

**REPORT TO:** EXECUTIVE COMMITTEE OF COUNCIL  
**SUBJECT:** RENEWABLE ENERGY DEVELOPMENT HUB - KZN  
**CLUSTER:** TREASURY  
**UNIT:** ENERGY OFFICE

**REF.:** X003/RP2  
**DATE:** 27 June 2012

*Please note that the Contents of this document is confidential and should not be seen or forwarded to anyone, other than the signatories on this report and the Executive Committee of the eThekweni Municipality.*

## 1 Purpose

The purpose of this report is for information purposes. The report provides the Executive Committee with a summary of the Renewable Energy Development Hub (RED Hub-KZN) that is being proposed for development in eThekweni Municipal Area.

## 2 Synopsis

The RED Hub-KZN Project is a private initiative by the German based company IKD-International and ARDOR SA Limited supported by WISTA-Adlershof, City of Science, Technology and Media, the most innovative Techno Hub in Europe, leading German Companies in the Renewable Energy Technology, Universities and Institutes from Berlin/Brandenburg, partnering with Durban University, Anglo American Platinum and South Korean Technology Partners and Investors. The initiative was created through partnership with the eThekweni Municipality and supported by the KwaZulu-Natal Government.

The expected economic impact is planned as follows:

Private Investment	2011-2012	Project Start	Rm 400
	2012- 2016	First project phase	Rm 3.800
	2016 -2020	Second project phase	Rm 5.000

- 2 billion Rand additional investment from local and international private companies
- Return of the project investment in 8 years/annual profit of 11 % of the net investment
- Direct international investment return with an annual profit of 7.2%
- 4000 + sustainable jobs up from 2016
- 2100 additional project related jobs during installation phase 1 – 2012-2016
- 800 additional project related jobs during installation phase 2 – 2016-2020
- 10.5 billion Rand addition to GDP of RSA in 2020
- 2 billion Rand additional to GDP to SADCC countries in 2020
- Additional Tax revenue for the government of min. 1.5 billion Rand (constant at 2011 prices)
- Local content for supply and services of 40% from the total Investment

2012 -07- 10

The project will provide support for the energy Industry in KwaZulu-Natal based on renewable Sources and will establish the platform for the Renewable Energy Industry in the Province with an impact in the Southern African Region.

### 3 Project Components

The Project will plan, build and run the following components:

#### 3.1 Renewable Energy Business Development Hub

A Centre of Excellence for Renewable Energy with 3 clusters:

- Renewable Energy and Energy Efficiency;
- Integrated Energy- and Infrastructure Networks
- Sustainable Development and Biodiversity.

#### 3.2 Academy for Renewable Energy "T.W.Kambule"

R&D in applied technology solutions, capacity building, skills transfer, scientific and technical co-operation with German and International Institutes.

#### 3.3 260MWp Hybrid Renewable Energy Power Plant

Based on the local Renewable Energy Sources and Applied Solutions at the Hub:

#### 3.4 Renewable Energy Generation

RE-IPP Company, with a capacity of	140 MW
1 <sup>st</sup> phase:	38MW Photovoltaic, 100MW Wind, 0,6MW Bio Energy Pilot Plant, 1,4 MW Solar Thermal
	subtotal 140 MW
<u>Extension in order to increase the capacity up to 260 MW</u>	
2 <sup>nd</sup> phase:	20MW Photovoltaic, 110MW Wind
	<u>Subtotal 120 MW</u>

The Implementation of the CO<sub>2</sub> neutral Precinct Development with integrated RE Power Generation will support the concept of KZN and the Municipalities to reduce the CO<sub>2</sub> emission by 27% until 2020 and will secure Clean Energy for the sustainable socioeconomic development.

## 4 Project Stakeholders

### 4.1 Major Partners

The major investor is **ARDOR SA Limited, South Africa**. The project initiation and Program Management is done by **IKD-International Know-how Transfer and Business Development GmbH**, a German based Consulting Company with an extensive track record in projects in Southern Africa. **IKD-International Know-how Transfer and Business Development GmbH** is based in Berlin at the **WISTA-Adlershof, City of Science, Technology and Media** and is a member of the „Afrika Verein der Deutschen Wirtschaft“. The basic analysis for the Hub development was made in close partnership with Companies of the Association Berlin Solar Network, eThekwini and iLembe Municipality, the DUT-Durban University, Anglo American Platinum and the South African Partners “Green Dream Projects” from iLembe and “Sakaza Communications” from Cape Town.

