

# **Financial Cooperation to Address Climate Change**

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**7th Energy Cooperation Task Force Meeting**

**Energy Future: Turning Challenge into Opportunity**

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# Bali Action Plan

Enhanced action on the provision of financial resources and investment to support action on mitigation and adaptation and technology cooperation by developing countries, inter alia:

- adequate, predictable and sustainable financial resources
- provision of new and additional resources
- mobilization of public- and private-sector funding and investment

# Investment to Needs

UNFCCC, *Investment and Financial Flows to Address Climate Change*, 2007

Change in flows needed to reduce 2030 global emissions 25% below 2000

Energy scenario is IEA WEO 2006 with BAPS as mitigation scenario

Other scenarios for remaining gases, sources and for adaptation

Annual investment in 2030 in billion 2005 USD

# Energy Supply Investment

Sectors	Reference scenario	Mitigation scenario	Additional investment
<b>Fossil fuel production (Upstream, refining and transport)</b>	<b>322</b>	<b>263</b>	<b>-59</b>
Coal	20	12	-8
Oil	154	125	-29
Natural Gas	148	126	-22
<b>Power sector total</b>	<b>439</b>	<b>432</b>	<b>-7</b>
Coal-fired generation	75	24	-51
Oil-fired plants	2	1.5	-1
Gas-fired plants	39	36	-3
Nuclear	15	40	25
Hydro	37	59	22
Renewable	41	79	38
CCS Facility coal fired plants	-	40	40
CCS Facility gas fired plants	-	23	23
Transmission and distribution	231	130	-101

# Other Mitigation Investments

Additional Investment Billion US\$		Additional Investment Billion US\$	
<b>Industry</b>	<b>35.6</b>	<b>Waste</b>	<b>0.9</b>
Electrical equipment	10.8	<b>Agriculture</b>	<b>35.0</b>
Stationary fuel consuming equipment	8.7	Non-CO <sub>2</sub> gases	20
CO <sub>2</sub> capture and storage	14.1	Agroforestry	15
Non-CO <sub>2</sub> gases	2.0	<b>Forestry</b>	<b>20.3</b>
<b>Buildings</b>	<b>50.8</b>	Reduced deforestation	12
Electrical equipment	42	Forest management	8
Stationary fuel consuming equipment	8.8	Afforestation and reforestation	0.12–0.50
<b>Transportation</b>	<b>87.9</b>	<b>Energy R&amp;D</b>	<b>40.0</b>
Biofuel	9.2	Government R&D	10
Hybrid vehicles and efficiency improvement in vehicles	78.7	Assistance for deployment of new technologies	30

# Adaptation Investments

Additional Investment Billion US\$	
Agriculture, Forestry, and Fisheries	14
Water supply	11
Human health	5
Coastal zones	11
Infrastructure	8 to 130
<b>Total</b>	<b>49 to 171</b>

# Current Global Investment

Source		Share	Range
<i>Households</i>	<i>Total investment</i>	<i>26%</i>	<i>15 to 30</i>
<i>Corporations</i>	<i>Total investment</i>	<i>60%</i>	<i>55 to 75</i>
	Domestic funds	21%	15 to 65
	FDI	22%	0 to 30
	Foreign debt	17%	0 to 30
<i>Government</i>	<i>Total investment</i>	<i>14%</i>	<i>10 to 25</i>
	Domestic funds	12%	0 to 25
	Foreign debt	1%	0 to 10
	ODA	0%	0 to 6
<b>Total</b>	<b>Total investment</b>	<b>100%</b>	
	Domestic funds	60%	35 to 100
	FDI	22%	5 to 45
	Foreign debt	18%	0 to 35
	ODA	0%	0 to 6

Global investment in 2000 = US\$6,875 billion = 2005 US\$7,750 billion

# Summary of Changes

Amounts large in absolute terms, but small relative to GDP, total investment

Need substantial shifts in investment for mitigation as well as overall increase for mitigation and adaptation

Substantial share in developing countries; lowest cost reductions there

Policies will be needed to influence private investment because it dominates the total



# Existing Funding for Climate

Existing funding to address climate change in developing countries:

- GEF  $\approx$  \$250 million/yr; mainly mitigation
- SCCF and LDCF <\$300 million total; mainly adaptation
- Adaptation Fund <\$300 million/yr; adaptation
- CDM investment in new mitigation projects more than \$7 billion/yr

Existing sources clearly inadequate to meet developing country needs

# Funding for Mitigation

National policies for electricity sector and energy efficiency in all sectors

More stringent commitments can increase investment for renewables, non-CO<sub>2</sub> gas reductions by >\$25 billion/yr under CDM

Funds for large options with significantly different costs; REDD and CCS

# Adaptation and Technology

National policies to build infrastructure and develop economy suitable for future climate

Need multi billion dollars per year of international funding for publicly funded adaptation in developing countries

Need some money for technology R&D, diffusion in developing countries and technology transfer not met by mitigation

# Possible New Sources of Funds

More money from developed country budgets:

- AOSIS – mandatory contributions
- China – 0.5% of GDP
- Germany/EU – share of revenue from auction of domestic allowances
- Mexico – defined scale of contributions
- Switzerland – harmonized CO<sub>2</sub> tax
- More bilateral, multilateral funds; Japan, US, UK

# Possible New Sources of Funds

Money from more stringent commitments:

- Korea – deeper commitments to create market for credits from nationally appropriate mitigation actions (NAMAs)
- Norway – auction a share of assigned amount

Other sources of funds:

- Levy on air fares
- Levy, auctioned allowances for emissions from international aviation/shipping
- Several others

# Challenges

Need sources that raise enough money;  
China, Norway, Swiss tax, air levy,  
bunkers; some others unknown

Assess feasibility of sources to provide  
funds on a sustained, predictable basis

Match sources with needs; adaptation needs  
the most money

# Challenges

Governance – countries have proposed several new funds that will need to be managed and coordinated

Delivery – large increase in funds for adaptation can not continue to be disbursed on a project basis

# Summary

Post-2012 agreement will require more action on mitigation, adaptation, technology

Action will require national policies, more CDM, and much more money for DCs

Several potential sources able to generate enough money; need to agree on one or more to get sustained, predictable funding

Governance, delivery need to be addressed