance. In addition, proposed methods for and results of field and laboratory testing can be considered.

**The Role of Legal Counsel:** Legal counsel attends association meetings to advise association staff and other meeting attendees regarding the antitrust laws and to see that none of the matters discussed or materials distributed raise even the appearance of antitrust improprieties. During the course of a meeting, if counsel believes that the discussion is turning to a sensitive or inappropriate subject, counsel will express that belief and request that the attendees return the discussion to a less sensitive area.

A paper entitled 'Copper Industry Trade Associations and Antitrust Laws' is available upon request.

10/92, 5/93, 10/10

1. Other foreign competition laws apply to International Copper Association, Ltd. (ICA)'s activities worldwide.

# Legal Statement

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The purpose of the information in this presentation is to guide ICA programs and provide members with information to make independent business decisions.



# Commercial Buildings - Impact of climate change and opportunities for copper in Retro-fit applications – March 2020

By Afonso Oliva and Henry Lawson  
by Anette Meyer Holley



FS 651117

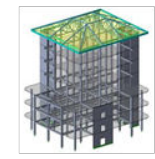
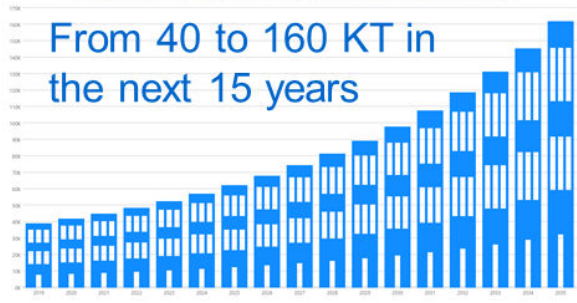
**BSRIA**  
[www.bsria.co.uk](http://www.bsria.co.uk)

**BSRIA WMI**

# Setting the Scene



Copper in climate related commercial retrofit



Climate related improvements: retrofit or major refurbishment; greenfield construction and residential excluded

Copper in climate related commercial retrofit by application



Cu in heat exchangers, wiring and motors

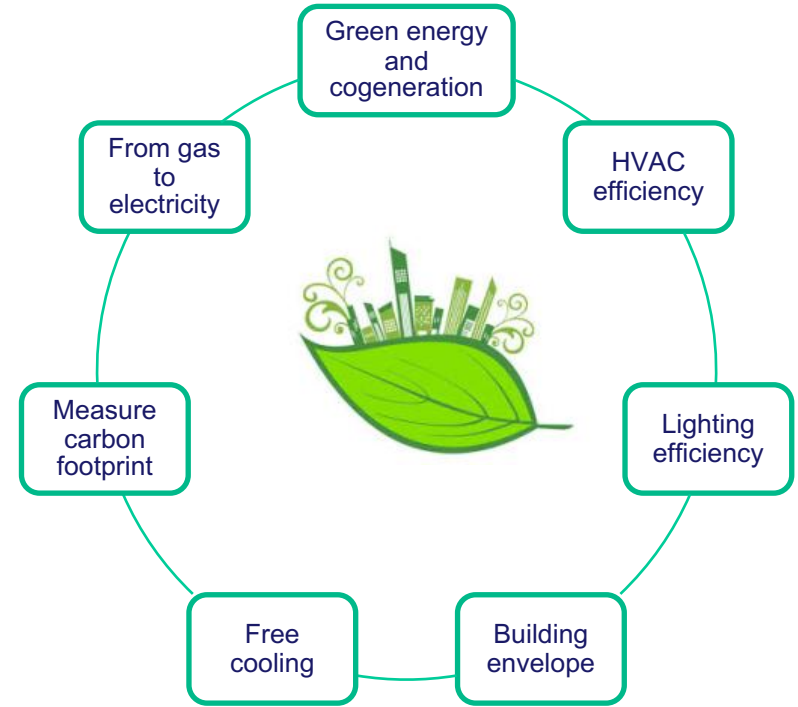
Copper in climate commercial retrofit by region



Analysis based on building inventory, regulation, resource availability



# Commercial Building Retrofit



Resilience

vs.

