



Ministério dos Recursos Minerais e Energia

2020 Results Report

CB MIREME: Capacity Development of the Ministry of Mineral Resources and Energy (MIREME) and Autoridade Reguladora de Energia (ARENE) MOZ1403011, Mozambique



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1 Abbreviations

ARENE	: Autoridade Reguladora de Energia
CB	Capacity Building
CNELEC	Conselho Nacional de Electricidade
DIPREME	Provincial Directorate of Mineral Resources and Energy
DNE	Direcção Nacional de Energia (MIREME)
DPC	Direcção de Planificação e Cooperação (MIREME)
DRH	Direcção Recursos Humanos (MIREME)
EDF	European Development Fund
EDM	Electricidade de Moçambique
ESWG	Energy Sector Working Group
EU	European Union
FUNAE	Fundo de Energia
GDP	Gross domestic product
GIS	Geographic Information System
GIZ	German Development Agency
GO	General Objective
GoM	Government of Mozambique
HCB	Hidroeléctrica de Cahora Bassa
HDI	Human Development Index
HPP	Hydro Power Project / Plant
HR	Human Resources
ICP	Indicative Cooperation Programme
INE	National Institute of Statistics (Instituto Nacional de Estatística)
IPEME	Instituto para Promoção das Pequenas e Médias Empresas, the institute of SMEs,
IPP	Independent Power Producer
IVA	Imposto sobre o valor acrescentado (VAT)
KfW	Kreditanstalt für Wiederaufbau
KPI	Key Performance Indicator
kV	kilo Volt

kW	kilo Watt
LPG	Liquified Petroleum Gas
LV	Low voltage
M&E	Monitoring and Evaluation
MDGs	Millennium Development Goals
MEF	Ministry of Economy and Finance
MINEC	Ministério dos Negocios Estrangeiros e Cooperaçao
MIREME	Ministry of Mineral Resources and Energy
MOU	Memorandum of Understanding
MW	Mega Watt
NGO	Non-governmental organization
O&M	Operations & Maintenance
PARPA	Plano de Acção Para a Redução da Pobreza Absoluta
PMU	Project Management Unit
PV	Photovoltaic
REFIT	Renewable Energy Feed in Tariff
RERA	Regional Electricity Regulators Association of Southern Africa
SADC	Southern African Development Community
SAPP	Southern African Power Pool
SC	Steering Committee
SCA	Specific Cooperation Agreement
SE4ALL	Sustainable Energy for All
Sida	Swedish International Development Agency
SME	Small and medium size enterprise
SO	Specific Objective
SWG	Sector Working Group
SWOT	Strengths, Weaknesses, Opportunities and Threats
TA	Technical Assistant
TFF	Technical and Financial File
ToR	Terms of Reference
WB	World Bank

2 Summary of the intervention

2.1 Intervention form

Title of the intervention	CB MIREME/ARENE : Capacity Development of the Ministry of Mineral Resources and Energy (MIREME) and Autoridade Reguladora de Energia (ARENE))
Code of the intervention	MOZ1403011
Location	Mozambique
Total budget	4,000,000.00
Partner institution	Ministry of Mineral Resources and Energy MIREME and Autoridade Reguladora de Energia (ARENE)
Start date of the Specific Agreement	19 April 2017
Start date of the intervention/ Opening steering committee	1 July 2017
Expected end date of execution	30 June 2022
End date of the Specific Agreement	19 April 2023
Target groups	Partners institutions involved in energy sector policies (MIREME and ARENE)
Impact¹	The development of the energy sector is enhanced in order to power the socioeconomic development of the country and to contribute to the welfare of its people
Outcome	The performance of MIREME and CNELEC (now ARENE) in advancing access to renewable electricity in rural areas is enhanced
Outputs	R1: MIREME's capacities at the central level are strengthened to improve planning and policy-making in the energy sector
	R2: DIPREME's capacities are strengthened in order to improve the planning, coordination and M&E of the energy sector in the selected provinces (Zambezia, Sofala, Manica)
	R3: Capacities of ARENE are strengthened to become a strong and independent regulator able to regulate new and renewable off-grid electricity
Year covered by the report	2020

¹ Impact regards the general objective; outcomes regard the specific objective; output regards the expected result
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2.2 Self-evaluation of performance

2.2.1 Relevance

	Performance
Relevance	A

In Mozambique, less than 35 percent of the population has access to electricity, and this predominantly in urban areas. As much as 95 percent of the households use firewood or charcoal daily for cooking. It is estimated that only 10 per cent of households have access to solar energy in the form of solar pico- or home systems. The Mozambican government has endorsed the Sustainable Energy for All (SE4ALL) targets of Universal Energy Access by 2030, which intersects with the United Nations Sustainable Development Goals (e.g. SDG7) and the 2015 Paris Agreement on Climate Change. Projections show however that only 50 percent of the population can have access to the electricity grid by that year. There remains therefore a huge challenge and opportunity in connecting the remaining half through off-grid and renewable energy. The project's SWOT analysis of the Mozambican energy sector bears out a critical lack of quality data for coordinated sector planning of energy needs and supply, a legal, fiscal and regulatory environment which requires adaptation to accommodate renewable energy and independent power producers, and undercapacity in terms of quality staff and operational resources within MIREME and ARENE to respond to the new challenges of universal energy access. These shortcomings are exacerbated by the long delay since 2017 in appointing a Chief Executive Officer for ARENE up to Q4 2019, which retained the new regulatory authority in limbo all this time. The project's aims to strengthen the capacities in MIREME and ARENE to plan, manage, implement and monitor all activities for the energy sector, with a specific focus on renewable off-grid electricity, remain therefore very relevant.

2.2.2 Effectiveness

	Performance
Effectiveness	B

- In 2020, the project was geared to come to full cruising speed. However, due to the Covid 19 pandemic, an adaptation of the original planning was required. This has resulted in an effective and successful, albeit delayed, conclusion of a range of consultancies started during Q1 this year. Most of these external consultancy support services aim to contribute to the development of more systematic frameworks and tools in the absence of guiding policies, strategies or manuals. These are for instance the identification of GIS application and training needs in MIREME DPC, a MIREME human resources development and retention strategy, additional temporary human resources for data management and analysis and regulatory work in Arene, an IT platform for centralized reporting, and the installation of a pilot showcase photovoltaic system to address persisting electricity constraints in the provincial DIPREME Zambezia office.
- Other support interventions which came effectively to fruition were the temporary appointment of 5 young energy data management assistants for MIREME. Now that ARENE is finally operational, the project has agreed to assist with the temporary deployment of three technical staff in the area of tariff setting (2) and international

contracting (1), and two (likely) in the area of renewable energy. The first three assistants have already been contracted in Q4.

- In the same line, a consultancy has been initiated at the end of 2020 to provide ARENE with an informed overview of challenges and priority needs with reference to the regulation of renewable off-grid electricity
- In the beginning of 2020, the IT equipment both at central level and in the three focal provinces Sofala, Manica and Zambezia which were heavily affected by cyclones Idai and Kenneth early 2019, were eventually installed.
- As teleworking and online-learning has come slowly off the ground in MIREME and ARENE, most of the planned training has been postponed until 2021, but other planned activities were brought forward. This has for instance led to a shift in support to the DIPREMEs (now based in the Provincial Infrastructural Services (SPI)) in terms of investment in IT equipment and digitalisation for improved internet connectivity country-wide instead of only in the three central provinces
- Online training has been able to take place in the following areas: introduction to the work of a regulatory authority for about 15 different middle-level staff of MIREME and ARENE. Another training is custom-made by ERRA and deals with advanced aspects of regulatory aspects for high-level staff of ARENE.
- To address the concern to provide an embedding of online training in the institutions to which the participants belong, Enabel has experimented with the idea of a Sandbox, which is a digital platform to share course materials, notes, questions, assignments, relevant information, and prepare for further in-house training. This was designed by a Junior Expert in collaboration with one of the Energy Data Management Assistants temporarily employed through the project. However, thus far the effectiveness of this innovation still needs to be evaluated.
- The project's organizational setup to cover the three provinces of Zambezia, Manica and Sofala, required a more efficient management approach to go beyond an emphasis on Zambezia. To that effect, as from Q3, a national technical assistant has been employed on a part-time basis to assist with managing the provincial outreach in the three provinces together with MIREME on a closer basis.
- Participation in ESWG and regular exchange with other donors e.g. GIZ, DFID, SNV, EU, GGGI as well as internal Enabel coordination (e.g. RERD2,...) and reflection is an ongoing activity of networking and strategic orientation of the project.
- On instigation of the Enabel team, a survey on specific information needs on renewable energy for consumers, producers and investors and the production and dissemination of such information and on mainstreaming gender in the (public) renewable energy sector, have been initiated.
- In order to support the integration and coordination of data collection, generation and analysis on energy balances and access to energy at national and provincial level, further dedicated consultancy support is sought both from Mozambican as well as international firms and institutions. An agreement with VITO is for instance in an advanced stage of preparation.
- A Junior Expert request has been approved to provide inputs into the identification, design and roll-out of train-the-trainer programmes in MIREME and ARENE. These training programmes will focus on knowledge of sector planning, regulation and renewable energy's role in this on the one hand (inreach), and on the skills to promote

adapted technology production and maintenance by local SMEs on the other (outreach). In both cases, the emphasis lies on sustainable access to energy for the rural areas of Mozambique.

- However, given the many uncertainties in the policy context and the fact that many of the identified outputs refer to a better integration or systematization of existing or new practices (e.g. manuals or additional human resources), a regular updating of the project’s intervention logic is required. Many of these exercises are also very much linked to the cycle of policy preparation and formulation, and need to sync with discussions and decisions outside of the sphere of influence of the project. A good illustration is defining the target value of renewable energy-powered connections during the project’s life span, which is part of the internal operationalisation of general targets of the National Electrification Strategy. It is for this reason that identified critical milestone outputs in the baseline exercise require an annual stocktaking and further elaboration. Especially as the new 5-year government programme (PQG) 2020-2024 of March 2020, has provided new indications of targets for energy access in the coming years. Such a reflection and discussion also contributes to further capacity strengthening in terms of strategic and technical planning and coordination among various stakeholders. This should provide a regular check on the up-to-date relevance and effectiveness of the intervention. Such stocktaking is foreseen for the beginning of 2021, including introducing training evaluation formats.

2.2.3 Efficiency

	Performance
Efficiency	B

Not only the pandemic has this year contributed to delays in implementation. Some of the policy context factors have also continued to contribute to a slower implementation rate. For example, the parliamentary discussion of important enabling legislation for the renewable energy sector is taking longer than initially predicted, and is far from being finalised this year. A general hierarchical and formalistic government setup also requires more time for decisions to be taken or to be monitored than originally assumed in the coordination project’s logic. The compilation of a Planning and M&E Manual for DPC, planned for 2020, will only start in 2021, as this is a critical but slow exercise which implies a more strategic internal understanding and acknowledgement of responsibilities, needs and possibilities in MIREME and among other stakeholders. Especially as the new 5-year government programme 2020-2024 of March 2020, has provided new indications of targets for energy access in the coming years.

