

Junior Expert (JE) Job description

I. DESCRIPTIVE PART OF THE JOB

Application date	06 March 2020
Job title	Junior Expert in Digital surveying & promotion of renewable energy
Main job domain (sector of activity)	Renewable energy - economic development - new technologies
Job holder (name of JE) <i>(to be filled in after the selection of JE)</i>	
Job holder's (JE's) Signature + date <i>(to be filled in after the selection of JE)</i>	

General information			
Enabel or NGA Project/programme	<input checked="" type="checkbox"/> Enabel	If Enabel : Navision code	MOZ1503411
	<input type="checkbox"/> NGA	If NGA : NGA name	
Full denomination of the project/programme	'Renewable Energy for Rural Development - Phase 2 (RERD2)'		
Project/programme 's location	Mozambique		
Duty station of supervisor	Maputo, Mozambique <i>(with frequent duty travel to Quelimane, Zambezia)</i>	Duty station of JE	Quelimane, Zambezia Province <i>(with frequent duty travel to Maputo > approx. 30-40%)</i>
JE will be assigned to	<input checked="" type="checkbox"/> Project/programme		<input type="checkbox"/> Representation (Enabel)/Country Office (NGA)
Project duration (dd/mm/yy)	Start date:	01/07/2018	Expected starting date for the job (dd/mm/yy): 01 October 2020
	End date :	30/06/2023	
Requested JE contract duration	<input type="checkbox"/> 1 year		<input checked="" type="checkbox"/> 1 year with possible extension
Project/programme's contribution to the SDG's	<input checked="" type="checkbox"/> No poverty <input type="checkbox"/> Zero Hunger <input checked="" type="checkbox"/> Health & Well-being <input type="checkbox"/> Quality Education <input type="checkbox"/> Gender Equality <input type="checkbox"/> Water & Sanitation <input checked="" type="checkbox"/> Affordable & Clean Energy		<input checked="" type="checkbox"/> Decent Work & Economic Growth <input checked="" type="checkbox"/> Innovation & Infrastructure <input type="checkbox"/> Reduced inequality <input checked="" type="checkbox"/> Sustainable cities & Communities
			<input checked="" type="checkbox"/> Responsible consumption & production <input checked="" type="checkbox"/> Climate <input type="checkbox"/> Life below water <input checked="" type="checkbox"/> Life on land <input type="checkbox"/> Peace & Justice <input type="checkbox"/> Partnerships for the Goals

1. Context of project 2. Objectives of project 3. Beneficiaries of project 4. Main activities of project	<p>1. The collaboration between the Government of Mozambique and Belgium in the domain of renewable energy covers a project (RERD2) for development of solar and hydro off-grid systems in partnership with the National Energy Fund (FUNAE) and a capacity strengthening project (CB-MIREME) of the Ministry of Mineral Resources and Energy (MIREME). The renewable energy project RERD2 will finance the construction of hybrid-solar mini-grids and explore the most suitable management models. Both projects emphasize sustainable access to renewable energy for productive uses and contain capacity building components (at the central level in MIREME, FUNAE and in the provinces of Zambezia, Sofala and Manica).</p> <p>2. A Junior Expert (JE) is sought to enhance the role of the RERD2 capacity strengthening interventions in FUNAE in improving the promotion, planning, monitoring, operation and maintenance of renewable energy systems for productive use and enhanced coordination and information exchange between the provincial energy stakeholders and the central level.</p> <p>3. Direct support to the Mozambican-Belgian capacity strengthening intervention in the National Energy Fund. The main focus will be on the province of Zambezia, where most of the RERD2 investment and attention is concentrated but it is likely that the project will also address the neighboring province of Nampula and / or Manica. The JE activities, while mostly developed in the province, will also contribute to the central-provincial interface being strengthened through RERD2. Direct beneficiaries are the users of energy in the targeted communities and the service delivering staff of the provincial services of the energy fund. Implementation of foreseen tasks require direct interaction with the private sector, national and international non-governmental organizations (NGOs), universities and institutions for technical and vocational education and training. In function of the evolution of the programme (i.a. staffing), the project will at some point determine to what extent the focus of the JE should shift from the province to Maputo.</p> <p>4. The JE will be based in Quelimane and frequently travel to Maputo. The JE will be supervised by senior staff of RERD2 based in Quelimane and Maputo. (S)he will need to link up with NGOs, private and public sector and institutions for technical and vocational education and training active in the field of economic development. It is also foreseen that the JE will regularly contribute to training of government and NGO staff, producers and consumers on the promotion, monitoring and evaluation (M&E) of renewable energy (RE) systems for productive use in rural areas.</p>	
Working language(s) in the project/programme	<input checked="" type="checkbox"/> French <input checked="" type="checkbox"/> English	<input checked="" type="checkbox"/> Portuguese <input checked="" type="checkbox"/> Others: Dutch

