



## REPORT

### European-African Symposium on Climate Innovation and Development

#### Blekinge, Sweden 15-16 December 2008

The European-African Symposium on Climate Innovation and Development in Karlshamn, Sweden, on 15-16 December 2008 attracted 37 participants from Sweden, Denmark, Finland, Congo, Ghana, Kenya, Malawi, Mauritius, South Africa, Tanzania and Uganda. The participants represented in equal measure business, knowledge institutions, government agencies and NGOs. Also, represented were Nordic and African intergovernmental collaboration organizations. The list of participants is attached.

The Symposium was organized by the newly established Scandinavian Institute for Competitiveness & Development (SIC&D) at Blekinge Institute of Technology in collaboration with the Swedish International Development Cooperation Agency (Sida), WWF Sweden, Globe Forum, Netport and the Pan African Competitiveness Forum (PACF).

The symposium aimed on an overall level – by drawing on excellent practice in climate solutions – to demonstrate that it is possible to create win-win-win for prosperity in Europe; for increasing growth and development in Africa; and for mitigating/supporting adaptation to climate change.

More specifically the symposium aimed *to identifying opportunities and initiate a process of communicating and channeling these opportunities and solutions for prosperity, development and climate change.*

At the symposium a 37 climate solvers and development practitioners from business, knowledge and research institutions and government agencies in European and African countries gave 12 presentations about their activities, achievements and proposals for how to deal effectively with pressing climate and development challenges. A number of breakout sessions facilitated further discussions and opportunities for joint action. The symposium programme is attached.

#### **Key findings:**

Below follows a short summary of the key findings. For more detailed information reference is made to detailed speaker presentations and press releases. These are available at the following website:

[www.africaneuropeanclimateinnovationinitiative.wordpress.com](http://www.africaneuropeanclimateinnovationinitiative.wordpress.com)

### ***The climate and development crisis***

Currently the world is facing three crises. One is the often-discussed financial crisis. More challenging however are the imminent climate crisis and an equally imminent development crisis. The climate and development crises threaten life on the planet and fundamental human rights. Both these crisis remain for substantial parts unresolved. Consequently, there is a need for – on a global level – doing radically better to mitigate climate change and for moving people, particularly in Africa, out of poverty.

Development and poverty reduction has to a large extent been missing in the climate agenda. Possibly – looking at CO2 emissions – the reason for this is that developing countries, and in particular African countries, are not significant contributors to current global climate change. However, as the symposium proved (refer below) developing countries can be very much part of the solution.

Consequently, there is a strong rationale for integrating better development in the climate agenda.

### ***Climate change is real and affects people's life in Africa on a daily basis***

Recent years climate change in Africa has already resulted in a fast depleting snow on Mount Kilimanjaro and Mount Kenya. This has attracted some attention in the climate debate.

Far more important however, the change in climate has also resulted in for example:

- Sahara moving much faster in on Equatorial Africa's food basket.
- Shorter raining seasons and longer dry seasons, hampering access to water.
- Malaria mosquitoes have moved to higher elevations.
- Diseases like meningitis, diarrhea and guinea worm infections are on the increase.

Therefore, current climate change already today aversively affect development in Africa.

### ***Climate change calls for innovation, collaboration and investments***

Today 20% of the Worlds population account for 80% of power consumption. As the remaining 5 billion people – hopefully – increase their quality of life in the coming years this situation will change dramatically.

If short-term benefits on development shall not result in a longer-term depletion of the planet there is a need for innovation and investments in a number of areas, in particular as regards:

- Creating enabling markets that facilitate penetration of new technologies.
- Capacity building that enable use of innovation in local circumstances.
- International research collaboration and knowledge exchange.

Traditional concepts of technology transfer and private sector investments is unlikely to yield the desired – and required – short-term results on diffusion of knowledge and technologies. There is a need stronger, more balanced and global climate innovation partnerships that yield faster results. Businesses, research institutions,

government and non-governmental organizations all have an important role to play in this regard.

Some of the critical questions that needs to be addressed were identified to be: How to achieve value addition in production *inside* Africa and reduce export of primary little or non processes products? How to avoid dependence on foreign expertise by strengthening for example domestic R&D institutes? What are the framework for smart aid and climate solutions – and how does this differ from “traditional aid” and technology transfer initiatives?

### ***Africa’s increasing need for energy and power: a challenge and opportunity***

A number of African countries are currently experiencing economic growth of 5-7%. Already today, most of the best performing African economies are facing shortfalls in energy supply. Consequently, the full growth potentials are not released. In Kenya for example it will require a growth in power supply of 7% annually during 10 years to maintain current economic growth. The situation is similar in for example Ghana, Tanzania or Uganda.

Even without regard climate friendly power generation it is unlikely that fossil fuel based power facilities can expand at a pace that can meet future demand for power in Africa. There is a real threat therefore, that power shortfalls will permanently slow the pace of growth and development in Africa.

