

Greening Industries & Enabling Business Competitiveness

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Climate Change: *Business-as-Usual* will soon mean 'no business'

Industry impact on Climate Change

- Industry is responsible for **21%** of direct, **11 %** of indirect GHG emissions.
- Industry will be responsible for **26%** of the increase in GHG emissions between 2005-2030.

Significant impact of production on climate

mitigation

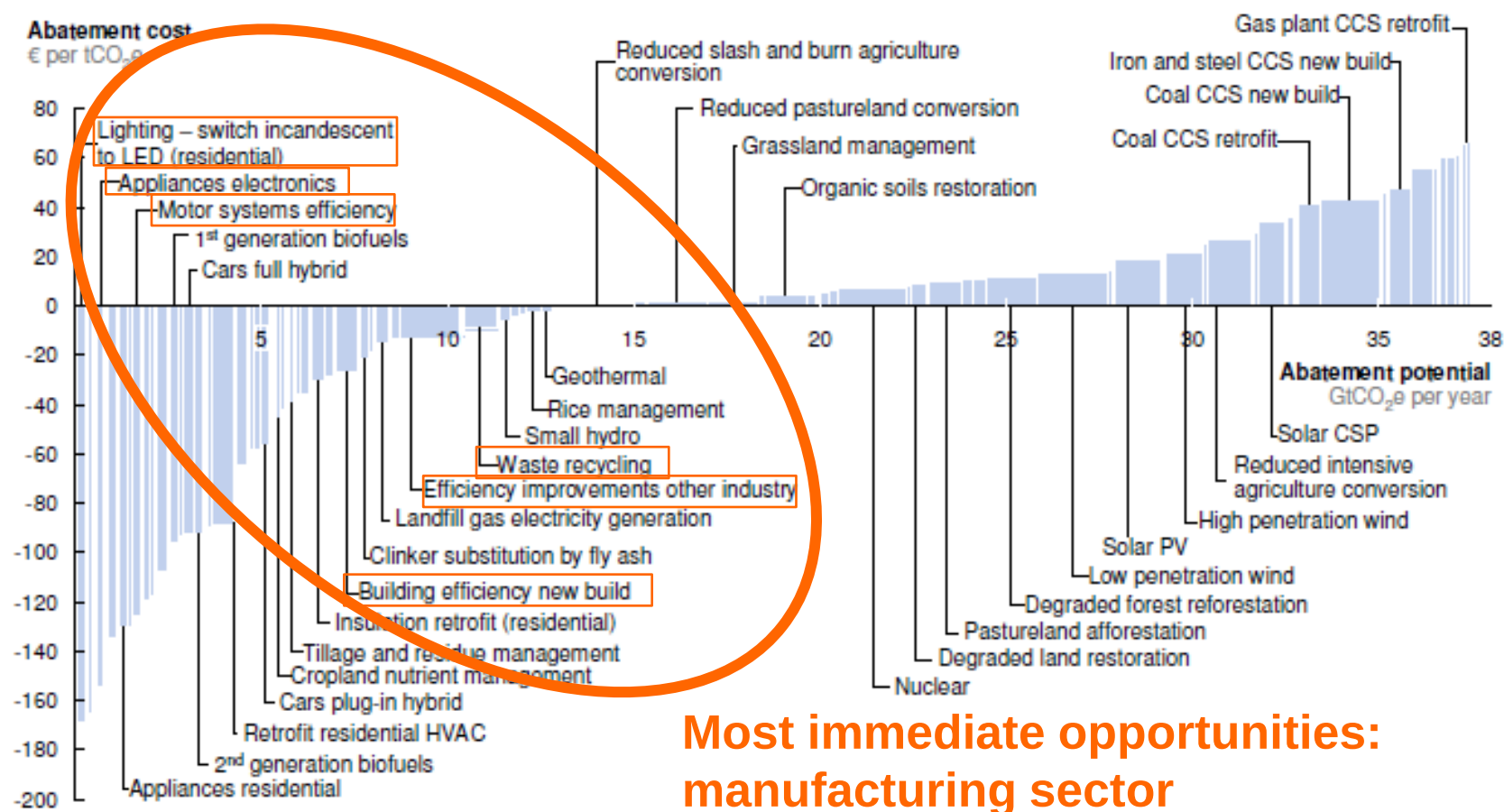
Climate change impact on industry

- **Extreme weather events** create adverse conditions for industrial productions.
 - Droughts and floods **limit resource availability**, thus push commodity and energy prices higher.
 - **Temporary closures** due to hurricanes and floods **delay production**.
- All this lead to **higher operation costs**, risking economic viability of industries.

Harder to meet growing industrial resource demand

adaptation

Resource efficiency at industry level is a low hanging fruit according to abatement cost curve