Increasingly, successful attempts are made by the partners to avoid such delays by means of informal working groups, internal meetings and consultation and communication with various other stakeholders. However, to obtain formal approval of for instance budgetary and activity planning, requires more time. Especially this year, with physical meetings out of the question and a change of the position of Permanent Secretary in MIREME. The coordination with RERD2, the availability of junior experts, and the increased usage of MIREME staff for administration, preparation and implementation of activities do however also aid in this respect.

Therefore, while budgetary efficiency is fairly well pursued, a more efficient support to provincial outreach and development of the regulatory environment continue to require urgent attention for the next years of the project. While the project’s organizational setup to cover the three provinces of Zambezia, Manica and Sofala has been reviewed from the

perspective of a project management approach, the inclusion of provincial staff in training and data management has suffered from the Covid19 restrictions. And the consultancy that has been initiated at the end of 2020 to provide ARENE with an informed overview of priority needs with reference to the regulation of renewable off-grid electricity, serves to position ARENE better in the short term exercise of harmonisation and coordination with two other similar initiatives for MIREME and Arene (to be) financed by other donors.

It is also because of the impact of Covid19 on travel and some interventions, that the Mid-Term Review has been postponed to early 2021.

2.2.4 Potential sustainability

	Performance
Potential sustainability	B

This capacity strengthening project aims to create enabling conditions for MIREME and ARENE to better plan, manage, implement and monitor all energy sector activities. Specific attention goes out to strengthening the capacity of both partners to integrate and promote the use of renewable off-grid electricity in achieving sustainable access to energy for all by 2030 (Sustainable Energy for All (SE4ALL) targets).


It is clear however that in the short term, the potential sustainability of this particular CB MIREME/ARENE project intervention is located especially at the institutional, organizational and staff levels, and not as much at the financial level. In the short term, the project aims to improve the institutional and staff capacity to better plan, manage, implement and monitor all electricity sector activities, with a specific focus on renewable off-grid electricity. This is intended to contribute in the medium term to increased income from connections and tariffs, and an improved donor commitment to the Electrification Account of Mozambique's National Electrification Strategy to secure energy access for all by 2030. However, this depends on an improvement of the macro-economic situation of the country (e.g. solution to hidden debts), the involvement of private sector operators, the affordability and/or subsidization of electricity, and especially the actual effective and coordinated planning, supervision and regulation by MIREME and ARENE.

With the increasing interest from both international aid agencies as well as international energy companies, such institutional, organizational and staff capacities become very critical in assuring sustainability. An important concern remains however the lack of incentives in the public sector both at central or provincial level to go the extra mile in vision and implementation. Where the project finances the temporary addition of human resource capacity, the question remains how such needed capacity will be sustainably incorporated within MIREME and ARENE.

2.2.5 Conclusions

- Despite the challenges of the Covid19 pandemic, the project has this year been able to achieve significant results.
- Institutional capacity strengthening requires trust, transparency, flexibility and a systematic approach of cooperation between partners. This takes time and must align to the ongoing evolutions in the political sphere.

- The formulation of indicator base and target values at higher outcome level is dependent on the policy process' cycles and progress.
- Due to the increased need for internet connectivity in Covid 19 times, the planned shift to the provincial-central level interaction has been implemented a year earlier than foreseen.
- The project's organizational setup of coverage of the three provinces of Zambezia, Manica and Sofala provinces requires a more efficient management approach. Such approach has started this year with the appointment of a dedicated project collaborator, but requires more attention in the coming years. This will include more emphasis on training of relevant provincial staff, provincial multi-tier access to energy surveys, investment in energy-efficiency of public buildings, improved human resource policy implementation and provincial-central interface for data management and analysis.
- The availability of skilled Junior Experts as well as temporary additional human resources can make a great difference in terms of hands-on support activities in sector planning (national or district), GIS, regulatory development and international cooperation. However, it is clear that additional support is needed to provide an enabling supervision and coaching of such additional temporary resources. Such support has been under preparation with for instance VITO (Belgium) and Universidade Eduardo Mondlane (UEM) (Mozambique).
- The channels of vulgarization of information on renewable energy for rural consumers and producers, strengthening of gender focal points and trainer of trainers-skills may address some of the above-identified inefficiencies.
- There is an urgent need to promote and regulate renewable off-grid electricity systematically aligned to the National Electrification Strategy 2018. Results from the ARENE consultancy on priorities for regulatory development of off-grid renewable energy will feed into this.
- Because of the urgency to create a clearer and fit-to-purpose regulatory environment for renewable off-grid energy supply and use, the support to capacity strengthening of the now operational ARENE was upscaled this year, as advised by the Steering Committee.
- Annual exercise of M&E stocktaking and updating is important as many interventions are critical milestones to achieve subsequent outputs, and contributes as such to further capacity strengthening among various stakeholders. Due to the need to adapt the implementation to the Covid19 pandemic and evolutions in the policy environment, a review of the target indicator values - at outcome and output level - is urgent for this year. This should take a start prior to the foreseen Mid-Term Review.

National execution officer	Intervention Manager Enabel
	 Evert WAETERLOOS

3 Monitoring of results²

3.1 Evolution of the context

3.1.1 General and institutional context

About two-thirds of Mozambique's population of more than 29 million (2018) live and work in rural areas. It is endowed with ample arable land, water, energy, as well as mineral resources and newly discovered natural gas offshore; three, deep seaports; and a relatively large potential pool of labor. It is also strategically located; four of the six countries it borders are landlocked, and hence dependent on Mozambique as a conduit to global markets. Mozambique's strong ties to the region's economic engine, South Africa, underscore the importance of its economic, political, and social development to the stability and growth of Southern Africa as a whole³.

The Front for the Liberation of Mozambique (Frelimo) and the Mozambican National Resistance (Renamo) remain the country's main political forces, and ever since the end of the civil war, the country has registered flare-ups of armed confrontations and violence. A new peace accord was reached in August 2019, but has been violated several times by a Renamo breakaway military faction known as Military Junta. Presidential, legislative, and provincial elections were held across the country on October 15, 2019, completing the country's sixth successive general elections since the introduction of multiparty elections in 1994. The incumbent party, Frelimo, won the presidency and the national parliament in a landslide. Frelimo also secured a majority in all 10 provinces, thus electing governors for each province. Meanwhile, the government is grappling with another so-called Islamic insurgency in parts of the gas-rich province of Cabo-Delgado. Initially circumscribed to one locality, the indiscriminate killing of civilians perpetrated by the insurgents has now spread to other districts and towns in the province. The risk that violence can spread to other areas of the country should not be underestimated.

The COVID-19 (coronavirus) pandemic reached Mozambique at a moment the country attempted to recover from two major shocks: the ongoing hidden debt crisis and the devastating effects of cyclones Idai and Kenneth in 2019. Mozambique is indeed the latest country to fall victim to the so-called 'resource curse' – when a country's economy is derailed not by resource exports, but the mere prospect of them. It took out more than \$2 billion in secret loans in 2013 and 2014 on the assumption they would be easy to repay once gas revenues from its giant projects started flowing. Not only do these evolutions impact on the degree of cooperation between GoM and the donors. It also has direct knock-on effects on the economic resilience of the country and its populace. Government's scrapping of subsidies on fuel and wheat for instance increases living costs for the poorest people still further, especially in the food and energy sector. It has also affected the public sector where a freeze on recruitment, wages and travel has been initiated. In 2019, Cyclones Idai and Kenneth caused massive damage to infrastructure and livelihoods, further lowering growth and wellbeing of the population. The pandemic dims the short-term growth prospects of Mozambique. The COVID-19 crisis will have a heavy impact on economic activity as social distancing and travel restrictions (domestically and globally) affect demand for goods and services. At the same time, reduced demand and prices of commodities are slowing the pace of investment in gas and coal, two key industries for

² 'Results' means 'development results'; Impact regards the general objective; outcomes regard the specific objective; output regards the expected result; intermediate outcomes regard changes resulting from the achievement of the outputs allowing progress towards the outcome of the intervention, at a higher level.

³ <https://www.worldbank.org/en/country/mozambique/overview> accessed 20 January 2021
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Mozambique. With this, growth is expected to decline to 1.3% in 2020, down from a pre-COVID forecast of 4.3%, with significant downside risks. Mozambique is also expected to experience large external and fiscal financing gaps in 2020 and 2021 in a context characterized by exposure to external shocks and limited fiscal space. The country's main development challenges include maintaining the macroeconomic stability considering exposure to commodity price fluctuations, and reestablishing confidence through improved economic governance and increased transparency, including the transparent handling of the hidden debt investigation. Moreover, structural reforms are needed in support of the currently struggling private sector. Another major challenge is diversifying the economy by moving away from the current focus on capital-intensive projects and low-productivity subsistence agriculture, while strengthening the key drivers of inclusion, such as improved quality education and health service delivery, which could in turn improve social indicators.

In 2019 the newly appointed Ministry of Mineral Resources and Energy MIREME Minister M.Tovela consolidated his tenure amongst an increased pressure on closing lucrative gas and oil deals with international companies. Directorates and teams need(ed) time to find their new role and coordination mechanisms. At the same time, new policies and legislations were developed and (are about to be) approved. However, given the political uncertainties surrounding the presidential elections and installation of a new government in early 2020, the last quarter of 2019 did not allow significant decisions to be taken. This has affected the definition and alignment of higher-level indicators in the outcome sphere and certain outputs. Especially as the new 5-year government programme (PQG) 2020-2024, released in March 2020, has provided only a few new indications of targets for (renewable) energy access in the coming years. The Law on the National Energy Regulatory Authority ARENE (the successor the National Electricity Council – CNELEC) is in force since December 2017. ARENE is responsible for the supervision, regulation, representation, taxation and sanctioning of the production, transport, distribution, commercialization and storage of electricity. However, the appointment of a new CEO was left until the end of 2019 to be announced, which affected the operationality of the new regulator significantly. The present proposal for a new Electricity Law (to replace the 1997 law) aims to promote the efficiency of the electricity sector in accordance with internal, regional and international markets and includes, among others, encouraging participation of the private sector and redefinition of the role of FUNAE. However, due to political dynamics, the discussion of the said proposal has been delayed until 2021. This is a critical factor in creating a limbo in the institutional and regulatory environment of renewable energy for rural areas.

Meanwhile, from donors' side, improved coordination committees are being set up. The setting up of a donor-funded EU Resource Centre has seen more focused ESWG meetings taking place. For instance, in December 2019, joint policy concerns were presented to the Minister as follows:

- A sound updated legal and regulatory framework, including the adoption of a new electricity law.
- Reduction of import taxes for renewable energy equipment
- Capacity-building of MIREME so that it can fully play its role
- ARENE as an independent, technical and professional institution on the energy market
- Continue the reform of EDM,
- Transparency in procurement.

