



# **Financing for Low Carbon Societies in Asia**

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# Presentation Outline

- Ω **Conceptual Framework for a Global Public Good (GPG) like a Stable Climate**
- Ω **Avenues of Financing for a LCS**
  - **Country-based Taxes & Incentives**
  - **Bilateral & Multilateral Funding**
- Ω **Opportunities in Asia**
- Ω **Role of Japan**
- Ω **Some Suggestions**

# Conceptual Framework for A GPG

- ∞ Use of atmospheric sink as a Global Commons is non-excludable, but rival
- ∞ CC is a Global Public Bad; so carbon reduction (CR), aimed at halting CC, is a GPG
- ∞ But CR as a GPG suffers from under supply & non-participation, because :
  - Countries are guided by short-term cost–benefit analysis — in case of CR, costs are viewed by some to be higher
  - Mainstream economic paradigm does not promote the commitment of resources for some GPG, benefits of which are to be derived in some distant future

# Framework of CR as a GPG (contd)

- ❧ Powerful conventional power market lobby is not a supporter of cleaner technology for CR
- ❧ There is the free-rider problem in this Global Commons
- ❧ Contribution to the problem is unequal & the more affected countries lack the resources to provide such a GPG
- ❧ Principle of CBDR establishes a responsibility & capability-based mechanism of funding
- ❧ The corollary of CBDR is the Polluter Pays Principle (PPP) for internalization of a negative externality like carbon emission
- ❧ If the industrial market economies accept this basic market instrument for global application, the problem of financing for a LCS is greatly solved

# How much a Global LCS would cost ?

- ❧ Stern Review (2007) estimates that inaction will cost 5-20% of global GDP, but action now will cost only 1% of it
- ❧ Estimates in Japan also put a similar figure – about 1% of its GDP for putting Japan on a Low Carbon path
- ❧ Put in different terms, this equals a global av cost of about 2 cents/kwh or 25 cents/gallon of gasoline
- ❧ UNFCCC estimates about \$200 bn is needed to return GHG emissions to current levels in 2030; this is just 0.3-0.5% of global GDP & 1.1-1.7% of global investment
- ❧ Cost/ton of avoided CO<sub>2</sub> emissions can be kept at an average of \$25-30/t
- ❧ Stern recommended doubling of public funds for energy R & D to reach about \$20 bn/yr

# Avenues for A Low Carbon Society

## Ω Pricing of carbon – in 3 ways:

- Taxing of CO<sub>2</sub> emissions (possible in revenue-neutral way)
- Cap & trade of carbon in the Annex-1 Parties (EU ETS), close to \$100 bn
  - Int'l carbon pricing is needed for incentivising long-term investment in R D of CT; a tighter emissions cap may lead to scarcity of allowances, driving the price, but uncertainty yet after 2012
  - Out of 1035 CDM projects (as of May 2008); about 60% in Asia – 68% of CDM are EE or RE projects
- Mobilization of funding through levies on activities, such as aviation

## Ω Adoption of techs, such as Nuclear energy, REDD & CCS (Use of 300 mn EU ETS allowances as a `carrot' for early movers in CCS demo plants)

## Ω Int'l cooperation for EE, RE & LCT, which are the core of a LCS

## Ω This cooperation is to be based on the principles of CBDR & PPP

# Unilateral, Country-based Energy Tax & Incentives

- A wide array of taxes & incentives are already in operation in both developed & developing countries:
- Carbon tax on fossil fuels, Sulfur tax, Charge on nitrogen oxides, Producer tax on electricity etc.
  - Investment in energy saving & renewable energy as income tax deductibles
  - Renewable energy investment subsidies/tax credits, operating cost subsidies, import duty exemptions
  - Dedicated funding agency to provide loans for renewable energy at below market interest rates

