

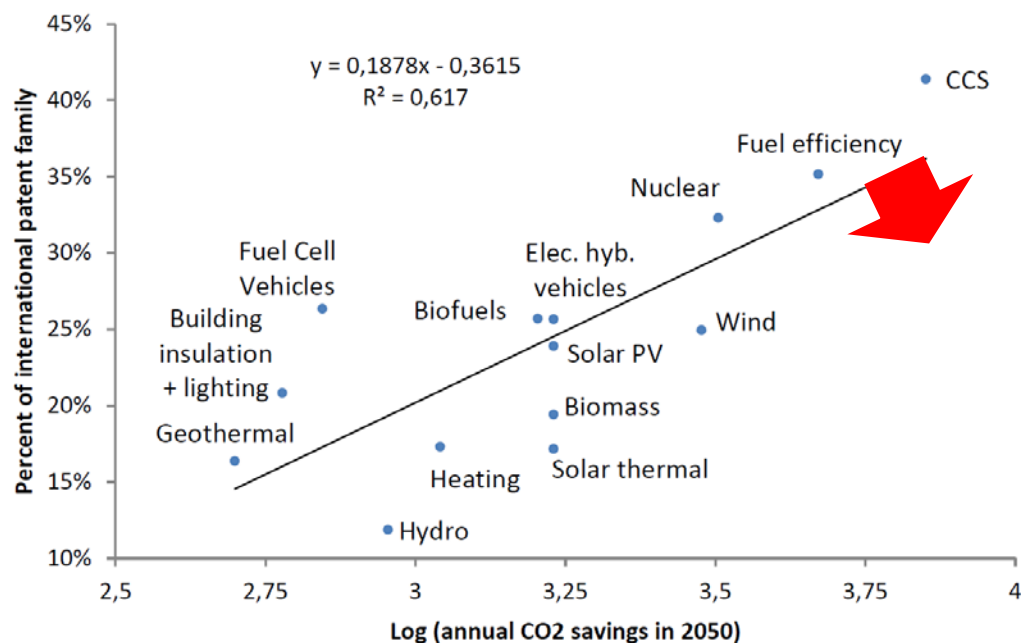
## The strategy for financing low carbon technology transfer

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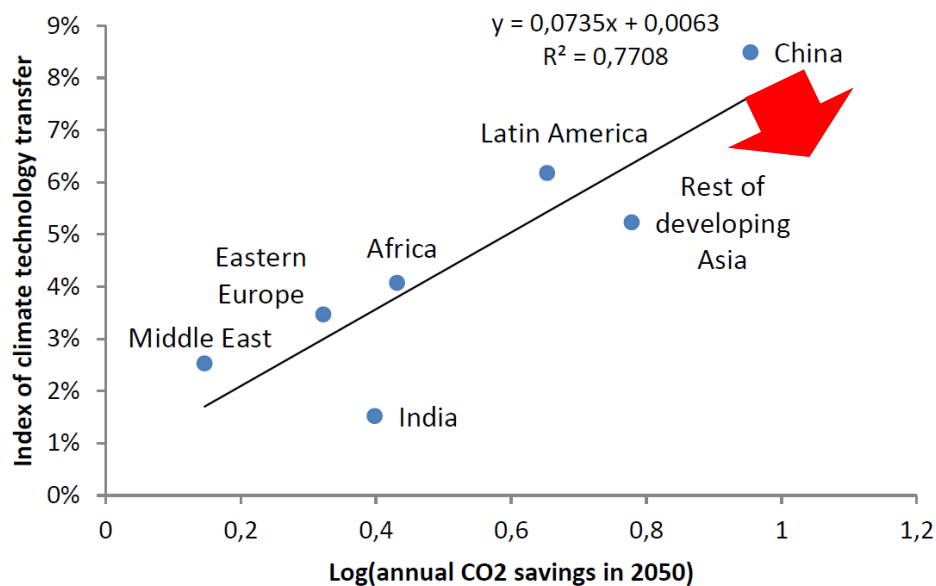
# Which technologies should be given priority?