### 4.2 Strategic Partners

The Strategic Partners in Technology and Business Development are:

- WISTA - Berlin- Adlershof – City of Science-Technology and Media;
- ANGLO AMERICAN PLATINUM LIMITED
- Berlin Solar Network, Association of the institutes and companies in Solar Industry in the Federal Estates of Berlin and Brandenburg,
- Optec-BB, Association of the institutes and companies in Optical and Laser Industry in the Federal Estates of Berlin and Brandenburg,
- ZAB-Zukunftsagentur Brandenburg- Economic Development Corporation in the Federal Estate of Brandenburg

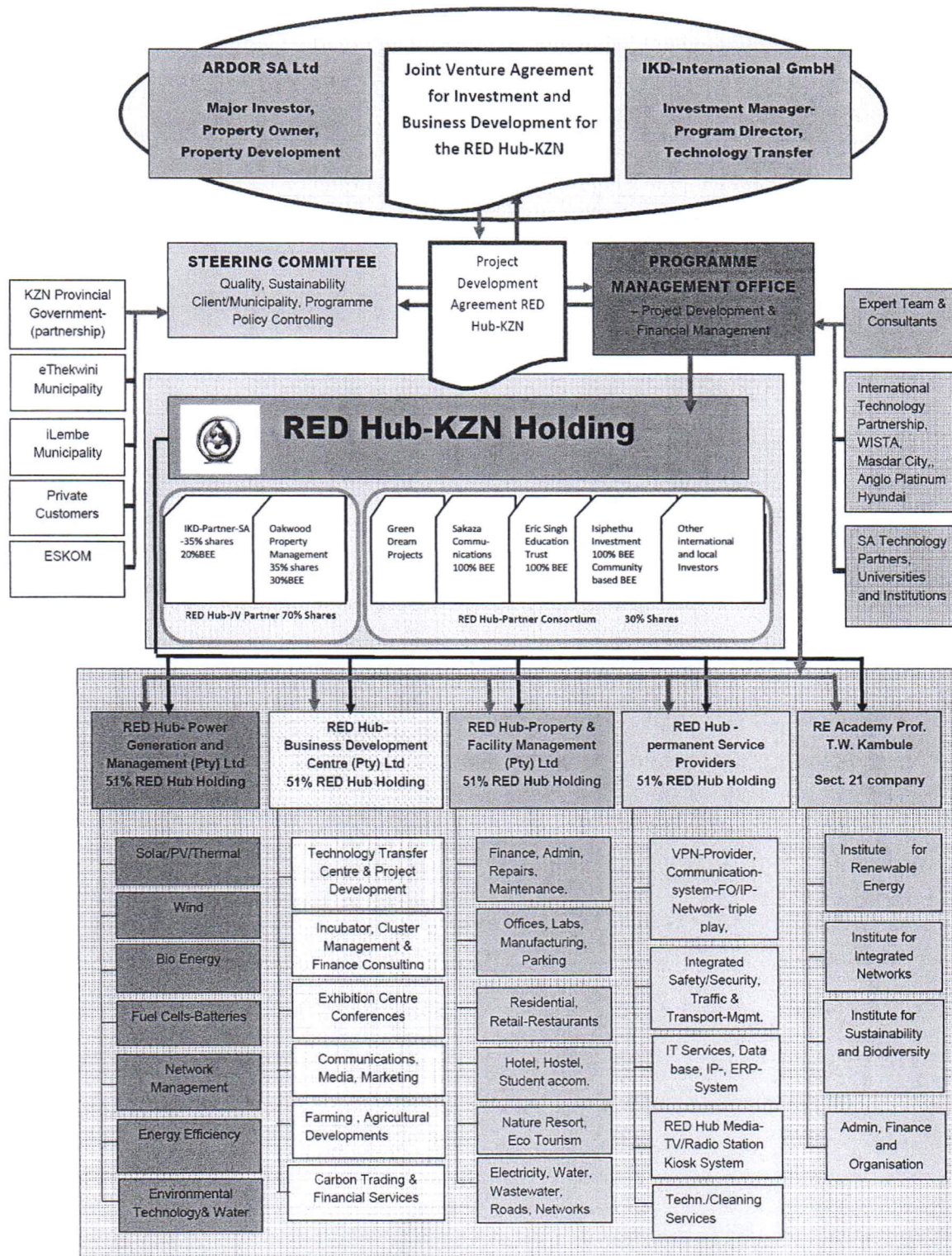
### 4.3 Tertiary Institute Partners

#### Partnering Universities and Institutes

- Durban University of Technology
- International Academy for innovative pedagogic, psychology and economics gGmbH (INA) at the Free University Berlin;
- Humboldt University Berlin
- b-tu Brandenburg University of Technology;
- HZB-Helmholtz Zentrum Berlin – (Bessy)
- Ferdinand Braun Institute for HF-Technics,
- Fraunhofer Heinrich Hertz Institute

**German, South African and South Korean private Companies are involved in the planning, technology transfer and investment**

### RED Hub-KZN Business Organigram



The establishment of the RED Hub-KZN as a “Special Economic Zone (SEZ)” will provide the business platform for local and regional project development, international investment and social-economic upliftment in KZN and in eThekweni and iLembe. The challenge to prove the capability of combining business development and sustainability the communities and the environment will provide the opportunity for a pioneering project in Africa with a remarkable impact in the business development in the Southern African Region.

