

“ENERGY AND CLIMATE FOR DEVELOPMENT”

Africa Development Forum 7

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SUMMARY OF PROCEEDINGS

Economic growth, energy and human development are closely linked. In Africa, all need to rise rapidly in the coming decades to address issues of energy poverty and the achievement of the MDGs. Africa is growing at a rate of 7% (2011) and with that energy demand (560 million lack access to electricity today). Energy generation needs to be scaled up by an average of 4-7 GW per year to meet these needs, close the access gap and keep pace with the projected economic growth. New sources of innovative financing will need to be identified to fill the expected financing shortfall of between US\$ 23.6 and US\$ 30.9 billion per year. There remains a huge power investment backlog.

Clearly this is an enormous challenge that is further exacerbated by the current state of the sector. Frequent power shortages, low reliability and availability, and high costs of electricity impede growth and competition across the region. Africa is highly dependent on imported oil (accounting for 40% of energy consumed, compared to a worldwide average of 19%) – and peak oil has already occurred, according to some sources. Coal is the largest energy resource in use, with high greenhouse gas emissions, but is likely to give ground to hydropower in the future. Hydropower, in turn, is exposed to significant current hydrologic variability and future climate change. The heavy reliance on biomass and associated deforestation is an underlying issue and the dominant source of emission in Africa. Where growth takes place will have a profound impact on energy demand and production. By 2015 urban population will equal rural population in Africa, requiring consideration to be given to the best methods to meet both urban (centralized) and rural (decentralized) energy demand.

And, Africa is significantly threatened by climate change, e.g. warming has already been observed, less rainfall is projected for the Sahel and more for East Africa. The poorest and most vulnerable are worst hit, MDG achievements are threatened, and water and energy security are impacted. Climate change will have direct impacts on weather-dependent renewables and on energy demand (for heating/cooling) but can also impact the energy system indirectly. For example, extreme weather events can affect power grid systems, sea level rise and flooding can impact coastal and offshore infrastructure. Thermal power systems that rely on large volumes of water for cooling can be affected by changes in the availability of that resource.

Long term sustainable growth will require that access to energy and climate-smart development (mitigation and adaptation) considerations be appropriately balanced. This requires new thinking about energy systems, an open conversation about energy options and a risk-based approach to energy systems planning to avoid becoming locked-in by infrastructure and consumption patterns that are not sustainable in the future and are the result of irreversible investment decisions. There are opportunities to develop a green, sustainable economy in an integrated manner by:

- Scaling up untapped renewable energy resources (hydropower – only 7% of resources have been exploited, wind, solar and geothermal) while integrating climate risk management into design and operations



- Supporting increased regional energy integration and power trade to lower the cost of energy solutions, and ensure complementarity of energy supply options in the face of a changing climate
- Extending off-grid/ decentralized solutions for rural areas bringing associated adaptation benefits by locating energy supplies closer to demand centers
- Capturing water and energy losses, and implementing demand management measures (industry, non industry) to make existing resources go further; tapping industrial cogeneration potential and exploring options to decouple demand from emissions growth
- Investing in energy efficiency to decrease demand rather than adding costlier supply side generation
- Promoting energy system diversity to help weather the impact of volatile prices and climate
- Taking account of climate risks in the planning and operation of new and existing infrastructure

Such measures support development and bring other co-benefits, e.g. a shift in the longer term to cleaner energy solutions, increased ability to cope with climate variability and long term trends, and reduce the carbon intensity of development. The transport sector as a major consumer of fuels and driver of GHG emissions also offers opportunities to support these goals through vehicle standards, modal shift (e.g. public transport) and fuel switching for example.

But action requires resources and political and stakeholder engagement, including with the private sector, to ensure sustainable implementation. The needed financing can be mobilized through a range of instruments, such as carbon markets, climate finance, feed-in tariffs (for renewables), or the use of hedging/ insurance tools. There remain some challenges in accessing such instruments. And, action requires technical and institutional capacity, for long term risk-based planning, for weather/ climate information and forecasting, for energy utilities and decision makers to name a few.

Significant effort is already underway throughout Africa to address institutional, financial, governance and capacity challenges, which will help with long term sustainability. The future innovation that comes with long term planning processes that address development goals, lower carbon emissions and increase adaptive capacity will help with long term security. We need to move now to put these solutions into practice and exchange/transfer experiences with other regions. Most importantly, we need to keep things simple, pragmatic and disciplined.

The October 12 side event “Energy and Climate for Development” was hosted by the World Bank, Energy Sector Management Assistance Program (ESMAP) and UNECA that also gave presentations. The hosts are grateful for thought provoking presentations and moderation from the Africa Development Bank, HELIO International, SouthSouthNorth and UNDP Ethiopia as well as the active involvement of approximately 120 participants working on development, energy and water across Africa.

For more information and copies of presentations see below websites or contacts below:

<http://www.uneca.org/adfvii/pre-forum.asp>

www.esmap.org

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