CO-BENEFITS OF RENEWABLE ENERGY DEPLOYMENT IN SOUTH AFRICA

Ms Ntombifuthi Ntuli[1], Dr Sebastian Helgerberger[2], Dr David Jacobs[3]
[1]Council for Scientific and Industrial Research, Pretoria, South Africa, [2]Institute for Advanced Sustainability Studies, Potsdam, Germany, [3]International Energy Transition, Berlin, Germany

Motivation

The aim of the project is to identify, prioritise and analyse country specific co-benefits of climate mitigation policies, with emphasis on the opportunities presented by renewable power generation, thus making a link between climate change mitigation strategies and social and economic opportunities of wind energy deployment.

Problem Statement

Climate protection measures are largely discussed in the light of burden sharing whereas important benefits in areas such as value creation, employment, health, water use, energy access and energy security are frequently overlooked. South Africa is facing several socio economic challenges, such as unemployment, lack of skills and education, slow economic growth, development backlog in remote communities, etc. Development of infrastructure projects in any economy presents an opportunity to address these challenges. Ambitious and effective deployment of wind energy depend on seizing the social and economic co-benefits, thereby simultaneously meeting projected increases in energy demand as well as development targets.

Methodology

The focus group method was used for selecting and prioritising co-benefits relevant for South Africa. Relevant government departments were invited into a focus group workshop and the following key questions are asked: (i) How is your work related to renewable electricity generation in South Africa; (ii) How can renewable energy have a positive impact on people's lives in South Africa. This steps resulted in a long list of co-benefits which were mentioned by government department representatives during the focus group meeting. A questionnaire, still directed to government departments was then circulated listing all the mentioned benefits asking each respondent to prioritise three. In the end only 5 co-benefits are selected. This step is followed by the in-depth analysis of each selected co-benefit relevant for South Africa. The expert round-table, comprising of universities and research institutions, was then organised to identify best methodologies for assessment of selected co-benefits.

Results

Notwithstanding the high pace of renewable energy deployment in South Africa's electricity sector (in particular wind and solar PV), the transition of SA's whole energy sectors only starting to pick up speed. Many social and economic opportunities in SA's energy transition remain unexplored. This project explores how South Africa's transition to renewable energy will unravel long-term trade-off between economic, social and environmental interests and how South Africa's increasingly leading role in international climate change diplomacy translates back to immediate opportunities for domestic development and welfare. Renewable Energy is already used in socio-economic and rural development strategies in SA, as SED requirements are already incorporated into the REIPPPP. However important social implications of SA's energy transition require additional attention such as environment and health benefits, consumer willingness to pay for green energy as well as the effects of just distribution of socio-economic benefits.

Conclusions

Recent climate and energy policies in the South Africa are increasingly considering renewable energy production to meet domestic energy demand while curbing the impacts of climate change. The renewable energy sector has attracted substantially greater investment flows into the SA. The social-economic opportunities presented by renewable energy are important co-benefits.