

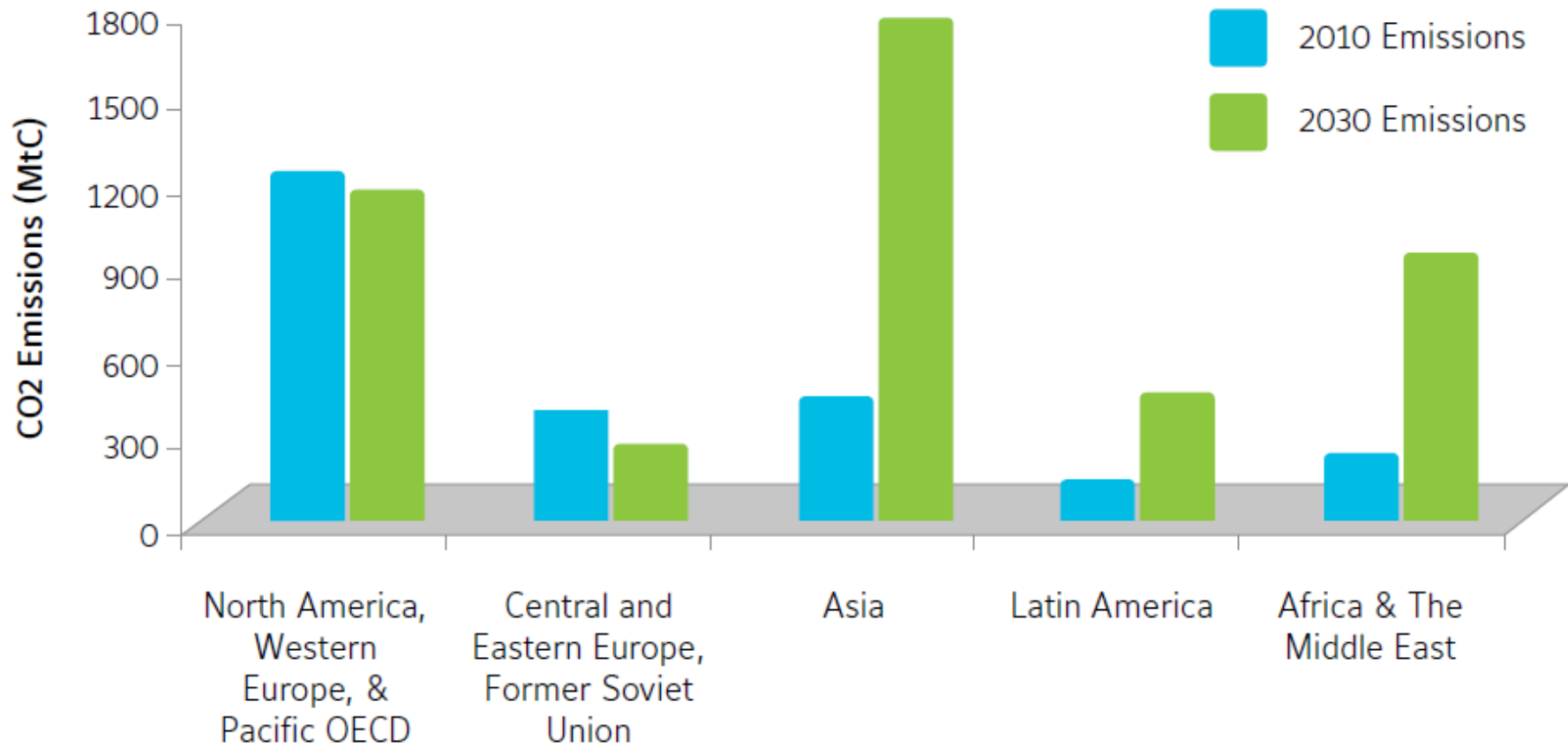
# SUSTAINABLE BUILDINGS



Scott Avirett



# Sustainable Buildings are vital to Asia's future



**CO2 Emissions from buildings: Asia will overtake North America and Europe**

# Results of 2012 Global Energy Efficiency Survey

Global Survey of decision makers  
responsible for energy use in  
buildings – examines trends in  
priorities and practices.  
3500 respondents targeting 6  
regions in 4 languages around the  
world

