

Renewables for Growing Cities in Africa: A roadmap from 2012 to 2050?

In the Context of Namibia

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Presented at UN Habitat / IRENA Workshop

Naples Italy

2 September 2012



Presentation Outline

1. NAMIBIAN SOCIO-ECONOMIC ENVIRONMENT
2. SUSTAINABLE ENERGY INITIATIVES
3. CITIES AND DEVELOPMENT CHALLENGES
4. RENEWABLES CONTRIBUTION TO CITIES IN NAMIBIA



NAMIBIAN SOCIO-ECONOMIC ENVIRONMENT

- Namibia is a middle income country with a pop. of approx. 2mil. people occupying an area 825,418 km². GDP (per capita): US5,651.
- Since Independence in 1990, Government has established development objectives & targets for the country through 5-year term plans - National Development Plans (NDP).
- Namibia's Vision 2030 provides the long-term development framework to become a prosperous industrialized nation, developed by its human resources, enjoying peace, harmony & political stability.



NAMIBIAN SOCIO-ECONOMIC ENVIRONMENT- Key indicators

	1993/1994	2003/2004	2009/2010
Average household size			
Namibia	5.7	4.9	4.7
Urban	4.8	4.2	4.1
Rural	6.1	5.4	5.2
Proportion of population aged 15+ with no formal education			
Namibia	30%	17%	13%
Urban	11%	7%	5%
Rural	39%	23%	18%
Proportion of households cooking without electricity or gas			
Namibia	73%	65%	61%
Urban	28%	28%	23%
Rural	95%	91%	90%
Average annual per capita income (N\$)			
Namibia	3,031	8,839	14,559
Female headed	1,804	6,320	9,908
Male headed	3,783	10,570	18,223
Proportion of households that are "poor" or "severely poor"			
Severely poor households	-	13.8%	9.6%
Poor households (incl. Severely poor)	-	27.6%	19.5%
GINI-coefficient	0.701	0.6003	0.5971

CURRENT POLICY & REGULATORY FRAMEWORK

- Namibia's policy priorities on energy are founded on the White Paper on Energy Policy (WPE) of 1998 which set 6 strategic goals;
 1. *Effective governance*
 2. *Security of supply*
 3. *Social upliftment*
 4. *Investment and growth*
 5. *Economic competitiveness and efficiency*
 6. *Sustainability*
- WPE recognizes the importance of renewable energy (RE) in the country's socio-economic development as providing;
 - **sustainability & social upliftment** especially in rural areas where it complements grid electrification, and
 - **security of supply** to the country's energy situation by virtue of diversification & the use of locally available resources.

SUSTAINABLE ENERGY INITIATIVES

- A number of initiatives have been undertaken in the energy sector in fulfilment of the WPE strategic goals such as:
 1. Promotion of the Use of Renewable Energy Sources in Namibia – 1993
 2. Home Power Project -1996
 3. Solar Revolving Fund - since 2000
 4. Namibia Renewable Energy Programme (NAMREP) – 2004
 5. Demand –side management initiatives -2007
 1. Distribution of energy saving lights
 2. Solar water heating in public institutions
 3. Awareness campaigns, etc

POLICY AND REGULATORY INITIATIVES

- Rural Electrification & Distribution Master Plan – since 1998
- Off-grid Energisation Master Plan – since 2007; focus on RE for off-grid areas.
- Review of WPE -currently underway
- Review of Energy Regulatory Framework with introduction of RE Procurement Mechanisms – REFIT, Net-metering & Tendering
- National Integrated Resource Plan -currently underway
- Focus largely on rural areas electrification & now on new power generation



CITIES AND DEVELOPMENT CHALLENGES

- Almost a 1 / 3rd of Windhoek's residents live in informal settlements – 105,000 / 322,500 counted in 2011 census.
 - 45 % use communal toilets, 43% use the bush
 - Rural to urban migration is high –people migrate to unemployment and a state of perpetual poverty in the city.
 - average income of households in informal settlements is N\$1,625/month; 53% earn less than N\$1,200.
 - For N\$1 200/month they spend 34% of their income on housing & 30% on electricity.
 - The price of housing in the City is greater than N\$100,000
 - Some members of Shack Dwellers Federation of Namibia (SDFN) live on municipal land without any agreements with the City of Windhoek
 - *The story is the same for other cities & towns although at a smaller scale*

CITIES AND DEVELOPMENT CHALLENGES

- **Under the Off-grid Energisation Master Plan, informal settlements are considered grey areas**, which are locations where it is not clear in the master plans how or if access to electricity will be provided.
- Due to high rural to urban migration growth in informal settlements is unabated.
- Infrastructure development; roads, sewerage, water and finally electricity comes way later.
- Affordability is another big issue.
- Standards for both security & energy efficiency are not followed.

CITIES AND DEVELOPMENT CHALLENGES



CITIES AND DEVELOPMENT CHALLENGES



RENEWABLES CONTRIBUTION TO CITIES IN NAMIBIA

- Need to be looked at from two angles; (1) environmental sustainability and (2) affordable -and sustainable energisation.
 1. Environmental sustainability through policy and regulations, (**carrot and stick**)
 - Grid in feed tariff & Net-metering for roof-top-based PV
 - Building codes for energy efficiency & SWH
 - Sustainable planning (smart grids, transportation, etc)
 2. Affordable and sustainable energisation (**national developmental goals**): focus on low income households & informal settlements.
 - Promotion of RE technologies such PV & small devices (lanterns, torches, etc), sustainable planning
 - Building regulations for energy efficiency
 - Affordable financing.

RENEWABLES CONTRIBUTION TO CITIES IN NAMIBIA

- Access and affordability remain key issues in African cities
- Strategies to bring renewables should be coined in the context of access and affordability but at the same time achieving environmental sustainability.
- Renewables must be viewed as contributing to developmental challenges & aspirations of the African cities.
- Cities can therefore be leaders into transitioning to an Energy Efficient and Low Carbon Future

THE END – I THANK YOU

