

# NS-241 - Provision of Sustainable Energy in Zimbabwe through use of Biogas

## Zimbabwe

### NAMA Seeking Support for Preparation

#### A Overview

A.1 Party

Zimbabwe

A.2 Title of Mitigation Action

Provision of Sustainable Energy in Zimbabwe through use of Biogas

A.3 Description of mitigation action

The Ministry of Energy and Power Development will implement the programme. Collaborations with other government departments, institutions, non-governmental organisations and civic society organisations will be sought. The overall aim of the programme aims at:

- Creating awareness of biogas technology in small holder dairy and piggery farming areas and in rural areas;
- Training builders in the construction and installation of digesters as well as loading and maintenance, this will generate some income for the trainees; and
- Developing and adapting paraffin, LPG refrigerators and other appliances for use with biogas.

For all uses the aim is to successfully develop a market-driven sector. In the domestic sector over 200 digesters have been constructed so far but the aim is to cover all the 57 rural districts in the country. In the first ten years it is expected that 7 800 domestic digesters will be constructed. The programme also focuses on construction of digesters at public institutions; i.e. schools, prisons, and hospitals. It is anticipated that 100 institutional digesters (minimum size, 50m<sup>3</sup>) will be constructed in the next 5years. 100 municipal digesters will be constructed in the next 5 years (minimum size 200m<sup>3</sup>). The sites for municipal digesters are vegetable market places and sewage treatment works. Currently 800m<sup>3</sup> (4x 200m<sup>3</sup>) digesters are being constructed in Harare's major vegetable market, Mbare. Sustainability will be achieved through training of participants, farmers and artisans in the technology; i.e. for repairs and maintenance.

A.4 Sector

<input checked="" type="checkbox"/> Energy supply	<input type="checkbox"/> Transport and its
<input type="checkbox"/> Residential and Commercial buildings	<input type="checkbox"/> Infrastructure
<input checked="" type="checkbox"/> Agriculture	<input checked="" type="checkbox"/> Industry
<input checked="" type="checkbox"/> Waste management	<input type="checkbox"/> Forestry

Other

A.5 Technology

<input checked="" type="checkbox"/> Bioenergy	<input checked="" type="checkbox"/> Cleaner fuels
<input type="checkbox"/> Energy Efficiency	<input type="checkbox"/> Geothermal Energy
<input type="checkbox"/> Hydropower	<input type="checkbox"/> Solar Energy
<input type="checkbox"/> Wind Energy	

A.6 Type of action	<input type="checkbox"/> Carbon Capture and Storage	<input type="checkbox"/> Ocean Energy
	<input checked="" type="checkbox"/> Land fill gas collection	<input type="checkbox"/> Low till / No till
	<input type="checkbox"/> Other <input type="text"/>	
A.7 Greenhouse gases covered by the action	<input checked="" type="checkbox"/> National/ Sectoral goal	<input type="checkbox"/> Project: Investment in machinery
	<input checked="" type="checkbox"/> Strategy	<input type="checkbox"/> Project: Investment in infrastructure
	<input checked="" type="checkbox"/> National/Sectoral policy or program	<input type="checkbox"/> Project : other
	<input type="checkbox"/> Other <input type="text"/>	
A.7 Greenhouse gases covered by the action	<input checked="" type="checkbox"/> CO2	<input checked="" type="checkbox"/> CH4
	<input type="checkbox"/> N2O	<input type="checkbox"/> HFCs
	<input type="checkbox"/> PFCs	<input type="checkbox"/> SF6
	<input type="checkbox"/> Other <input type="text"/>	

### B National Implementing Entity

B.1.0 Name	Ministry of Energy and Power Development
B.1.1 Contact Person 1	Mr. Malan Manyundo
B.1.2 Address	2nd Floor John Boyne Building Corner Innez Terrace Street/ Speke Avenue Private Bag 7758, Causeway Harare, Zimbabwe
B.1.3 Phone	+2634703320, +263 733 287 661 , +263 777 659 560
B.1.4 Email	mmanyundo@gmail.com
B.1.5 Contact Person 2	Ms Shorai Kavu
B.1.6 Address	2nd Floor John Boyne Building Corner Innez Terrace Street/ Speke Avenue Private Bag 7758, Causeway Harare, Zimbabwe
B.1.7 Phone	+2634703320, +263 733 361 402
B.1.8 Email	kavkajongwe@gmail.com
B.1.9 Contact Person 3	
B.1.10 Address	
B.1.11 Phone	
B.1.12 Email	
B.1.13 Comments	

### C Expected timeframe for the preparation of the mitigation action

C.1	Number of months for completion	6
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### D Currency