Position of the JE within the organization	
<p><i>The JE depends hierarchically on the supervisor (N+1). Besides the supervisor, one or more resource persons for technical support of the JE may be appointed in case the supervisor does not have the same technical background as the JE. If this person is already identified, please indicate below.</i></p>	
Supervisor's name, job title & background	Riccardo DEL CITTO - Energy Engineer (RERD2) (based in Maputo with frequent duty travel to Quelimane, Zambezia)
Resource person(s) for technical support's name, job title & background	<ul style="list-style-type: none"> • Mark HOEKSTRA - Intervention Manager RERD2 (Human Geographer, Rural Development Specialist) • Evert WAETERLOOS - Intervention manager CB-MIREME (Sociologist – Rural Development Policy and Management Specialist) • Erik van MALDEREN - Capacity development and change management in the energy sector on provincial level (Energy Engineer) • Antoine DE CLIPPELE, Junior Expert Digital Data Management • Collaborators in Enabel Mozambique, FUNAE, MIREME HQ • Expert EST-Enabel Brussels HQ.
<p>For Enabel JE, the follow-up will be assured by a Junior Programme Project Officer.</p>	

JE – Job description
Job objective
<p><i>Explain in one concise sentence the purpose of the job. What real need does this job fulfil? What's the added value of the job?</i></p>
<p>The Junior Expert will contribute to the sustainability of former, ongoing and new investments in renewable energy systems for rural development by improving the Monitoring & Evaluation and promotion of renewable energy installations in rural areas for productive use.</p> <p>(S)he will develop his/her activities in four strongly synergetic result areas:</p> <ol style="list-style-type: none"> 1. Monitoring of renewable energy installations and improved management and planning; 2. Promotion of productive use of renewable energy; 3. Protection of systems and people; 4. Information dissemination, promotion and training. <p>This entails support to:</p> <ul style="list-style-type: none"> • The design and implementation of survey instruments for regular field assessments of operational status of (hundreds of) renewable energy systems, results of which will feed into a (web based) Geographical Information System (GIS) on the short term and a management platform for improved management of installations on the medium term. • Promoting the productive use of renewable energy in a role of initiator and a partnership builder for the promotion of new technologies, disseminator of information and trainer. • Collaboration between communities and companies charged with Engineering, Procurement and Construction (EPCs) for increased community ownership, reduced risk of accidents and improved operation and maintenance management.

Result area n°1		Time in % :	30
JE's role	Digital survey implementer		
JE's responsibility	The JE will assist in the field of monitoring of renewable energy installations and the piloting of project developed digital survey tools (operational status, customer feedback, needs, ...)		
In order to...	Improve the energy fund and energy ministry's information bases on the operational status of the renewable energy installations and related issues / difficulties while contributing to improvement of the fund and ministry's monitoring, operation & maintenance systems.		
Most important tasks	<ul style="list-style-type: none"> - Assist in the design of a survey to assess operational status of renewable energy installations. - Lead the field survey execution while piloting project developed digital survey tools; assist in data analysis and reporting. - Collaborate with the provincial FUNAE delegation, the Energy Ministry's provincial Directorate (DIPREME) and the Maputo headquarters GIS unit in integration of field survey data into a - future web-based - geographical information system. - Train counterpart staff in digital survey techniques and tools. 		
Expected outputs	<ul style="list-style-type: none"> - Operational survey instruments and user manuals. - Survey reports on operational status of renewable energy installations. - Advice on tested survey and - remote - monitoring tools on operational status of installations, customer feedback and - productive - use of energy. - Advice on the integration of field data into a GIS-based operating and management platform - Trained FUNAE and DIPREME technicians in survey execution and monitoring. - Documented experiences (capitalization). 		

Result area n°2		Time in % :	30
JE's role	Initiator and promoter of new energy efficient technologies.		
JE's responsibility	Promote technology specific mini-grid or solar home systems (SHS) energy-efficient technologies in small and medium enterprises in partnership with individual and institutional stakeholders in project communities, the private sector, NGOs, public authorities, vocational training institutes and ongoing economic development programs.		
In order to ...	Raise productive use awareness and promote productive use of energy.		