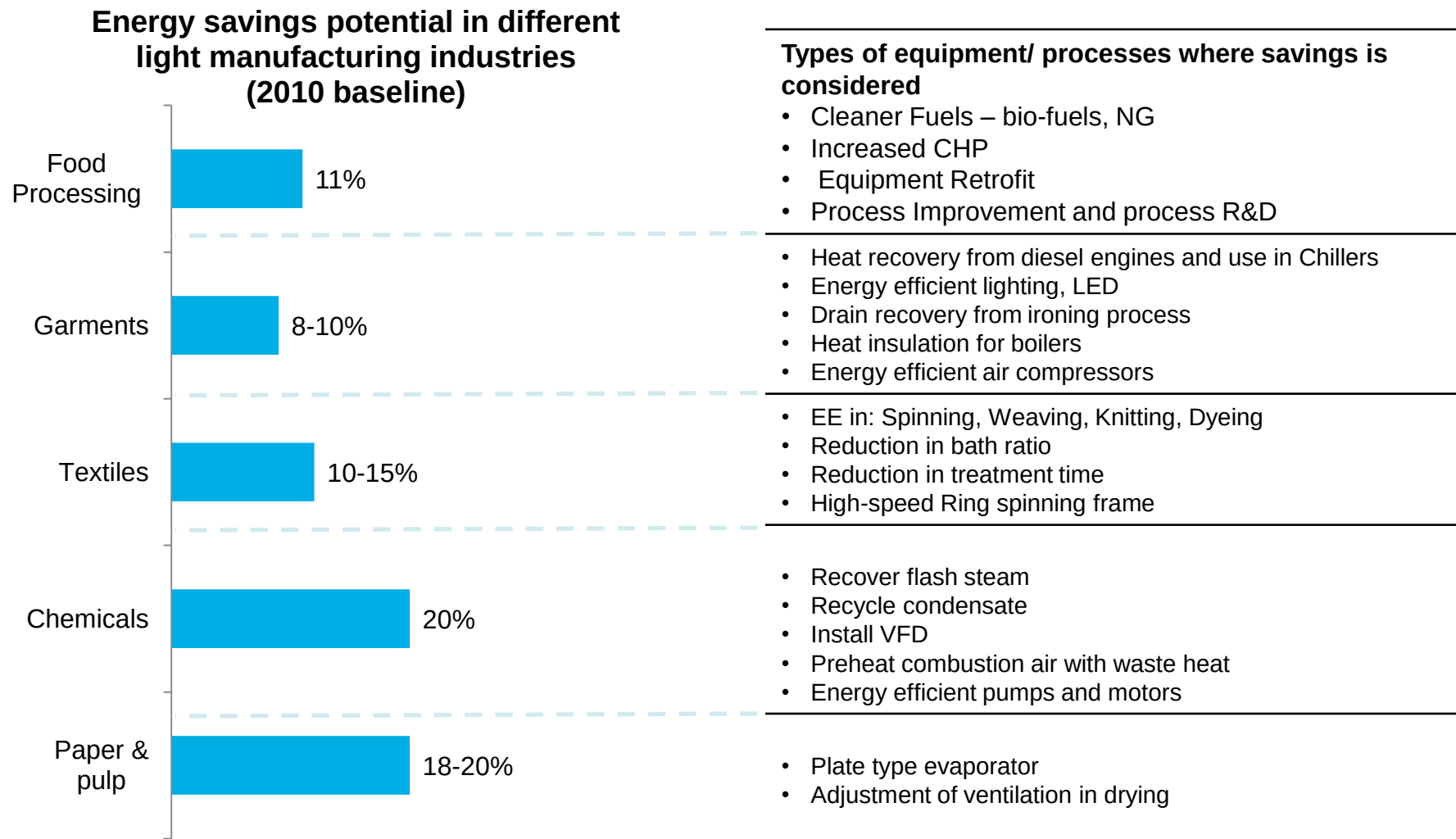
**Most immediate opportunities:
manufacturing sector**

Note: The curve presents an estimate of the maximum potential of all technical GHG abatement measures below €80 per tCO₂e if each lever was pursued aggressively. It is not a forecast of what role different abatement measures and technologies will play.

Source: Global GHG Abatement Cost Curve v2.1

Source: WDR, 2010

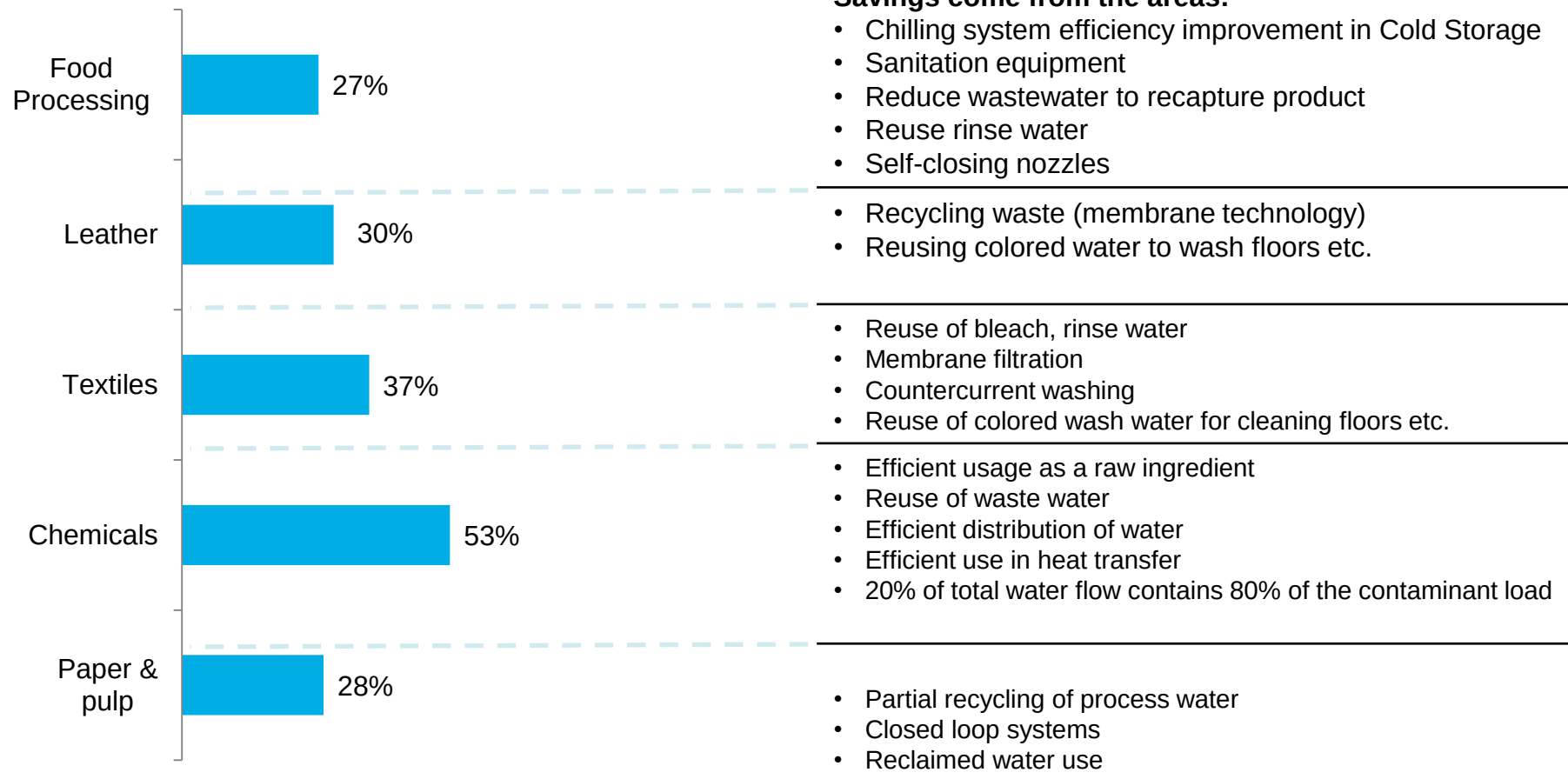
'Energy Efficiency' is a quick-win solution for light manufacturing industry, but potential varies across sectors



