



Scaling-up renewable energy in Africa: Tanzania

FINANCIAL INSTITUTIONS · ENERGY · INFRASTRUCTURE, MINING AND COMMODITIES · TRANSPORT · TECHNOLOGY AND INNOVATION · PHARMACEUTICALS AND LIFE SCIENCES

Updater

November 2011

In this edition of the *Scaling-up renewable energy in Africa* series of publications, we focus on the climate change investment policies and opportunities in Tanzania in the energy sector. This briefing is a high-level compilation of key policies and projects, based on publicly available sources, and is not intended to be comprehensive.

Key points on Tanzania

- Tanzania has a population of more than 44,840,000, of which only 10 per cent has access to electricity.¹
- Per capita emissions are very low, at 0.1tCO₂e per capita per year.
- The total forested area of Tanzania is 44 million hectares (roughly half the total land area), about 13 million of which is reserved forests. Forests are shrinking, and it is estimated that Tanzania loses about 300,000 to 400,000 hectares of forest per year.²
- Biomass fuel accounts for more than 90 per cent of the total energy consumption, with the remainder being mainly petroleum and hydroelectricity. This energy supply and end use structure reflects Tanzania's low level of development.³
- Agriculture has historically been the most important sector in the economy (representing more than 40 per cent of GDP and employing 80 per cent of the active workforce). While Tanzania is one of the poorest economies in the world, its current GDP growth is estimated at 6.5 per cent based increasingly on strong gold production and tourism.⁴
- The main source of CO₂ is land use and forestry, which account for 96 per cent of CO₂ emissions.⁵

¹ Initial National Communication under the UNFCCC (March 2003)

² *ibid*

³ *ibid*

⁴ Link: <https://www.cia.gov/library/publications/the-world-factbook/geos/tz.html>

⁵ Initial National Communication under the UNFCCC (March 2003)

UNFCCC/Kyoto Protocol

Tanzania has implemented the UNFCCC and has been undertaking climate change studies (implemented by the Division of Environment under the Vice President's Office) since 1993. Within its Initial National Communication, which it presented in 2003, it recognised the need for greater awareness of climate change and stated that a comprehensive awareness programme was planned. It also stated that the main challenge facing it is a need to balance accelerated economic growth with a more efficient management of the environment and use of natural resources to ensure sustainability and address the climate change issue.

Tanzanian CDM Projects

There is currently only one CDM project registered in Tanzania⁶ which involves biogas extraction and usage for electricity generation. As Tanzania is a Least Developed Country, the CERs issued from CDM projects registered after 31 December 2012 will be eligible for compliance under the EU Emissions Trading Scheme.

Energy Policy

Tanzania's government notes the requirement to use clean technologies in its expanding energy sector, with a focus on technologies that are environmentally sound and adapted to local needs.⁷ However, dissemination of renewable technologies has been limited to the small scale promotion of improved stoves, improved charcoal production techniques, solar, biogas and wind turbines, and the government recognises that it needs to improve domestic production and distribution of such renewable technologies.⁸

Biomass

Tanzania has considerable biomass resources in the form of wood, charcoal and agricultural residues, which are currently used mainly for non-commercial, primary purposes - such as heating, lighting and cooking within households (with biomass accounting for 90 per cent of cooking fuel).⁹

While the government has a policy in place for biomass conservation and supports the use of other more efficient energy sources (such as solar, biogas and LPG), it recognises that the poverty situation is a major barrier for implementing these objectives.¹⁰

⁶ Link: <http://cdm.unfccc.int/Projects/DB/DNV-CUK1169853184.14/view>

⁷ Tanzania National Energy Policy (February 2003)

⁸ *ibid*

⁹ Link: <http://www.compete-bioafrica.net/events/events2/hamburg/Session%202/S2-5-COMPETE-REImpact-Hamburg-Sawe-090630.pdf>

¹⁰ Tanzania National Energy Policy (February 2003)

It is becoming increasingly evident that sustainable development and energy use can be met through the promotion of efficient biomass technologies particularly in rural households and small industries.¹¹ There are programs in place to implement more energy efficient stoves,¹² and the impact of these is increasing, but they have had limited success due to the poverty and awareness barriers. It is recognised that efforts need to be stepped up, and the government realises that the private sector has a role here.¹³

Hydroelectricity

This is currently the main source of electricity generation and provides 73 per cent of Tanzania's electricity (with peak loads being supplied from thermal and gas plants) through an installed capacity totalling 561MW, comprised of six hydroelectric plants.¹⁴

Hydroelectricity is the most important indigenous source of commercial energy, with a recognised potential of 4.7 GW of installed capacity¹⁵ and 3.2 GW of firm capacity. Only 15 per cent of the potential installed capacity has been developed¹⁶ and several projects are currently soliciting funding.¹⁷

Wind

This resource is virtually untapped, and low speed wind turbines are recognised to have potential in Tanzania.¹⁸ There are currently major initiatives in place with support from the World Bank and others to set up sizeable wind generation projects.