Survey conducted by

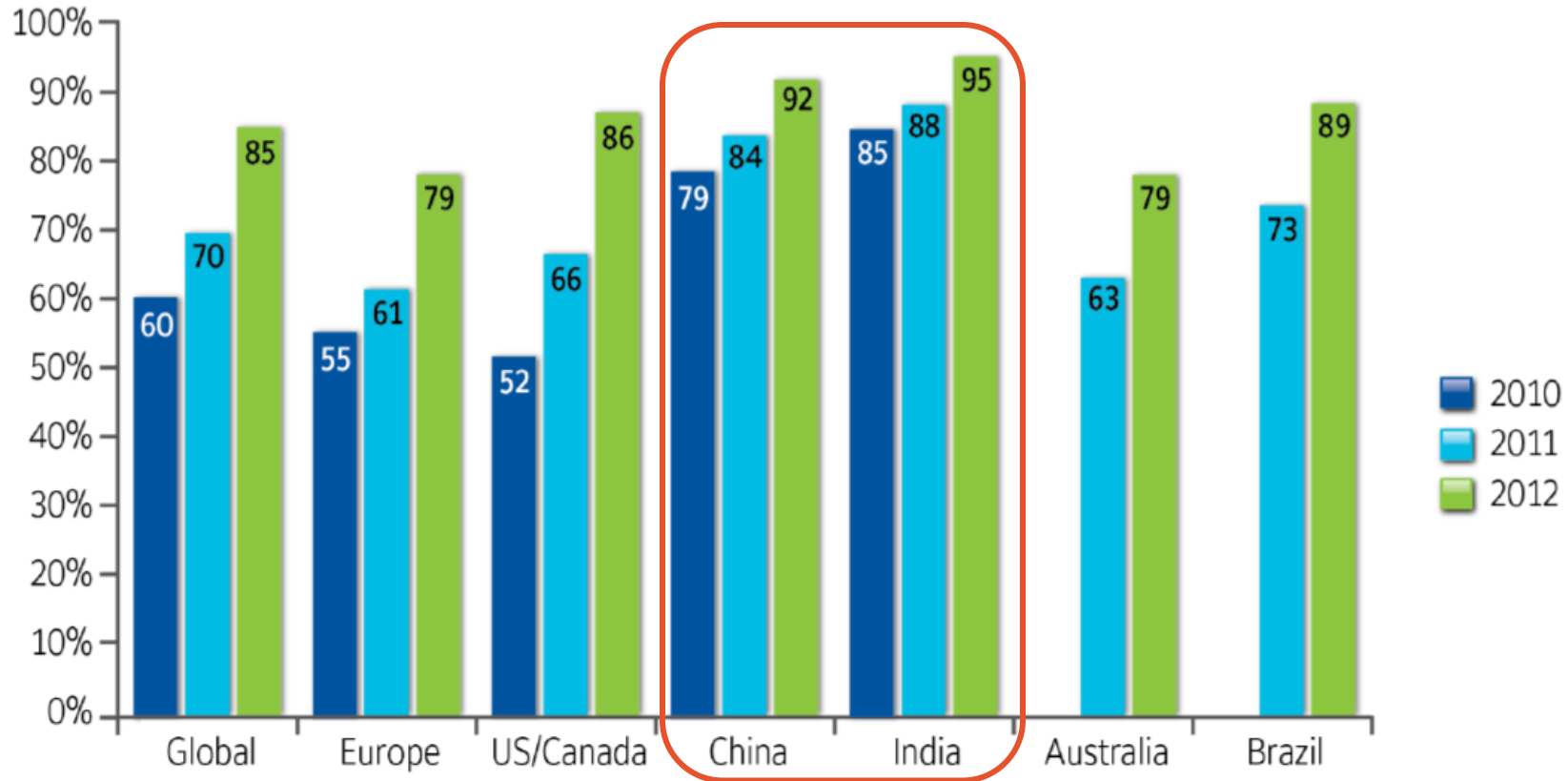


In partnership with



## Interest in energy management continues to rise

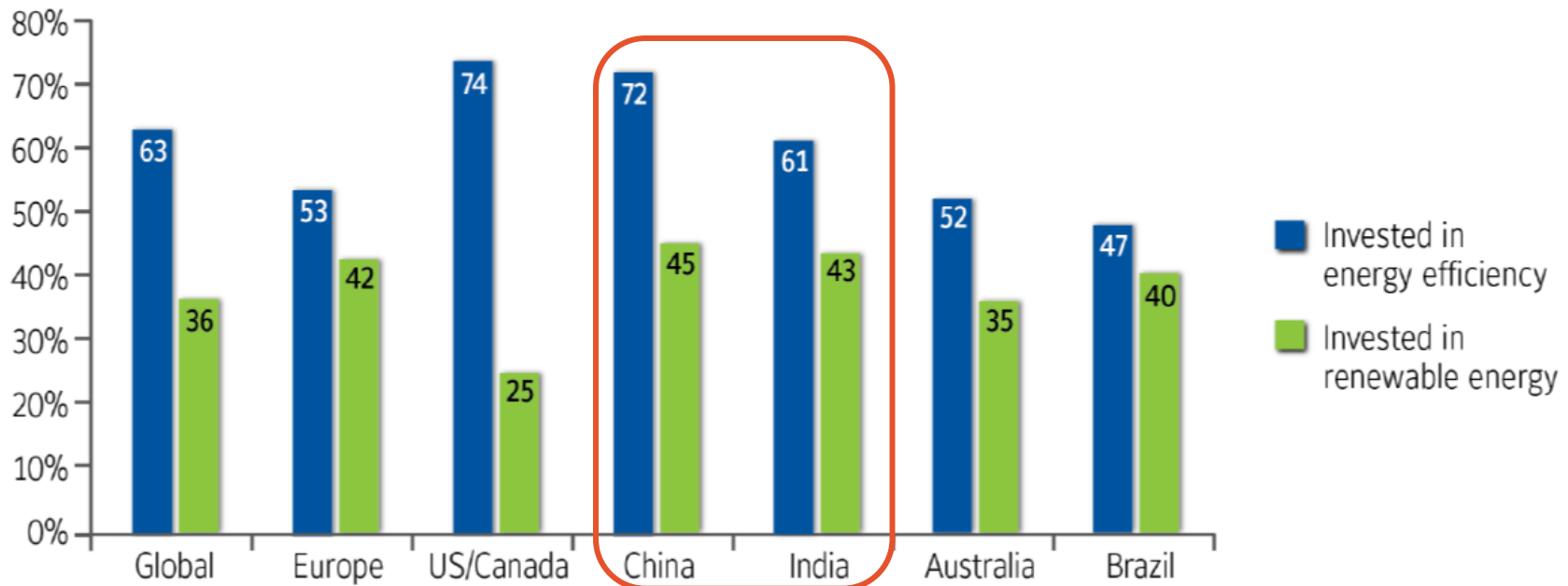
Respondents identifying energy management as extremely or very important