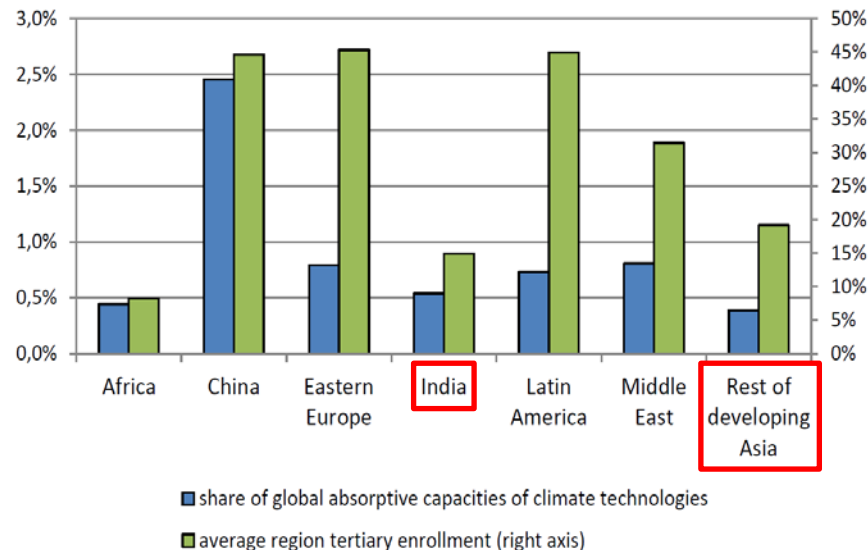
Source: MINES Paris Tech (2013). Promoting international transfer of low carbon technologies: Evidence and policy challenges

- Criteria
  - High abate potential and low transfer rate today;
  - Rule out economic criteria
- Methodologically different than TNA (MINES vs. TNA)
  - Global vs. given country
  - Desk research vs. consultative process
  - Unique criterion vs. multi-criteria
- Results
  - Technologies below the line with little transfer and significant potential