These ESWG have continued to take place in virtual format and from a distance throughout the year due to the Covid19 impact on presence of international staff in the country and in the offices. In addition, two ESWG subgroups – have been set up in mid-2020, one on private sector and another on Governance technical assistance. Enabel's energy projects (CB Mireme/Arene and RERD2) participate in both subgroups.

However, the capacity in Mireme to coordinate international collaboration and development cooperation funds requires more technical know-how and staff. Similarly, the evolution in the harmo-context has suffered from a lack of inclusive participation of donors such as Belgium in the policy and political discussions, dominated by big players such as World Bank, Norway and EU. This does not stand in the way however of Enabel participating in ESG and regular exchange with other donors e.g. GIZ, DFID, SNV, EU, GGGI as well as internal Enabel coordination (e.g. RERD2,...) and reflection as an ongoing activity of networking and strategic orientation of the project.

3.1.2 Increasingly manifest climate change vulnerability

In March 2019 tropical cyclone Idai made an extremely powerful landfall in Beira, Mozambique's second largest city, which saw 90 percent of its area damaged, flooded or destroyed. Cyclone Idai and the subsequent cyclone Kenneth have shown that Mozambique and the Southern Africa region are not prepared for the consequences of climate change. In times where the consequences of climate change will become more prominent, alternative ways of electrification should be considered, particularly decentralised renewable energy systems. First of all, without this approach it is financially and logistically not feasible to secure access to energy for all Mozambicans by 2030. This is even more the case with the unexpected costs of rebuilding and making the infrastructure more climate-resilient in the affected areas. Secondly, decentralised systems will be easier restored and will create less of a domino effect than on-grid systems when disaster occurs. Lastly, for the recovery of electricity the private sector and Mozambican population can be involved more easily: decentralised systems are often smaller and function more autonomously, which can have an empowering impact on the population to participate in disaster relief efforts and pick up their lives again much faster. This in combination with using renewable energy to power the off-grid systems will only benefit a fast and cost-effective recovery in a climate-friendly way.

The UN and Mozambican initiatives on sustainable access to energy focus on modern, clean, renewable and efficient energy. In the context of climate change action, more emphasis needs to go out to the combination of these dimensions in building the public sector's capacity to promote policies which expand, diversify and green the country's energy mix, especially for the rural areas.

3.1.3 Management context

3.1.3.1 Partnership modalities

In general, the modality of Regie proves to allow for a fairly fast and transparent identification of interventions, launching of tenders and flow of resources. The downside is lack of familiarity of Mozambican public and private actors with Belgian legislation pertaining to tenders, and in the beginning of the project, a more distant attitude of MIREME and ARENE, as well as avoidable delays (of up to 6 months) for the delivery of IT equipment under framework conditions and even then at a high cost due to repeated wrong shipping and activation instructions.

A general hierarchical and formalistic government setup also requires more time for official decisions to be taken or to be monitored than originally assumed in the project's logic. However, increasingly successful attempts have been made by the partners to avoid such delays by means of informal working groups, internal meetings and consultation and communication with various other stakeholders involved at central and provincial level, as well as prior to and after the Steering Committee sessions. In the past year, partners' active involvement in tender evaluation, monitoring and follow-up has been noticeable, which is a reassuring move towards mutual accountability and ownership, as well as part of capacity strengthening of middle-management staff.

3.1.3.2 Operational modalities

In 2019, a lot of effort has gone into preparing, identifying, formulating and finalizing the procurement of required external support services. Most of these external support services aim to contribute to providing training and to the development of more systematic frameworks in the absence of guiding policies, strategies or manuals. Examples of such required external support services are a MIREME human resources development and retention strategy, a planning and M&E manual, additional temporary human resources for data management and analysis, an IT platform for centralized reporting, the provision of IT equipment both at central level and in the three focal provinces Sofala, Manica and Zambezia which were heavily affected by cyclones Idai and Kenneth early 2019, and a pilot showcase photovoltaic system to address persisting electricity constraints in the DIPREME Zambezia offices in Quelimane. Gradually, more emphasis has been put on the provincial-central level interaction in the interventions. However, the project's organizational setup of coverage of the three provinces of Zambezia, Manica and Sofala provinces require a more efficient management approach. Such approach should go beyond the present emphasis on Zambezia or occasional disaster alleviation funding.

In the past year 2020, significant adaptations to these planned activities had to be undertaken in response to the Covid19 pandemic. These adaptations have been most successfully implemented in spite of the constraints faced. In the second half of 2020, the various consultancies started were able to proceed despite experiencing some delays. Most of these external consultancy support services aim to contribute to the development of more systematic frameworks and tools in the absence of guiding policies, strategies, or manuals. Examples are the identification of the GIS application and training needs in MIREME DPC, the provision of improved IT equipment and internet connectivity, an IT platform for centralized reporting, and the installation of a pilot showcase photovoltaic system to address persisting electricity constraints in the provincial DIPREME Zambezia office.

However, as teleworking and online-learning has only come slowly off the ground in MIREME and ARENE, most of the planned training has been postponed until 2021, while other planned activities were brought forward. Overall, this has caused a shift in support to the DIPREMEs (now based in the Provincial Infrastructural Services (SPI)) towards investment in IT equipment and digitalisation in the provinces' country-wide instead of only in the three central provinces, and in a postponement of planning, analysis and reporting capacity strengthening in the provinces. The project's organizational setup to cover the three provinces of Zambezia, Manica and Sofala, required a more efficient management approach and go beyond an emphasis on Zambezia. To that effect, as from Q3, a national technical assistant has been employed on a part-time basis to assist with managing the provincial outreach in the three provinces together with MIREME on a closer basis.

Now that ARENE is finally operational, online training has been delivered albeit to a limited degree. One online training is a general Energy Regulators Regional Association (ERRA) introduction to the work of a regulatory authority for different middle-level staff of MIREME and ARENE, and also attended by FUNAE staff. Another training is custom-made by ERRA and deals with advanced aspects of regulatory aspects for high-level staff of ARENE. To address the concern to provide an embedding of online training in the institutions to which the participants belong, Enabel is experimenting with the idea of a Sandbox, which is a digital platform to share course materials, notes, questions, assignments, relevant information, and prepare for further in-house training. This is designed by a Junior Expert in collaboration with one of the Energy Data Management Assistants temporarily employed through the project. However, thus far the effectiveness of this innovation still needs to be evaluated.

Other consultancies that have been prepared or launched at the end of 2020, are the design of a MIREME data base for the management of international cooperation agreements and projects to improve the coordination between Mozambican stakeholders and with the ESWG. On instigation of the Enabel team, a survey on specific information needs on renewable energy for consumers, producers and investors and the production and dissemination of such information and on mainstreaming gender in the (public) renewable energy sector, have been initiated. The compilation of a Planning and M&E Manual for DPC will also still start in 2021, as this is a critical but slow exercise which implies a more strategic internal understanding and acknowledgement of needs and possibilities in MIREME and among other stakeholders. And in order to support the integration and coordination of data collection, generation and analysis on energy balances and access to energy at national and provincial level, further dedicated consultancy support is sought both from Mozambican as well as international firms and institutions in 2021. An agreement with Eduardo Mondlane University's Energy Research Centre (CPE-UEM), VITO and CREG are for instance in preparation.

3.2 Performance of outcome



This part reports about progress made in achieving the outcome targeted by the intervention (specific objective) in view of contributing to the impact (general objective). Progress made in achieving the outcome taking into account the intermediate results (intermediate outcomes) as well as the use of results (outputs).

3.2.1 Progress of indicators⁴

Outcome⁵:					
Progress indicators/ markers⁶ : MOZ1403011	Base value	Value preceding year	Value reporting year	Target reporting year	Final target
1 -Activity implementation Mireme+Arene	TBC	TBC	TBC	TBC	<=70%
2.- Connections under national electrification programme	TBC	34%	TBC	TBC	64% by 2024
3 Connections renewable offgrid electricity under national electrification programme	TBC	TBC	TBC	TBC	90% of 785,206 connections planned for 2020

⁴ You may use the table given or replace it with your own monitoring matrix format. Add/delete columns in function of the context (certain interventions will have to add columns for preceding years while – new – interventions will not have values for the preceding year).

⁵ Use the formulation of the outcome as mentioned in the logical framework (TFF).

⁶ Use the indicators given in the logical framework (of the TFF or of the last version of the logical framework).

4. Priority regulatory instruments for renewable off-grid electricity published	0	0	0	0	50%
5. M&E Pilot regulatory instruments renewable off-grid electricity	0	0	0	0	70%
6. Dissemination information on renewable energy to rural areas	0	2%	10%	25%	>=60%

3.2.2 Analysis of progress made

In 2020, no further specific outcome indicators were formulated, as at the time of publication of the new 5-year governmental plan 2020-2024 in Q1 2020, Covid19 lockdown measures kicked in. The 5-year governmental plan 2020-2024 does however foresee only a limited number of indicators to align to in this project. The most relevant ones are, for instance, a 2024 target of 875 MW energy generation installation, 64% of the population with access to electricity and almost 1.8 million additional connections to the grid. The planned review of the project's target and interim indicators, within the context of the consultancy on the elaboration of a planning, monitoring and evaluation manual for MIREME, was cancelled in 2020 due to Covid19. It has, meanwhile, been updated and corrected in terms of some of the required outputs. The tender has been granted and starts in Q1 2021.

Other activity-linked indicators relating to for instance production and dissemination information on renewable energy to rural areas, have incurred partial delays. Due to a mistake in procedure, the tender for the identification and production of such adapted materials was relaunched, and will be granted in Q1 2021.

It becomes however clear, in the light of the above, that the planned further specification of baseline indicators is in itself to be considered an important internal institutional reflection and capacity building exercise, as central guiding targets are only slowly evolving. The definition and agreement of actual values for instance on renewable energy in the overall energy mix or rate of planned activities achieved form part of the ongoing support to capacity strengthening in terms of P,M&E manual, energy sector data management, and integration of planning.

3.3 Performance of output 1⁷



<i>MIREME's capacities at the central level are strengthened to improve planning and policy-making in the energy sector</i>	Indicator Baseline Value	2019	2020		2022
		Indicator Actual Value	Indicator Target Value	Indicator Actual Value	Indicator Target Value
<i>MOZ1403011 Annual realization rate of planned activities</i>	0	TBC	TBC	TBC	90
<i>MOZ1403011 Approved off-grid regulatory instruments</i>	0	0	3	0	3
<i>MOZ1403011 Data Management Platform</i>	0	0	1	1	1
<i>MOZ1403011 HR Development Plan</i>	0	0	1	1	1
<i>MOZ1403011 HR M&E System</i>	0	0	1	0	1
<i>MOZ1403011 Number and types of training delivered</i>	0	25	40	35	TBC
<i>MOZ1403011 Priority off-grid regulatory instruments developed</i>	0	0	0	0	50%
<i>MOZ1403011 Staff Retention</i>	20	TBC	TBC	TBC	5
<i>MOZ1403011 Manual of Planning, Monitoring and Evaluation</i>	0	0	1	0	1
<i>MOZ1403011 Methodology Chapter</i>	0	0	1	0	1
<i>MOZ1403011 NRE information dissemination</i>	0	2	25	10	80
<i>MOZ1403011 Quality annual plans</i>	0		0	0	3
<i>MOZ1403011 Quality Quarterly Reports</i>	0			0	7

⁷ The template provides for up to 3 outputs (chapters 2.2, 2.3 and 2.4). In case the intervention has more outputs, simply copy paste. In case the intervention has fewer than 3 outputs, simply delete the superfluous chapter(s).

