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2012 INTERNATIONAL YEAR OF
SUSTAINABLE ENERGY
FOR ALL

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Special Session

Date: 05 December 2012; **Time:** 14-16 h; **Venue:** Salon Brun

Concept Note

“Urban planning and energy efficiency for African cities: Clean, Affordable and Reliable Energy for Better City”

Access to cheap energy, mainly fossil fuel, has contributed to the industrialisation and urban development of modern cities in both developed and developing countries. This has fuelled the development of modern economies, functioning urban infrastructures, industries, housing, social services and has also improved people’s living conditions. For the last 100 years, oil has been the number one resource for industrial development, mobility and prosperity in the world.

Today, with the peaking limits of oil production, the rapid urbanisation, the increasing population growth, the growing energy demand from both emerging and developing countries, climate change, concerns on energy security etc., are contributing to the rising price of energy (oil and gas), which are becoming increasingly unaffordable to most developing countries. As energy is central to all economic development, its increasing price affects all economic sectors as well as society. High prices of energy translate into high prices of goods, transport, building materials, infrastructures, services, education, health, communication, food etc. Energy has become the single major limiting factor of development.

Cities today are home to half of the World’s population, consume 60-80% of the World’s energy resources and produce 70% of the World’s CO₂ emissions. Addressing the challenges of cities today will pass through the provision of clean, affordable and reliable energy to

citizens. Cities must play a major role in improving energy and resource efficiency, in reducing GHG emission and in achieving sustainable development. Well planned and managed cities can minimise energy consumption and will allow city dwellers to consume resources more efficiently.

It is estimated that on average, 56 percent of energy is used in urban buildings alone. Unless strong policies, green urban strategies and sustainable development are adopted, millions of new buildings will be built without any concern for energy efficiency, and millions of existing building stocks, using more energy than necessary, will still be standing in the next decades. The continent is already faced with enormous energy generation deficit and needs more energy for its economic development and poverty eradication.

African cities experience frequent power rationing and power cuts as the gap between demand and supply steadily grows. Power utility companies are facing immense challenges in meeting the increasing demand for energy by urban dwellers. The rate of population growth in Africa is around 3.5 per cent. The increase energy supply capacity in Africa is less than 1 %. The urbanisation rate is the highest in the world 3 % annually. The growing annual energy demand is around 7 %. The continent does not produce enough energy for its development. Average energy consumption per capita in Africa is still below 400 kwh per year compare to 6000 kwh in Western Europe.

Considering the increasing cost of fossil fuel, African cities need alternative sources of energy for its development. This calls for a paradigm shift in the urban energy management. In fact, African cities that are today heavy consumer of energy should generate part of their energy needs through urban renewable energy technologies and by adopting energy demand management.

The challenges for achieving sustainable urban energy systems are mainly through proper energy planning, investment on energy sufficiency and energy conservation, and deployment of renewable energy systems as well as appropriate technologies. The urban energy system, a subject that until recently was not consider a key component of local government authorities and confined solely to engineers of utilities companies, is now a main concern of both national and local governments.

UN Secretary-General Ban Ki-moon's Vision Statement on "Sustainable Energy for All," has three goals for 2030:

- Ensuring universal access to modern energy services;
- Doubling the rate of improvement in energy efficiency; and
- Doubling the share of renewables in the global energy mix.

Access to energy today faces a series of barriers that need to overcome:

- Path dependencies in energy infrastructure and institutions;
- Financial obstacles, including up-front initial costs of clean energy technologies;

- Difficulties in finding sources of financing;
- Increasing prices of energy;
- Regulatory policies and practices hindering renewables uptake such as tariffs on renewables and subsidies on fossil fuels; and
- Business models that are based on long-standing monopolistic energy sectors.

To overcome the above barriers, there is a need for:

- Leadership and commitment;
- Stable policy and regulatory frameworks;
- Financing for the energy transformation;
- Strengthened capacity;
- Technological innovation; and
- Communication and awareness.

Developing green cities and green economies will need supportive policies, capacity building, knowledge transfer, financial support mechanisms, market stimulation and sensitizing the population, both at the national and the local level. Local action for global impact!

Promoting Energy Efficiency instead of scaling-up the production capacity is one of the most cost effective interventions, resulting in significant financial savings. Improvement in resources efficiency and energy conservation are also the most preferable and cheap solution to reduce greenhouse gas emissions.

While energy efficiency initiatives reduce the amount of energy consumed, renewable energies offer alternative solutions in local energy generation, which are less carbon intensive. The global market for renewable energy is growing rapidly. Many pioneers around the world have made their communities self-sufficient through renewable energy technologies. A combination of targets, policies, stimulus funds and a growing concern for energy security is at the bottom of the transformation from conventional energy to more renewable energy production.

Change is already happening. The UN Environment Program (July 2011) reported a 32% rise in green energy investments worldwide in 2009 and 2010, accounting for about 50% of newly added capacity worldwide. Investment in Renewables amounted to a record USD 211 billion in 2010, which is five times more than in 2004.

