

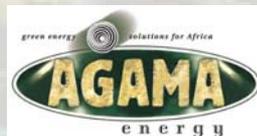
Green Power for the WSSD

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The catalyst for a green power market in southern Africa?

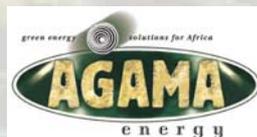
April - November 2002

a project grant under the DEAT climate change program
funded by USAID



The Opportunity

- ❖ The Department of Minerals and Energy has suggested a targeted minimum increase of 5% of primary energy over the next decade (from 9% to 14% by 2012) in the proportion of Renewable Energy supplied into the South African economy.
- ❖ The long term goal is to shift the South African energy economy towards a more sustainable mix of energy supply systems.
- ❖ Integrated energy planning scenarios indicate a requirement for an overall energy supply of 3800 peta Joules (PJ) by 2012.
- ❖ The DME's minimum target implies an estimated 190 PJ of new renewable energy and, within this, a new electricity generation capacity requirement of around 4000 MW
- ❖ This corresponds to an investment of between US\$4 - 6 billion of investment, i.e. an average investment of US\$400 – 600 million per annum for the next ten years.
- ❖ This excludes any new investments in new green electricity generation capacity in the southern African region.



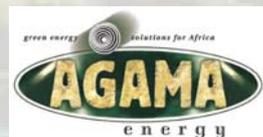
The Benefits

- ❖ This investment in new green generation capacity is expected to yield :
 - Jobs
 - Local content manufacture and potential export opportunities
 - Environmental benefits
 - Health benefits



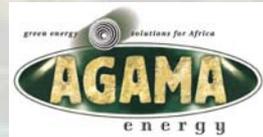
Project Objectives

- ❖ establish a regulatory and trading context for a green power market in SA
- ❖ facilitate a pilot project to test the interest and functionality of this framework
- ❖ reduce the negative effects of energy services provision to the WSSD
- ❖ stimulate investment in new green power generation systems in South Africa
- ❖ develop capacity and skills in the green power sector



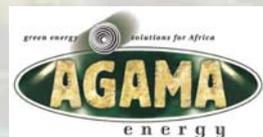
Project partners

- ❖ JOWSCO
- ❖ Sandton Convention Centre, Hilton Sandton, NASREC Expocentre, Ubuntu Village
- ❖ National Electricity Regulator (NER)
- ❖ City Power
- ❖ Green Power generators
- ❖ Media