Source: Lawrence Berkley report; UNIDO, MITI Japan, Team analysis (2010 baseline)

'Reduce-reuse-recycle' is the key principle to improve industrial water-use efficiency

Water savings potential in different light manufacturing industries

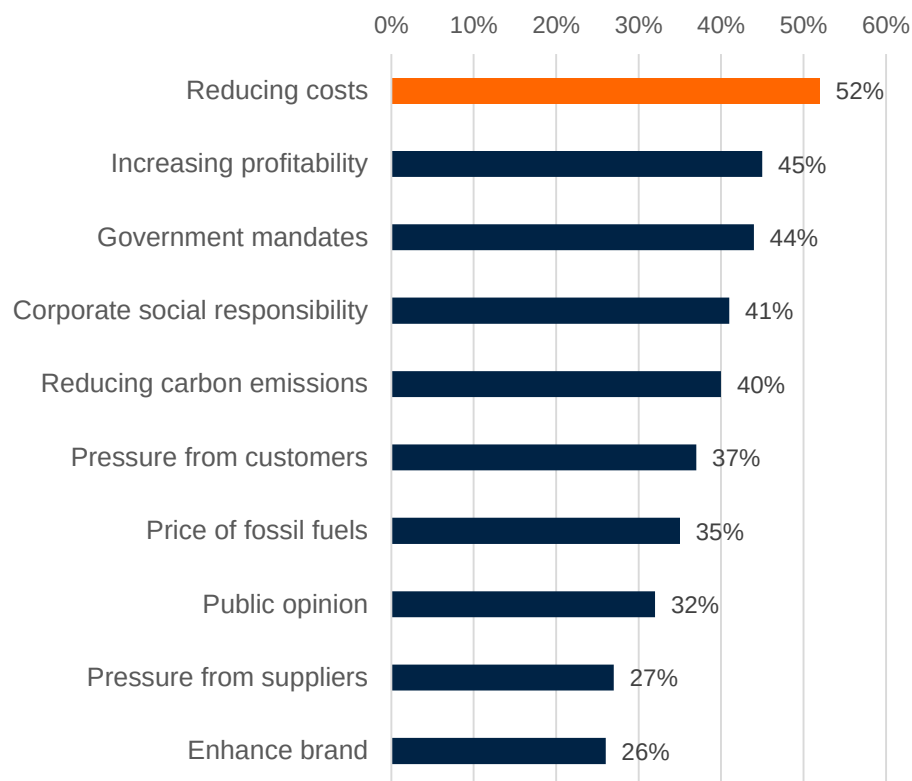


Source: Pacific Institute, EU Water Savings potential report, EY research

Climate Efficient Industries address competitiveness challenges through...

- Reduced (operation and input) costs with resource efficiency
- Additional value generated
 - Boosting productive capacity
 - Improved skills, knowledge and technical expertise in the workforce
 - Improved product quality
 - Enhanced brand image for consumers
- Mitigated risks by reducing exposure to volatile input prices