For the outcome level you may also replace this table by the intervention's own format (e.g. your operational monitoring tool).

3.3.1 State of progress of the main activities

State of progress of the <u>main</u> activities ⁸	State of progress The activities are:			
	Ahead of time	Within deadline	Delayed ⁹	Seriously delayed ¹⁰
1 Contracting of max.5 statistical technicians (central and provincial)		X		
2 Compilation of a Planning and M&E Manual			X	
3 Develop and establish Fit-for-purpose IT platform for centralised reporting and information management			X	
4 IT equipment is available		X		
5. Survey on specific information needs on renewable energy for consumers, producers and investors in rural areas		X		
6. Production and dissemination of specific information on renewable energy for consumers, producers and investors in rural areas.	X			
7. Elaborate improved HR Development Plan - including retention plan and digitalised system to follow up on the quality, relevance and the effect of trainings		X		
8. Coordinated supply of training within MIREME and with donors			X	
9. Workshop with the stakeholders to identify the regulatory instruments that need to be developed as a matter of priority		x		
11. Field trips to the region to exchange experience with other energy ministries, regulators and off-grid energy actors				X

3.3.2 Analysis of progress made

The most important progress of 2020 in this Result Area was made in the following areas and activities:

- The energy data management assistants have assisted in the design of improved data collection, and are after an internal evaluation exercise, going to receive longer-term additional coaching and supervision from a local institution of higher learning
- The tender for the compilation of a Planning and M&E Manual has been granted at the end of the year, and will start in Q1 2021.
- The Fit-for-purpose IT platform has been established, but the contract has been extended to accommodate further requests for updating, data housing and monitoring

⁹ The activities are delayed; corrective measures must be taken.

¹⁰ The activities are more than 6 months behind schedule. Major corrective measures are required.

- Due to Covid19, internet connectivity has become critical for better interaction between central and local level. Overall, this has caused a shift in support to the DIPREMEs (now based in the Provincial Infrastructural Services (SPI)) towards investment in IT equipment and digitalisation in the provinces' country-wide instead of only in the three central provinces.
- The HR Dept of MIREME has also received IT equipment which will allow it to run the M&E system of career and training trajectories better
- Survey on specific information needs on renewable energy for consumers, producers and investors in rural areas: gender mainstreaming has started in Q4. And will finish in Q1 2021
- In the same line, the need for an additional Junior Expert to assist MIREME and Arene in providing internal training on sustainable access to energy for all (SEforAll) and renewable energy's contribution to the energy mix, as well as link up with external energy operators and training institutions, has been accepted in 2020, and will start in Q1 2021
- Production and dissemination of specific information on renewable energy for consumers, producers and investors in rural areas: specific workshop has been sponsored in Q4 for gender focal points to understand the link between renewable energy, energy efficiency and clean energy from the perspective of future gender mainstreaming
- Coordinated supply of training within MIREME and with donors was originally an area of emphasis in the planning for 2020, but has been postponed due to the Covid19 pandemic.
- A consultant has undertaken a desk study, and interviews with stakeholders to identify the regulatory instruments that need to be developed as a matter of priority for Arene
- Field trips to the region to exchange experience with other energy ministries, regulators and off-grid energy actors have been cancelled due to the Covid19 pandemic
- The DPC database on donor interventions to be used for increased coordination capacity within MIREME was further elaborated with assistance from the JE, but significant updates are required by MIREME to be done by consultants in 2021
- Elaboration of a Human Resources Development Plan and Retention Strategy: consultancy has proposed a range of recommendations, but which require a strategic uptake by Mireme's leadership
- Online training has taken place by the general Energy Regulators Regional Association (ERRA) introduction to the work of a regulatory authority for 7 middle-level staff of MIREME. To address the concern to provide an embedding of online training in the institutions to which the participants belong, Enabel is experimenting with the idea of a Sandbox, which is a digital platform to share course materials, notes, questions, assignments, relevant information, and prepare for further in-house training. This is designed by a Junior Expert in collaboration with one of the Energy Data Management Assistants temporarily employed through the project. However, thus far the effectiveness of this innovation still needs to be evaluated.
- Other training of MIREME staff has been on energy sector reform and English language.
- Overall, an evaluation is needed of training provided thus far, and how this can be better monitored through the e-SNGRH of DRH MIREME.
- Preparation of possible climate fund project proposals from a water-food-energy nexus perspective, to be finalized in 2021.

3.4 Performance of output 2¹¹



3.4.1 Progress of indicators

This table automatically uses the summary of output-level indicators updated in Pilot.

<i>DIPREME's capacities are strengthened in order to improve the planning, coordination and M&E of the energy sector in the selected provinces (Zambezia, Sofala, Manica)</i>	Indicator Baseline Value	2019	2020		2022
		Indicator Actual Value	Indicator Target Value	Indicator Actual Value	Indicator Target Value
<i>MOZ1403011 DIPREME Staff Retention</i>	0	TBC	TBC	TBC	5
<i>MOZ1403011 HR Development Plan Implementation DIPREME</i>	0	0	0	0	TBC
<i>MOZ1403011 HR M&E Systeme DIPREME</i>		0	1	0	1
<i>MOZ1403011 NRE Information Dissemination DIPREME</i>		2	25	10	80
<i>MOZ1403011 Quality Plans DIPREME-MIREME</i>	0	0	0	0	70
<i>MOZ1403011 Quality Quarterly Reports DIPREME-MIREME</i>	0	10	40	20	80
<i>MOZ1403011 Realization Rate Annual Plan DIPREME</i>		TBC	TBC	TBC	90
<i>MOZ1403011 Training Delivered DIPREME</i>		25	40	0	TBC

¹¹ The template provides for up to 3 outputs (chapters 2.2, 2.3 and 2.4). In case the intervention has more outputs, simply copy paste. In case the intervention has fewer than 3 outputs, simply delete the superfluous chapter(s). For the outcome level you may also replace this table by the intervention's own format (e.g. your operational monitoring tool).
Results Report MIREME 2020

3.4.2 State of progress of the main activities

State of progress of the <u>main</u> activities ¹²	State of progress The activities are:			
	Ahead of time	Within deadline	Delayed ¹³	Seriously delayed ¹⁴
1 Training of provincial personnel of the Statistical Plan in planning methodologies and M&E				X
2 IT Equipment is available	X			
3 Dissemination of specific information on renewable energy to rural areas for consumers, producers and investors.			X	
4 Pilots in quarterly and other reports in Zambezia, Sofala, Manica			X	
5 Improved HR working conditions in energy sector units of DIPREME, including demonstration PV systems for office use			X	
6. Coordinated training supply				X

3.4.3 Analysis of progress made

- While 2020 was initially planned to be a year of intense concentration on outreach of activities and training to the provinces, this output has suffered most from the restrictions on travels and gatherings linked to the Covid19 prevention measures.
- Improved information management, learning and reporting: sponsoring of participation of DIPREME technicians in RERD2 field missions in Zambezia has continued, however more occasionally
- IT equipment has been sourced for all provinces countrywide to improved online communication and learning (see above)
- SPI Zambezia's PV installation to supplement the grid electricity for use of computers and air-conditioning has been installed; preparations are made to launch a tender for a similar installation in Manica province (Chimoio).
- The deployment of a provincial ITA (until the middle of 2020) has not secured enough outreach activities in the three provinces, and was therefore ended.
- Exploratory visit and interaction with clean energy initiatives in Tete (as fourth province of the Central Region) on briquette manufacturing and PV installation in SPI, has taken place.

¹³ The activities are delayed; corrective measures must be taken.

¹⁴ The activities are more than 6 months behind schedule. Major corrective measures are required.

3.5 Performance of output 3¹⁵



3.5.1 Progress of indicators

<i>Capacities of ARENE are strengthened to become a strong and independent regulator able to regulate new and renewable off-grid electricity</i>	<i>Indicator Baseline Value</i>	2019	2020		2022
		<i>Indicator Actual Value</i>	<i>Indicator Target Value</i>	<i>Indicator Actual Value</i>	<i>Indicator Target Value</i>
<i>MOZ1403011 HR FRAMEWORK DEVELOPED</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0.5</i>	<i>1</i>
<i>MOZ1403011 HR FRAMEWORK APPROVED</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>TBC</i>
<i>MOZ1403011 HR FRAMEWORK TRAINING IMPLEMENTATION</i>	<i>0</i>	<i>0</i>	<i>35%</i>	<i>5%</i>	<i>100% of the target value (at least 50% of staff)</i>
<i>MOZ1403011 PRIORITY REGULATORY INSTRUMENTS OFF-GRID NRE DEVELOPED</i>	<i>0</i>		<i>0</i>	<i>0</i>	<i>50%</i>
<i>MOZ1403011 PRIORITY REGULATORY INSTRUMENTS OFF-GRID NRE APPROVED</i>	<i>0</i>		<i>0</i>	<i>0</i>	<i>50%</i>

¹⁵ The template provides for up to 3 outputs (chapters 2.2, 2.3 and 2.4). In case the intervention has more outputs, simply copy paste. In case the intervention has fewer than 3 outputs, simply delete the superfluous chapter(s). For the outcome level you may also replace this table by the intervention's own format (e.g. your operational monitoring tool).
Results Report MIREME 2020

3.5.2 State of progress of the main activities

State of progress of the <u>main</u> activities ¹⁶	State of progress			
	The activities are:			
	Ahead of time	Within deadline	Delayed ¹⁷	Seriously delayed ¹⁸
1 Workshop with the stakeholders to identify the regulatory instruments that need to be developed as a matter of priority		X		
2 Field trips to the region to exchange experience with other regulatory authorities and off-grid electricity actors				X
3 Consultants elaborate regulatory instruments				X
4 Internationally benchmarked human resources framework : additional temporary human resources		X		
5 Coordinated supply of training within ARENE and with donors		X		

3.5.3 Analysis of progress made

- In general, ARENE became really operational as from Q4 2019 with the appointment of CEO
- Human Resources and functions : in Q4 2020, 2 Technical Assistants were appointed to assist Arene's Economic Regulation and the Market Division and 1 to assist the Planning and Cooperation Department; in Q1 2021, 2 additional technicians for the promotion and regulation of renewable energy will be selected and deployed
- Regulatory instruments for renewable off-grid electricity: workshop foreseen for end of November 2019 delayed, and replaced with an academic consultant who provides a desk study in consultation with various stakeholders
- Training: participation of 8 Arene staff in ERRA online training on the role of a regulatory's agency , and one staff member in 2 advanced regulatory issues
- Provision of IT equipment for key staff members
- Urgent progress needs to be made in proposing/anticipating regulatory measures for off-grid energy, and will require coordination by Arene of various donors and stakeholders involved.