African cities are endowed with renewable energy potential – mainly abundant solar energy. Investment in solar energy technologies will increase access to reliable energy. Global renewable energy resources could theoretically supply about 3000 times the world current energy needs (Greenpeace/EREC, 2007)

The benefits of improving Access to Modern Energy Services in urban and peri-urban areas are transformational: lighting for schools, functioning health clinics, pumps for water and sanitation, cleaner indoor air, faster food-processing, more income-generating

opportunities, industrial development among others. Improving urban energy services is directly linked to achieving the international development goals.

Local governments must make energy services and energy access a top political priority. The battle against energy poverty, as much as the battle for sustainable human development and against climate change in the 21st century can and will only be won in the World's cities, in human settlements.

The future of African cities is through solar energy. Renewable energy is the fastest growing sector in global power production. This is also happening in Africa but at a very slow pace.

The transition to clean energy and resources efficiency would create millions of jobs. In fact, if the price of fossil fuel continue to rise and the investment and attention on renewable energy continue to grow, by 2030, one out of four workers in USA could be working in renewable energy and energy efficiency industries.

The question of *Access to Energy* plays a central role in the Rio + 20 outcome document *The Future We Want*, not at least because of the Secretary General's initiative on Energy Access for All, but also because of the increasing recognition of the central role of energy for sustainable development.

Building on the above background, this session on "Clean, Affordable and Reliable Energy for Better Cities" brings together the experience and knowledge gained in addressing urban energy security. It provides an opportunity to reflect and exchange knowledge on specific issues:

- Restricted financial resources of the local governments to invest on urban energy;
- Municipal energy strategy
- Urban planning that take into consideration issues related to energy and resources efficiency;
- Mobilise investments on urban energy generation and energy efficiency?
- Better manage and distribute energy?
- Innovative developments in policies/regulations and technologies, targeting access to sustainable energy in urban areas?
- energy savings
- more access to energy,
- climate change
- legislation on renewable energy

The session provides an opportunity to discuss municipal urban energy in the context of the emerging urban agenda in preparation for Habitat III in 2016 and to provide inputs for the promotion of municipal energy strategy.

Notes:

Each speaker will make a presentation focusing on urban energy challenges and the opportunities for deployment of renewable energy applications to promote better cities in Africa. The main thematic issues of this session are: energy access, energy efficiency, renewable energy and cross cutting issues such as energy planning, energy policy and regulation and energy finance.

Panelists:

Name	Affiliation
1. Session Chair	Mayor Capetown, South Africa
2. Mr. Vincent Kitio	Chief , Urban Energy Session, UN-Habitat, Nairobi
3. Dr Mahmad Aniff Kodabaccus	Mayor of Port Louis, Mauritius
4. Mr. Ale Lo,	Vice Chair of the Senegalese Parliament and Mayor
5. Mayor Ousmane Drame	Mayor of Nioro du Rip, Senegal and Chair of the ICLEI Africa Committee.
6. José Ulisses Correia e Silva	Mayor of Praia, Cape Vert (sponsored by UNIDO)
7. Mayor Masunda	Mayor of Harare, Zimbabwe
8. Jean-Pierre NDOUTOUM Stéphane POUFFARY	Expert Energy Policy, IEPF CEO and founder – ENERGIES 2050 (French NGO)
9. John Idan	Ghana Energy Commission, Biogas Expert, Ghana
10. Mamadou Saliou SOW	General Manager Sustainable Power Electric Company, Dakar

Summary of the discussions:

The lack of access to energy is a key cause of urban poverty.

The high cost of energy is the main barrier to development.

Cities today are only consumers of energy and could as well generate part of their energy needs by using locally renewable energy sources.

Municipal organic wastes are potential sources of energy that are most often not exploited.

The built environment consumes most of the national energy generation. Most of this energy is used in an inefficient way. In fact buildings are not designed with energy and other resources efficiency measures.

Adoption of sound legislative policies to guide the city's sustainable development.

Key message:

The future of African cities depends on their efforts to access decentralized, clean, affordable and reliable energy sources.

Local governments are encouraged to develop clear strategies and policies that will enable them to tap the abundant renewable energy sources for their local development.

Key recommendations

- Promotion of energy access to fight energy poverty;
- Promotion of energy and other resources efficiency in the built environment;
- Review building code to include renewable energy measures and mandatory regulations such as the use of solar water heater;
- Promotion of green building design;
- Creation of an enabling environment for industrial development;
- Promotion of more PPP to rollout energy access in African cities;
- Mobilize more investment and create efficient incentives;
- Phasing out inefficient appliances such as incandescent light bulbs;
- Energy audit and energy performance management to be put in place.
- Promotion of renewable energy in the urban areas: This includes waste to energy projects;
- Development urban energy strategies, energy planning and legislation.
- Municipalities should adopt energy strategies that allow them to plan and control their expenditures.
- Promote waste to energy projects;
- Education and information policies should be put in place for the public.
- There is a need for harnessing landfill gas emissions from the dumping site as an alternative energy source.
- Municipalities should adopt the installation of solar water heaters in residential buildings and other public buildings to drastically cut energy consumption;
- Municipalities should establish energy efficient lighting programme;
- Retrofitting street lighting and municipal buildings with energy saving lamps and renewable energy technologies;
- Adoption of light emitting diodes in traffic lights
- Increase the proportion of green buildings
- Ensure that all infrastructure development incorporate environmental best practices.
- Initiate program to adopt resource efficient building code.

For more information please contact:

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