

“Hydropower as a Solution to Africa’s Energy Problem in the Context of Climate Change”

It is generally accepted that energy consumption and economic development are closely linked. This is particularly evident in Africa which, as the world's poorest continent, also has the least access to electricity. Much of its rural population relies on traditional biomass for cooking and heating which is not only inefficient but is also believed to be an important cause of premature death among children. A common perception is that the inefficient and unreliable nature of Africa's power sector has been impeding Africa’s economic development. Given Africa's extensive river network, hydropower is seen as one answer to Africa's energy needs. As a matter of fact, hydropower is already responsible for approximately one third of Africa's energy supply although only 8% is currently exploited. Agencies such as the World Bank are continuing to invest in hydropower hoping it will stimulate economic development for a number of reasons. First, hydropower produces minimal emissions and is not subject to international price fluctuations. Second, hydropower infrastructure provides additional benefits such as irrigation, water supply and navigation. Third, while initial fixed investment in hydropower plant can be significant, operating costs are generally low and plants can have long operational lifetimes. However, hydropower is vulnerable to short term variations in weather and longer term changes in climate. More specifically, rivers and lakes are, in many regions, sensitive to changes in rainfall since they tend to be located in regions where temperatures are high and river run-off is low. Droughts have on many occasions caused considerable power disruptions. With climate change predicted to further increase the variability of rainfall within many parts of Africa, the economic consequences of an increasing dependence on hydropower become even more significant.

Purpose:

This one day workshop intends to bring together the experts in industry and academia in the area to present and discuss themes within this context. In particular, the invited speakers will address the following main themes:

- Climate Change in Africa
- The Energy Problem in Africa
- The Role of Hydropower in Africa

PROGRAM

9h-10h: Registration

10h: Welcome Speech

10h30-12h: First Session - *Climate Change in Africa:*

1. Wassila Thiaw (National Oceanic and Atmospheric Association): *"Monitoring and Predicting the African Climate"*.
2. Sharon Nicholson (Florida State University): *T.B.A.*
3. Gil Mahe (Institut de Recherche pour le Developpement): *"The variability of rivers' runoff in Africa during the 20th century, under climatic and anthropogenic forcings"*

12h-13h: Lunch

13h-14h30: Second Session - *The Energy Problem in Africa:*

1. Antonio Garcia-Fragio (European Commission, DG Development): *"EU and Africa Working together in Energy for Development: The case of Hydropower"*.
2. Dambudzo Muzenda (OECD): *"Attracting Investment in Hydropower in Africa"*.
3. Esther Delbourg (Paris School of Economics): *"The Transboundary Nature of Hydropower"*.

14h30-15h: Coffee Break

15h-16h30: Final Session - *The Role of Hydropower in Africa:*

1. Gareth Harrison (University of Edinburgh): *T.B.A.*
2. Robert Elliott (University of Birmingham): *"International Trade in Energy in Africa in the Context of Hydropower"*.
3. Marc Jeuland (Duke University): *"Water Resources Planning under Climate Change: A "Real Options" Approach"*.

16h30-16h45: Concluding Remarks