¹⁷ The activities are delayed; corrective measures must be taken.

¹⁸ The activities are more than 6 months behind schedule. Major corrective measures are required.
Results Report MIREME 2020

4 Budget monitoring

MOZ1403011	Budget	Expenditures			Balance	Execution rate end 2020
		Previous years	Year covered by report (n)	Total		
		2017 > 2019	2020			
Output 1	1.505.000,00	296.773,04	300.493,33	597.266,37	907.733,63	40%
Output 2	955.000,00	302.608,46	315.591,40	618.199,86	336.800,14	65%
Output 3	230.000,00	104.331,58	75.624,86	179.956,44	50.043,56	78%
IVA		71,84	72.994,86	73.066,70	- 73.066,70	
Reserve	90.000,00	-	-	-	90.000,00	
General Means	1.220.000,00	442.807,30	147.099,79	589.907,09	630.092,91	48%
TOTAL	4.000.000,00	1.146.592,22	911.804,24	2.058.396,46	1.941.603,54	51,46%

For more details see annex 10.5: Budget versus Actuals (y – m)’ Report

5 Risks and Issues

- A major risk added are the delays caused by the temporary restrictions on travel, meetings and even workplace access during 2020, a year which was earmarked for intense training, provincial outreach and travelling.
- These delays may affect the financial absorption capacity over the project period. These concerns will be addressed in more detail at the time of the MTR

6 Synergies and complementarities

6.1 With other interventions of the Portfolio

- The coordination with RERD2 is on a regular basis, and has become more intense during the formulation of RERD2+ with an added solar irrigation component
- The Steering Committee meetings are a joint event with RERD2, but have been affected in their frequency by the Covid-19 pandemic, resulting in only one single Steering Committee.
- The deployment of a provincial ITA (until the middle of 2020) and junior expert as well as admin and financial staff were shared with RERD2
- All the above allows synergies with Rerd2 in the participation of DIPREMEZ staff in the RERD2 field missions, technical screening of tender PV installation by Enabel, CB

Mireme, FUNAE and RERD2 staff, information exchange on GIS in both Funae and Mireme, participation in the ESWG, joint use of operational resources and training modules,.....

- There is an urgent need to promote and regulate renewable off-grid electricity systematically aligned to National Electrification Strategy 2018. Results from local piloting initiatives such as RERD2, Brilho, and other donor-funded interventions may feed into this.
- The support to vulgarization, strengthening of gender focal points and trainer of trainers-skills may also inform and benefit RERD2 and other projects (e.g. Clismadev).
- Participation in ESWG and regular exchange with other donors e.g. GIZ, DFID, SNV, EU, GGGI as well as internal Enabel coordination (e.g. RERD2,...) and reflection is an ongoing activity of networking and strategic orientation of the project
- Close interaction with a programming convergence trend towards a W(ater)E(nergy)F(ood)-nexus
- Involvement in the formulation of an extension of RERD2
- The need to address one of the poverty related climate change challenges in Mozambique - the extensive use of biomass and charcoal which is associated with considerable environmental costs - has been taken up by the project or further exploration and formulation. In Q1 2021 studies will be financed with Mireme on the environmental impact assessment and marketing of coalwaste-based briquettes in Tete province.

6.2 With third-party assignments

- Involvement in the assignment of GGGI to implement feasibility studies on solar irrigation in Mozambique through Study Fund

6.3 Other synergies and complementarities

- Communication on the complexities of development work and sustainable development goals through blogs on Open. Enabel, LinkedIn as well as Diplomatic Bureau of Maputo's Facebook site
- Drafting of an MoU for institutional collaboration between Arene and CREG and CB Mireme/Arene and VITO
- Regular interaction with other initiatives in Mozambique on the promotion of renewable energy, technical assistance and energy efficiency.

7 Transversal themes

7.1 Environment and climate change

Environment is not considered as a cross-cutting theme but rather as a strategic orientation of the intervention, given the strong focus on new and renewable energies. As much as 95 percent of Mozambique's households use firewood or charcoal daily for cooking. The greenhouse gas emissions associated with the production and consumption of charcoal are high and projected to grow further. The main sources of non-electric light on the other hand are torches, firewood and kerosene. It is estimated that only 10 per cent

of households have access to solar energy in the form of solar pico- or home systems. The promotion of renewable energy for decentralised off-grid electricity production in this project contributes to climate change mitigation and adaptation as co-benefits in this development intervention. As the attention in MIREME is also shifting more towards greening the energy mix through cleaner cooking initiatives, the technologies and economics of briquette making will also become part of the support to the implementation of the Sustainable Access to Energy for All-strategy , as this may have an immediate bearing on the reduction of poverty, pollution and deforestation.

7.2 Gender

Women represent 52% of the population of Mozambique and 72.2% of them live in rural areas. Focusing on rural electrification will benefit women and contribute to the removal of gender inequality, reducing the use of wood for cooking which requires longer journeys of women, who are left with less time to be able to perform other activities. The strategy to give priority to increasing access to modern energy and the expansion of rural electrification seeks to mitigate these effects. In Mozambique, examples of productive uses of energy are irrigation, electrical sewing, installation of fridges/freezers, electronical welding, improved ovens ... The latter wood or charcoal-saving stoves/ovens are important, as around 80 percent of the population uses biomass such as wood or charcoal daily for cooking. The link between gender equity and energy transpires clearly in these domestic uses of energy.

Challenges in gender mainstreaming persist throughout this capacity building project such as:

- Emphasis on developing infrastructure without sufficient attention to community applications, users' needs and potential productive uses: energy as an end in itself;
- Implementation requires appropriate capacity at lower levels in national, provincial, district and local offices.
- Women are under-represented in the energy sector, especially in technical areas and at decision making levels.
- Access to formal finance institutions is often biased against women with lower education levels and asset accumulation.

The project's objective to improve the methodology of data gathering, analysis and reporting also implies more attention to data on gendered energy use and to inform policy and gender disaggregation in all statistics, data collection and analysis, including in the indicators of the comprehensive baseline and of the M&E framework.

Experience with strengthening the capacity of the MIREME gender focal points towards developing a MIREME Gender Strategy and organising information dissemination at the provincial level have revealed the challenges to distribute the right type of information. It is one thing to propose a new practice, but another one to have it accepted. Electrification is a first step, often strongly desired by the communities. But bringing only energy is not enough to promote sustainable development; it is important to also have the devices and applications available to transform these new sources of energy into new sources of income and wellbeing for the entire community. An appropriate gender perspective is critical in this. It is for this reason that this year and in 2021, more emphasis goes to focused backstopping and consultancy on gender mainstreaming and development of appropriate communication materials and channels.

7.3 Digitisation

- Elaboration of a Human Resources Development Plan and Retention Strategy: includes the operation of a digitalized system of M&E of staff development and training
- Additional temporary human resources (statisticians) for data management and analysis in MIREME
- Training in GIS
- IT platform for centralised and digitalised reporting
- Country-wide provision of IT equipment to Mireme's SPIs to accommodate the need for connectivity
- Preparation of tenders to design a digital database and updated website for Mireme.

7.4 Decent work

See gender paragraph above.

In the proposals around greening the charcoal value chain, more attention will go out to opportunities for employment creation through local manufacturers and suppliers as well as TVET.

8 Lessons learned

8.1 The successes

- In the past year 2020, significant adaptations to the planned activities were successfully undertaken in response to the Covid19 pandemic. Most of the planned training has been postponed until 2021, while other planned activities were brought forward. Overall, this has resulted in support to the national and provincial partner organisations (Provincial Infrastructural Services (SPI)) towards investment in IT equipment and digitalisation.
- The project's organizational setup to cover the three provinces of Zambezia, Manica and Sofala, required a more efficient management approach and go beyond an emphasis on Zambezia. To that effect, as from Q3, a national technical assistant has been employed on a part-time basis to assist with managing the provincial outreach in the three provinces together with MIREME on a closer basis.
- In order to support the integration and coordination of data collection, generation and analysis on energy balances and access to energy at national and provincial level, further dedicated consultancy support is sought both from Mozambican as well as international firms and institutions in 2021. Agreements are in advanced stages of preparation.
- From donors' side, improved coordination committees are being set up. The setting up of a donor-funded EU Resource Centre has seen more focused ESWG meetings taking place. For instance, in December 2019, joint policy concerns were presented to the Minister These ESWG have continued to take place in virtual format and from a distance throughout the year due to the Covid19 impact on presence of international staff in the country and in the offices. In addition, two ESWG subgroups – have been

set up in mid-2020, one on private sector and another on Governance technical assistance. Enabel's energy projects (CB Mireme/Arene and RERD2) participate in both subgroups.

- The UN and Mozambican initiatives on sustainable access to energy focus on modern, clean, renewable and efficient energy. In the context of climate change action, more emphasis needs to go out to the combination of these dimensions in building the public sector's capacity to promote policies which expand, diversify and green the country's energy mix, especially for the rural areas. Mireme has started to make proposals to that effect for funding, such as energy efficiency, briquettes for clean cooking, and gender mainstreaming under the project.
- Introduction of Training of Training components for staff through the selection of a Junior Expert
- The coaching of JE on data management and GIS has been very effective and satisfactory in terms of introducing concepts of GIS within Mireme. Another JE is also very desirable for vulgarization.
- Importance of communicating on the complexities of development work and sustainable development goals through blogs
- Intensified coordination with RERD2+ and Representation
- Installation of a pilot showcase photovoltaic system is in preparation in Chimoio (Manica), and may even lead to the development of a proposal for energy efficiency and the promotion of renewable energy in government buildings.
- Participation in ESWG and regular exchange with other donors e.g. GIZ, DFID, SNV, EU, GGGI as well as internal Enabel coordination (e.g. RERD2,...) and reflection is an ongoing activity of networking and strategic orientation of the project.

8.2 The Challenges

- Providing additional human resources to temporarily relieve workload pressure in the area of data management (Mireme) or technical assistance (Arene), requires a solid accompaniment. In the case of Mireme, this implies securing additional national and international institutions of research and higher learning.
- The HR Dept of Mireme running the M&E system of career and training trajectories better, will need to be monitored this year, as this is an important output of the infrastructural support provided by the project
- To address the concern to provide an embedding of online training in the institutions to which the participants belong, Enabel is experimenting with the idea of a Sandbox, which is a digital platform to share course materials, notes, questions, assignments, relevant information, and prepare for further in-house training. This is designed by a Junior Expert in collaboration with one of the Energy Data Management Assistants temporarily employed through the project. However, thus far the effectiveness of this innovation still needs to be evaluated.
- The compilation of a Planning and M&E Manual for DPC will also still start in 2021, as this is a critical but slow exercise which implies a more strategic internal understanding and acknowledgement of needs and possibilities in MIREME and among other stakeholders.
- Increasingly, successful attempts are made by the partners to avoid delays by means of informal working groups, internal meetings and consultation and communication with various other stakeholders. However, to obtain formal approval of for instance budgetary and activity planning, requires more time. Especially this year, with

physical meetings out of the question and a change of the position of Permanent Secretary in MIREME.