Consequently, there is also a possibility that CO2 neutral alternative energy sources could significantly help close the gap in energy supply – and thereby release new climate friendly growth and development opportunities.

The low-hanging fruits – that could yield almost immediate benefits on growth, development and climate change mitigation are bio-fuels and hydropower, but also geothermal power, solar and wind energy offers attractive opportunities.

### ***Bio-fuel – an example of possible win-win-win***

Due to rich biodiversity, Africa offers great opportunities within bio-fuels: 1) bio-fuels can as mentioned above provide new energy sources and thus help close the power supply gap; 2) bio-fuels also can save foreign exchange and channel these funds into other productive activities; 3) bio-fuel production can furthermore offer profitable foreign direct investment and business opportunities for clean-tech businesses, including from for example Europe; and not least 4) because bio-fuels are CO2 neutral, bio-fuels can play a key role in mitigating global climate change.

There are however, a number of challenges associated with achieving sustainable bio-fuel production. Displacement of food products, food security, land use, conservation, erosion and pollution are just some of them.

To ensure sustainability in bio-fuel production these challenges must be observed and dealt with in accordance to the local circumstances.

On the question of sustainability and fuel-versus-food-debate, it was stated that “the answer is intelligent use of biomass” or more precisely second-generation bio-fuels. Second generation bio-fuels are produced from cellulosic biomasses – essentially organic waste. Inbicon, a subsidiary of DONG Energy in Denmark, has already

proved the potential of second generation bio-fuel technology and production.

In Tanzania a feasibility study on large-scale bio-fuel production has recently been completed.

The study has provided an overview of bio-fuel production, bio-fuel use and bio-fuel trade in Tanzania. It has also identified key requirements to ensure that Tanzania benefits without jeopardizing social, environmental or political stability. Finally, the feasibility study has pointed to required institutional and regulatory frameworks needed to maximize benefits and minimize negative externalities.

The feasibility study has concluded that Tanzania indeed holds large potentials as producer of bio-fuels. To ensure improvements in local livelihoods, however, a number of issues are critical. For example in Tanzania, most land is already in use, whereby large-scale bio-fuel production will entail changes of land-use. Also, Tanzania has a rich bio-diversity and wildlife that must be preserved. The study also point to a number of other challenges with bio-fuels production that must be properly addressed – not least that bio-fuel production may exchange or drive up prices on food.

The symposium participants agreed during the discussion that another critical question that needs to be addressed within the area of biofuel is how to attain sustainability in biofuel production when the competing petro-product prices are as volatile as it has been experienced in 2008.

### ***Need for encouraging visionary entrepreneurs***

The case of bio-fuels shows that – if carefully researched and managed – it is possible to turn the threat of climate change into an advantage and use it as an opportunity for developing further companies and societies in Europe, while at the same time provide new and improved growth development opportunities to Africa *and* simultaneously mitigate climate change.

Other visionary entrepreneurs have also provided striking proof of innovative concepts that can sustain wealth creation in rich countries like Sweden while benefitting developing countries and help meeting climate challenges.

One such example is Solvatten. Solvatten is a safe water system designed and patented as a portable container that uses UV radiation to purify contaminated water from microorganisms that causes waterborne diseases. The system offers a number of benefits to people that are faced with climate change adaptation problems. Safe water is obviously a direct benefit but the system also benefits in particular women and children by saving them from long walks to get water. In most cases Solvatten can turn surface water into safe drinking water. Time saved on walks for water can therefore be put into better use.

The symposium participants agreed during the discussion that it is critical to address the question of creating new markets through innovation. It is namely the experience of Solvatten that even with optimization of production practices, choice of materials etc. it is unlikely that the Solvatten water system on purely commercial terms will become affordable to the poor. Thus therefore a need for innovative interventions that can create new markets – both for the poor but also to encourage more climate solution entrepreneurs like Solvatten.

### ***One role of governments is to be responsive***

To overcome the challenges of sustaining wealth creation in the North, while increasing the pace of growth and development in South and at the same time mitigate climate change calls for a combination of decisive policies, ground-breaking technologies and strategic investments.

By being responsive to technology opportunities and industry demands governments can play an important role – locally, nationally and globally – by encouraging climate solutions and facilitating climate innovation partnerships.

The local government of Kalundborg Municipality in Denmark has been successful in supporting a resource and environmental collaboration network that currently count 26 bilateral, commercial agreements (projects) composed by 8 partners: five industries, two waste handling companies and the utilities department of Kalundborg Municipality.

Essentially, the businesses involved in the industrial symbiosis/cluster gain competitive advantage by utilizing neighboring businesses waste- or bi-products. A number of environmental benefits result from the industrial symbiosis. In terms of CO<sub>2</sub> emissions for example, the municipality (that produce 10% of the power supply in Denmark) has managed to reduce emissions by 240.000 tons since 1982.