**China and India placed more importance on energy efficiency compared to rest of world**

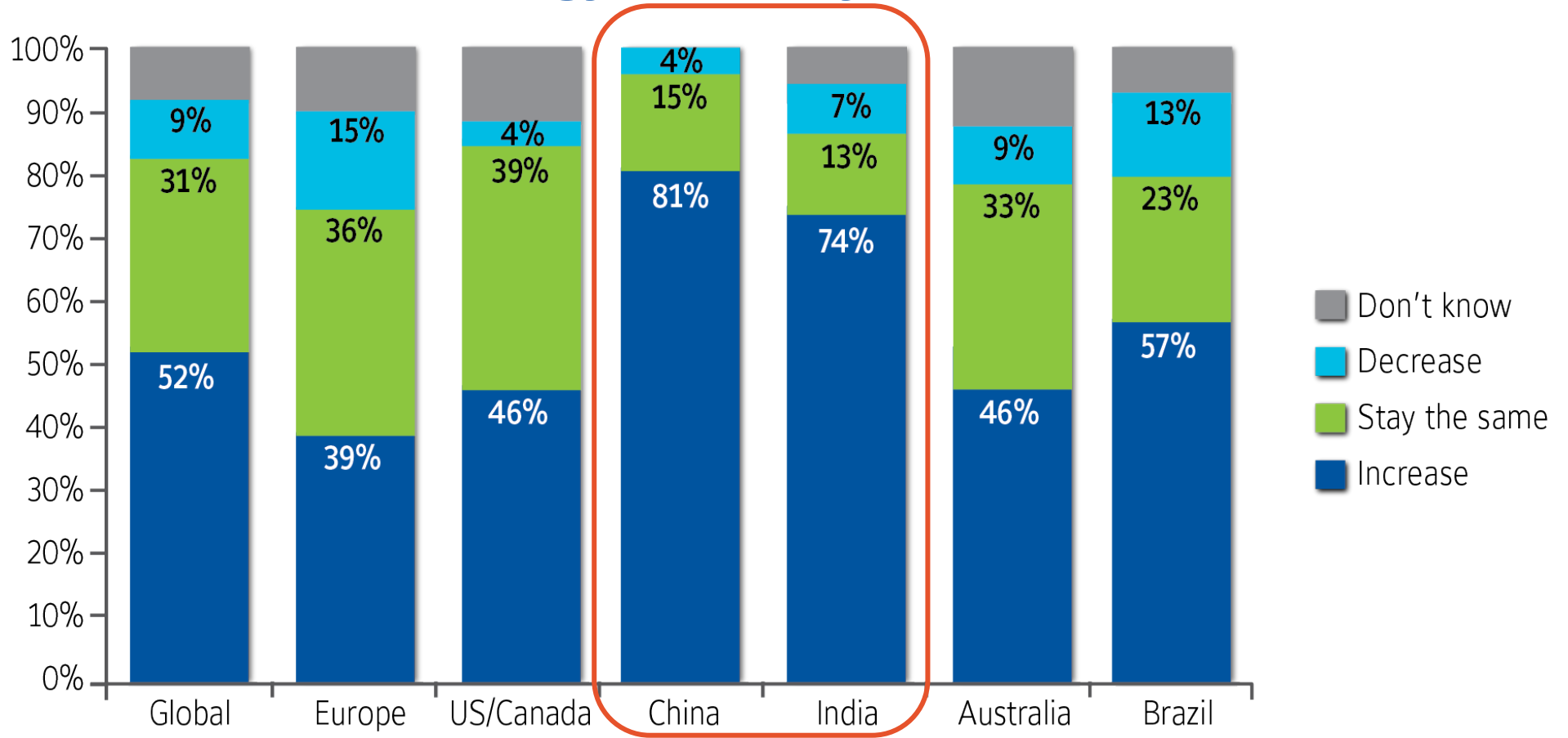
# All regions are investing in energy

Has your company/organization invested in energy efficiency or