Carbon reduction

# Climate change and building retrofit by country income level

## Commercial building carbon emissions growth (2020- 2035)

### Regulation

*Efficiency regulation driven: proactive*

*Voluntary/market driven: reactive*

*Business as usual: no action*

*Negative*

*High*

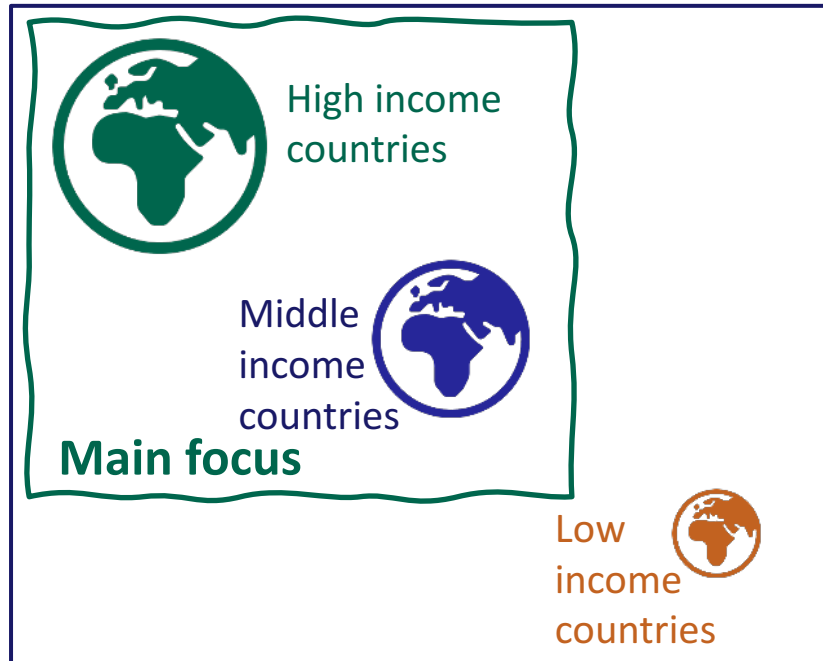
*Moderate*

### Measures

*Carbon footprint reduction*

*Resilience and adaptation*

*Rebuild after damage*



*Moderate impact High impact Severe impact*

**Expected impact of climate change**

**Size of globe** indicates share of the retrofit market on total construction:  
 High income 85%;  
 Middle income 50%;  
 Low income 20%  
 (Source: BSRIA)

In GNI per capita:

High income > US\$ 12,376;  
 Middle income between US\$ 3,995 and US\$ 12,376;  
 Low income < US\$ 3,995  
 (Source World Bank)