Most important tasks	<ul style="list-style-type: none"> - Explore national and local market of new energy efficient devices distinguishing between technologies suitable for mini-grids and those for solar home systems. - Convene pre-identified stakeholders on productive use promotion and define cornerstones of productive use support to direct beneficiaries. - Plan and organize productive use promotion activities (training and demonstration workshops, ...) i.e. (i) upgrading of existing economic activities through uptake of electricity use, and (ii) support for the creation of new businesses that use electricity, including economic activities that are new to the programme area. - Create communication material on new energy technologies and productive use.
Expected outputs	<ul style="list-style-type: none"> - Linkages between rural and urban entrepreneurs, equipment vendors and providers of maintenance services. - Increased capacity among direct beneficiaries / entrepreneurs to think through a transformation in their business operations (change to electricity run equipment) in function of source of electricity (mini-grid or solar home system). - Technology specific communication materials on productive use applications, energy efficient equipment, their appropriate use and their potential for operational cost reduction. - Improved practical knowledge of renewable energy devices / appliances among officials of the ministry, the energy fund and the regulatory authority.

Result area n°3		Time in % :	30
JE's role	Interface between the beneficiary communities and the Engineering, Procurement and Construction companies (EPCs).		
JE's responsibility	Assist the communities and the companies during the electrification project, possibly through a JE field internship(s) in the EPC(s).		
In order to ...	Promote community involvement in construction, operation and maintenance of equipment and systems and reduce the risk of accidents and breakdowns.		
Most important tasks	<ul style="list-style-type: none"> - Travel to selected mini-grid sites in Mozambique in order to get an idea of best practice in terms of mini-grid development and management. - Organize and facilitate awareness courses and cascade trainings on * basic technical aspects, * importance of paying for electricity and * safe and correct electricity use (schools, women associations, workers, potential village-based technicians and customer care operators). 		
Expected outputs	<ul style="list-style-type: none"> - Increased local sense of ownership through involvement of the villagers in the construction and operation and maintenance - Communication materials and raised awareness on safe use of (renewable) electric energy, appropriate tariffs and importance of payment for electricity for systems' Operation and Maintenance (O&M) costs - Raised awareness on safe use of electric energy - Capacitated village O&M team - Documented experiences (capitalization) 		

Result area n°4		Time in % :	10
JE's role	Trainer, promotor, coach in the field of renewable energy systems.		
JE's responsibility	<ul style="list-style-type: none"> - Identify interesting examples of renewable energy systems - Demonstration in situ - Train government and NGO staff, producers and consumers on the promotion and monitoring and evaluation of renewable energy systems for productive use in rural areas. - Provide regular overview of general and specific technical specifications on management of different renewable energy systems for productive use and their applicability to the Mozambican rural context 		
In order to ...	Improve the capacity in our partners (FUNAE, DIPREME,..) to promote, monitor and evaluate renewable energy systems for productive use in rural areas.		

Most important tasks	<ul style="list-style-type: none"> - compile documentation on recent interesting renewable energy systems - prepare and deliver presentations - assist in compilation of user-friendly information and promotion
Expected outputs	<ul style="list-style-type: none"> - Documentation - Presentations - Promotion materials

Besides these tasks mentioned above in the result areas, we can ask the JE, depending on the needs of the Junior Programme, to accomplish any other tasks that might be considered necessary for the correct functioning of the programme and that are in line with his/her profile.

JE's contribution to the Junior Programme priorities	
Innovation	
<i>What space does the function offer for experimenting with innovative tools/approaches? E.g.: action research, testing & roll-out of new technologies, etc.</i>	
JE's role	Digital survey tools tester and promoter of new energy efficient technologies.
JE's responsibility	Lead field survey activities, test digital tools, among which remote monitoring devices and advise on tool improvement and upstream data integration into GIS and a management platform of RE installations. Identify, select and promote innovative energy efficient technologies and create introduction mechanisms.
In order to ...	Enhance FUNAE remote monitoring and operation & maintenance systems. Increase productive and efficient use of energy thus contributing to economic development and sustainable RE systems.
Most important tasks	<ul style="list-style-type: none"> - Data generation, processing, analysis and reporting on RE energy installations and their status and use. - Assist in screening and field testing of digital tools for energy sector planning. - Advise on integration of survey- and monitoring data into a Geographical Information System. - Explore national, provincial and local market of innovative energy solutions / devices. - Collaborate with small and medium enterprises (SMEs) and other stakeholders in playing a pioneering role in bringing innovative energy solutions and energy efficient devices to targeted communities. - The Maputo based JE and the Quelimane based JE will closely collaborate and have mutually supportive roles, especially in result area 'Monitoring of RE installations and their improved management'. The Maputo based JE will be responsible for developing the tablet based applications and assist the energy fund in integrating resulting survey data in GIS and systems to be developed whereas the Quelimane based JE will be responsible for piloting survey design and field testing of tools and survey execution.
Expected outputs	<ul style="list-style-type: none"> - Digital survey data feed in to the design of system for improved management of existing RE installations. - Tested and improved digital datacollection tools for integrated energy planning. - Introduced and scaled up appropriate use of new, energy efficient, devices making productive use of energy. - Documented experiences (capitalization).