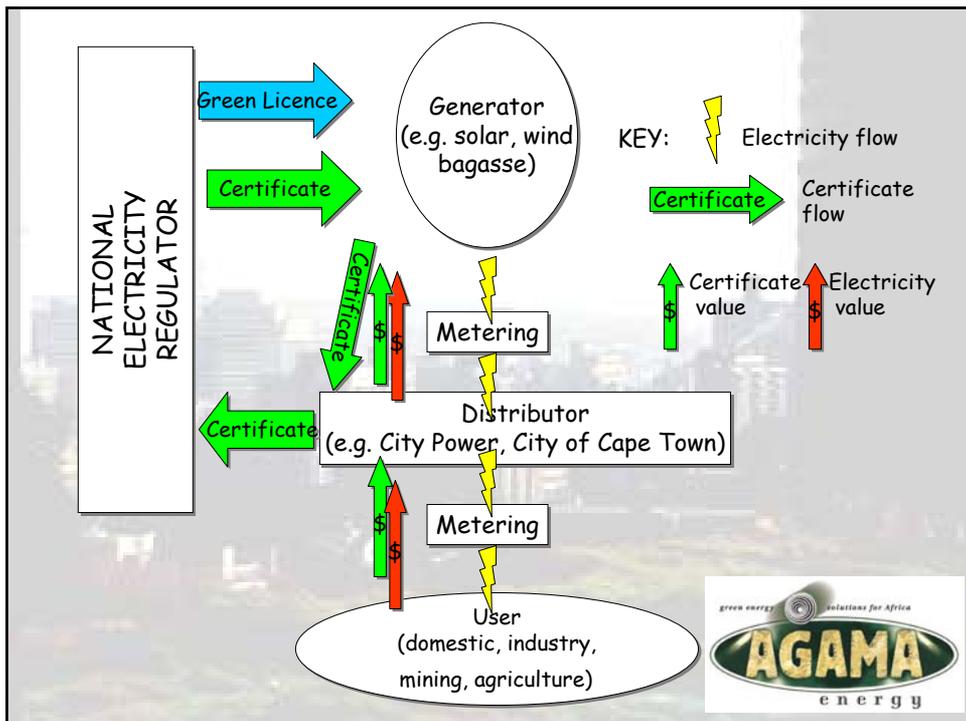
Intervention

- ❖ Determine the energy service needs of the WSSD venues
- ❖ Develop a green electricity trading mechanism
- ❖ Develop the criteria for certification of green generators by the NER
- ❖ Develop a green electricity tariff
- ❖ Identify and source green power generation capacity in SA
- ❖ Liaison with CDM initiatives
- ❖ Monitoring and evaluation
- ❖ Public awareness



Progress

- ❖ Letters of commitment by WSSD venues to buy Green Power
- ❖ Energy audits for venues and determination of electricity needs for WSSD
- ❖ Endorsement of the project by the Board of the National Electricity Regulator
- ❖ Development of regulatory and trading framework for green electricity for the NER
- ❖ Development of criteria for certification of green electricity generators in South Africa
- ❖ Participation by City Power as a key project partner
- ❖ Development of a green electricity tariff for City Power



Criteria for certification

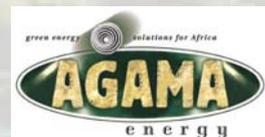
❖ The certification process will include the following basic steps:

- Application to NER for certification by a power producer
- Assessment of resource utilization (resource disclosure)
- Assessment of sustainability criteria (EIA, social and financial assessments)
- Quantification of the power and production capacity
- Issue of certificate
- Monitoring



Criteria for certification

Eligible energy sources	Comments
Solar	Grid-connected and utility off-grid
Wind	Grid-connected and utility off-grid
Biomass	Wood, crop residues, clean wood waste, clean food processing waste, biodiesel, clean landfill gas Biomass component of co-fired plant
Hydro	Existing hydro – run-of-river plant with an installed capacity of less than 30 MW New hydro – any scale as long as the project complies with environmental, social and economic legislation and oversight procedures (such as EIA'S)



Criteria for certification

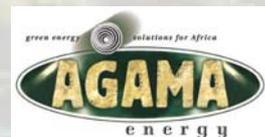
Ineligible energy sources	
Coal	Non-renewable
Nuclear	Non-renewable
Natural gas	Non-renewable
Diesel / Heavy fuel oil	Non-renewable
Paraffin	Non-renewable
Unsorted solid waste	Environmentally problematic
Sewage sludge	Environmentally problematic

Potential sources (to be developed)	
Negawatts	Baselines and verification issues need to be clarified
Landfill gas (methane)	Environmental criteria, such as emissions, need to be established and regulatory mechanisms set in place



Progress cont'd

- ❖ Registration of >60 MW of green power generators with the NER including:
 - 13 new individual solar PV systems in southern Africa including a system for the GreenHouse Project
 - 1 new wind electricity system in Kimberley
 - 2 existing hydropower systems in W Cape and Mpumalanga
 - 5 existing bagasse co-generators in KwaZulu Natal
 - 1 symbolic trade from a wind system in Costa Rica
 - 1 symbolic trade from a geothermal system in Italy
- ❖ More registrations in progress



Progress cont'd

- ❖ Conference plan:
 - 10% Green Power in SA by 2012 scheduled for April 2003
- ❖ Monitoring and evaluation including:
 - metering and data acquisition at each of the four venues
 - data analysis and integration into the Sustainability Barometer
 - reporting against indicators



Progress cont'd

- ❖ Liaison and co-ordination with Greening the WSSD Project programme
- ❖ Public awareness including:
 - <25 articles in the print media
 - 2 television interviews
 - 6 radio interviews
 - Exhibition stand for DEAT
 - Ongoing coverage of process 'til 30th November



Other Key Points

- ❖ Briefings with Minister Phumzile Mlambo-Ngcuka of Minerals and Energy
- ❖ Briefings with Regional Electricity Regulator, RERA
- ❖ Participation in international research on implementation of Tradeable Renewable Energy Certificates
- ❖ Input to the DME's White Paper on Renewable Energy and Energy Efficiency



Where to from here

- ❖ Consolidation of experience
- ❖ Formalisation of the market mechanisms
- ❖ Green power market assessment
- ❖ Roll out of a long term programme