# Which geographical areas should be given priority?

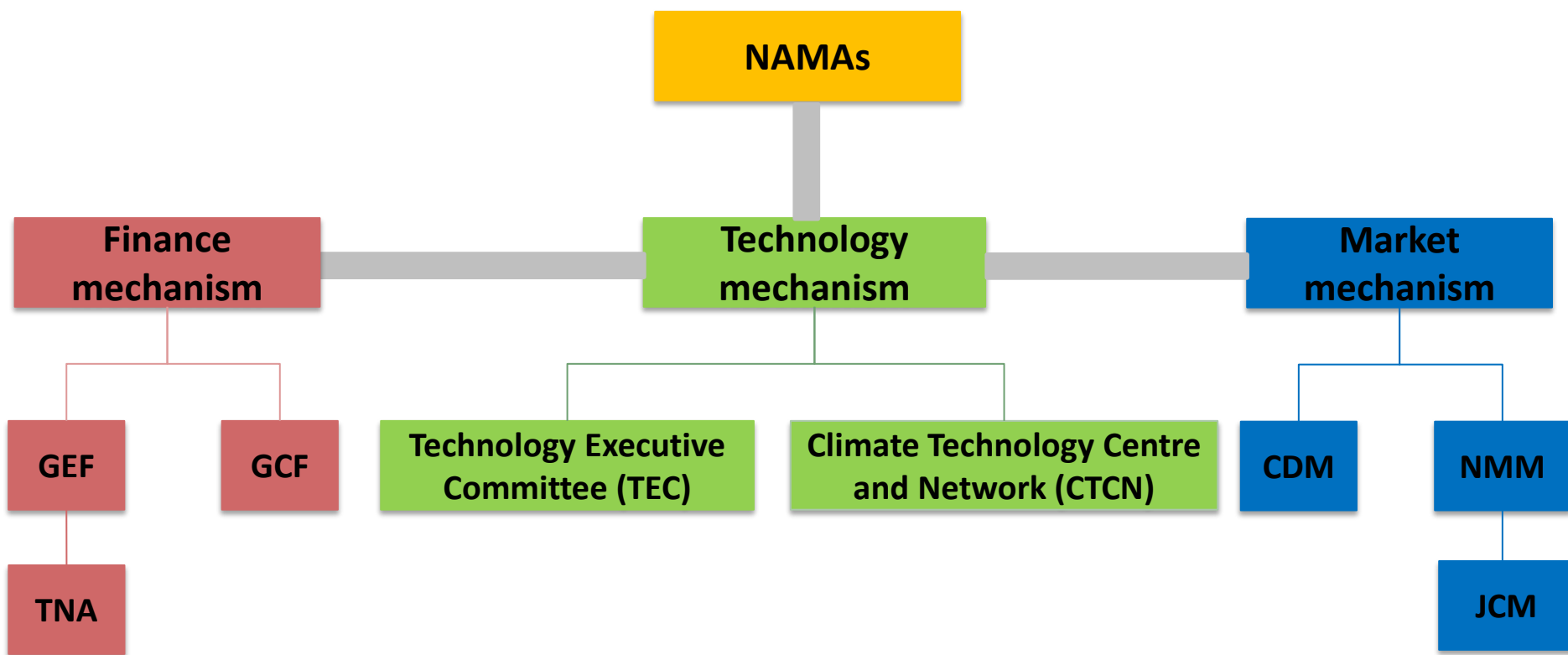


Source: MINES Paris Tech (2013). Promoting international transfer of low carbon technologies: Evidence and policy challenges



- Results
  - India and rest of developing Asia are areas with significant potential but little transfer
  - These areas need improve their absorptive capacities of climate technologies

