



# UNEP in Africa

## NEWSLETTER

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*ARGeo-C4-Regional Networking and capacity building and for Spurring geothermal exploration and development in the East Africa Region*

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## The Power of Geothermal to Boost Sustainable Energy in Africa

### Geothermal to power Africa's Sustainable Development

Meseret Zemedkun



*ARGeo participants at UNEP Headquarters in Nairobi.*

More than 600 international and regional delegates from 35 countries including policy makers, technical experts, developers and financiers gathered at the UN HQ in Nairobi from 19-25 November 2012 for the 4th African Geothermal Conference (ARGeo-C4), that was held under the theme "Geothermal: Solution to Africa Energy needs".

ARGeo-C4 was graced by Kenya's Vice President, Hon. Kalonzo Musyoka at the opening ceremony, also attended by UNEP Deputy Executive Director, Ms. Amina Mohamed, and Energy and Mines Ministers of Kenya, Ethiopia, Uganda and Tanzania.

This conference was one of the UNEP's ARGeo Project's Biennial Geothermal Conferences being implemented under the "Regional networking, information systems, capacity building and awareness creation" component. The ARGeo Project served as a platform for Regional Networking and Capacity Building and spurring geothermal exploration and development in the East Africa Region.

The landmark conference, which indisputably spurred renewed interest in harnessing the huge geothermal potential within the East Africa Region, provided a platform to discuss and explore solutions to mitigating the risks associated with resource exploration; reducing lead times in developing geothermal projects; leveraging investment to stimulate the growth of industry; and effectively developing, constructing, and operating successful geothermal power plants.

The deliberations focused mainly on the importance of geothermal generated energy in Africa's quest for cheap energy to power the continent's development aspirations. The Conference delivered a Statement document sets some priorities and proposes key solutions to address the challenges and accelerate development of geothermal energy resource in the region. Some of these solutions include:

- Enhancing financing through capital markets and pension funds, carbon and green funds, risk mitigation funds. African governments need to scale up national funds to complete resource assessment in order to attract donor participation and donor financing.
- Consider the following solutions to tackle inadequate technological know-how in Africa:

Consider the geothermal sector as a specialized science and appropriate technology should be deployed for its development.

Power plant developers should use technology that is efficient in the utilization of geothermal fluids.

Use of early generation to power drilling rigs to cut on use of expensive diesel generated energy and reduce geothermal project lead times.

Use new technologies that will lead to efficient utilization of geothermal resources and develop the adjacent oil deposits and geothermal resources simultaneously.

The region should embrace new technology that includes geothermal hybrid systems, such as geothermal-solar hybrid systems and geothermal - gas hybrid systems.

The shortage of skilled manpower could be addressed by setting up regional geothermal institutions.

UNEP ARGeo is a recognized intergovernmental coordination and information forum of East Africa for support to the region in accelerating development of geothermal energy resources for power generation and direct uses, and could facilitate coordination and synergy of regional support programmes.



*Vice President of Kenya, Stephen Kalonzo Musyoka with the UNEP Deputy Executive Director, Amina Mohamed at the Opening of the 4th African Rift Geothermal Conference (ARGeo)*

ARGeo-C4 was organized by UNEP and Geothermal Association of Kenya (GAK) in collaboration with the Ministry of Energy (Kenya), Geothermal Association of Kenya, Geothermal Development Company (GDC), Kenya Electricity Generating Company (KenGen), Kenya Electricity Transmission Company (KETRACO), Energy Regulatory Commission (ERC), and Kenya Power and Lighting Company (KPLC).

### Pre- and Post-Conference Activities

- **Three parallel short course trainings** to fill the capacity gaps of East African countries and strengthen the institutional and infrastructural capacities to start execution of surface exploration activities in 2013. The focus was on geoscience exploration techniques, drilling technology and reservoir engineering; planning, managing and financing of geothermal projects; geothermal database management for East Africa.
- **The 55th Meeting of the Board of Directors of the International Geothermal Association.**
- **Third Meeting of the ARGeo Steering Committee** which endorsed the new structure, membership and implementation modalities for the GEF-Funded stand-alone UNEP-ARGeo Project, and approved the project's five year strategy, and 2012-13 work plan.
- **Field trip to Olkaria and Menengai geothermal fields** in Kenya to create the opportunity to share the best practices and unique experiences of Kenya on how to harness the geothermal development in terms of power generation in this region and to direct its use towards boosting the socio economic development of the country. The Menengai geothermal exploration project also demonstrated the commitment and political will of the Kenyan government through setting up the Geothermal Development Company to mitigate the risk and identify the resources to attract private developers and provide affordable and reliable energy resource to the nation.