renewable energy projects in the past year?



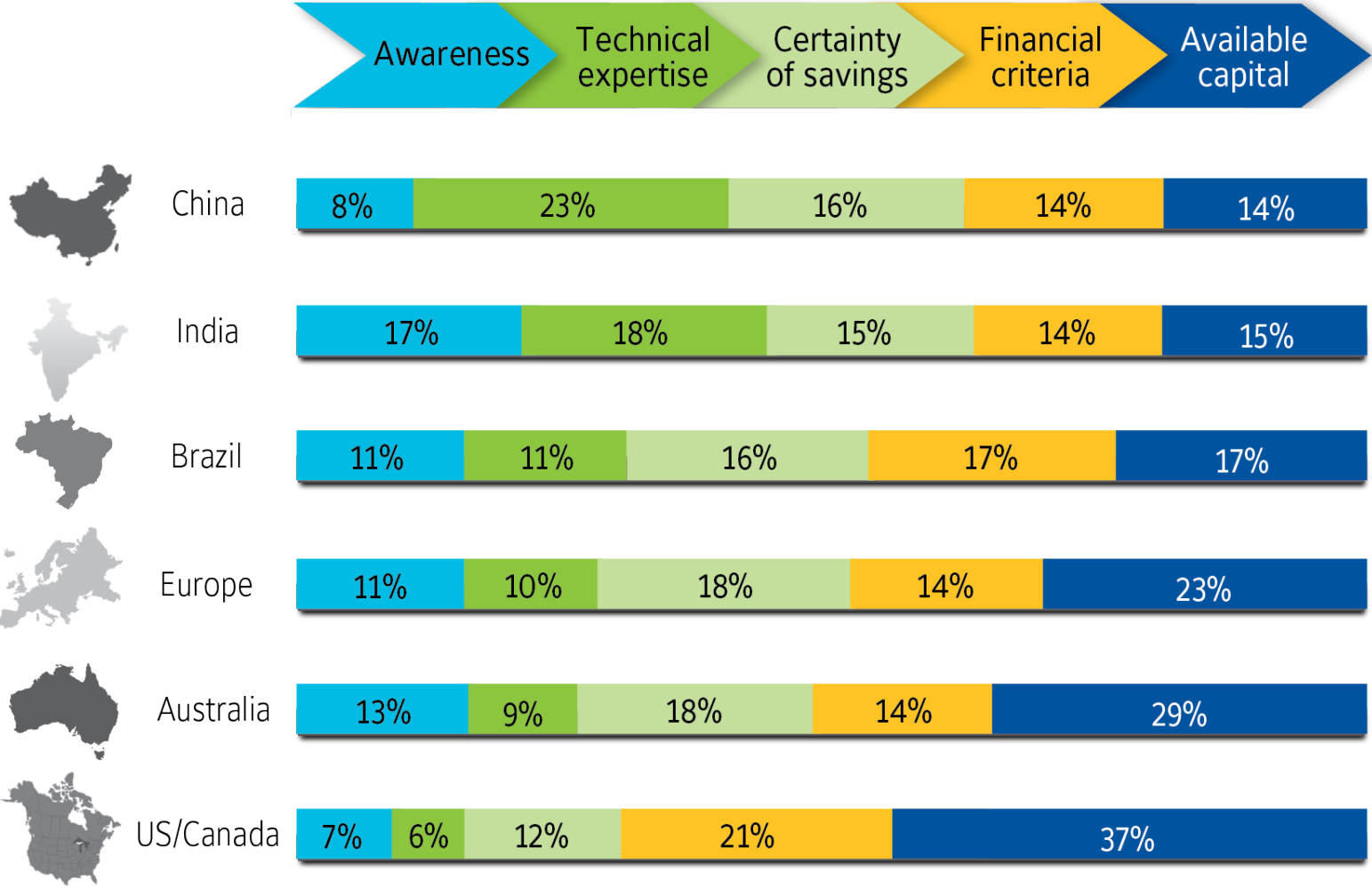
- **China and India have higher % of respondents who invested last year**
- **North America lags rest of world in renewable energy investments**