Networking & partnerships	
<p><i>Does the working environment offer opportunities to create/stimulate certain networks or partnerships (contribution to SDG 17)?</i> <i>E.g.: organise a Good Practices workshop on a local level on a theme the JE is working on; represent the project in local thematic meetings/platforms, etc</i></p>	
JE's role	Facilitator and promotor
JE's responsibility	Connect individual and institutional, private and public, stakeholders in the local economic development and electricity domains.
In order to ...	Raise productive use awareness and capacities of electricity use for economic and social development outcomes of electricity access.
Most important tasks	<ul style="list-style-type: none"> - Generate and promote new business ideas that require electricity. - Identify, select and connect partners (rural development programs, SMEs, local authorities, NGOs, vocational training schools,) and their capacities specific to productive use of electricity. - Convene stakeholders on productive use promotion and define cornerstones of productive use support to direct beneficiaries. - Disseminate knowledge on the potential and use of energy efficient devices via training and demonstration workshops.
Expected outputs	- Working relationships and partnerships allow for appropriate and positive dissemination of electricity driven technology for income generating activities

Capacity building	
<p><i>How will the JE contribute to the capacity building of the local partners, of the hosting partner team, etc ?</i> <i>Will (s)he have the possibility to work in pairs with a young local professional?</i></p>	
JE's role	Trainer (see Result areas 1, 2 and 4).
JE's responsibility	Ensuring and organizing information and training of partner and stakeholders in monitoring, operation and maintenance of installations and safe use of electricity and energy efficient technologies.
In order to ...	Increase the sustainability of developed renewable energy installations
Most important tasks	<ul style="list-style-type: none"> - Train counterpart staff in digital survey and monitoring tools, document experiences and feedback lessons into further training and design. - Organize training and awareness raising sessions in the three result areas. - Plan and undertake productive use promotion activities (training and demonstration workshops, ...).
Expected outputs	<ul style="list-style-type: none"> - Information and promotion materials - Increased levels of knowledge at local and provincial levels on safe and profitable use of electricity and operation and maintenance of installations, favoring sustainability of activities and investments. - Capacitated counterparts, villagers and institutions.

Requested profile			
<p>Required training/degree for the job <i>> Remark : will be eliminatory on CV for the candidates. Be complete & specific, please.</i></p>	<input checked="" type="checkbox"/> Agronomy/ Bio-engineer <input checked="" type="checkbox"/> Biology/ Environment <input checked="" type="checkbox"/> Geography <input checked="" type="checkbox"/> Civil/industrial/ electrical engineer/ Architect <input type="checkbox"/> ICT/NTIC <input type="checkbox"/> Mathematics/ Exact sciences <input type="checkbox"/> Law/Criminology	<input type="checkbox"/> Political sciences/ International relations/ Diplomacy <input type="checkbox"/> Sociology/ Anthropology/Social work <input type="checkbox"/> Psychology <input type="checkbox"/> History/Philosophy/ Art/Religion <input type="checkbox"/> Educational sciences <input type="checkbox"/> Human resources /Organizational development	<input checked="" type="checkbox"/> Economy/Commercial engineer/Marketing <input type="checkbox"/> Communication/Public relations/Journalism <input type="checkbox"/> Languages/Philology /Translator <input type="checkbox"/> (Bio/Para) medical sciences <input type="checkbox"/> Public health <input checked="" type="checkbox"/> Development studies <input type="checkbox"/> All profiles <input checked="" type="checkbox"/> Others and/or details (if needed) : Sociology/Anthropology
<p>Necessary specific knowledge for the job <i>> Remark : will be eliminatory on CV for the candidates.</i></p>	<p>* 3 months of experience in surveys using new ICT technologies (tablets, GPS, etc.) OR * 3 months of experience in dissemination of information</p>		