D.1	Used Currency	<input type="text" value="AED"/>
		Conversion to USD: 1

### E Cost

E.1.1	Estimated full cost of preparation
E.1.2	Comments on full cost of preparation

### F Support required to prepare the mitigation action

F.1.1 Amount of Financial support	300000
F.1.2 Type of required Financial support	<input checked="" type="checkbox"/> Grant <input type="checkbox"/> Loan (sovereign) <input type="checkbox"/> Loan (Private) <input type="checkbox"/> Concessional loan <input type="checkbox"/> Guarantee <input type="checkbox"/> Equity <input type="checkbox"/> Carbon finance

	<input type="checkbox"/> Other <input type="text"/>
F.1.3 Comments on Financial support	The cost of preparation stated above is justified by the fact that there is need to hire a consultant to carry out a baseline survey that is required to prepare the NAMA. The amount will be split between paying for consultant services and costs of workshops that will be held on capacity building
F.2.1 Amount of Technical support	200000
F.2.2 Comments on Technical support	The cost of preparation stated above is justified by the fact that there is need to hire an international consultant to prepare a full NAMA proposal. The amount will be split between paying for consultant services and costs of consultative meetings
F.3.1 Amount of capacity building support	100000
F.3.2 Type of required capacity building support	<input checked="" type="checkbox"/> Individual level <input checked="" type="checkbox"/> Institutional level <input checked="" type="checkbox"/> Systemic level <input type="checkbox"/> Other <input type="text"/>
F.3.3 Comments on Capacity Building support	<ul style="list-style-type: none"> <li>• Training for monitoring and evaluation of completed digesters for Ministry of Energy personnel.</li> <li>• Capacity building for biogas designers, builders and for maintenance procedures. MRV systems</li> </ul>
F.4 Financial support required	<input type="checkbox"/>
F.5 Technological support required	<input type="checkbox"/>
F.6 Capacity support required	<input type="checkbox"/>

G Relevant National Policies strategies, plans and programmes and/or other mitigation action

G.1 Relevant National Policies	<p>The project will be implemented as part of the Zimbabwe Agenda for Sustainable Socio-Economic Transformation's target of 1 250 digesters installed by 2018 and as one of Zimbabwe's INDCs and Third National Communication to UNFCCC climate change mitigation options. ZimASSET is Zimbabwe's economic blue print.</p> <p>Besides biogas dissemination the other mitigation projects which Zimbabwe is implementing or planned to implement are:</p> <ul style="list-style-type: none"> <li>• Fixture relamping of 250W mercury vapour street lights with 90W LED flood lights in the City of Harare. Some of the installed LED lamps are being powered by solar modules in areas where security of the solar LED lights is not of concern such as the central business district. This further reduced GHG emission and also contributing to improved energy security;</li> <li>• Voluntary energy audits and implementation of energy management opportunities by companies affiliated to Confederation of Zimbabwe Industries in collaboration with the Swedish Government;</li> </ul>
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- Certified Energy Manager Training funded by the Zimbabwe Energy Regulatory Authority (ZERA) in which thirty representatives from top most energy intensive using companies were capacitated to manage their energy. These companies were asked to conduct energy audits and implement identified energy conservation measures. They will submit their reports for audits and implementation to ZERA. Training of more companies has been planned by ZERA to boost organizational capacity in managing energy before mandating significant energy users to provide energy audit reports every three years;
- Installation prepaid meters has resulted in significant reduction in household electricity usage as households are able to manage electricity on their own. The government plan to have 800,000 prepaid meters in households and commercial by 2018;
- Use of alternative forms of energy such as solar energy. The nation has plans to retrofit electric geysers with solar water heaters as well as installations of solar water heaters on new buildings; and
- Blending of petrol with ethanol. Currently the country is using E10 and E15 but plans are there to reach E20 by 2018.

G.2 Link to other NAMAs

#### H Attachments

H Attachments	Title	Description
<p>H.1 Attachment description</p> <p>H.2 File</p>	<p>Climate Change Response Strategy.pdf energy_policy.pdf Zim-Asset.pdf Zimbabwe Intended Nationally Determined Contribution 2015.pdf</p>	<p>1. The National Climate Change Response Strategy 2. The National Energy Policy 3. The National Economic Blueprint for Zimbabwe 4. Zimbabwe INDC submitted to UNFCCC</p>
	<input type="text"/>	<input type="button" value="Browse..."/>

#### I Support received

I.1 Outside the Registry	Not yet received suport					
I.2 Within the Registry	<table border="1"> <thead> <tr> <th>Support provided</th> <th>SupportType</th> <th>Amount</th> <th>Comment</th> <th>Date</th> </tr> </thead> </table>	Support provided	SupportType	Amount	Comment	Date
Support provided	SupportType	Amount	Comment	Date		