## Reaffirming Key Elements of the African Common Position at UNFCCC COP18

The African Ministerial Conference on the Environment (AMCEN) convened a consultative meeting of African Ministers of Environment on 2 December 2012 at La Cigale Hotel in Doha, ahead of the high-level segment of the 18th Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC COP18). The meetings aimed to bring the ministers in full speed with regard to the status of the negotiations, and enable them refine their strategy for negotiation and engagement with other important parties and groups, building on the outcomes of the 14th session of AMCEN. The Africa Group of Negotiators facilitated the meeting.

### Elements of Africa's strategy:

**Mitigation:** Africa should insist that the second commitment period be established in a ratifiable legally binding amendment of Annex B of the Protocol. They called for a second commitment period of five years.

**Adaptation:** It is critical to move beyond adaptation planning to the actual implementation of adaptation actions on a major scale, with measurable transfers of financial resources and technology from developed to developing countries. The Adaptation Framework must be fully operationalized, ensuring scaled up support, developing a work programme on agriculture as directed by ministers, and ensuring agreement on approaches towards loss and damage.

**Finance and means of implementation:** There must be agreement on long-term sources and scale of finance commencing in 2013 and a process for determining the level of financing necessary for implementation of the Convention.

### African Youth Participation at DOHA



*Doha & Africa CSO/ Youth participation. Photo credit: Sena*

Building on the momentum created during the 14<sup>th</sup> session of AMCEN in September in Arusha, a good number of representatives of Africa's youth managed their way through to Doha to voice their concerns as they engaged in discussions with African ministers during the consultative meeting of ministers. They participated in the street demonstration, to express their disappointment at the lack of significant progress in the talks.

UNEP Regional Office for Africa is strengthening its work with the young people and the consolidation of a youth component in the work of the office to support youth involvement in environmental governance on the continent. In the context of strengthened UNEP, the African youth looks forward to receiving more attention, adequate support, and a long term action plan to empower them to play their role effectively in the realization of sustainable development in Africa.



*COP 18- CAHOSCC Meeting in Doha: Cooperation, Coordination and Cohesion around the African Common Position*

### Highlights of Africa's position in the negotiations:

1. Warming to be limited to well below 1.5°C to avoid catastrophic impacts to Africa;
2. Mitigation commitments by Annex I Parties under the Kyoto Protocol and Convention that are "real" – i.e. legally binding, ambitious and fair in light of their historical responsibilities and capabilities – thereby enabling a fair sharing of atmospheric space;
3. Adaptation including an international mechanism to address loss and damage including in the area of agriculture;
4. Means of implementation – finance, technology and capacity – for adaptation, mitigation and technology transfer to developing countries; and
5. An approach based on science, equity and the rule of law, including to the new mandate for negotiations under the Durban Platform, that reflects all principles and provisions of the Convention, particularly equity and common but differentiated responsibilities and respective capabilities.

### Nairobi Convention COP7 Calls for Transformative Management of Natural Blue Capital for Faster Economic Growth



*Group photo of the Nairobi Convention COP7. Photo credit: Sena*

The 7th Conference of Parties to the Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region, was held from 10 - 14 December 2012 under the theme “Partnering for a Healthy Western Indian Ocean”.

The COP7 kicked off with a Science for Policy workshop that highlighted emerging issues within the Nairobi Convention, and provided a space for scientific evidence to be presented to policy makers for consideration for new policies. Environmental Authorities of Mozambique called for governance transformation towards oceans management approaches where marine biodiversity has multiple values and acts as natural blue capital for faster economic growth.

The COP7, building on the momentum from Rio+20 on green economy and poverty eradication, was meant to provide governments in the Western Indian Ocean region a valuable opportunity to:

- Create new partnerships on oil and gas, climate change, green economy, ports and harbours, ecologically or biologically significant marine areas, and World Heritage sites;
- Review the recommendations of the regional report on marine protected areas and regional synthesis report on birds as indicators of ecosystem health;
- Agree on the new reporting format for the Nairobi Convention;
- Review the proposed new coordination mechanism, Action Strategy, Work Programme for 2013 to 2016 for the Nairobi Convention;
- Review status of ongoing programmes and projects such as the Mangroves for the Future initiative in the Western Indian Ocean on “Enhancing the resilience of coastal systems in the Western Indian Ocean”; and
- Report on the progress in the drafting of the Protocol on Integrated Coastal Zone management (ICZM), ratification and implementation of the Protocol for the Protection of the Marine and Coastal Environment of the Western Indian Ocean from Land-Based Sources and Activities (LBSA protocol); and
- Review proposed project activities in Support to Somalia

Tanzania was elected as the Chair of the Convention for the next two years, taking over Mozambique.

The COP7 was organized by the Nairobi Convention Secretariat in close collaboration with the host and Chair of the Bureau for the Nairobi Convention, the Government of Mozambique, Western Indian Ocean Marine Science Association (WIOMSA), World Wildlife Fund (WWF), International Union for Conservation of Nature (IUCN), BirdLife International, Wildlife Conservation Society (WCS) and CORDIO East Africa.