Language skills	Languages	Knowledge	Comments	
> Indicate which language skills are essential or preferable for the job with possible comments on the expected level of knowledge and/or an argumentation.	English	<input checked="" type="checkbox"/> Essential <input type="checkbox"/> Preferable		
	French/Dutch	<input type="checkbox"/> Essential <input checked="" type="checkbox"/> Preferable		
	Portuguese	<input type="checkbox"/> Essential <input checked="" type="checkbox"/> Preferable	The JE is encouraged to learn Portuguese ASAP	
Preferred assets for the job > Remark : will <u>not</u> be eliminatory on CV for the candidates.	- Ability to work with various stakeholders in a support function and under supervision. - Willingness to travel and work in rural provincial settings in Mozambique. - Dynamic, good team-player, able to work in multicultural environment and to establish good working relations with colleagues, local partners, and beneficiaries.			
Driver's license for motorcycle & car	Motorcycle	<input type="checkbox"/> Essential <input type="checkbox"/> Preferable	Car	<input type="checkbox"/> Essential <input checked="" type="checkbox"/> Preferable

Country context information			
Living conditions			
Capital / rural area	Quelimane is the administrative capital of the Zambezia Province		
Security context	Relatively safe environment, when taking basic safety measures		
Access to services	Yes, except for drinking water from the tap and reliable public transport		
Isolation / social life	Not Isolated		
Location suited for families (with children)		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Other useful observations?	/		
Work context & conditions			
Work location	The JE will be based in Quelimane (Zambezia province) but will spend approximately 30% to 40% of his/her time in Maputo. The project develops activities inland and on the coast of the province. Zambezia province has long stretches of tarmac roads from the north to the south and from the coast far inland up to Malawi. The tarmac network is extended with gravel and sand roads. Quelimane is a seaport and the administrative capital of the Zambezia Province. While it is a big city - the largest in the province - it has a comfortable feel to it. The city has a small expat community, there are supermarkets where one can buy just about anything and at times there are social activities like the Carnival celebrations and live concerts. The city is safe and it is easy to find restaurants where to eat fresh shrimp/clams and other seafood or the famous 'frango zambeziano', chicken cooked with coconut milk and garlic. There is a beach with a beautiful lodge (Zalala lodge) only 30km away from town and preferably to be reached with private transport. The national airline <i>Linhas Aéreas de Moçambique</i> (LAM) maintains daily flights between Quelimane and Maputo.		
Field exposure? (Direct contact with beneficiaries & local reality, frequency field missions,...)	Frequency, duration and focus of field missions are in function of the development stages of the mini-grids and will be once or twice per month for 5 to 10 days. The maximum time spent in the field will not be more than 15 days per month. The JE will travel to Maputo every 6 to 8 weeks for a period of around 2 weeks. During the stay(s) in Maputo the JE will debrief on field implemented activities, coordinate his/her future field work with his/her supervisor, liaise with stakeholders at the central level, prepare and produce 'communication for development' materials, undertake market research on energy efficient devices / appliances and administer training in FUNAE.		
Accessibility of the supervisor	The supervisor is very accessible in Maputo and during his (own) missions to the field. Internet functions well in Quelimane so contact with the Maputo based supervisor is easy via GSM, WhatsApp, Skype and the professional communication platforms (Slack, Microsoft teams, ...)		
Teamwork / isolated work	Team work with the international (Enabel) staff, the local counterpart staff and local stakeholders including contracted companies.		

What transport arrangements will the <u>project</u> consider in order to insure the JE's <u>professional</u> travels/journeys?	<input type="checkbox"/> Motorcycle from the project at disposal of the JE
	<input checked="" type="checkbox"/> Borrow a car belonging to the project/programme when required
	<input type="checkbox"/> Local transport? What? :
	<input checked="" type="checkbox"/> Other, please specify : Flights
What transport arrangements will the <u>JE</u> consider in order to ensure his/her <u>private</u> travels/journeys?	<input type="checkbox"/> Motorcycle
	<input checked="" type="checkbox"/> Car
	<input checked="" type="checkbox"/> Local transport? What?: local buses are available but not recommended (unsafe, overcrowded, irregular)
	<input checked="" type="checkbox"/> Other, please specify: To move around, having a car is not necessary. However, for private travels it is better to have a car (4x4). Buses can be used but are time consuming and unreliable.
Other useful observations?	