An Investment Framework For Clean Energy and Development -An African Context

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Investment FrameworkThree Pillars

Pillar 1 focuses on Energy for Development and Access for the Poor: the Role of Energy in Economic Growth and Poverty Reduction

Pillar 2 focuses on the policies and financial requirements to support a transition to a low carbon economy

Pillar 3 focuses on the need for investments to reduce vulnerability to climate variability and climate risk, especially for the poor who suffer the most from this problem

Pillar 1: Costs and Financing Gap

- Electricity supply needs $165 billion p.a. (including $35 billion for electricity access for the poor)
- Current private and public sector resources fund $80 billion p.a.
- Review of existing IFI financial instruments indicated no need for new instruments.
- The challenge is the adequacy of the energy sector policy and regulatory framework to enable these financial instruments to bridge financial gap

Pillar 1: Energy Investment Options for Low Income Countries

1. Additional generation capacity (including through regional projects)
2. Scaled-up programs of household electrification (grid and off-grid)
3. Access to clean cooking, heating and lighting fuels (through sustainable forest management and improved cookstoves)
4. Energy services to schools and clinics
5. Modern illumination packages for households without electricity

Emphasis will be placed on implementing an action plan for energy access for the poor in Sub-Saharan Africa

Pillar 1: Costs and Financing Gap

- Review of IFI financial instruments indicated that by stretching current instruments by removing constraints, it may be possible to mobilize about an additional $11 billion p.a. from private sector, IFIs, donors, and ECAs

- Increased concessional funding is needed for electricity access in Sub-Saharan Africa by doubling current level of investments to $4 billion p.a. from the current level of $2 billion p.a. to increase access rate

- There is a need for increased IDA support for energy access that cannot be funded under IDA-14, meaning that additional mobilization of resources will be required

Pillar 2: Transition to a low carbon economy

- The costs of decreasing greenhouse gas emissions can be reduced through international trading and adopting a multi-gas/multi-sector strategy, hence reducing financing needs

- Technologies are currently, or will soon be, commercially available to transition to a low-carbon economy

- A transition to a low-carbon energy economy requires annual incremental investments of tens of billions of dollars in the energy sector, particularly in power generation.

Pillar 2

- Existing instruments can be strengthened and scaled-up for greater impact in the development of markets for energy efficient and renewable energy technologies

- nonetheless:
  - Problems of scale of existing facilities e.g. GEF
  - Problems of carbon market continuity post 2012

Pillar 2

- A viable carbon market needs a long-term stable global framework, with differentiated responsibilities. This could stimulate the carbon market with a flow of funds to developing countries of tens of billions of dollars per year

- More work is needed on options for financial instruments which can leverage these flows and assist in the scale up

Pillar 3: Adaptation to Climate Risks: The Challenge

- Poor countries are disproportionately affected by climate variability
  - 300 million people per year in developing countries are affected by climate related disasters (droughts, floods, wind storms) and the rate is increasing

- Failure to adapt to changing climate risks will threaten progress in development and the MDGs

Climate Change Outlook in Africa

- climate change impacts expected to be most severe in developing countries – Africa is especially vulnerable
- climate trends for Africa
  - higher temperature: 1.4-1.6 degrees (C) by 2050 (IPCC 1997)
  - lower rainfall (esp. in Southern Africa) by 10% by 2050 (IPCC 1997)
  - higher rainfall in Sahelian/Equitorial region
- warming will worsen current pressures

Observed regional changes in temperature have been associated with observed changes in physical and biological systems in Africa

Examples include:

- Melting of glaciers on Mt Kilimanjaro
- Disruption in bird migration patterns
- Malaria spread
- Changes in extreme events
- Reduction in runoff between 5-40% in major rivers

Africa's Vulnerability to Climate Change

- high dependence on agriculture
  - contributes approximately 30% of GDP (15-70%)
  - 70-80% employment opportunities
  - low investment
- limited arable land
- reduction in crop yields:
  - high mean temperatures
  - variable climate (precipitation)
  - limited surface water availability
  - poor soil quality
- force marginal areas out of agricultural production
- increase stress on other fertile areas

Impacts on other Sectors

- A wide range of adverse impacts of climate change are projected for all other sectors.
- Impacts on biodiversity further exacerbated by protected areas that are pressured by agricultural expansion.
- Water systems already stressed in many parts of Africa, become more critical.
- Warming in high-altitude areas that were previously too-cold for malaria mosquitoes leads to spread of malaria.
- Increased frequency of extremes (storms etc) lead to high vulnerabilities along coastal areas and along flood zones.

Mainstreaming climate risk into investment planning in Africa

- Also referred to as "climate proofing" investment
- Challenge is to move from
  - Modelling and data gathering
  - Capacity building
  - Vulnerability analyses
  - Prioritization exercises
- To
  - Effective consideration of climate risks in investment planning
  - Tapping new resources for adaptation to supplement additional costs of "climate proofing"
  - Using partnership, synergies and integrated approaches such as SLM under TerrAfrica

World Bank Adaptation Work Program for Africa

- Tools for screening investments for climate risk
  - Extend prototype for South Asia to Africa
- Increase disaster preparedness
  - Desk study of implications of climate change to disaster preparedness –
- Adapting Existing Physical Capital
  - Desk study and in-country testing in Africa of identifying risks, options for adaptation and methods for cost-benefit analysis
- Country Studies
  - Opportunities and barriers to mainstreaming adaptation
- Awareness Raising and Dissemination
- Identify improved Financial Frameworks

Example of operation: Kenya Adaptation to Climate Change in Arid Lands

Pillar 3: Adaptation to Climate Risks: Costs

- Tens of billions dollars per year of ODA & concessional finance investments are exposed to climate risks – at least $1 billion per year is needed to climate-proof the development portfolio
- Much larger exposure of private sector investment
- Response by private sector constrained by
  - Lack of information on the nature of the risks and adaptation options
  - Insufficient risk spreading mechanisms – e.g. insurance

Pillar 3: Adaptation to Climate Risks: Funding

- Primary financial instruments available –
  - ODA
  - GEF special funds for adaptation
  - Adaptation Fund funded by a 2% tax on the Clean Development Mechanism
- These instruments technically adequate –but funds flowing through them need to be substantially increased
- New facilities planned: Disaster prevention and recovery insurance options

Role of the Bank and Next Steps

- Energy for development and access for the poor
  - accelerate energy access in SSA
  - support economic growth in low- and middle income countries through policy reform
- Low carbon economy
  - scale up energy efficiency
  - develop clean energy programs
  - continue to explore new financing options
- Adaptation
  - country programs to evaluate costs and policy options
  - increase project portfolio
  - risk sharing mechanisms