### Understanding the Green Economy in the context of WIO

The Ministry of Environment and Sustainable Development in collaboration with the United Nations Environment Programme (UNEP), the Indian Ocean Commission and the Commonwealth Secretariat organised the “Regional Dialogue on the Green Economy for Western Indian Ocean Island (WIO) States” in October 2012. The purpose of this regional dialogue was to enhance understanding of the concept of the green economy, share good practices on Green Economy initiatives in the region and identify the enablers within a regulatory framework to promote Green Economy in the context of the sustainable development for the WIO Island States.

Madagascar, Seychelles and Mauritius (including Rodrigues) attended the regional dialogue opened by Honourable Minister V.Faugoo, Acting Minister of Environment and Sustainable Development.

Dr. Mwesigye of UNEP gave an overview of the green economy concept, its objectives, importance and the need to adopt this paradigm to achieve sustainable development in the WIO region. Policy recommendations to leapfrog towards the green economy, success stories and UNEP’s work on the green economy were also highlighted.

Other communications focused on the first steps towards an ocean economy; Seychelles experience in marine monitoring, compliance and enforcement to promote blue economy; and the SIDS perspective on green economy. The key elements for SIDS to transition towards the green economy include strong political will, integrated plans covering all sectors embracing the blue economy, the need for innovative financing mechanism, partnerships and institutional strengthening among others.

The role and regulatory framework for the green economy was also discussed and Robert Wabunoha of UNEP underscored the importance these regulatory frameworks and highlighted the criteria need to be considered while designing smart regulatory framework: effectiveness, enforceability, implementation, cost and innovation depending on the socio-economic and political set-up of the country.

Green Investments study in Mauritius using system dynamic modeling was another important communication. Such a model adopts the systemic thinking and seeks to understand the causal relationship in problem definition. This approach can further inform decision makers of longer-term implications of policy choices and the scenarios used enables checking of consistency and feasibility of major objectives and assumptions

The outcome of the regional dialogue was a road map as a way to sustain the present initiative and to assist participating countries in developing and implementing green economy policies/programmes/activities.

Commonwealth Secretariat agreed to take the proposals from this regional dialogue forward to different internal organs including those working on the post 2015 development framework and the SDGs and in its engagement with its members through the Commonwealth Consultative Group on the Environment and in other international fora. The Commonwealth Secretariat will continue supporting and facilitating Green Economy for member states while also identifying other avenues for capacity building.

UNEP will discuss the outcomes with its partners on support to Africa on sustainable development and SCP.



### Validation workshop on Green Economy sector study on energy in Rwanda

*Kofi Vondolia*

The Government of Rwanda through Rwanda Environment Management Authority (REMA) in partnership with the United Nations Environment Programme (UNEP) commissioned a research on the country's transition to the effective use of energy in line with the policy to promote green economy.

The research mainly focused on energy, one of the most important sector in all development processes and activities, and underlines that the year 2012 registered 11% hydropower use while the target is to have the number of users increased to over 35% by 2017, thereby reducing the number of people who still rely on wood as the main energy source from 94% to 50%. This study is in support of the vision 2020 which features energy efficiency as one of important factors in poverty reduction.

Further studies will be conducted on how to mainstream energy sector into other different sectors as well as measuring and quantifying the profit that Rwanda has in shifting from emitting technologies which are also expensive to the green ones.

Green economy presents an important opportunity for Rwanda to leverage support for a shift towards an environmentally sustainable, climate resilient and low-carbon and resource-efficient development. The country has embarked on large-scale ecosystem rehabilitation, renewable energies, sustainable agriculture and agro forestry, environmental management capacity building and regional environmental cooperation, as well as participation in natural resource trade initiatives. The ongoing metamorphosis of Rwanda's economy offers a unique opportunity to catalyze green investments, to enhance sustainability, create green jobs and promote environmentally efficient technologies.



*Validation workshop on Green Economy sector study on energy in Rwanda. Photo credit: Rwanda Environment Management Authority (REMA)*

## Guinea Bissau Strives to Comply With The 2013 HCFC Freeze

The United Nations Environment Programme (UNEP) conducted the first ever HCFC Phase-out Management Plan (HPMP) Training of Trainers in Bissau. This was a joint training workshop aimed at providing technical assistance and policy guidance to national refrigeration technicians and customs officers.

The five day training, which was opened by Hon. Dr. Agostinho da Costa, Minister for Environment, comprised of a series of sessions with discussions on general ozone related topics held on the first day and separate working group sessions for the customs officers and refrigeration technicians held in the subsequent days. The purpose of the training is to empower the refrigeration technicians and customs officers so that they can better understand and play their role in the HCFC Phase-out Management Plan.