# Over the next 12 months, will your company's investment in energy efficiency...

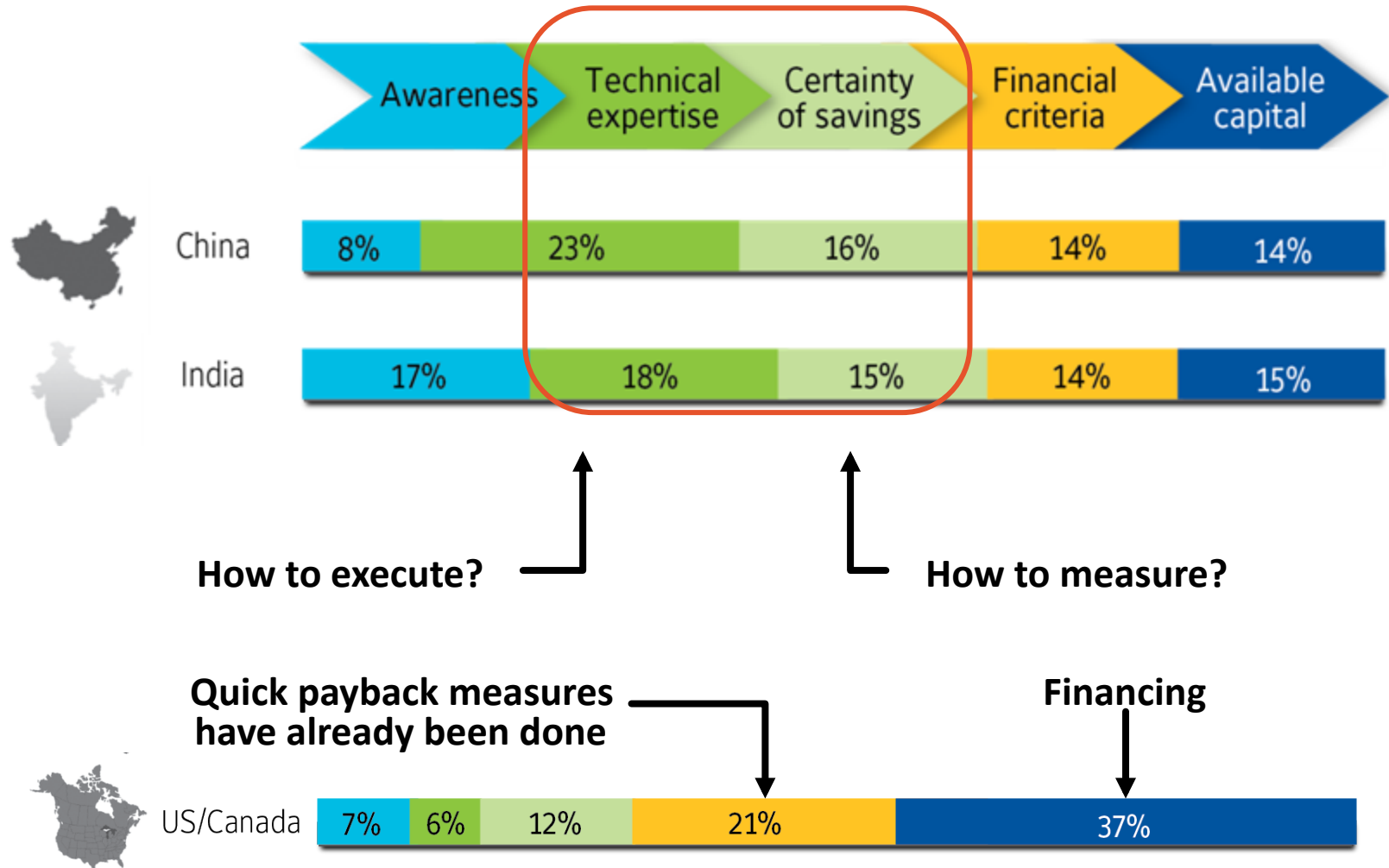


**China and India have higher % of respondents who will increase