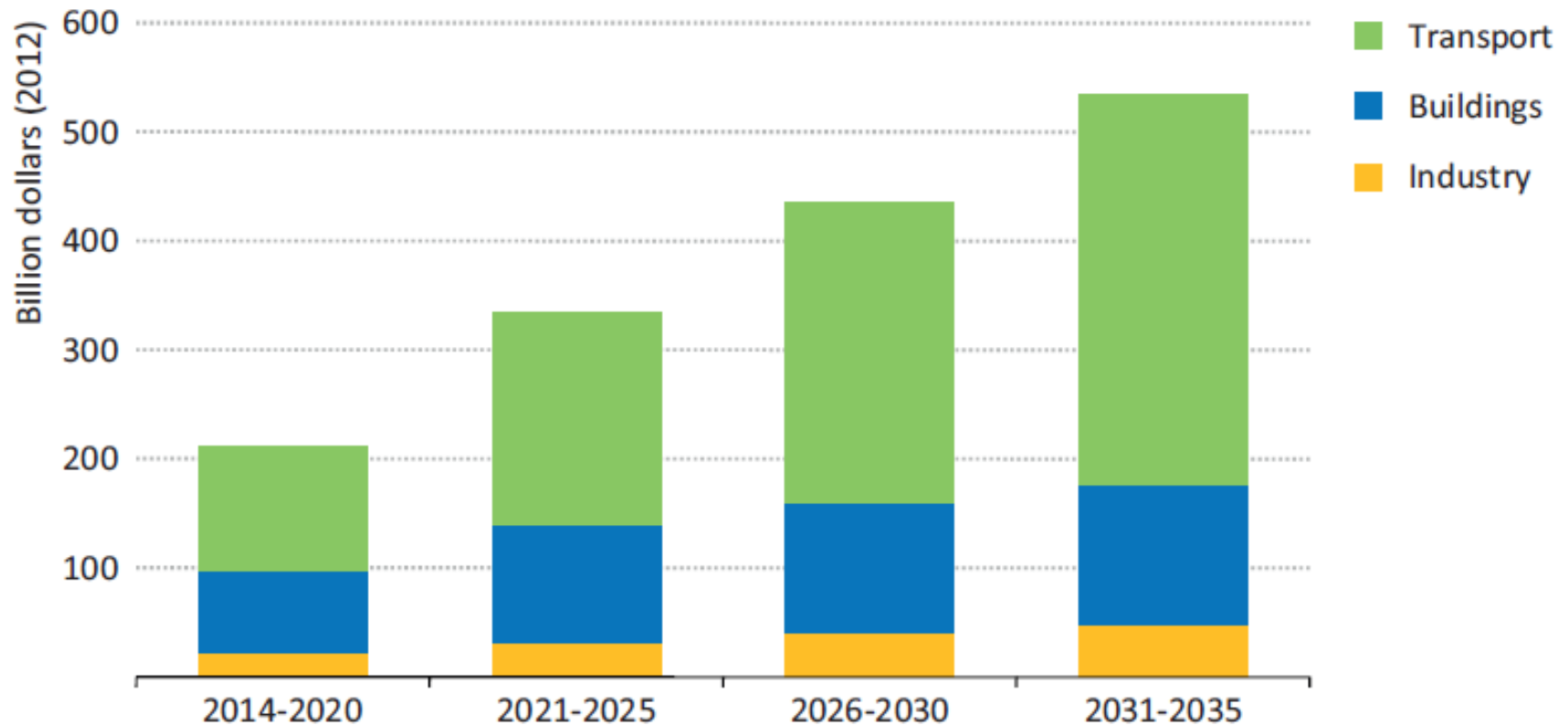
Top 10 factors that are driving the demand for clean technologies from businesses



Source: IIP, *The role of industries in cities*

Moderate effort on EE: >\$500 B/yr by 2035

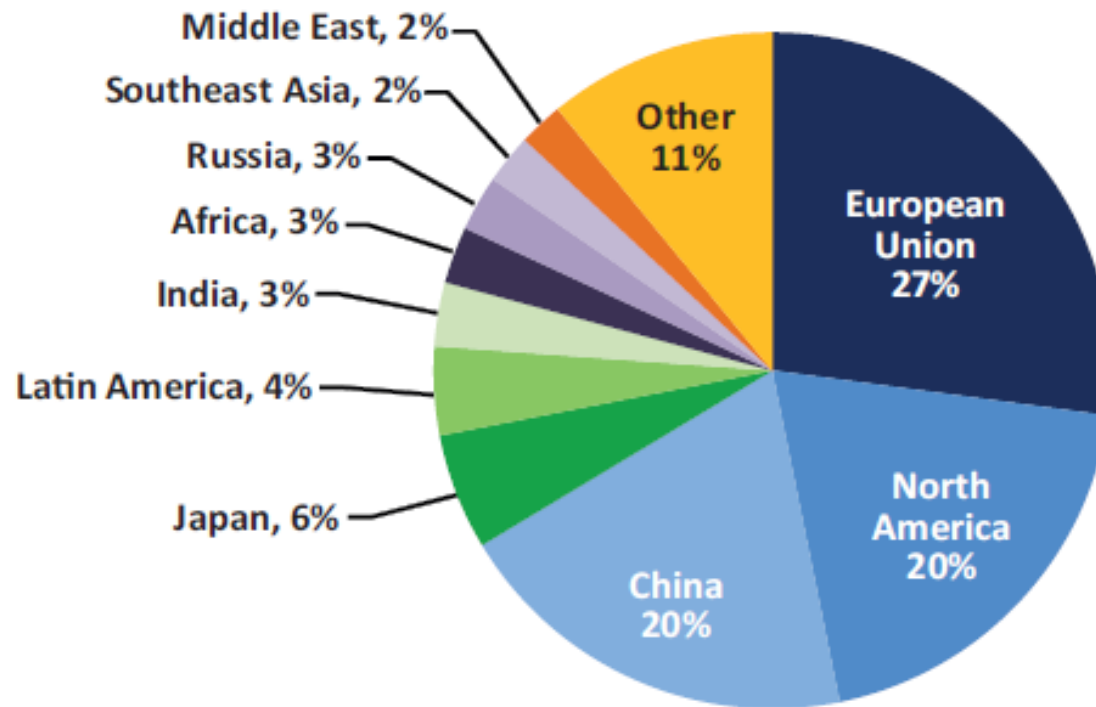
Average annual investment in energy efficiency by sector in the New Policies Scenario



Source: IEA (2014) *World Energy Investment Outlook*.