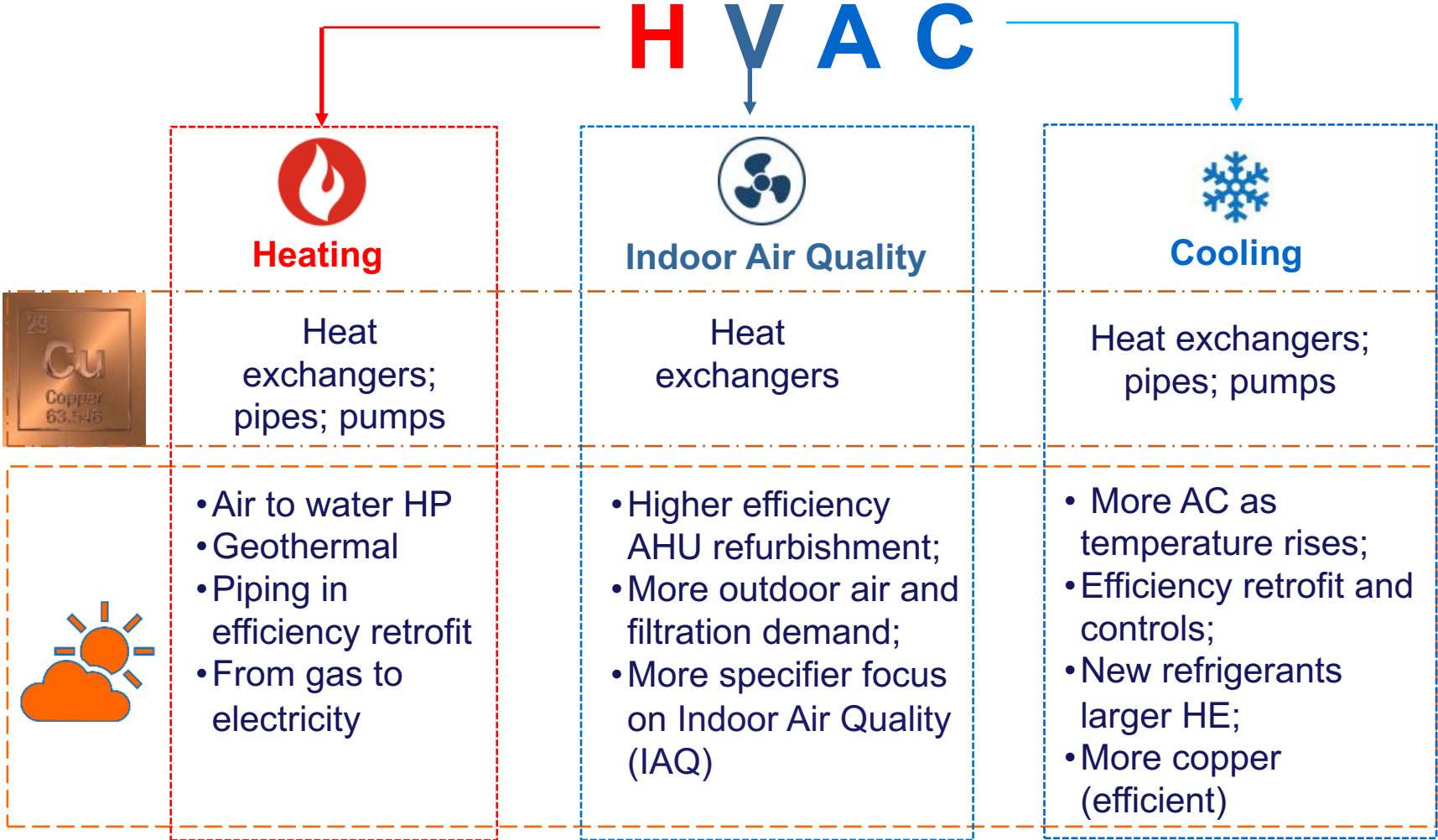
# Green Regulation



<p><b>Building codes</b> and other mandatory regulations</p>	<p><b>Building standards</b> such as ASHRAE (USA), Eurocodes (EU) and other country-based rules</p>	<p><b>Certifications</b> such as LEED (US Green Building Council), Green Star (Australia), CASBEE (Germany), BREEAM (UK BRE)</p>
<p>Prescriptive or outcome based</p> <p>National policies; local regulation</p> <p>Require enforcement capability</p>	<p>Set of norms or guidelines</p> <p>National or international</p> <p>Not mandatory if not in codes</p>	<p>Third party confirmation compliance/excellence</p> <p>Marketing tool</p> <p>International</p>



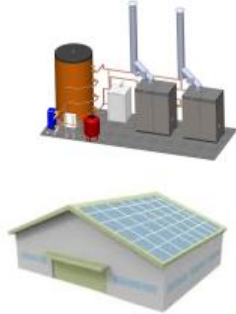
# Copper in Climate Retrofit: building climate control