- Now that ARENE is finally established, challenges are faced with operational and human resources as the organisation's financing modalities are still not fully deployed, and the need to elaborate regulatory frameworks and guidelines. The project has therefore agreed to assist with financing IT equipment, training, the temporary deployment of three technical staff in the area of tariff setting (2) and international contracting (1), and two (likely) in the area of renewable energy, as well as a consultancy at the end of 2020 to provide ARENE with an informed overview of challenges and priority needs with reference to the regulation of renewable off-grid electricity.
- This year the project's emphasis on provincial outreach and training of staff has been overtaken by the restrictions of the Covid19 pandemic, and because there is little clarity on how the pandemic will fare next year, no substantial provisions are made for training or exchange visits.
- Capacity strengthening requires time, transparency and flexibility and a systematic approach of cooperation between partners.
- There remains a difficulty in formulating detailed outcome targets at policy level, as little formally confirmed information is circulated and within the government machinery no other indicators can be agreed upon. Part of the project's contribution through for instance reporting system and a manual for planning, M&E aims exactly to promote the process of clarifying and agreeing on such targets. Therefore, the concept of quantitative results-based project management M&E applies difficultly to this particular intervention.
- There is an urgent need to promote and regulate renewable off-grid electricity systematically aligned to National Electrification Strategy 2018.
- An important concern remains the lack of incentives in the public sector both at central or provincial level to go the extra mile in vision and implementation.

8.3 Strategic learning questions

- Given the many uncertainties in the policy context and the fact that many of the identified outputs refer to the integrated design or systematization of existing or new practices (e.g. manuals or additional human resources), a regular updating of the project's intervention logic is required. An update of the target values of the indicators is urgently required prior to the MTR of this year.
- Such annual exercises of M&E stocktaking and updating contribute to further capacity strengthening in Mireme and Arene.
- Arene's task are huge. A proper sequencing of support needs to be coordinated with various donors.
- The channels of vulgarization, strengthening of gender focal points and trainer of trainers-skills may address some of the identified inefficiencies in disseminating appropriate information on renewable energy for productive use among government actors and rural dwellers. Further investment in methodology and product development is required.
- Coordination between Mireme and ESWG as well as within ESWG requires more time and information resources in terms of identification of strategic collaboration proposals, information sharing and program alignment.

- The present shift in interaction with provinces from physical to online communication due to Covid19, climate and safety risks, justifies a gradual easy expansion of the focus of digitalization, training and vulgarization to Tete, the last remaining province of the Central Region.
- The Steering Committee will need to provide guidance on the priorities to follow from the many recommendations emanating from the consultancies on the introduction of GIS, HR planning, IT Platform, and regulations. For the latter, Arene has been tasked to coordinate the various initiatives started.

8.4 Summary of lessons learned

The summary of lessons learned is given in the table as well as the potentially interested target group by the lessons learned.

Lessons learned	Target group
<ul style="list-style-type: none"> • The need to elaborate a systematic cooperation approach in institutional capacity strengthening and anchoring requires involvement, ownership, trust, and room for optimisation, especially at central level. This takes time and flexibility. 	<ul style="list-style-type: none"> • Enabel HQ
<ul style="list-style-type: none"> • Provincial outreach needs to become more digitalised and online, given the rising constraints due to the Covid19 pandemic, weather extremes, and terrorist attacks 	<ul style="list-style-type: none"> • MIREME and Enabel
<ul style="list-style-type: none"> • Urgent need to promote and regulate renewable off-grid electricity systematically aligned to National Electrification Strategy 2018 	<ul style="list-style-type: none"> • MIREME and ESWG
<ul style="list-style-type: none"> • Coordination between MIREME and ESWG as well as within ESWG requires more time and information resources, as the sector is characterized by many players and interests 	<ul style="list-style-type: none"> • ESWG, Enabel, MIREME, Arene
<ul style="list-style-type: none"> • A substantial effort in communication and training on what renewable energy can mean for rural development and gender equity is required. A new Junior Expert can quickly make very effective contributions. 	<ul style="list-style-type: none"> • Enabel • Government staff at central, provincial and local level. • Rural consumers and producers
<ul style="list-style-type: none"> • Long-term accompanying and backup support is needed from local and international research and education institutions to support the deployment of additional specialised human resources and consultancy recommendations 	<ul style="list-style-type: none"> • Enabel, MIREME, DIPREME

9 Steering

9.1 Changes made to the intervention

None

9.2 Decisions taken by the Steering and monitoring committee

Decision/Action Code	Intervention Decision / Action Code	Intervention Decision Source	Intervention Decision Date	Intervention Decision Action Status
D01	Approval of the Financial and Technical File (TFF) of the project			
D01/A01	Validation of the project document (TFF)	Steering Committee	12/08/2017	Completed
D01/A02	CCQ meeting	Steering Committee	12/08/2017	Completed
D01/A03	Exchange of letters - Specific agreement	Steering Committee	12/08/2017	Completed
D02	Composition and management of Joint Steering Committee			
D02/A04	Directors of Direcção de Planificação e Cooperação and of Direcção Nacional de Energias Novas e Renováveis will be invited memberS of the Steering Committee on a permanent basis	Steering Committee	11/05/2018	In Progress
D02/A05	Joint Steering Committees of CB MIREME and RERD2 will be held jointly; additional Steering Committees may be held for each project individually if need be	Steering Committee	11/05/2018	In Progress
D03	TFF's reference to CNELEC applies to ARENE	Steering Committee	11/05/2018	Completed
D04	CB MIREME and FUNAE to provide more detailed activity planning until end of 2018	Steering Committee	11/05/2018	Completed
D05	Inclusion of Department of Human Resources of Mireme in the Steering Committee	Steering Committee	20/03/2019	Completed
D06	Direcção Nacional de Energia will be invited to the Steering Committee as well.	Steering Committee	20/03/2019	Completed
D07	Pending Technical meeting with MIREME and ARENE technical management on 12/12/2019, conditional approval of the annual report and 2019 budget of the CBMIREME/ARENE programme and non-approval of CBMIREME/ARENE's 2020 Business Plan and Budget. More internal Mireme coordination is required.	Steering Committee	05/12/2019	Completed
D08	Subsequent to the SteerCom, of Dec 2019, an internal meeting was held which emphasises: - the need to coordinate and integrate the various activities as		12/12/2019	Completed

	<p>much as possible (eg elaboration of a P,M&E manual and provincial piloting</p> <ul style="list-style-type: none"> - the increase of budget and adaptation of planning for Arene - draft -together with DRH - a training plan - emphasis on dissemination of information on technologies for renewable energy on the ground - quarterly planning instead of annual planning to be discussed 			
D09	MTR of 2020 is postponed due to Covid 19 to Q1 2021. ToR had already been finalised in preparation of the Q2 2020 MTR.	Intervention Team	15/07/2020	In Progress
D10	Backstopping on mainstreaming gender was foreseen for Q3/Q4 2020. However, due to Covid 19, this has been changed into a gender consultancy launched in Q4 2020.	Intervention Team	31/07/2020	In Progress
D11	The Steering Committee will need to provide guidance on the priorities to follow from the many recommendations emanating from the consultancies on the introduction of GIS, HR planning, IT Platform, and regulations To that effect the consultants will provide a briefing to the SP and Directors prior to the next Steering Committee.	Steering Committee	07/12/2020	In Progress
D12	Approval of activities and expenditures implemented in 2020.	Steering Committee	07/12/2020	Completed
D13	Increase of overall Euro budget allocation for Arene (maximum duplication)	Steering Committee	07/12/2020	In Progress

9.3 Considered strategic reorientations

Not applicable.

9.4 Recommendations

Recommendations	Actor	Deadline
Provincial outreach and training needs to shift towards digital forms, as Covid19 impact is unpredictable	MIREME/Enabel	Q2 2021
Substantial effort in communication and training on what renewable energy can mean for rural development and gender equity is required.	Enabel	Q2 2020
Long-term accompanying and backup support is needed from local and international research and education institutions to support the deployment of additional specialised human resources and consultancy recommendations	MIREME/Arene/Enabel	Q1 2021
An update of the target values of the project's intervention indicators is urgently required prior to the MTR of this year.	MIREME/Arene/Enabel	Q2 2021
Support to the preparation of regulation of renewable off-grid electricity systematically aligned to National Electrification Strategy 2018, coordinated by Arene	Arene	Q2 2021
In the context of climate change action, more emphasis needs to go out to building the public sector's capacity to promote policies which expand, diversify and green the country's energy mix, especially for the rural areas. MIREME has started to make proposals to that effect for funding, such as energy efficiency, briquettes for clean cooking, and gender mainstreaming under the project.	MIREME	Q2 2021

10 Annexes

10.1 Quality criteria

For each of the criteria (Relevance, Efficiency, Effectivity and Potential sustainability) several sub-criteria and statements regarding the latter have been formulated. By choosing the formulation that best corresponds to your intervention (add an 'X' to select a formulation) you can calculate the total score applicable to that specific criterion (see *infra* for calculation instructions).

1. RELEVANCE: The extent to which the intervention is in line with local and national policies and priorities as well as with the expectations of the beneficiaries.					
Do as follows to calculate the total score for this quality criterion: At least one 'A', no 'C' or 'D' = A; two 'B's = B; at least one 'C, no 'D' = C; at least one 'D' = D					
Appraisal of RELEVANCE: Total score		A	B	C	D
X					
1.1 1.1. What is the current degree of relevance of the intervention?					
X	A	Clearly still anchored in national policies and the Belgian strategy, meets the commitments on aid effectiveness, extremely relevant for the needs of the target group.			
...	B	Still embedded in national policies and the Belgian strategy (even though not always explicitly so), relatively compatible with the commitments on aid effectiveness, relevant for the needs of the target group.			
...	C	A few questions on consistency with national policies and the Belgian strategy, aid effectiveness or relevance.			
...	D	Contradictions with national policies and the Belgian strategy, the commitments on aid effectiveness; doubts arise as to the relevance vis-à-vis the needs. Major changes are required.			
1.2 Is the intervention logic as currently designed still the good one?					
	A	Clear and well-structured intervention logic; vertical logic of objectives is achievable and coherent; appropriate indicators; risks and hypotheses clearly identified and managed; intervention exit strategy in place (if applicable).			
X	B	Appropriate intervention logic even though it could need certain improvement in terms of hierarchy of objectives, indicators, risks and hypotheses.			
	C	Problems pertaining to the intervention logic could affect performance of an intervention and its capacity to control and evaluate progress; improvements required.			
	D	The intervention logic is faulty and requires an in-depth review for the intervention to possibly come to a good end.			