Much of that investment is in emerging economies

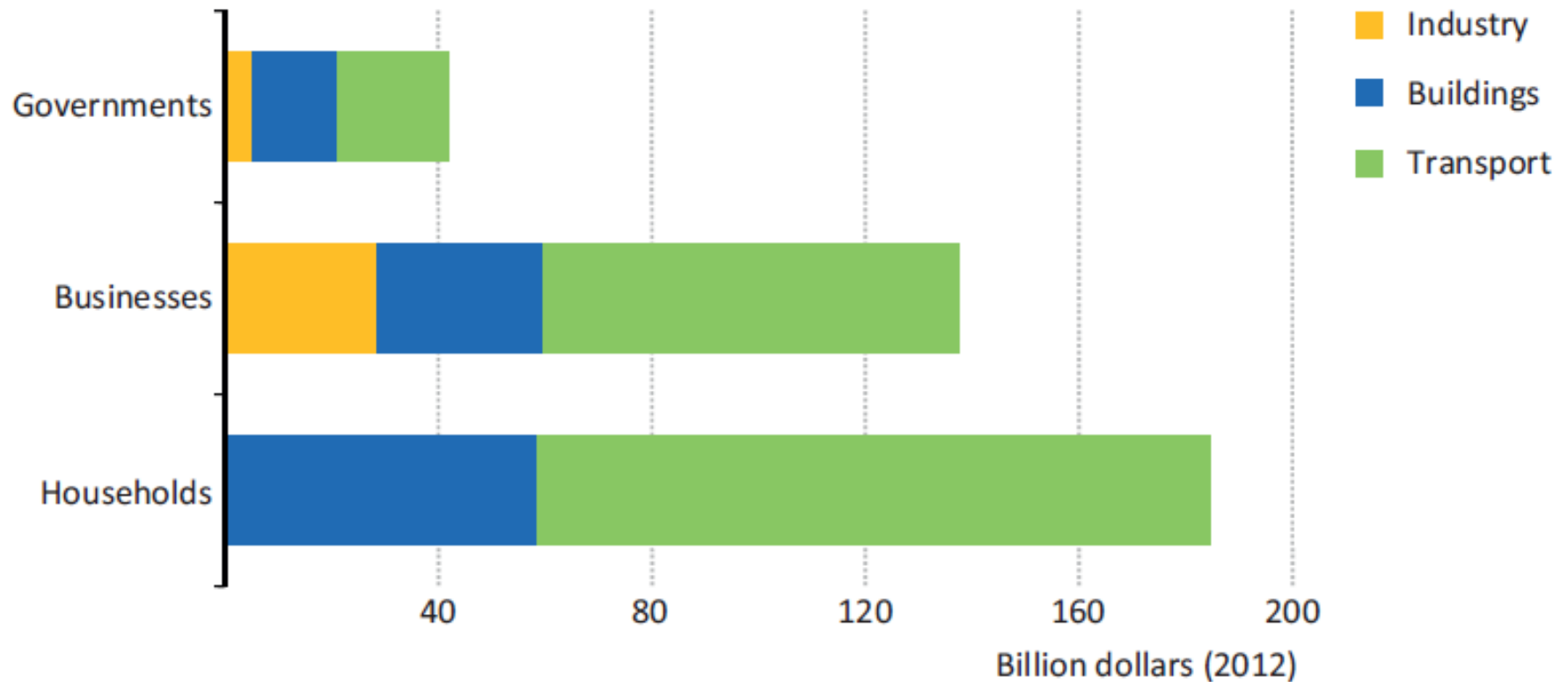
Regional share in cumulative global energy efficiency investment in the New Policies Scenario, 2014-2035



Source: IEA (2014) *World Energy Investment Outlook*.

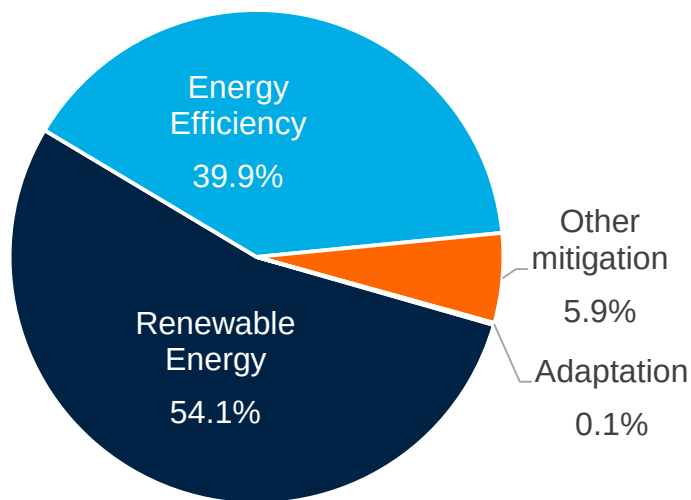
How do we help enable private investment?

Average annual investment in energy efficiency in the New Policies Scenario by ownership category and sector, 2014-2035



Source: IEA (2014) *World Energy Investment Outlook*.