# Copper in Climate Retrofit: other applications



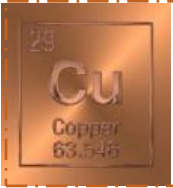
**Green/blue roofs**



**Renewables: solar and micro CHP**



**Rewiring and emergency power generation (gensets)**



**Pumps for irrigation and water management**

**Electrical and thermal components**

**Motors; electrical wires**



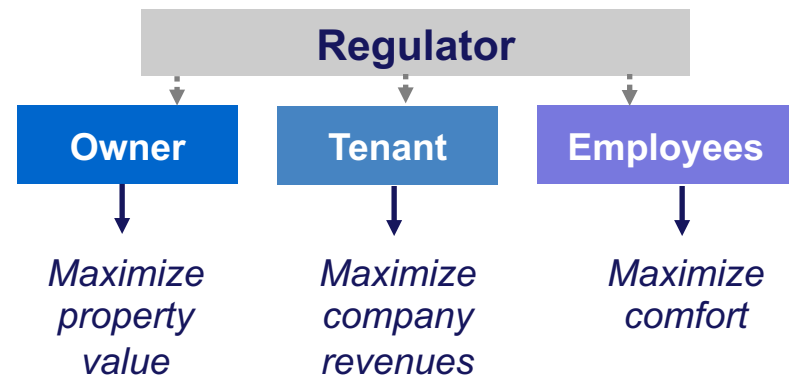
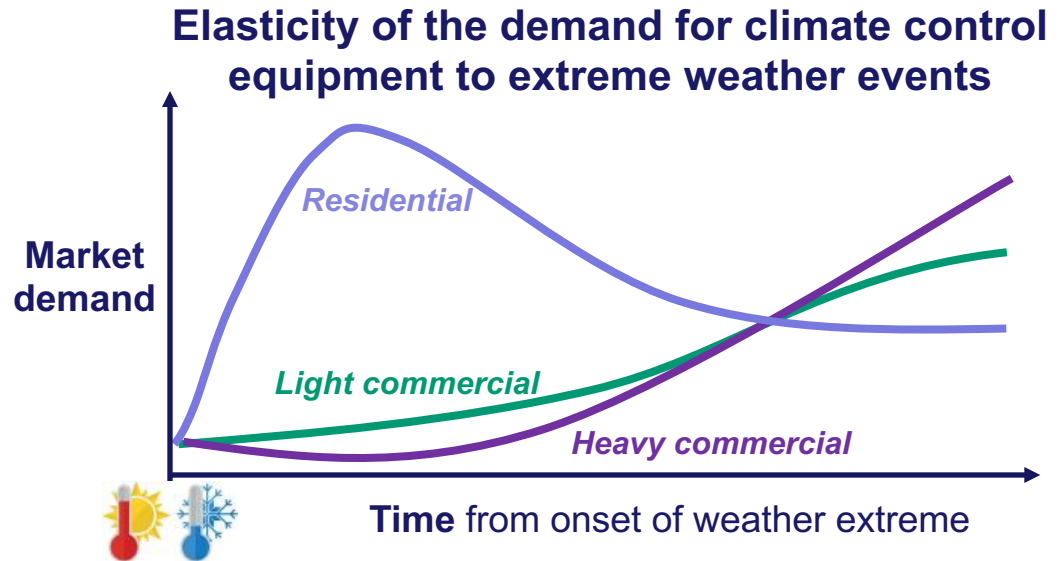
- Flood/storm management;
- Carbon footprint reduction;
- Free cooling; insulation

- Reduced carbon footprint;
- Energy backup;

- Energy backup in the case of extreme weather events;
- Relocation of electrical equipment above flooding level

# Decision making for climate related retrofit

- Longer reaction time to weather extremes in commercial market;
- Less impulse-based decision making;
- Higher adoption rate and prevalence of replacement in commercial reduces spikes in demand;
- Payback and investment analysis criteria for selection;
- Conflicting interests of decision makers in commercial sector slows down process;