investments next year**

# What is the main barrier to pursuing energy efficiency for your company?



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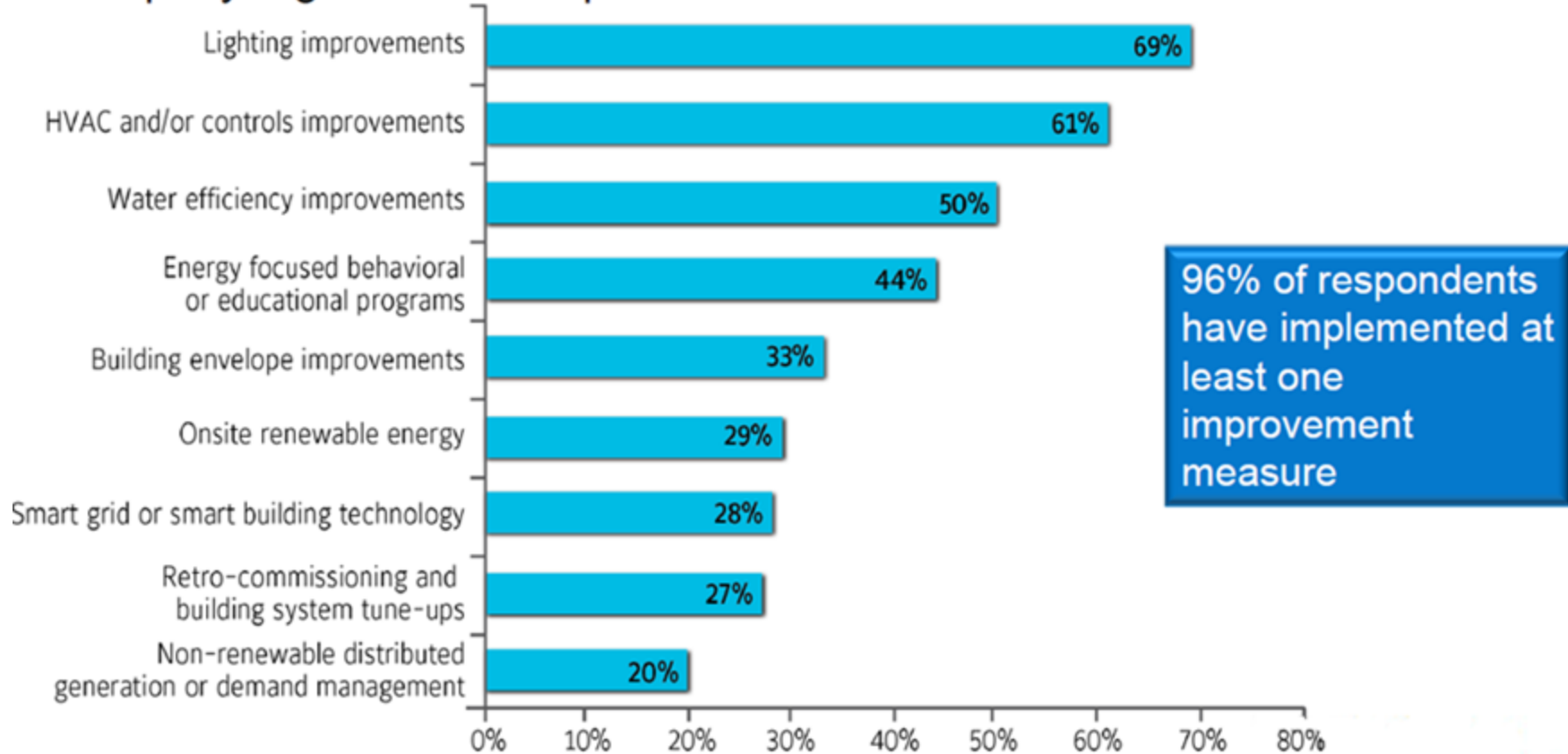