Solar

The mean solar energy density is about 4.5kW per square metre per day, which indicates its potential use as an energy source.¹⁹ Some solar developers are seeking to set up large solar PV projects, but it is as yet unclear if they can be a cost efficient solution in Tanzania.

¹¹ http://www.tatedo.org/cms/index.php?option=com_content&view=article&id=5&Itemid=18

¹² *ibid*

¹³ Tanzania National Energy Policy (February 2003)

¹⁴ http://www.tanESCO.co.tz/index.php?option=com_content&view=article&id=70&Itemid=158

¹⁵ Initial National Communication under the UNFCCC (March 2003)

¹⁶ *ibid*

¹⁷ http://www.tanESCO.co.tz/index.php?option=com_content&view=article&id=99&Itemid=252

¹⁸ Initial National Communication under the UNFCCC (March 2003)

¹⁹ *ibid*

Gas

A substantial amount of Tanzania's current electricity supply is from gas reserves offshore on or about Songo Songo Island. The government and the private sector are exploring ways to expand the infrastructure to increase the amount of available processed gas.

Others

Tanzania's mining sector is growing rapidly, implying an equivalent growth in its energy demand. Due to capacity constraints, the government has in the interim encouraged mining companies to generate their own power and sell any excess to neighbouring communities, or import power through regional interconnections and co-operate in the development of power infrastructure.²⁰

There are recent substantial offshore deep water gas field discoveries which are being extensively explored.

National Energy Supply

At present the Tanzania Electric Supply Company (TANESCO) is the sole vertically integrated electricity supplier in Tanzania. However, several IPPs supply power to TANESCO (with a current installed IPP capacity of 282MW in 2008).²¹ Several new coal, gas and emergency HFO fired power station projects financed by various sources are underway. The government recognises that there is a need to promote and enhance private investment in electricity generation, transmission and distribution projects, which should be based on rational exploitation and management of resources, and protection of the environment.²² A market-orientated concept applicable to the supply of energy products is considered as key.²³

Climate Investment Funds

Unlike many of its neighbouring countries, Tanzania is not currently benefiting from the Climate Investment Funds, although such climate funding could be made available to Tanzania in the future. The World Bank is currently providing financing for energy and utility projects and recognises that Tanzania has made significant progress over the past two decades to achieve and maintain macro-economic stability, becoming one of the best performers in sub-Saharan Africa.²⁴

²⁰ Tanzania National Energy Policy (February 2003)

²¹ http://www.tanESCO.co.tz/index.php?option=com_content&view=article&id=70&Itemid=158

²² Tanzania National Energy Policy (February 2003)

²³ *ibid*

²⁴ Link: <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/TANZANIAEXTN/0,,HIPK:261262~menuPK:258804~pagePK:141159~piPK:141110~theSitePK:258799,00.html>

REDD+ in Tanzania

Tanzania currently has a bilateral partnership with Norway (the Norway-Tanzania Forest Climate Change Partnership Agreement) in addition to multilateral involvement with capacity building initiatives under UN-REDD.²⁵ Demonstration projects have already been initiated to assist with the process of designing a nationally appropriate REDD framework.²⁶

The main causes of deforestation in Tanzania are related to its low economic development, including population growth and rural poverty.²⁷ Insecure land tenure flowing from an absence of land use planning is also a major driver of deforestation in Tanzania, with nearly half of the forested area having no properly defined management regime.²⁸ However, there is a history of Participatory Forest Management (PFM) which currently applies to four million hectares of forested land.²⁹ In addition, existing land, forest and environmental management regimes have the potential to support REDD+ strategies for reversing the trend towards deforestation – there is the will and the institutional foundation for a REDD+ regime.

²⁵ Readiness Preparation Proposal - Tanzania (Final Draft, August 2010) p4, para 4

²⁶ *ibid* p4, para 6

²⁷ *ibid* p24, para 2

²⁸ 17 million hectares of forest land are categorised as “general land” under the Land Act 1999 and the Village Land Act 1999, meaning it is unoccupied land that can be used for other purposes, rather than “reserved land”.