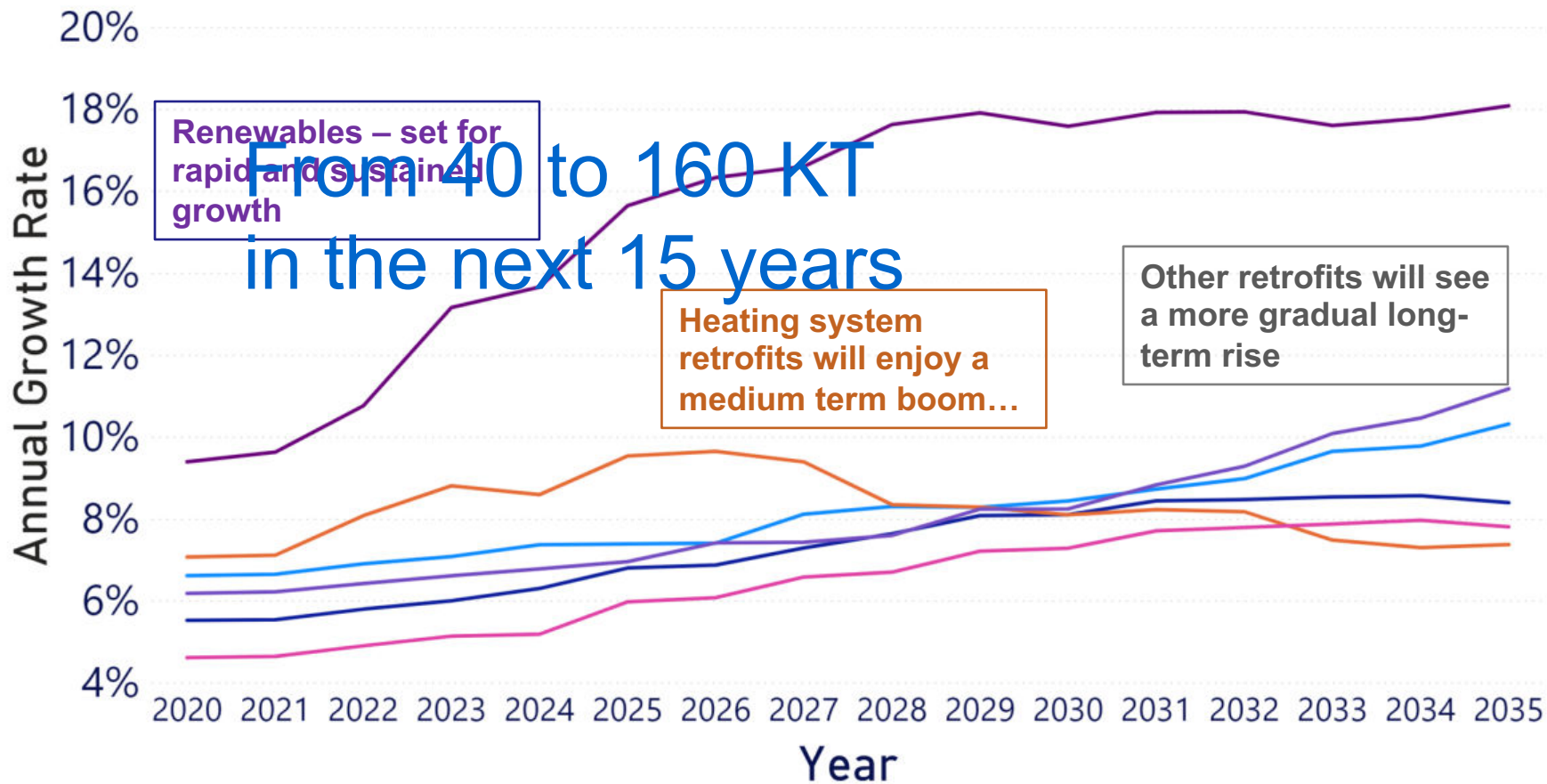


# Copper and climate retrofit



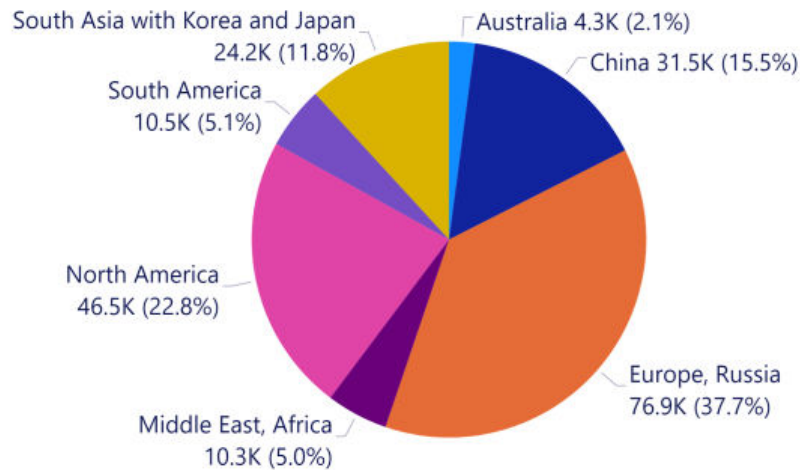
Year to year growth rate by type of equipment (excludes pumps)

Equipment ● Air conditioning ● Gensets ● Heating (includes from gas to electricity) ● Renewables ● Rewiring ● Ventilation