# Variety of efficiency measures implemented

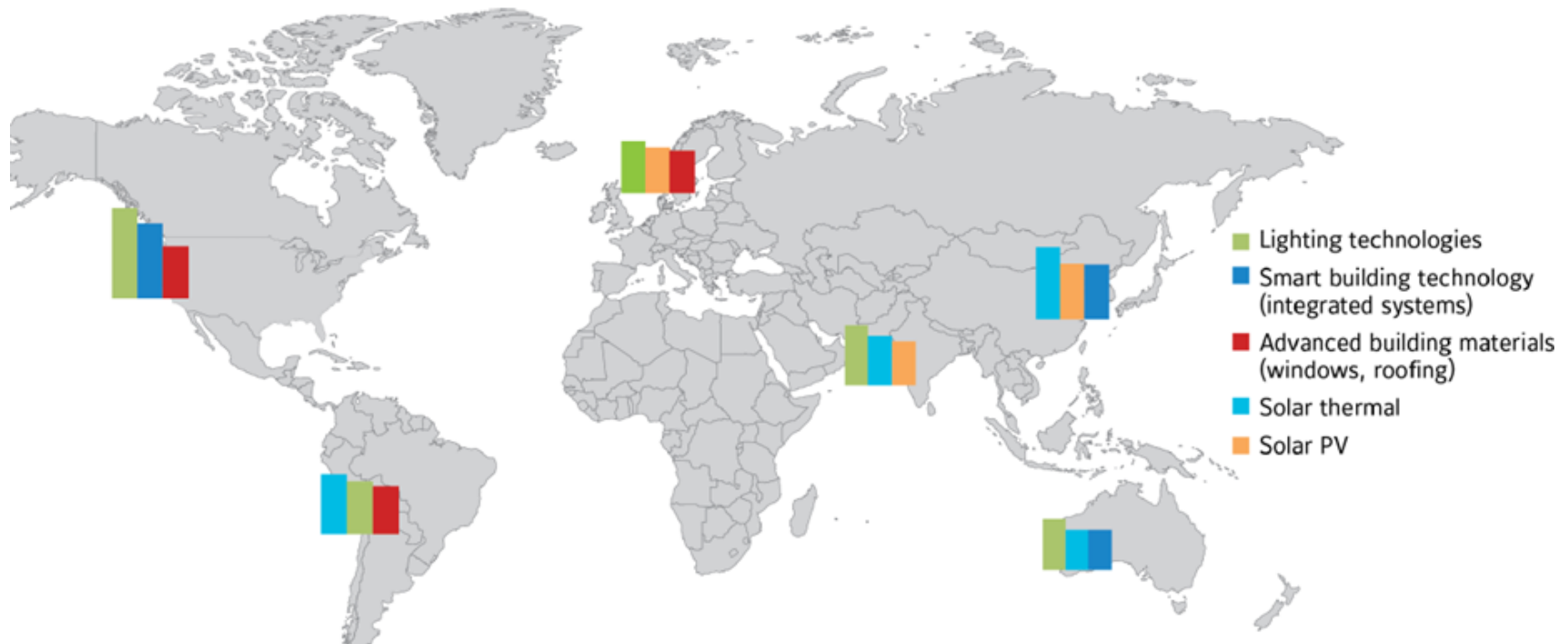
## Lighting, HVAC and water most common

Which of the following energy efficiency measures has your company/organization adopted in the last 12 months?



# Future trends: Technology Adoption







Top three on-site technologies expected to have the greatest increase in market adoption over the next ten years by region



- China future trends point toward Solar
- Solar is less significant for North America

## Drivers by Country/Region

How significant are the following in your organization's energy efficiency decisions?

