

## Greening the Raleigh Fitkin Memorial Hospital demonstration project in Manzini, Eswatini

### Annual Project Work Plan 2020

Project #:

Implementing Partner: Ministry of Energy

Component /Key Activity Results	Year 2020				Responsible Party	Planned Budget			Budget Notes	
	Q1	Q2	Q3	Q4		Budget Description	USD	Euros		
<b>Activity 1.1: Undertake project preparatory activities</b>										
1.1.1.1					ENE/UNDP	IMEIS	-	-	1	Specs to be prepared and submitted by Government
1.1.1.2					ENE/UNDP	IMEIS	10,800	71200 Contractual Services	2	Consultancy/Engineer to certify specifications & other milestones
1.1.1.3					ENE/UNDP	IMEIS	-	-	3	PMU and UNDP to support this process
1.1.1.4					ENE/UNDP	IMEIS	43,200	71200 Contractual Services	4	Consultancy to prepare Social and Environmental Impact and application submission for permit as well as finalization of SES
1.1.1.5					ENE/UNDP	IMEIS	29,160		5	Payment for licences for generation & distribution
							<b>83,160</b>	<b>Subtotal</b>		<b>77,000</b>

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**Activity 1.2: Installation of a 1-MW photovoltaic power plant including battery storage and a transmission line connecting the RFM Hospital**

1.2.1	Design the PV power plant and its auxiliary installations				UNDP/RFM/M NRE/ENE/ IRENA	IMELS	72100 - Contractual Services - Companies	54,000	50,000	6	Consultancy to design the PV power plant and its auxiliary installations
1.2.2	Certify the design of the PV power plant and its auxiliary installations				UNDP/RFM/M NRE/ENE/ IRENA	IMELS	72100 - Contractual Services - Companies	54,000	50,000	7	Consultancy / Engineer to provide this service
1.2.3	Contract contractor to install the PV power plant, battery storage system, step up/step down transformers and transmission lines				UNDP/RFM/M NRE/ENE/ IRENA	IMELS		-	-	8	Procurement of Engineer to certify the design of the PV power plant and its auxiliary installations
1.2.4	Install a PV power plant				UNDP/RFM/M NRE/ENE/ IRENA	IMELS	72100 - Contractual Services - Companies	648,000	600,000	9	Contract a firm to install a PV power plant
1.2.5	Install a battery storage system				UNDP/RFM/M NRE/ENE/ IRENA	IMELS	72100 - Contractual Services - Companies	564,840	523,000	10	Contract a firm to install of a battery storage system
1.2.6	Install step up/down transformers				UNDP/RFM/M NRE/ENE/ IRENA	IMELS	72100 - Contractual Services - Companies	216,000	200,000	11	Contract a firm to install a step up/down transformers
1.2.7	Construct and install MV line to distribute power from PV power plant to the RFM Hospital main switchboard				UNDP/RFM/M NRE/ENE/ IRENA	IMELS	72100 - Contractual Services - Companies	108,000	100,000	12	Contract a firm to construct and install MV line to distribute power from PV power plant to the RFM

												Hospital main switchboard	
1.2.8	Certify all stages of the installation process by Engineer				UNDP/RFM/MNRE/ENEAIRENA				71400 - Contractual Services - Individual	108,000	100,000	13	Consultancy for Engineer to certify all stages of the installation process by Engineer
									<b>Subtotal</b>	<b>1,752,840</b>	<b>1,623,000</b>		
<b>Activity 1.3: Replacement of energy inefficient lighting, heating and cooling systems</b>													
1.3.1	Establish performance parameters for the lighting, heating and cooling systems				RFM/MNRE / ENEA /IRENA				71400 - Contractual Services - Individual	21,600	20,000	14	Consultancy to prepare performance parameters in consultation with Government
1.3.2	Validate established performance parameters				RFM/MNRE / ENEA /IRENA				75700 - Training, Workshops and Conference	10,800	10,000	15	Meeting/Workshop to bring stakeholders together for validation
1.3.3	Initiate procurement process for the supply of the equipment according to approved standards				RFM/MNRE / ENEA /IRENA				72100 - Contractual Services - Companies	-	-	16	Once agreed at validation meeting, procurement to kick off
1.3.4	Replace high energy bulbs and fittings with LEDs lamps				RFM/MNRE / ENEA /IRENA				72100 - Contractual Services - Companies	43,200	40,000	17	Replacement of high energy bulbs and fittings with LEDs lamps
1.3.5	Replace old electric heaters with high efficiency heat pumps				RFM/MNRE / ENEA /IRENA				72100 - Contractual Services - Companies	75,600	70,000	18	Replacement of old electric heaters with high efficiency heat pumps
1.3.6	Replace coal boiler by high efficiency heat pumps				RFM/MNRE / ENEA /IRENA				72100 - Contractual Services - Companies	75,600	70,000	19	Replacement of coal boiler by high efficiency heat pumps