2. EFFICIENCY OF IMPLEMENTATION TO DATE: A measure of how economically resources of the intervention (funds, expertise, time, etc.) are converted in results.				
<i>Do as follows to calculate the total score for this quality criterion: At least two 'A's, no 'C' or 'D' = A; two 'B's = B, no 'C' or 'D' = B; at least one 'C, no 'D' = C; at least one 'D' = D</i>				
Appraisal of the EFFICIENCY: Total score	A	B	C	D
		X		
2.1 To what extent have the inputs (finances, HR, goods & equipment) been managed correctly?				
	A	All inputs are available in time and within budget limits.		
X	B	Most inputs are available within reasonable time and do not require considerable budgetary adjustments. Yet, there is still a certain margin for improvement possible.		
	C	The availability and use of inputs pose problems that must be resolved, otherwise the results could be at risk.		
	D	The availability and management of the inputs is seriously lacking and threaten the achievement of the results. Considerable changes are required.		
2.2 To what extent has the implementation of activities been managed correctly?				
	A	Activities are implemented within timeframe.		
X	B	Most activities are on schedule. Certain activities are delayed, but this has no impact on the delivery of outputs.		
	C	The activities are delayed. Corrective measures are required to allow delivery with not too much delay.		
	D	The activities are seriously behind schedule. Outputs can only be delivered if major changes are made to planning.		
2.3 To what extent are the outputs correctly achieved?				
	A	All outputs have been and will most likely be delivered on time and in good quality, which will contribute to the planned outcomes.		
X	B	The outputs are and will most likely be delivered on time, but a certain margin for improvement is possible in terms of quality, coverage and timing.		
	C	Certain outputs will not be delivered on time or in good quality. Adjustments are required.		
	D	The quality and delivery of the outputs most likely include and will include serious shortcomings. Considerable adjustments are required to guarantee at least that the key outputs are delivered on time.		

3. EFFECTIVENESS TO DATE: Extent to which the outcome (specific objective) is achieved as planned at the end of year N				
<i>Do as follows to calculate the total score for this quality criterion: At least one 'A', no 'C' or 'D' = A; two 'B's' = B; at least one 'C, no 'D' = C; at least one 'D' = D</i>				
Appraisal of EFFECTIVENESS: Total score	A	B	C	D
		X		
3.1 At the current stage of implementation, how likely is the outcome to be realised?				
	A	It is very likely that the outcome will be fully achieved in terms of quality and coverage. Negative results (if any) have been mitigated.		
X	B	The outcome will be achieved with a few minor restrictions; the negative effects (if any) have not had much of an impact.		
	C	The outcome will be achieved only partially, among other things due to the negative effects to which the management was not able to fully adapt. Corrective measures should be taken to improve the likelihood of achieving the outcome.		
	D	The intervention will not achieve its outcome, unless significant fundamental measures are taken.		
3.2 Are the activities and outputs adapted (where applicable) in view of achieving the outcome?				
	A	The intervention succeeds to adapt its strategies/activities and outputs in function of the evolving external circumstances in view of achieving the outcome. Risks and hypotheses are managed proactively.		
X	B	The intervention succeeds rather well to adapt its strategies in function of the evolving external circumstances in view of achieving the outcome. Risk management is rather passive.		
	C	The project has not fully succeeded to adapt its strategies in function of the evolving external circumstances in an appropriate way or on time. Risk management is rather static. A major change to the strategies seems necessary to guarantee the intervention can achieve its outcome.		
	D	The intervention has not succeeded to react to the evolving external circumstances; risk management was not up to par. Considerable changes are required to achieve the outcome.		

4. POTENTIAL SUSTAINABILITY: The degree of likelihood to maintain and reproduce the benefits of an intervention in the long run (beyond the implementation period of the intervention).				
<i>Do as follows to calculate the total score for this quality criterion: At least three 'A's, no 'C' or 'D' = A; maximum two 'C's, no 'D' = B; at least three 'C's, no 'D' = C; at least one 'D' = D</i>				
Appraisal of POTENTIAL SUSTAINABILITY: Total score	A	B	C	D
		X		
4.1 Financial/economic sustainability?				
	A	Financial/economic sustainability is potentially very good: Costs related to services and maintenance are covered or reasonable; external factors will have no incidence whatsoever on it.		

	B	Financial/economic sustainability will most likely be good, but problems may arise in particular due to the evolution of external economic factors.
X	C	The problems must be dealt with concerning financial sustainability either in terms of institutional costs or in relation to the target groups, or else in terms of the evolution of the economic context.
	D	Financial/economic sustainability is very questionable, unless major changes are made.
4.2 What is the degree of ownership of the intervention by the target groups and will it prevail after the external assistance ends?		
	A	The Steering Committee and other relevant local instances are strongly involved at all stages of execution and they are committed to continue to produce and use the results.
	B	Implementation is strongly based on the Steering Committee and other relevant local instances, which are also, to a certain extent, involved in the decision-making process. The likelihood that sustainability is achieved is good, but a certain margin for improvement is possible.
X	C	The intervention mainly relies on punctual arrangements and on the Steering Committee and other relevant local instances to guarantee sustainability. The continuity of results is not guaranteed. Corrective measures are required.
	D	The intervention fully depends on punctual instances that offer no perspective whatsoever for sustainability. Fundamental changes are required to guarantee sustainability.
4.3 What is the level of policy support delivered and the degree of interaction between the intervention and the policy level?		
	A	The intervention receives full policy and institutional support and this support will continue.
X	B	The intervention has, in general, received policy and institutional support for implementation, or at least has not been hindered in the matter and this support is most likely to be continued.
	C	The sustainability of the intervention is limited due to the absence of policy support. Corrective measures are required.
	D	Policies have been and will most likely be in contradiction with the intervention. Fundamental changes seem required to guarantee sustainability of the intervention.
4.4 To what degree does the intervention contribute to institutional and management capacity?		
	A	The intervention is integrated in the institutions and has contributed to improved institutional and management capacity (even though it is not an explicit objective).
X	B	The management of the intervention is well integrated in the institutions and has contributed in a certain way to capacity development. Additional expertise may seem to be required. Improvement is possible in view of guaranteeing sustainability.
	C	The intervention relies too much on punctual instances rather than on institutions; capacity development has failed to fully guarantee sustainability. Corrective measures are required.
	D	The intervention relies on punctual instances and a transfer of competencies to existing institutions, which is to guarantee sustainability, is not likely unless fundamental changes are made.

10.2 Updated Logical framework and/or Theory of Change

IMPACT: The development of the energy sector is enhanced in order to power the socioeconomic development of the country and to contribute to the welfare of its people			
Indicators	Sources of Verification	Baseline value (2017)	Target Value
Percentage of the Mozambican population with access to electricity	Plano Quinquenal do Governo (PQG) Annual reports Plano Economico e Social (PES)	26%	38% by 2020
Percentage of the Mozambican population with access to renewable off-grid electricity	Plano Quinquenal do Governo (PQG) Plano Economico e Social (PES)	TBC	652500 of 28644358 by 2020 (TBC)

OUTCOME: The performance of MIREME and ARENE in advancing access to renewable electricity in rural areas is enhanced			
Indicators	Sources of Verification	Baseline value (2017)	Target Value
Actual rate of implementation of MIREME's and ARENE's activities incorporated in annual plans related to access to energy	Plano Economico e Social (PES)	TBC	As from annual plan 2021, at least 70% implementation rate
Number of connections to be supported by the National Electrification Program 2018-2030	EDM , DPC, FUNAE, IPPS (off-grid) reports and MIREME's IT platform once established	TBC	90% of 785,206 connections
Number of connections to be supported by the National Electrification Program 2018-2030 through renewable off-grid electricity	EDM , DPC, FUNAE, IPPS (off-grid) reports and MIREME's IT platform once established	TBC	652,500 connections through renewable off-grid electricity
Priority regulatory instruments for renewable off-grid electricity are published	Report of ARENE	0	50% identified in 2019 are published by the end of 2020
ARENE implements and monitors pilot regulatory instruments in renewable off-grid electricity	Reports of CB MIREME	0	70% implemented and monitored by Dec 2022
Dissemination of specific information on renewable energy to rural areas for consumers, producers and investors.	Reports of MIREME, DIPREME and ARENE	>=60%	The majority of adult rural respondents to surveys at the end of the project indicate a satisfactory level of knowledge on sources, uses and pros and cons of renewable energy, as well as their local accessibility.

RESULT 1: MIREME's capacities at the central level are strengthened to improve planning and policy-making in the energy sector			
Indicators	Sources of Verification	Baseline value (2017)	Target Value
1. Improvement of MIREME's capacity at the central level for harmonized and reliable planning of the energy sector.			
• New manual of coordinated and harmonized planning and M&E	• New manual of coordinated and harmonized planning and M&E	0	• Manual of planning, M&E is developed and disseminated in 2019
• Good quality annual plans are drafted which follow the manual's instructions, and are coordinated and harmonized with all stakeholders in the sector	• Score of more than 70% in annual compliance evaluation by DPC	0	• at least 3 annual plans are elaborated following the Planning and M&E Manual (throughout project period of 4 years)
• Good quality annual plans are drafted which enable a high annual realization rate of planned activities	• Score of more than 70% in annual compliance evaluation by DPC	0	• 90% realization rate of the activities in the annual plan in the year 2021
2. Improvement of MIREME's capacity at central level to produce data, statistics and quality information on the energy sector			
• IT platform for centralised reporting and information management	• IT platform	0	• Fit-for-purpose IT platform for centralised energy sector reporting and information management established and operational
• Methodology chapter on data management and analysis in manual of planning and M&E	• Methodology chapter on data management and analysis in manual of planning and M&E	0	• Methodology chapter on data management and analysis is developed and disseminated in 2019 as part of the Manual of planning and M&E
• Good quality quarterly evaluation reports are drafted which follow the methodological manual's instructions, and are coordinated and harmonized with all stakeholders in the sector	• Score of more than 80% in quarterly compliance evaluation by DPC	0	Elaboration of quarterly reports as per methodological guidelines (4 per year, starting from Q4 2020) Pilots at least in Zambezia, Sofala, Manica.
• Dissemination of specific information on renewable energy to rural areas for consumers, producers and investors.	• Information booklets • Radio and TV slots • Social media messages	0	Information is available in whole country and at DIPREMEs on sources, uses and pros and cons of renewable energy, as well as their local accessibility. (availability assessment score of 80%)
3. Improvement of MIREME's capacity in the planning, recruiting, developing and retaining of employees			
• Improved HR Development Plan	• HR Development Plan	0	Improved HR Development Plan approved and shared in Q3 2019;
• A digitalised HR system to follow up on the quality, relevance and the effect of trainings	• Digitalised HR system	0	A digitalised HR system to follow up on the quality, relevance and the effect of trainings is developed and used

