Technology Transfer: a key to enable low carbon infrastructure development in developing countries

? ? ? ? Prof Jiankun HE ? ? ? ? ? ? ? ? ? ?

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High level conference on Climate Change: Technology Development and Technology Transfer



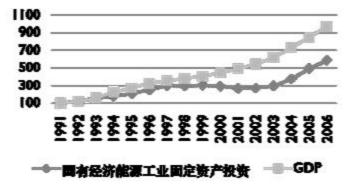
Large-scale development of low carbon infrastructure needs large-scale additional investment in new energy and energy efficiency

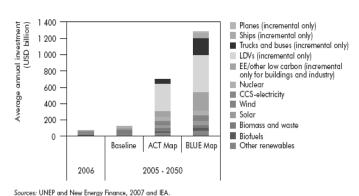
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 Additional investment for low carbon infrastructure will redirect and crowd out investment for other development goals, e.g. education, poverty reduction and medical care.

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 International community should consider how to help developing countries adopt best low carbon technology in their infrastructure development and meet the financial needs





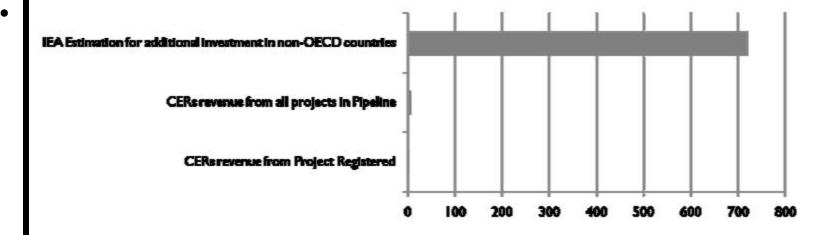


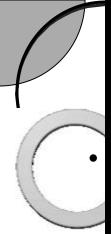
The scale of current carbon market is not enough to power the low carbon energy infrastructure development in developing countries.

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The carbon price is not high enough to incentive potential investors to invest in low carbon technology, while the government of developing countries afford remarkable abatement cost.

 Stable and sufficient demand, expectation and price should be created for carbon reduction from low carbon infrastructure development in developing countries.





Technology transfer and low carbon investment: Case of Wind power

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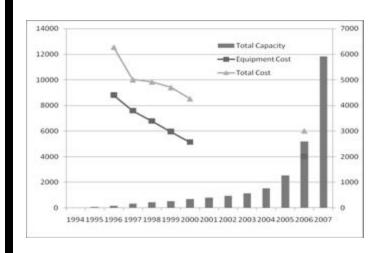
Technology transfer can reduce unit investment through lower labor cost and material cost in receipt countries.

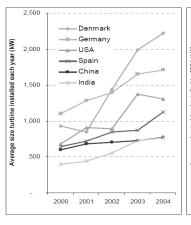
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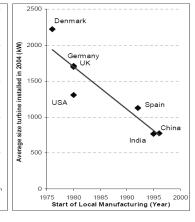
Without government guided policy, the private enterprises have no incentive to transfer the best low carbon technologies because of competitiveness concern.

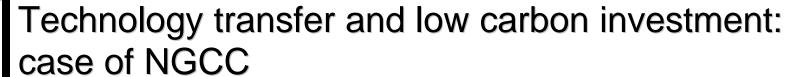
• Only relying on technology transfer in private sector, the developing countries can't access to the best low carbon technologies.

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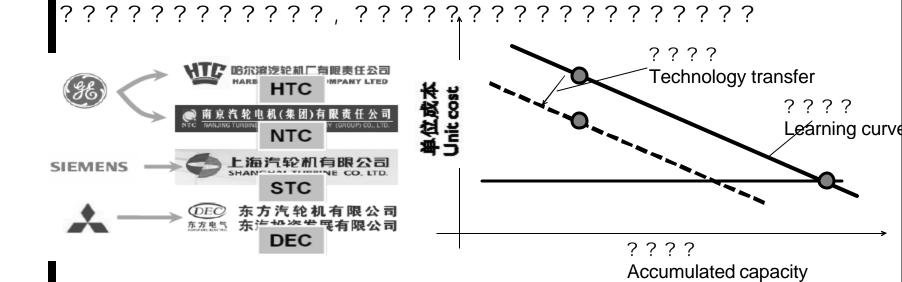
Bundling tender for same type of projects can promote technology transfer to developing countries.

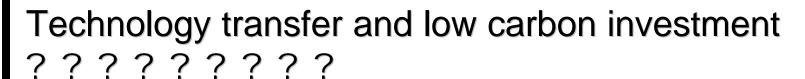
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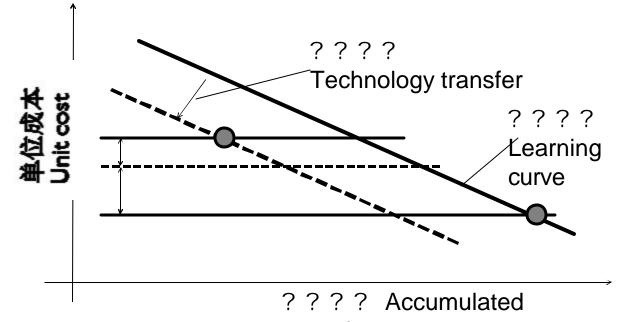
 Technology provider tend to control the core technology through joint venture or cooperation

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• The cost of low carbon technology is still higher than incumbent technology even cost has been greatly reduced through localization.







- Making the low carbon technology corastive is the precondition to develop low carbon infrastructure in large scale.
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- Technology transfer, revenue from carbon market and domestic incentive policy can increase the competitiveness of low carbon technologies.
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- Creative institution design is crucial to overcome the institutional and financial barriers of low carbon infrastructure development
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Bundling infrastructure development projects according to technology to be employed.

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 Based on startup project bundle, technology providers in developed countries transfer and localize best low carbon technology to technology receipt in developing countries.

 Government of developing countries provide preferential policy (e.g. feed in tariff, tax reduction) to facilitate domestic application of transferred low carbon technologies.

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• Government of developed countries issue debt for additional investment for the "bundle" and commit to buy emission reductions from these "bundles".

• Part of CERs from "Bundle" will be sold to government of developed countries, part of CERs can be transferred to technology provider to compensate their cost

Establish institutional framework to facilitate international technology transfer

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Constitute a new international technology transfer regime based on principles of "guided by government", "enterprise oriented" and "combining industry, academic and research"

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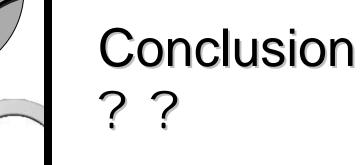
 Technology transfer of low carbon technology is the responsibility of Parties under the framework of Convention. The government should provide financial and policy support

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 Technology transfer should be "enterprise oriented" to ensure the business interest and long run beneficial cooperation between technology providers and receipts. The IPR of technology provider should be respected while the competitiveness of technology receipts should be ensured.

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 Combining industry, academy and research to ensure localization of transferred technology. Enhancing cooperative R&D to facilitate technology innovation and reducing unit investment through learning by doing.



Transferring low carbon technology to developing countries, enhancing technology capacity, reducing unit investment by localization and learning by doing are crucial to facilitate development of low carbon infrastructure in developing countries.

- Developed countries should facilitate the transfer and diffusion of low carbon technology through government guided policy including subsides, preferential loan

- Technology based T-CDM can attribute to break deadlock and achieve win-win option
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THANK YOU FOR YOUR ATTENTION

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