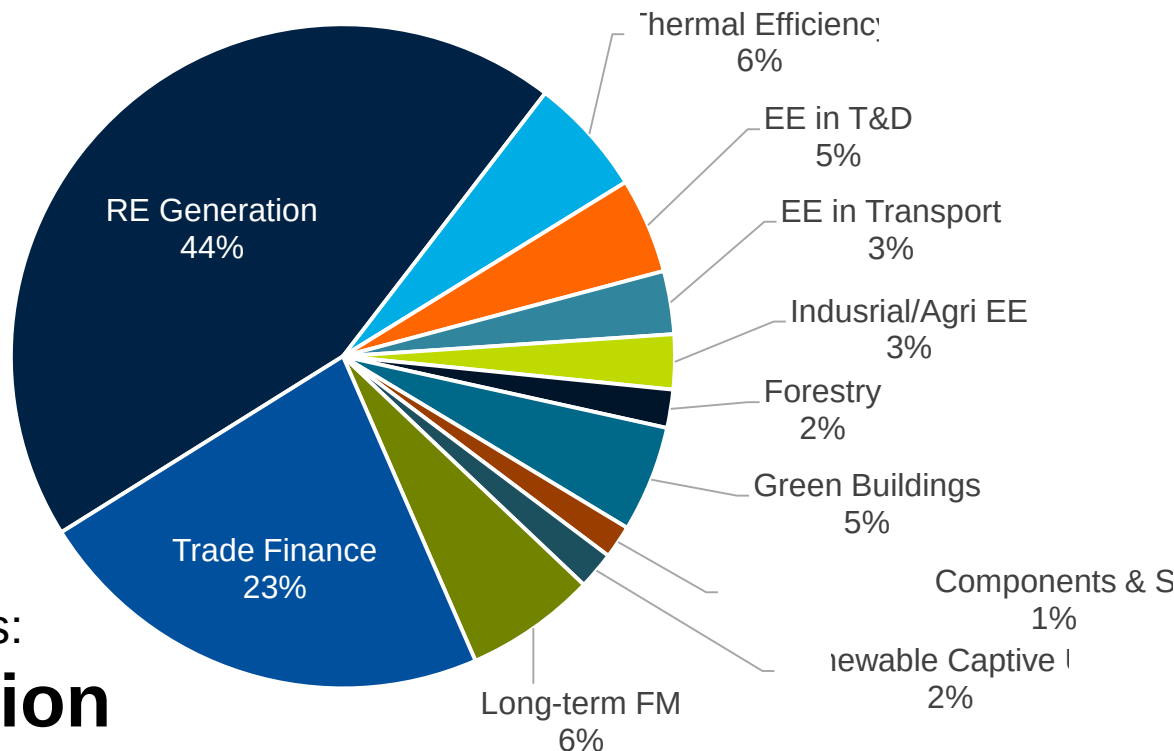
IFC's 'Climate Business' targets green market development from various sectors



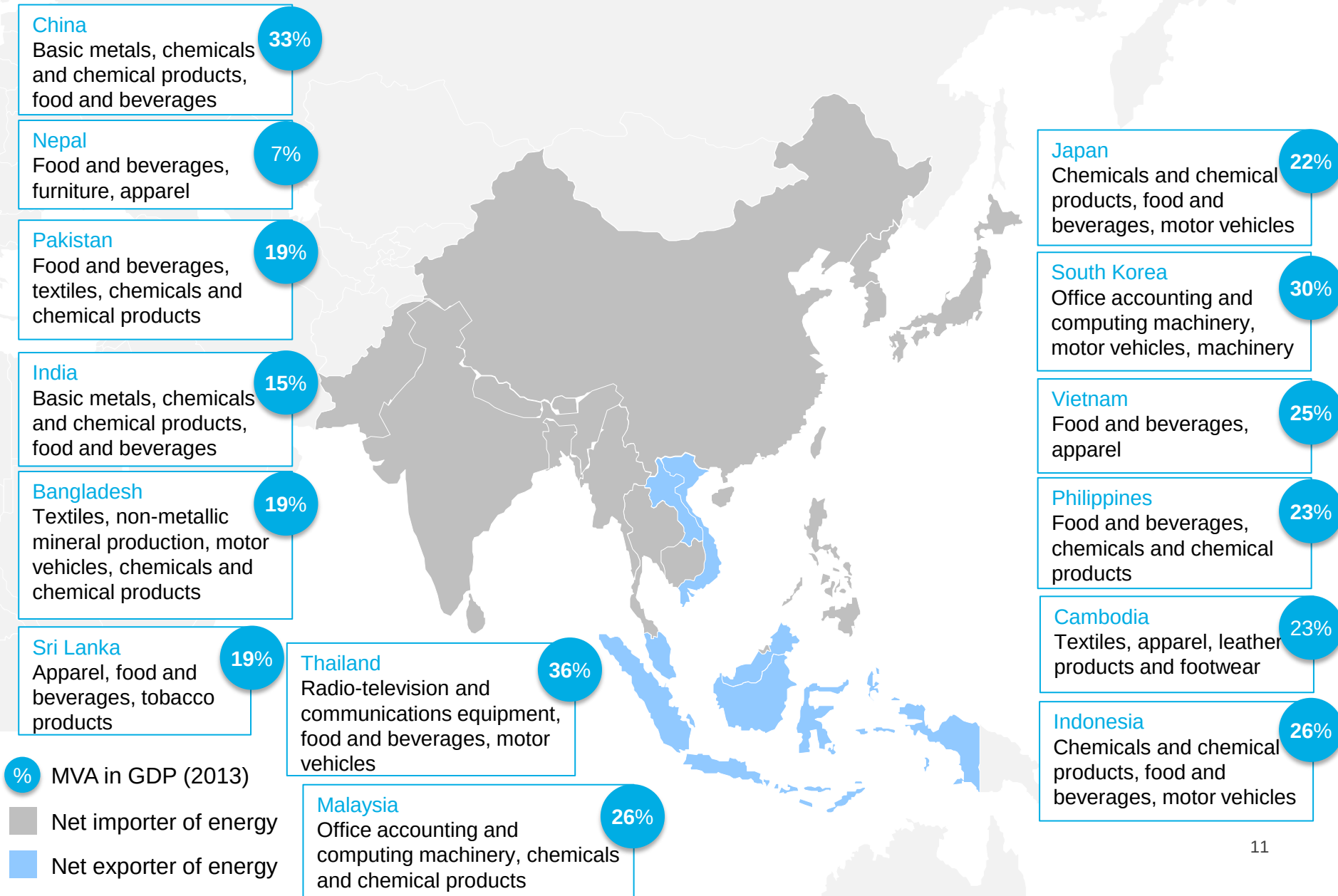
2005-2014
cumulative commitments:

\$13 billion

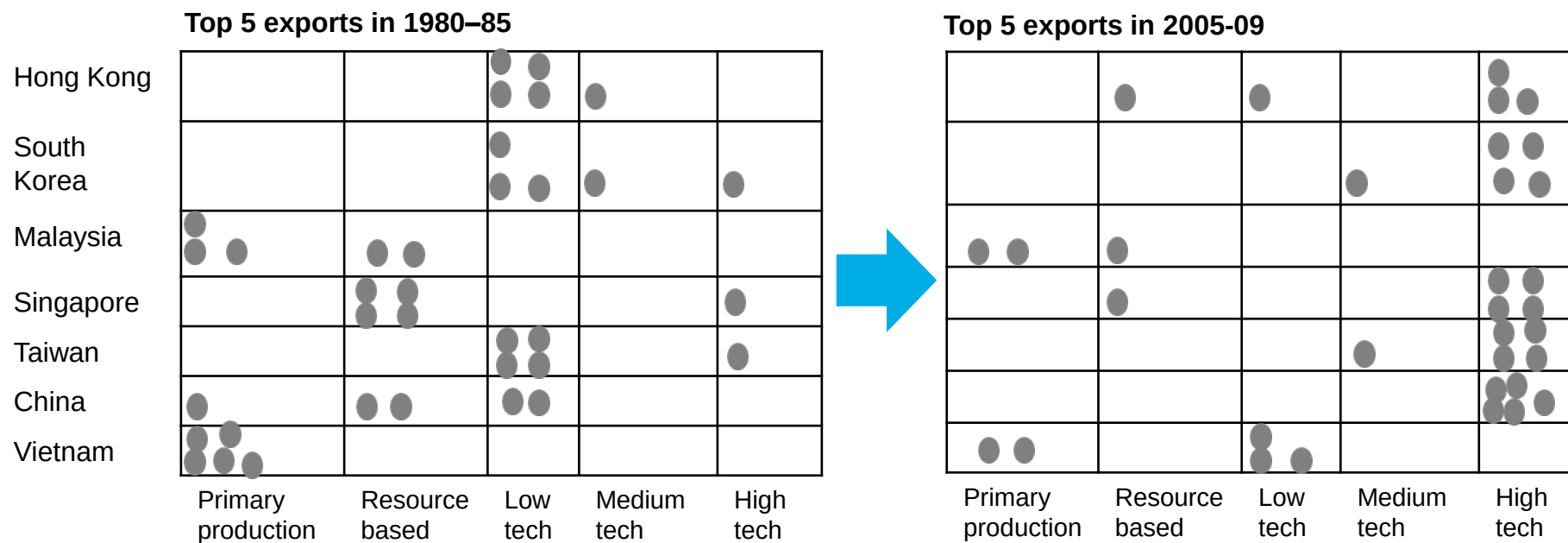
2014
commitments:
\$2.5 billion



Manufacturing base of Asia



Over the last two decades many Asian countries moved to high-value added industries



Source: World Bank, UNIDO, EY analysis

Cleantech Initiatives in Asia

China

- Cleantech investments reached \$18billion in 2012.
- Cleantech adopters making investments in qualified equipment used for environmental protection, energy or water conservation may be eligible for a CIT credit equal to 10% of the investment value.
- Directly subsidizes for providers and adopters of several strategic clean technologies.

India

- Environmental technologies and RE markets are \$9billion and \$17billion, respectively.
- The Indian Government allows 100% FDI in the RE sector and has put in place favorable policies to attract foreign companies into the sector.

Malaysia

Green Technology Financing Scheme aims to accelerate the expansion of green investments among Malaysian companies by providing easier access to financing from the private and commercial financial institutions.

South Korea

- \$84 billion is committed from government budget to promote cleantech growth for 2010-2015.
- The Korean Financing Corporation provides indirect debt and equity financing, and act as a loan guarantor to cleantech companies.

Philippines

Clean Technology Fund will support the development and deployment of solar rooftop station industry by addressing financial and demand barriers.

Singapore

Energy National Innovation Challenge established to stimulate deployment of solutions that promote EE, and reduce GHG emission.

Indonesia

Clean Technology Fund taps into the global funds to develop RE projects and to create risk sharing and finance facilities designed to accelerate investments in EE and RE.

Case: Korea's goal for Cleantech Growth

- 2009 Green Growth Plan sets mandatory targets on renewable energy use and energy efficiency.
- New policies are being enacted to stimulate the domestic market, encourage investment, and promote the participation of foreign firms.
- \$84 billion is committed from government budget to promote cleantech growth 2010-2015. This is expected to create 960,000 new jobs.
- The Korean Financing Corporation provides indirect debt and equity financing, and act as a loan guarantor to cleantech companies.