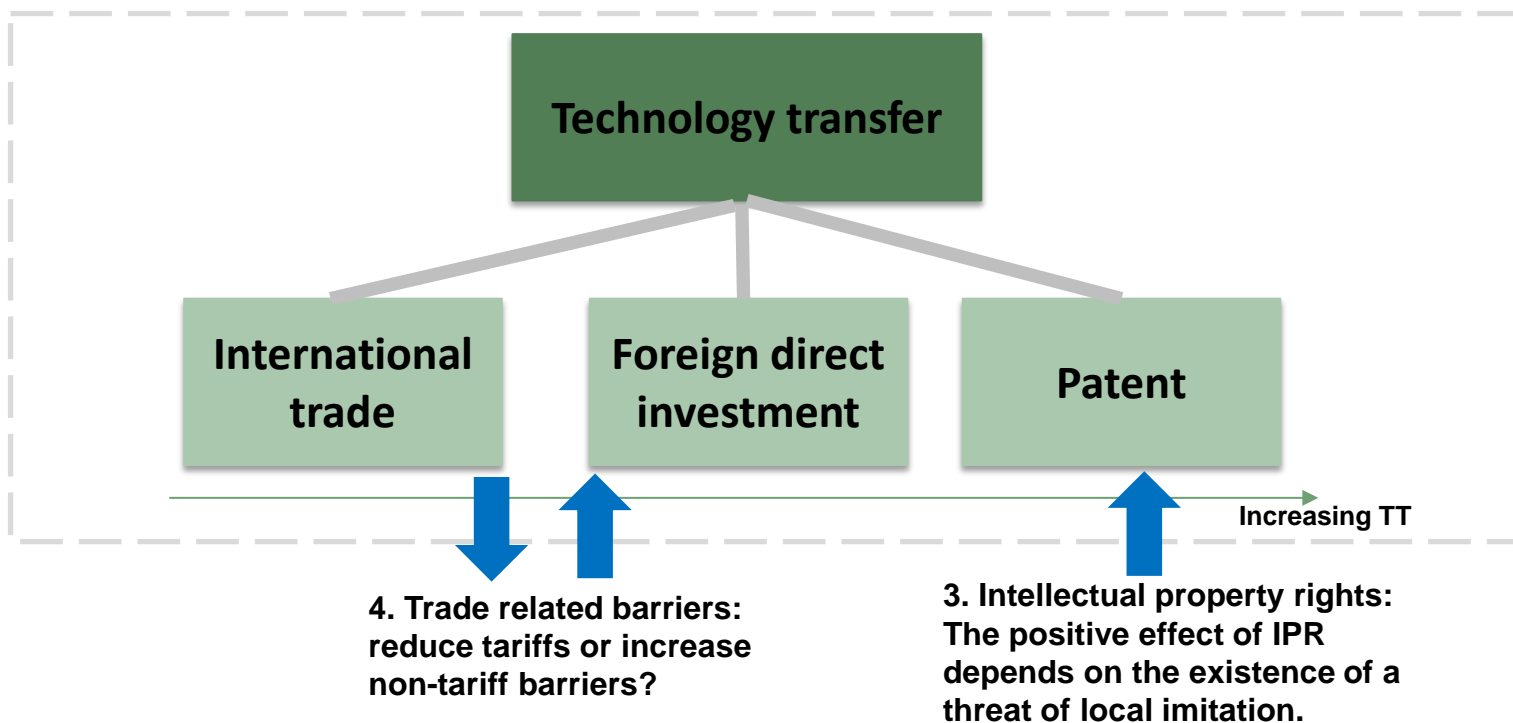
# UNFCCC schemes for promoting LCTT



# LCTT reduces the cost of climate technologies

1. GHG abatement policies: Demand for climate technologies can be created by policies.

2. Capacity building: Absorptive capacities determine the success and efficiency of LCTT.



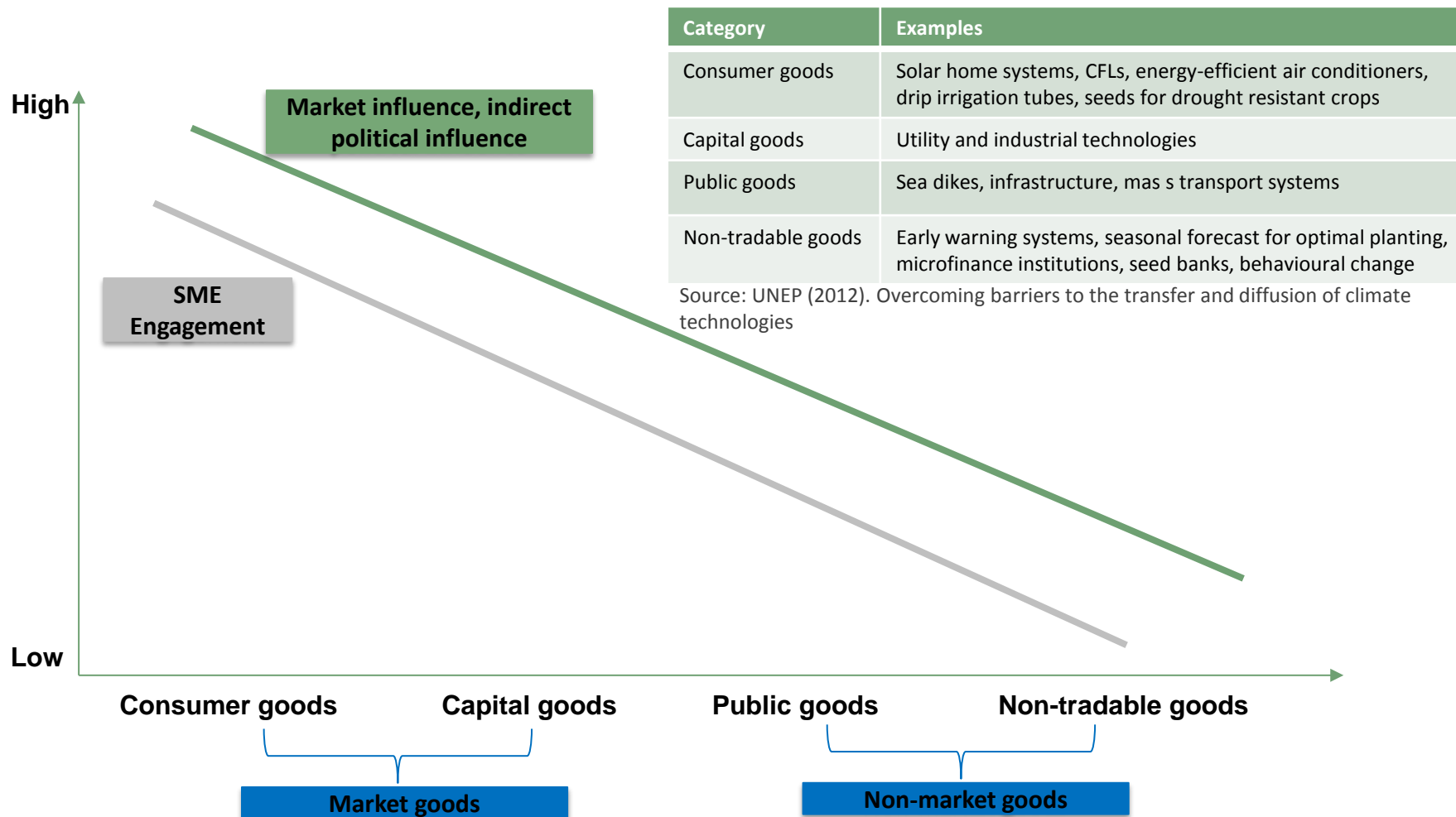
**Conclusion:** LCTT has inconclusive implications for the welfare of technology supply and demand countries. However, LCTT increases global competition, thereby reducing the cost of climate technologies.