# Copper and climate retrofit by region

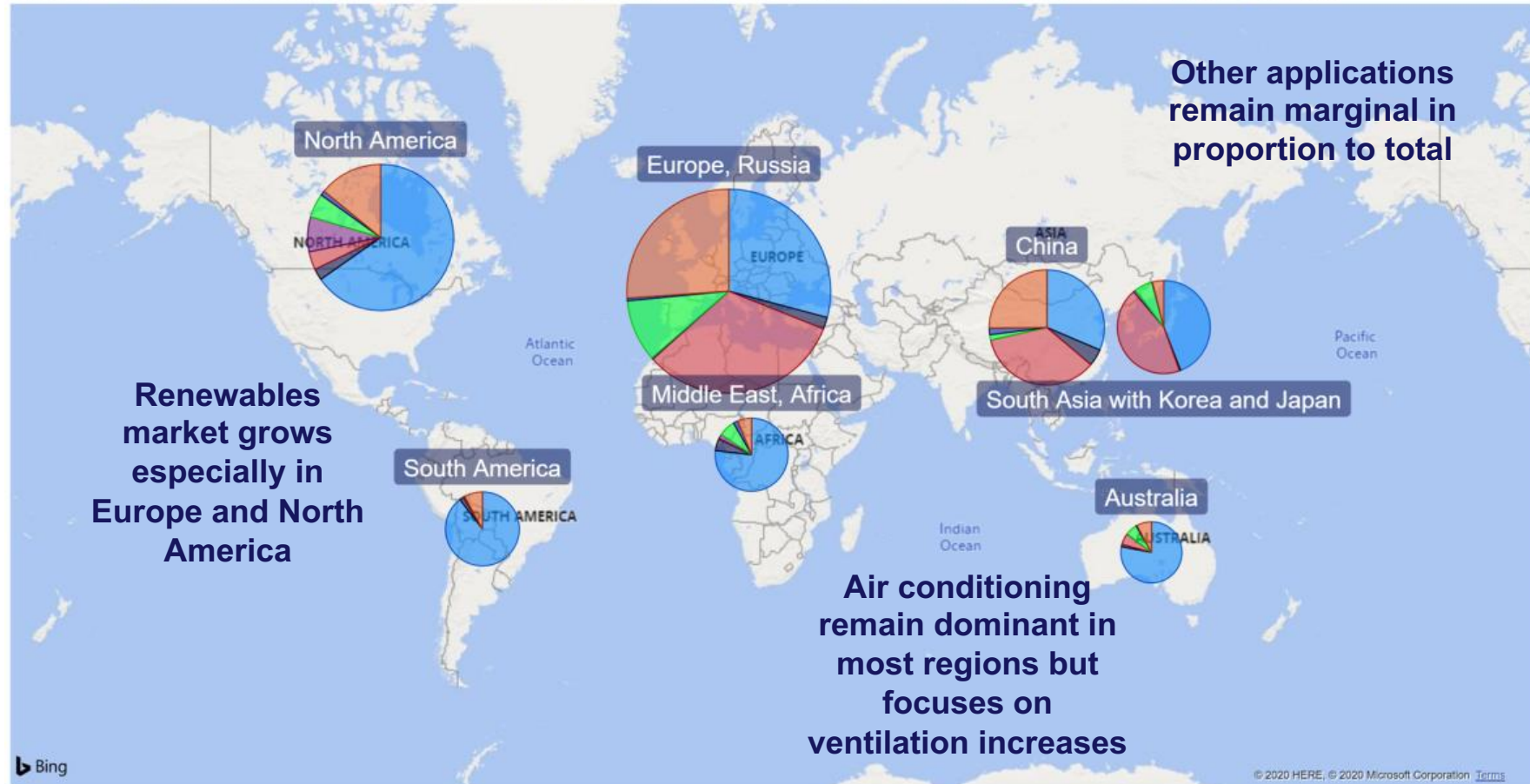
Copper demand by region generated by climate retrofit in 2035



# Copper and climate retrofit by region/equipment 2020 and 2035

Copper demand from climate related commercial retrofit by region and equipment in 2035

**Equipment** ● Air conditioning ● Gensets ● Heating (includes from gas to electricity) ● Pumps for water management ● Renewables ● Rewiring ● Ventilation



# Summary



Global demand for copper in climate related commercial retrofit will grow from **40KT** in 2020 to **160KT** by 2035 (**9.9% CAGR**)



By application, AC (**75KT Cu in 2035**) and Heating/Heat Pumps (**35KT Cu in 2035**) will provide the highest contribution. Renewables will have the highest CAGR (**19.7%**)



In terms of regions, the EU with Turkey and Russia will be the biggest contributor to demand (**62KT Cu in 2035**). The highest CAGR for the period will be in North America (**11.4%**)



Factors affecting market growth will be **availability of resources** for resilience and carbon reduction policies, **regulation, income growth** in developing countries, **retrofit vs. new construction** approach