LED Lighting Case

Government is aiming to develop local LED industry by:

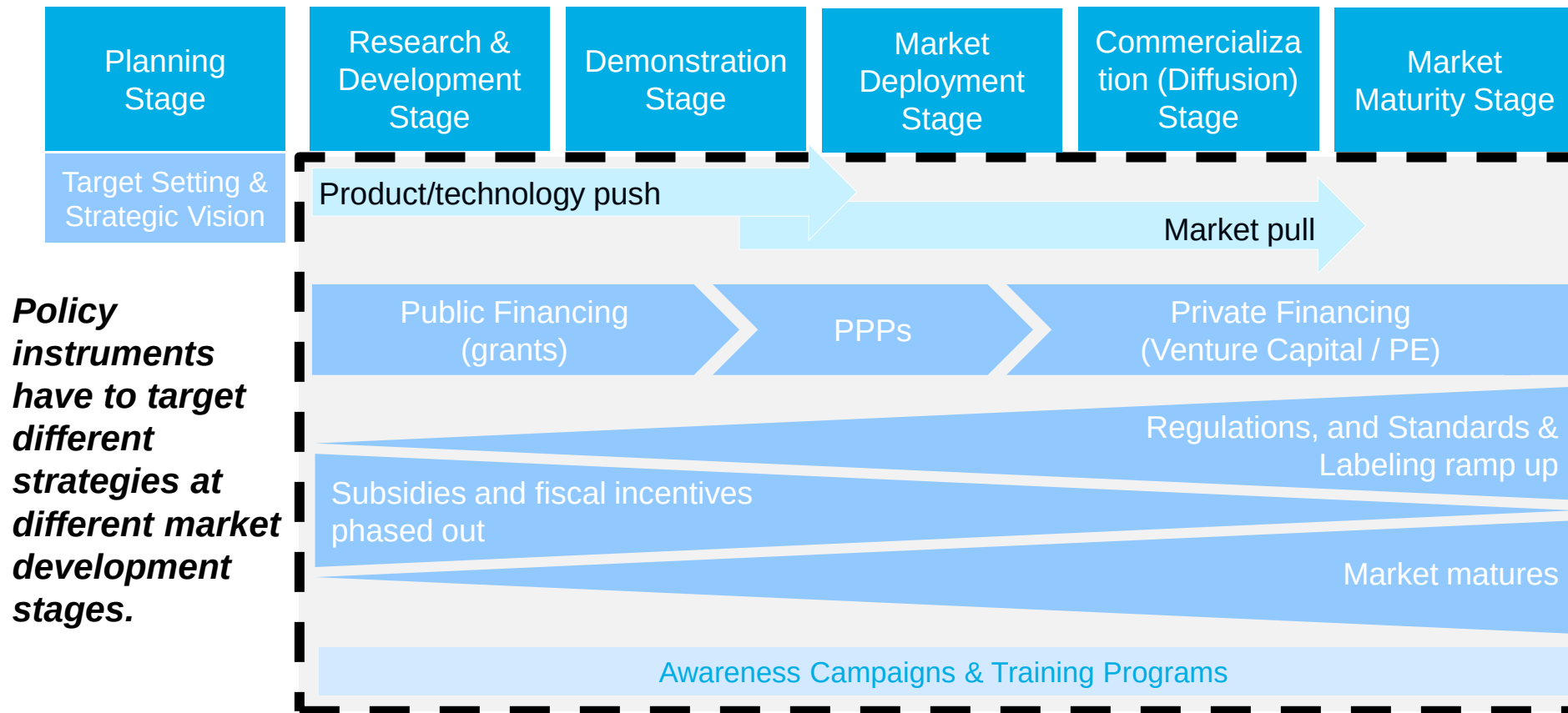
- Setting targets (30% of lamps must be LED by 2015)
- Establishing regulations to phase out incandescent lighting products
- Subsidizing LED use

Inadequate policy framework may inhibit cleantech sector growth

Policy & Regulatory Barriers	▪ Policies (such as fossil fuel subsidies) that artificially reduce the competitiveness of new technologies ▪ Political and regulatory instability ▪ Inadequate regulations for standards and labeling
Institutional Barriers	▪ Weak institutional capacity to support adoption of new technologies ▪ Shortages of technical expertise to monitor and enforce performance standards
Economic Barriers	▪ High development and capital costs for new technologies ▪ Limits on access to financing ('valley of death') ▪ Technology risks are difficult to mitigate in regular financial markets ▪ Lack of internalization of environmental externalities of competing ▪ High-emission energy sources

Government is the main actor for Cleantech market development

Establishing a stable, long-term energy and industry policy is crucial for promoting investments in Cleantech market.



Adapted from: Hilke and Ryan, 2012 and Wang et al., 2013, McGregor and James, 2011, WWF and Cleantech, 2012

Instruments for a Cleantech investments enabling environment

	Market Push (RD&D stages)	Market Pull (Deployment & Diffusion stages)
Financial Incentives	• Research grants • Loan guarantees • Business soft loans • Public investment in RD&D • State-funded venture capital and equity guarantees	• Targeted consumer credit • Cap-and-trade emission schemes • Emission Reduction Credits • FiTs
Fiscal Incentives	• R&D tax credits • Import tax Reductions or waivers	• Taxation on pollution or natural resource use
Institutional Incentives (Regulations & Standards, and capacity)	• Management and entrepreneurship training	• Sector-specific government standards • Manufacturer Standards and Product labeling • Product testing and certification • Renewable Energy Portfolio Standards or Obligations and Renewable energy certificates (RECs) • Awareness campaigns • Capacity building training
Other	• Competitions & Awards	• Public rankings

Thank you

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