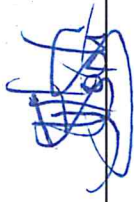
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									Services - Companies										Engineer to certify procured systems against established standards
1.3.7	Certify procured systems against established standards								RFM/MNRE / ENEA /IRENA	IMELS			10,800	10,000	20				
									<b>Subtotal</b>				<b>237,600</b>	<b>220,000</b>					
<b>Activity 2.1: Design a functional monitoring and reporting system on reduced energy demand, CO2 emissions as well as associated energy cost savings; replication</b>																			
2.1.1	Establish a baseline of energy consumption prior to the installation of energy efficient appliances and devices and the PV power plant and a baseline of energy costs (electricity bill, coal costs, diesel costs and								RFM/MTEA/M NRE/UNDP/EN EA/IRENA	IMELS			43,200	40,000	21				Meetings to monitor and report data on energy consumption and costs and Greenhouse gas emissions particularly
2.1.2	Select and compile indicators for monitoring energy consumption and associated costs and greenhouse gas emission levels								RFM/MTEA/M NRE/UNDP/EN EA/IRENA	IMELS			-		22				To be undertaken by PMU and Government
2.1.3	Design and implement a monitoring system to track and document emission trends, energy demand levels and energy costs at the RFM Hospital								RFM/MTEA/M NRE/UNDP/EN EA/IRENA	IMELS			5,400	5,000	23				Meetings to design and implement a monitoring system to track and document emission trends, energy demand levels and energy costs at the RFM Hospital
2.1.4	Monitor and report data on energy consumption and costs and Greenhouse gas emissions particularly CO2 emissions								RFM/MTEA/M NRE/UNDP/EN EA/IRENA	IMELS			5,400	5,000	24				Data collection to be done by RFM and analysis to be done with expert



2.2.5	Develop a case study and conduct guest lectures at higher learning institutions					MNRE/MTEA/ UNDP	IMELS	71200- International consultant	5,400	5,000	29	Consultancy to prepare case study and provide lecture as guest lecturer
2.2.6	Raise awareness and share knowledge with local actors in the clean energy sector					MNRE/MTEA/ UNDP	IMELS	75700- Workshops and learning (partner)	5,400	5,000	30	Awareness raising and share knowledge with local actors in the clean energy sector
								<b>Subtotal</b>	<b>54,000</b>	<b>50,000</b>		
<b>Activity 2.3: Develop a strategy and plan for replicating of this project to other public and private hospitals, government institutions and other service facilities and implement the plan in partnership with the government</b>												
2.3.1	Document evidence-based lessons and experiences on the project cost-benefits					MNRE//MTEA/ UNDP	IMELS	71300- National Consultant	5,400	5,000	31	National consultancy to document lessons learnt
2.3.2	Document the demonstration project through reports etc.					MNRE//MTEA/ UNDP	IMELS		-	-	32	PMU and RFM to undertake this task
2.3.3	Create a web presence					MNRE//MTEA/ UNDP	IMELS		5,400	5,000	33	PMU and Ministry of Energy to prepare the documentation
2.3.4	Undertake study tours for relevant stakeholders					MNRE//MTEA/ UNDP	IMELS	71600-Travel	32,400	30,000	34	PMU to facilitate travel
2.3.5	Establish the potential for replication (market assessment) and develop a replication strategy					MNRE//MTEA/ UNDP	IMELS	71300- National Consultant	5,400	5,000	35	Establishment of potential for replication (market assessment) and develop a replication strategy Quarterly reviews and reporting

2.3.6	Mobilise resources for replication of the demonstration project to other hospitals				MNRE//MTEA/ UNDP	IMELS					48,600	45,000	36	Government and UNDP to work with other partners to explore opportunities and exploit them for upscaling.
<b>Subtotal</b>														
<b>Activity 3.1: Monitoring and Evaluation</b>														
3.1.1	Quarterly reviews and reporting				MNRE//MTEA/ UNDP	IMELS				10,800	10,000	37	4 PSC and Board meetings to review progress	
3.1.2	Mid Term & Terminal Evaluation				UNDP/external	IMELS	71400- Contractual services			21,600	20,000	38	Consultant for Mid Term & Terminal Evaluation	
<b>Subtotal</b>														
<b>Activity 3.2 Project Management Coordination</b>														
3.2.1	Project Manager				UNDP	IMELS	71400 - Contractual Services - Individual			37,800	35,000	39	Remuneration	
3.2.2	Admin and Finance Officer				UNDP	IMELS				27,000	25,000	40	Remuneration	
3.2.3	Implementation support costs				UNDP	IMELS				48,600	45,000	41	PMU costs for carrying out and supporting implementation processes	
<b>Subtotal</b>														
										<b>113,400</b>	<b>105,000</b>			
										<b>Grand Total</b>	<b>2,376,000</b>	<b>2,200,000</b>		
<b>GMS</b>														
<b>GMS Subtotal</b>														
										190,080	176,000	42	Management costs for project administration	
										<b>190,080</b>	<b>176,000</b>			
<b>Project Costs and GMS</b>														
										2,566,080	2,376,000			
										<b>2,566,080</b>	<b>2,376,000</b>			
<b>Grand Total Project Costs and GMS</b>														

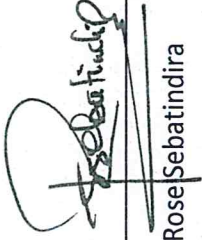


Mr Hlope

Principal Secretary

Date: 25/03/20.....

25/03/20



Ms. Rose Sebatindira

UNDP Resident Representative

Date: 27/05/20.....

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