Drivers of efficiency	Europe 	India 	China 	US/ Canada 	Australia 	Brazil 
Energy cost savings	1	1	1	1	1	1
Government/utility incentives/rebates	3			2	2	2
Enhanced brand or public image		2		3		
Increasing energy security	2	3	2			3
Greenhouse gas reduction						
Existing policy			3			
Increasing asset value					3	

- Policy is a key driver in China
- Cost Savings & Energy Security are top drivers in both China and India

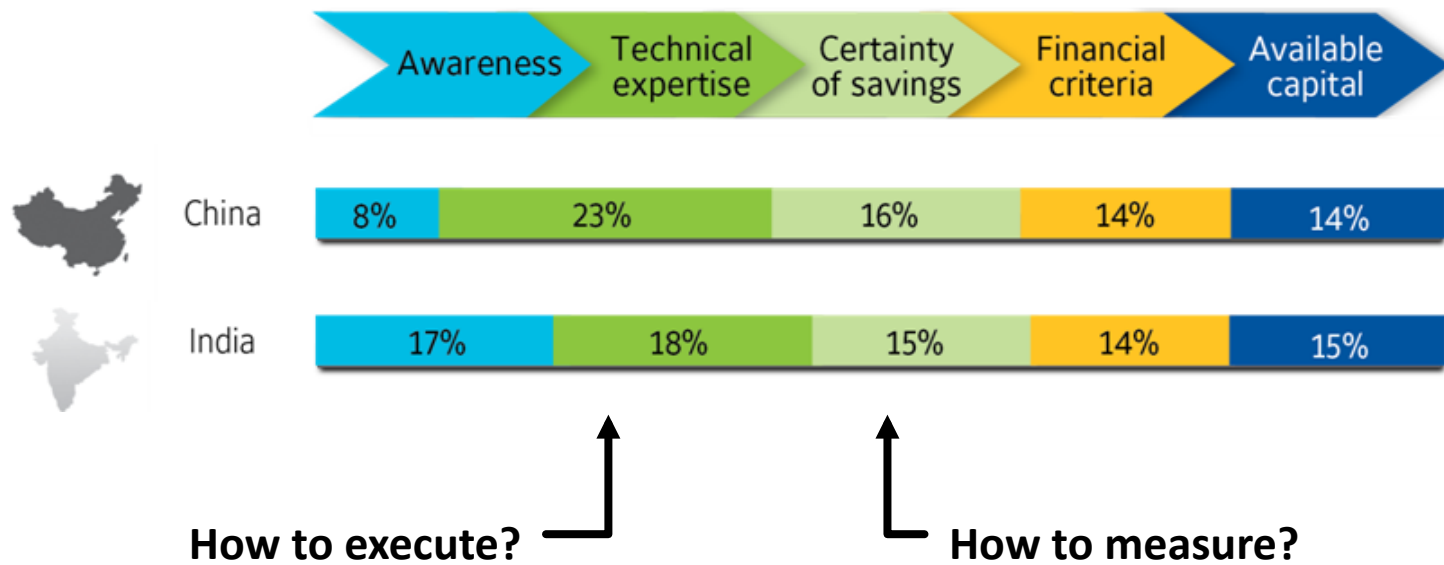
## Green Building Certifications

Over the next 12 months, % of respondents planning to pursue Green Building Certifications:

- China: 48% for both New Construction and Existing Buildings
- India: 56% for New Construction; 54% for Existing Buildings.
- North America: 39% for New Construction; 35% for Existing Buildings.

There is more interest in Green Certifications among China and India respondents compared with North American respondents.

## Interest in Green Certifications in Asia is good news.... Remember the barriers to Energy Efficiency in China & India?



**A well-documented Green Building standard such as LEED is extremely well suited to address energy efficiency barriers in Asia**

# LEED (and other Green Certifications) can bridge the gaps in Asia on to “How to Execute” and “How to Measure”

## LEED Reference Guide Categories

- Intent
- Requirements
- Potential Technologies & Strategies
- Summary of Referenced Standards
- Approach and Implementation
- Calculations
- Exemplary Performance
- Submittal Documentation
- Environmental Issues
- Economic Issues
- Resources
- Definitions
- Case Studies

Technical Expertise

**How to Execute?**

Certainty of Savings

**How to Measure?**

## Key Conclusions

- A higher % of respondents in Asia consider energy management extremely important and are ramping up energy efficiency investments more actively than other regions of the world.
- Solar (renewable) technology will become a more vital part of the energy efficiency equation in Asia (compared with North America).
- Access to capital is not as significant a barrier to adoption in Asia compared with North America.
- Green Building Certification standards (Greenmark, LEED, 3 Star, etc) will be a key driver for planning the built environment, as well as bridging current capability gaps.
- Policy and Building Codes are more significant drivers in China than elsewhere in the world.