• Taxation of polluting fuels directly promotes RE & EE

# Multilateral Funding for EE, RE & CT

- World Bank's Investment Framework for Clean Energy & Dev, Carbon Market Continuity Fund for purchasing post-2012 credits, and Carbon Facility for Low Carbon Growth
- IFC's Renewable & Energy Efficiency Fund – ~\$200mn, to leverage private sector partnership
- ADB is developing a carbon market to boost CE projects, and will allocate \$1 bn of annual lending for EE through a proposed Asia-Pacific Fund for EE
- ADB's CC Fund with initial allocation of \$40 mn
- Asia-pacific Partnership on Clean Dev & Climate



# Multilateral Funding for EE, RE & CT

- ⌚ **UNEP's Sustainable Energy Finance Initiative**
- ⌚ **Solar Dev Corporation – a stand-alone, commercial company as a joint initiative of the IFC, WB & some US Foundations**
- ⌚ **Commonwealth Development Corporation**
- ⌚ **Barak Obama's promise of \$150 bn in CT over the next decade: a US-backed push for CT will boost investors' confidence in financing of CT**
- ⌚ **Funding & other support for EE & RE is already close to \$200 bn**

# Opportunities in Asia for LCS

## Population without Electricity

- Global – 1.6 bn, East Asia – 224 mn, South Asia – 706 mn

So huge demand for basic energy services

Least expensive to develop CE infrastructure at the initial stage of development

Microfinance can fund small-scale RE systems in large numbers in remote, off-grid areas

In Bangladesh, over half a million rural poor have SHS (\$300-400 investment per SHS through microcredit; India is also doing this

# Investment in Clean Energy in Asia

- ❧ Developing Asia will account for 40% of the global increase in energy demand by 2030
- ❧ Global energy investment between now & 2030 is estimated at \$20 trn, out of which \$6.3 trn in developing Asia
- ❧ Introduction of a CE target of 20% for Asian nations by 2020 would lead to almost \$1 trn in CE investment in Asia by 2030, of which almost \$50 bn/year would be required until 2020
- ❧ High savings rate in Asia will allow private capital to go into CE investment

## Distribution of World Bank Carbon Financing (%)

<b>Regions</b>	<b>PCF</b>	<b>CDCF</b>	<b>BCF</b>
<b>East Asia &amp; the Pacific</b>	<b>68</b>	<b>6</b>	<b>9</b>
<b>South Asia</b>	<b>4</b>	<b>35</b>	<b>4</b>
<b>Africa</b>	<b>3</b>	<b>38</b>	<b>34</b>
<b>Latin Am &amp; Carribean</b>	<b>15</b>	<b>14</b>	<b>39</b>
<b>Europe &amp; Central As</b>	<b>14</b>	<b>7</b>	<b>14</b>

# Role of Japan for LCS in Asia

- ❧ Japan as the most energy-efficient country in the OECD has great potential to lead the LCS process in Asia & beyond
- ❧ Japan with its large energy assistance of about \$6-7 bn/yr for past 7 yrs is well-placed to provide leadership in mainstreaming EE & RE projects in Asia
- ❧ A recent proposal by Japan, USA & EU to create a new body to promote energy conservation within the IEA
- ❧ Japan's "Cool Earth Promotion" initiative calls for dev & dissemination of specific innovative techs by 2030 & a goal of improving EE by 30% by 2020 can contribute to a LCS in Asia
- ❧ Japan's GHG Reduction Fund & Carbon Finance Ltd can actively promote a carbon market in Asia
- ❧ Japan's announcement to invest \$30 bn over next 5 yrs in R & D in the energy & environment sectors

# Some Suggestions

- ❧ A levy (at least 2%) on JI & ET projects, & the money can be put to a CE fund
- ❧ US participation in the KP will boost demand for CDM & price
- ❧ Removal of subsidies from fossil fuel & put them into CE dev
- ❧ Stringent penalty provisions for non-compliance in the 2<sup>nd</sup> commitment period
- ❧ Current ODA for Infrastructure for a LCS is not enough, so leveraging & partnership with private sector, but public funds to pump prime R & D & deployment of CET
- ❧ Can all these regulatory & market-based instruments, without real changes in life-styles & value systems can achieve a LCS?



Thank You