Guinea Bissau had started its HCFC Phase-out Management Plan implementation in 2012 and that the Government is now committed to comply with the 2013 and 2015 Montreal Protocol control measures.

The 65th Multilateral Fund Executive Committee meeting approved the HPMP for Guinea Bissau and UNEP provided a guide on the use of identifiers Ultima ID Pro version RI-700H for the identification and control of HCFCs; created a HCFC data base management for better storage and sound management of recovered refrigerants; and trained the local team on the management of a recovery and recycling centre.

The Montreal Protocol requires countries to freeze consumption of HCFCs by 1st January 2013, reduce it by 10 percent by 1st January 2015 and by 35 percent by 1st January 2020.

The HPMP approach allows the national strategy to be updated as new technologies are developed. Stage one of Guinea Bissau's HPMP addresses meeting the baseline freeze for HCFCs in 2013, the 10 percent reduction in 2015 and later 35 percent reduction by 2020.

Indeed, this is a big challenge and the first target is only a few weeks ahead. This training of trainers therefore came in handy as the country will use these trainers to train the remaining refrigeration technicians, customs officers as well as forest guards (other enforcement officers) to subsequently comply with the 2013 HCFC freeze.



*Group Photo of the Delegates during HPMP Training of Trainers*



### UNEP Launches New Initiative to Support Climate Change Adaptation in Africa



*Climate Change Adaptation aims to enhance sustainable livelihoods and food security*

The Africa Adaptation Knowledge Network (AAKNet) Information Portal is online. The Africa Adaptation Knowledge Network (AAKNet), which builds on efforts to mobilize knowledge and provide solutions to mitigate the impact of climate change on livelihoods in Africa, will provide a platform to share knowledge, research and information on initiatives, as well as catalyze partnerships for climate change adaptation. Concretely, the Africa Adaptation Knowledge Network (AAKNet) aims to support climate change adaptation in Africa by providing the following services:

- Aggregating knowledge in addressing pertinent climatic risks, shared across region and across countries in addressing short, medium and long-term adaptation needs.
- Harnessing knowledge for strategic planning processes including knowledge generated as pilots and also knowledge managed by other platforms.
- Providing tailored support in knowledge needs structured and packaged in a useable format to serve strategic planning processes.
- Harnessing knowledge platforms in powering strategic planning of regional frameworks like AMCEN. Building an alliance and coordination of knowledge platforms in the continent with the common purpose of supporting climate change response and building a community of practice to aid in planning processes on the continent and scale-up successful initiatives to adapt to climate change.

The AAKNet website is available at: [www.africa.ganadapt.org](http://www.africa.ganadapt.org)



### 1. Rio+20 Follow-up- Working Group Meeting



*AMCEN Conference in Arusha - Discussions on Sustainable Consumption and Production*

**January 2013, Addis Ababa, Ethiopia**

At the 14s session of the African Ministerial Conference on the Environment (AMCEN) that was successful which held in September 2012 in Arusha, Tanzania, Ministers adopted twelve decisions including a decision on Africa's post Rio+20 strategy for sustainable development, that identifies key African regional flagship programmes, on the basis of the Rio Outcome document, key priorities for Africa and existing regional programmes and partnerships, as a means to ensure the effective implementation of the outcomes of Rio +20. The implementation of these regional programmes calls for commitment and enhanced collaboration of all stakeholders and partners.

It is against this backdrop that AMCEN is proposing to organize a small working group meeting from 17-19 December 2012, involving AUC, UNEP, UNECA, AMCEN and NEPAD at the AU in Addis Ababa to discuss follow up actions to the outcomes of the 14h session of AMCEN. The working group meeting will involve discussions on the proposed expert meeting to further develop the flagship programmes, finalization of the AMCEN work programme for 2013-2014, discussions on the next AMCEN Bureau meeting scheduled for February 2013 in Kinshasa, as well as issues related to the overall implementation of the outcomes of the '14'"session of AMCEN.

### 2. The 20th Ordinary Session of the Assembly of the African Union

The 22nd Ordinary Session of the Executive Council and the 20th Ordinary Session of the Assembly of the African Union will be held from 21 to 28 January 2013 in Addis Ababa, Ethiopia, under the theme: *"Pan-Africanism and African Renaissance"*.

### 3. The 27th Session of the UNEP Governing Council/Global Ministerial Environment Forum

The 27th session of the Governing Council/Global Ministerial Environment Forum (GC 27/GMEF) of the United Nations Environment Program (UNEP) is scheduled to convene from 18-22 February 2013, in Nairobi, Kenya. This session of the Governing Council will take place in a special context as it is the first after the Rio+20 and would set the stage for the first plenary of the UNEP universal membership body in February 2013.

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