# Policy instruments for financing climate technologies

	Technology development stage			
Financing instrument	R&D	Proof of concept & scale-up	Commercial roll-out	Diffusion and maturity
Fiscal tools	R&D tax credits; capital gains tax waive	Tax-free development zone	Accelerated depreciation; investment and production tax credits;	Phase-out of fossil fuel subsidies; carbon tax; User levy; clean energy tax breaks
Early market development	R&D grants; inducement for innovation	Public procurement; green power purchasing	Requests for contract; RPS/green certificates; FiT;	Project grants; net metering; negotiated investment agreements
Debt and equity	Incubators; national labs; prizes; public VC	Project grants; venture loan guarantees; mezzanine	Public-private tech funds; green bonds; loan softening; senior debt; insurance	Tech transfer funds, infrastructure funds, Public equity funds, export trade credit, risk insurance
Market trading				Compliance and voluntary cap and trade markets, project-based carbon credits, carbon funds

Source: Glemarec, Y. (2011). Catalysing climate finance: A guidebook on policy and financing options to support green, low-emission and climate-resilient development

# SMEs get involved in the transfer of market goods



# The strategy for financing LCTT for SMEs: Incentivizing the private sector

## Developing vs. Developed countries

	Unique to developing countries	Generic to climate investment
<b>Debt</b>	<ul style="list-style-type: none"> <li>General interest rate is high due to competition for investment in infrastructure and control for inflationary pressures.</li> <li>Longer tenor debt is generally unavailable.</li> <li>Project finance (or non-recourse finance) is unavailable.</li> <li>Fixed interest rate debt is rare.</li> <li>The bond market is very small relative to GDP.</li> </ul>	<ul style="list-style-type: none"> <li>Non-familiarity with climate projects and the perceived riskiness are the reasons for not lending.</li> <li>Banks set a cap for lending to any particular sector. The renewable energy sector is coupled with power or energy sectors, which are already nearing sector lending limits.</li> </ul>
<b>Equity</b>	<ul style="list-style-type: none"> <li>Institutional investors are underdeveloped or non-existent.</li> <li>Pension funds are largely closed to direct corporate borrows and are mandatorily required to invest in government designated assets.</li> </ul>	<ul style="list-style-type: none"> <li>Expectation of the minimum Internal Rate of Return (IRR) is at least 15% and can be higher than 50%.</li> </ul>

## SMEs vs. SOEs

	Unique to SMEs	Generic to climate investment
<b>Debt</b>	<ul style="list-style-type: none"> <li>SMEs do not entail investments in high collateral value assets.</li> <li>SMEs have to obtain third-party loan guarantees.</li> <li>SMEs have to meet high self-capital requirement.</li> <li>Only 1 percent of bond is issued by non-SOEs.</li> </ul>	<ul style="list-style-type: none"> <li>Discount rate on climate equipment is significantly higher than typical collaterals.</li> </ul>
<b>Equity</b>		<ul style="list-style-type: none"> <li>Newly established equity funds have a strategic focus on emissions reduction.</li> </ul>

**Conclusion:**  
Equity markets in developing countries appear to be readily available at a reasonable cost. However, climate investment could be much less expensive if not for high debt costs.





***Thank you very much for your attention!***

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