## 5 Direct Outcomes - Scenario 2020:

Item	Outcome
Job Creation:	> 4.000 permanent Jobs
Establishing of ca. 120 companies, institutes and Service firms in Power Generation, Education, R&D, training and manufacturing in the RE Sector.	
Turnover per year	From 2016: Rm 580 increase of 20% per annum
Students:	> 1.200
Capacity building/training	> 240 artisans/technicians
Residents:	> 7.500
Visitors per year	> 20.000

The RED Hub-KZN offers in cooperation with the international and local investors, suppliers, tenants and partnering companies a complex of systems and services with the potential of generating additional revenue streams in order to provide finance for refinancing the projects and for generating CAPEX for the partnering municipalities and private companies and partners.

This opportunity is developed out of the installed capacity for Renewable Energy Power Generation, Broadband services, ICT and security infrastructure. It provides competitiveness and improves the living standards in the partnering Metropolitan and in the Municipalities.

## 6 Required Support from eThekweni Municipality

In order to achieve these outcomes, the eThekweni Municipality will need to provide support to the development of the RED Hub-KZN. This support will include:

- 1) The eThekweni Municipality will ensure access to key personnel (especially those who were responsible for defining the requirements and acceptance criteria).
- 2) The eThekweni Municipality will provide access to all technical staff involved in the implementation and operations and information.
- 3) A comprehensive “Project Investment Agreement” (PIA) will be drafted and signed in collaboration between the eThekweni Municipality and the RED Hub-KZN Joint Venture.
- 4) The eThekweni Municipality will facilitate the approval of the status as “Special Economic Zone” for the RED Hub-KZN Project
- 5) The Power “Purchase Agreement” (PPA) between the eThekweni Municipality and the RED Hub-KZN Joint Venture will be signed in accordance with the council resolution of 13 September 2011 regarding PPAs.

- 6) The eThekweni Municipality will work with RED Hub-KZN Joint Venture to develop an Environmental Management Framework (EMF).

## 7 Budget implications

The budget implications for the eThekweni Municipality at this stage are not defined. There are however 2 potential areas of budget implication for the eThekweni Municipality. These are the provision of bulk services to the development and the purchase of renewable energy from the development.

The eThekweni municipality will need to ensure that bulk services are made available to the RED Hub-KZN. These services include, but are not limited to, the provision of access road, potable water, storm-water drainage, electrical grid connections and fiber-optic access. A thorough assessment will need to be conducted by relevant departments, who will be in a position to advise on what specific services are needed and budgetary implications, for the RED Hub.

For the purchase of renewable energy, a council resolution was passed on the 13 September 2011 for *"Authority for Head Electricity to enter into a power purchase agreements with customers having embedded generation and co-generation facilities at no additional costs to eThekweni rate payers."* The eThekweni Municipality also has an existing application process for embedded renewable energy generation. The necessary authority and administrative processes are therefore already in place to purchase renewable energy at *"no additional costs to eThekweni rate payers"*. Because the purchase of electricity will be at the same rate as that currently paid to ESKOM, there will be no direct budget impact.

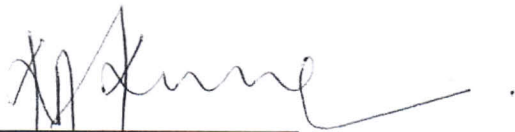
## 8 Recommendations

Given the significant economic potential of this development within the eThekweni Municipal Area it is recommended that:

- 1) The eThekweni Municipality continues supports of the Renewable Energy Development Hub (RED Hub-KZN) as outlined in this report.



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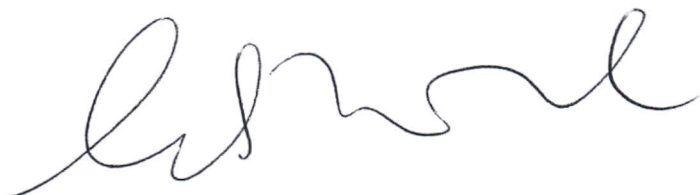
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