²⁹ Established under the Forest Act 2002; see Readiness Preparation Proposal - Tanzania (Final Draft, August 2010) p4, para 2 and p 24, para 3.

Contacts

Cape Town

Matt Ash

Director
Norton Rose South Africa
(incorporated as Deneys Reitz Inc)
Tel +27 (0) 21 405 1200
matt.ash@nortonrose.com

Dar es Salaam

(in association with CRB Africa Legal)

Nicholas Zervos

Consultant
CRB Africa Legal
Tel +255 (0)752 667 766
nicholas.zervos@nortonrose.com

Durban

Tina Costas

Director
Norton Rose South Africa
(incorporated as Deneys Reitz)
Tel +27 (0)31 582 5663
tina.costas@nortonrose.com

Johannesburg

Tim de Wet

Director
Norton Rose South Africa
(incorporated as Deneys Reitz Inc)
Tel +27 (0) 11 685 8664
tim.dewet@nortonrose.com

Julian Jackson

Director
Norton Rose South Africa
(incorporated as Deneys Reitz Inc)
Tel +27 (0) 11 685 8583
julian.jackson@nortonrose.com

Jackie Midlane

Director
Norton Rose South Africa
(incorporated as Deneys Reitz Inc)
Tel +27 (0) 11 685 8678
jackie.midlane@nortonrose.com

Gavin Noeth

Director
Norton Rose South Africa
(incorporated as Deneys Reitz Inc)
Tel +27 (0) 11 685 8695
gavin.noeth@nortonrose.com

London

Simon Currie

Partner
Norton Rose LLP
Tel +44 (0)20 7444 3402
simon.currie@nortonrose.com

Madhavi Gosavi

Partner
Norton Rose LLP
Tel +44 (0)20 7444 3578
madhavi.gosavi@nortonrose.com

Andrew Hedges

Partner
Norton Rose LLP
Tel +44 (0)20 7444 3074
andrew.hedges@nortonrose.com

Richard Hill

Partner
Norton Rose LLP
Tel +44 (0)20 7444 2781
richard.hill@nortonrose.com

Richard Metcalf

Partner
Norton Rose LLP
Tel +44 (0)20 7444 3482
richard.metcalf@nortonrose.com

Nicholas Pincott

Partner
Norton Rose LLP
Tel +44 (0)20 7444 2649
nicholas.pincott@nortonrose.com

Arun Velusami

Partner
Norton Rose LLP
Tel +44 (0)20 7444 2553
arun.velusami@nortonrose.com

Paris/Casablanca

Anne Lapierre

Partner
Norton Rose LLP
Tel +33 (0)1 56 59 52 90
anne.lapierre@nortonrose.com

Alain Malek

Partner
Norton Rose LLP
Tel +33 (0)1 56 59 5300/+2126 6545 1545
alain.malek@nortonrose.com

Arnaud Bélisaire

Partner
Norton Rose LLP
Tel +33 (0)1 56 59 52 17
arnaud.belisaire@nortonrose.com

Norton Rose Group

Norton Rose Group is a leading international legal practice. With more than 2600 lawyers, we offer a full business law service to many of the world's pre-eminent financial institutions and corporations from offices in Europe, Asia Pacific, Canada, Africa and the Middle East – and, from 1 January 2012, Latin America and Central Asia. We are strong in financial institutions; energy; infrastructure, mining and commodities; transport; technology and innovation; and pharmaceuticals and life sciences. Norton Rose Group comprises Norton Rose LLP, Norton Rose Australia, Norton Rose OR LLP, Norton Rose South Africa (incorporated as Deneys Reitz Inc), and their respective affiliates

The purpose of this publication is to provide information as to developments in the law. It does not contain a full analysis of the law nor does it constitute an opinion of Norton Rose Group on the points of law discussed.

No individual who is a member, partner, shareholder, director, employee or consultant of, in or to any constituent part of Norton Rose Group (whether or not such individual is described as a "partner") accepts or assumes responsibility, or has any liability, to any person in respect of this publication. Any reference to a partner or director is to a member, employee or consultant with equivalent standing and qualifications of, as the case may be, Norton Rose LLP or Norton Rose Australia or Norton Rose OR LLP or Norton Rose South Africa (incorporated as Deneys Reitz Inc) or of one of their respective affiliates.