The symposium participants agreed during the discussion that it is critical for local and national governments to address the question of how to balance economic development and environmental concerns and how to make economic development environmentally sustainable. Governments should be proactive and facilitate push & pull. Also governments should apply a systems approach and take advantage of the opportunities in urban planning (energy, buildings, transportation etc).

### ***Another role governments is to take the lead***

In Mauritius the government is taking the lead to make Mauritius a global front-runner in climate change mitigation. This happens through the project "Mauritius, a Sustainable Island" – or MSI – launched in 2007. At the core of the project is an objective of increasing the country's level of energy autonomy to 65 percent in 2028 through efficient use of energy and production of energy from a mix of renewable sources, such as the sun, wind, biomass and waves.

A key part of the MSI project is "Green Productivity". Green Productivity is a strategy for enhancing productivity and environmental performance with a view to spur socio-economic development. The programme target consumption patterns, resources use, waste reductions, capacity building with a view to achieve sustainability as well as policy frameworks for sustainability.

Other key parts of the MSI project are Green Procurement (giving priority to sustainability in public procurement); Green Innovators Award (to encourage entrepreneurship in climate innovation); and Green Schools Programme (to teach children about environment and sustainability with a view to change behavior at a early age).

Though all activities have been designed and are implemented in collaboration with stakeholders and civil society the case of "Mauritius Sustainable Island" shows that

governments can take a very active and leading role in facilitating environmental sustainability and climate innovation.

The symposium participants agreed during the discussion that a critical role of governments are to help facilitate a change in attitudes to sustainable development and set out a vision that attracts and mobilizes citizens and companies to work strategically towards this vision and communicate results and good practice.

### ***Align private and public investments and funds***

To overcome the challenges of growth, development and climate change there is a need for joint action – including both public and private sector stakeholders. More precisely it was suggested (by the investment firm Stockrate), to do more to align public and private climate innovation investments.

To foreign investors, the cost of doing business in Africa is often discouraging high. And often, when investments do take place they do so in unequal partnerships that (due to lack of local capacity) do not trigger the full local development potentials.

If public funds – be it funds from African governments or their development partners – would be targeted to ease the excess risks (costs) and facilitate local capacity building, investing in Africa would become more attractive to foreign investors and so would also the benefits for local businesses and communities.

The symposium participants agreed during the discussion that it is critical to attract new investors – and identify new innovative ways of investing – in order to seize the opportunities. The African delegates requested that emphasis would be on investments rather than aid.

### **Conclusions and next steps**

On an overall level the symposium identified common ground and was therefore an important first step in building confidence and new partnerships. This forms a very useful basis for deepened collaboration on developing platforms and channels for climate solutions, prosperity and development.

More specifically as a result of discussions in a number of breakout sessions, the symposium participants concluded that win-win-win (for prosperity in Europe; for increasing growth and development in Africa; and for climate change mitigation) can be facilitated through:

- Research and technology collaboration and innovation capacity building.
- Communicating good practice and solutions, “the power of examples”.
- Innovative platforms for channeling solutions and facilitate change.
- Increase private investments by communicating the opportunities and eliminating risk factors, e.g. aligning public and private investments to release the full potentials.
- Tailoring action to specific local and regional opportunities.

- Acknowledging that all stakeholders – governments, researchers, entrepreneurs, investors, NGOs and civil society – have important roles to play.

It was furthermore agreed to execute the following activities during the next 6 months:

- Establish a temporary African European Climate Innovation Initiative Secretariat at the Scandinavian Institute of Competitiveness and Development in Blekinge. The Secretariat will take responsibility for updating the website, keeping stakeholders informed and coordinate joint activities.

- Organize a second meeting among the participants and other relevant partners. The key objective of the second meeting will be to discuss a strategy and detailed action plan for the African European Climate Innovation Initiative. Mauritius offered to host the meeting.

- It was proposed that the strategy and action plan should include a framework for “Climate Research and Technology Test Centers” in Africa.

- It was also proposed to include in the strategy a framework for establishing “Climate Innovation Hubs” that can facilitate matchmaking among climate innovators, investors and entrepreneurs.

- Finally, it was proposed that the strategy should include information collection and mapping activities as well as a framework for channeling climate and development solutions.

- In pursuing these joint efforts, the initiative and its stakeholders will collaborate with key “sister initiatives” and Europe, Africa and the World – be it Swedish, Nordic (like the Nordic Council of Ministers and the Nordic Development Fund) or European climate innovation initiatives; cluster and competitiveness initiatives in Africa (like ISCP Eastern Africa and PACF) and global climate innovation initiatives leading up to the COP 15 meeting in Copenhagen in December 2009.