• Agreed number and types of trainings are delivered	MIREME DRH report on staff training and numbers	TBC	Agreed number and types of trainings per year in HR Development Plan delivered
• Reduction in the number of personnel who leave MIREME	<ul style="list-style-type: none"> • Survey satisfaction • MIREME DRH report 	<ul style="list-style-type: none"> • TBC • 20% 	<ul style="list-style-type: none"> • At least 60% of respondents are moderately satisfied with working conditions in Q4 2021 • Reduction in the number of personnel who leave MIREME (<5% by the end of 2021)
4. Development of technical, economic, legal and safety regulatory instruments for renewable off-grid electricity along with ARENE			
• Priority technical, economic, legal and safety regulatory instruments in the area of renewable off-grid electricity are developed.	Regulatory instruments	0	Half of the priority regulatory instruments for renewable off-grid electricity identified in 2019 are elaborated by Dec 2021
• Priority technical, economic, legal and safety regulatory instruments in the area of renewable off-grid electricity are approved.	Regulatory instruments	0	At least 3 priority regulatory instruments in the area of renewable off-grid electricity identified in 2019 are elaborated and approved by Q4 2020

RESULT 2: DIPREME's capacities are strengthened in order to improve the planning, coordination and M&E of the energy sector in the selected provinces (Zambezia, Sofala, Manica)

Indicators	Sources of Verification	Baseline value (2017)	Target Value
1. Improved planning of the sector in the selected DIPREMEs			
• Good quality annual plans are drafted which follow the manual's instructions, and are coordinated and harmonized with central MIREME and relevant stakeholders in the province	• Score of more than 70% in annual compliance evaluation by DPC	0	3 annual plans are elaborated following the Planning and M&E Manual (throughout 4 years)
• Good quality annual plans are drafted which enable a high annual realization rate of planned activities	• Score of more than 70% in annual compliance evaluation by DPC	0	90% realization rate of the activities in the annual plan in the year 2021
2. Improved quality data and information shared between MIREME at central level and selected DIPREMEs			
Good quality quarterly reports are drafted which follow the methodological manual's instructions, and are coordinated and harmonized with central MIREME and relevant stakeholders in the province	• Score of more than 80% in quarterly compliance evaluation by DPC	0	Elaboration of quarterly reports as per methodological guidelines (4 per year, starting from Q4 2020)
Dissemination of specific information on renewable energy to rural areas for consumers, producers and investors	<ul style="list-style-type: none"> • Information booklets • Radio and TV slots • Social media messages 	0	Information is available at DIPREMEs on sources, uses and pros and cons of renewable energy, as well as their local accessibility

3. Improved Human Resource Management			
A digitalised HR system to follow up on the quality, relevance and the effect of trainings	HR Development Plan	0	A digitalised system to follow up on the quality, relevance and the effect of trainings is developed and used
Agreed number and types of trainings are delivered	<ul style="list-style-type: none"> Digitalised HR system MIREME DRH report on staff training and numbers 	0	Implementation of HR and Retention Strategy Agreed number and types of trainings per year in HR Development Plan delivered
Reduction in the number of personnel who leave DIPREMES	MIREME DRH report	20%	Reduction in the number of personnel who leave DIPREME (<5% by the end of 2021)
Improved working conditions and environment (refurbishment of buildings; IT equipment HR E-SISTAFE management....)	<ul style="list-style-type: none"> Refurbishment of buildings; IT equipment HR E-SISTAFE management Survey satisfaction 	0	At least 60% of respondents are moderately satisfied with the local working conditions in Q42021

RESULT 3: The capacities of ARENE are strengthened to become a strong and independent regulator able to regulate new and renewable off-grid electricity			
Indicators	Sources of Verification	Baseline value (2017)	Target Value
1. Development of technical, economic and health & safety regulations for renewable off-grid electricity together with MIREME			
• Priority technical, economic, legal and safety regulatory instruments in the area of renewable off-grid electricity are developed.	Regulatory instruments	0	At least half of the priority regulatory instruments in the area of renewable off-grid electricity are developed by Q4 2021
• Priority technical, economic, legal and safety regulatory instruments in the area of renewable off-grid electricity are approved	Regulatory instruments	0	At least half of the priority regulatory instruments in the area of renewable off-grid electricity are approved by Q4 2021
2. Human resources framework of ARENE is elaborated and approved			
Appropriate human resources framework of ARENE is elaborated for the next 5 years	Human resources framework of ARENE	0	Internationally benchmarked human resources framework of professional qualifications, management functions and staffing levels for priority tasks is elaborated for the next 5 years by Q2 2020
Human resources framework of ARENE for the next 5 years is approved	Human resources framework of ARENE	0	Human resources framework of ARENE for the next 5 years in the area of renewable off-grid electricity is approved by Q3 2020

3. Human resources framework of ARENE is operational in pilot priority tasks in the domain of renewable off-grid electricity			
Human resources framework of ARENE is applied for priority tasks in the domain of renewable off-grid electricity	ARENE annual report on staff training and numbers	o	• At least 50% of staff numbers as per human resources framework for priority tasks in the domain of renewable off-grid electricity are appointed by Dec 2021
		o	• At least 50% of staff functions as per human resources framework for priority tasks in the domain of renewable off-grid electricity are filled by Dec 2021
		o	• Agreed number and types of trainings per year delivered
4. Pilot priority technical, economic and health & safety regulations for renewable off-grid electricity			
Priority pilots of technical, economic, legal and safety regulatory instruments in the area of renewable off-grid electricity are implemented and monitored.	ARENE annual report Project assessment survey	o	60 per cent of in 2020 approved priority regulatory instruments in the area of renewable off-grid electricity are implemented and monitored by Dec 2021 (specifically in Maputo, Zambezia, Sofala, Manica).

10.3 Monitoring of change management processes forms (optional)

Monitoring forms to be used for ongoing reflection or for an explicit research-action approach used by the intervention (See Content management guide).

Title Output 1	
What is the assumption (1 phrase) leading to the intermediate outcome?	
<p>Is the Theory of Change (model, principles, values) underlying the assumption developed in an explicit manner?</p> <p><input type="radio"/> No</p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> Major changes made to the ToC during the year?</p> <p>If so, which ones? (Adapted ToC may be attached.)</p>	
<p>Which are the major decisions taken in the year to realise the change on the basis of the assumption and which is their justification?</p> <p><input type="radio"/> Decision 1 : <input type="radio"/> Justification Decision 1:</p> <p><input type="radio"/> Decision 2: <input type="radio"/> Justification Decision 2:</p>	
Were there any opportunities in the context (specifically related to the result) that have facilitated the change process and the achievement of the intermediate outcome?	
Were there any major constraints in the context (specifically related to the result) that have negatively influenced the change process and the achievement of the intermediate outcome?	
<p>Has the (research-action) change process been documented?</p> <p><input type="radio"/> No.</p> <p><input type="radio"/> Yes</p> <p>If yes, under which form?</p>	
<p>Has the documented change process been communicated in any way?</p> <p><input type="radio"/> No</p> <p><input type="radio"/> Yes</p> <p>If yes, under which form?</p>	

10.4 Summary of MoRe Results

Results or indicators of the logical framework changed during the last 12 months?	NO
Report of the Baseline registered in PIT?	YES
MTR Planning (registered report)	Q2 2021
ETR Planning (registered report)	11/2022 (estimate)
Backstopping missions since 01/01/2019	1

10.5 'Budget versus Actuals (y – m)' Report

CB MIREME/ARENE : Capacity Development of the Ministry of Mineral Resources (MIREME) and Autoridade Reguladora de Energia (ARENE))				Budget Versus Actuals (Year to month) of MOZ1403011				
	Budget Execution/Activities		Budget	Start to 2019	Expenses 2020	Total	Balance budget	% exec
A	The performance of MIREME and CNELEC in advancing access to renewable electricity in rural areas is enhanced		2.690.000,00	703.784,92	760.344,45	1.468.489,37	1.221.510,63	55%
A 01	The capacities of the MIREME at central level are strengthened in order to improve the energy sector planning and policy-making		1.505.000,00	296.773,04	300.493,33	597.266,37	907.733,63	40%
A 01 01	Long Term technical Assistance	REGIE	720.000,00	235.954,41	70.812,06	306.766,47	413.233,53	43%
A 01 02	Sector Planning within MIREME	REGIE	140.000,00	27.945,72	35.162,66	63.108,38	76.891,62	45%
A 01 03	Quality data and information within MIREME	REGIE	145.000,00	16.405,46	107.145,57	123.551,03	21.448,97	85%
A 01 04	Human Resources Management	REGIE	120.000,00	11.030,53	85.179,25	96.209,78	23.790,22	80%
A 01 05	Support the development of technical, economical and Health & Safety regulations	REGIE	20.000,00	5.436,92	2.193,79	7.630,71	12.369,29	38%
A 01 06	Medium Term Consultancies	REGIE	360.000,00	-	-	-	360.000,00	0%
A 02	The capacities of the DIPREME are strengthened in order to improve energy sector planning, monitoring and supervision in selected provinces		955.000,00	302.608,46	311.231,40	618.199,86	336.800,14	65%
A 02 01	Long Term technical Assistance	REGIE	450.000,00	187.504,33	47.096,25	234.600,58	215.399,42	52%
A 02 02	Sector Planning within selected DIPREME	REGIE	70.000,00	23.307,79	7.574,79	30.882,58	39.117,42	44%
A 02 03	Quality data and information between MIREME at central level and DIPREME	REGIE	190.000,00	8.368,61	193.051,86	201.420,47	11.420,47	106%
A 02 04	Human Resources Management at provincial level	REGIE	65.000,00	83.427,73	67.868,50	151.296,23	86.296,23	233%
A 02 05	Medium Term Consultancies	REGIE	180.000,00	-	-	-	180.000,00	0%
A 03	Build ARENE into an independent and capable regulator for the new and renewable electricity sub-sector are supported		230.000,00	104.331,58	75.624,86	179.956,44	50.043,56	78%
A 03 01	Long Term technical Assistance	REGIE	180.000,00	53.180,54	18.101,80	71.282,34	108.717,66	40%
A 03 02	Support the development of technical, economic and health & safety regulations	REGIE	50.000,00	50.506,37	10.624,24	61.130,61	11.130,61	122%
A 03 03	Human resources framework of ARENE is elaborated and approved	REGIE	-	644,67	-	644,67	644,67	??
A 03 04	Human resources framework of ARENE is operational in pilot priority tasks in the domain of new and renewable off-grid energies	REGIE	-	-	38.469,86	38.469,86	38.469,86	??
A 03 05	Pilot priority technical, economic and health & safety regulations for new and renewable off-grid energies	REGIE	-	-	8.428,96	8.428,96	8.428,96	??
A 04	IVA		-	71,84	72.994,86	73.066,70	73.066,70	??
A 04 01	IVA	REGIE	-	71,84	72.994,86	73.066,70	73.066,70	??
X	Reserve		90.000,00	-	-	-	90.000,00	0%
X 01	Reserve		90.000,00	-	-	-	90.000,00	0%
X 01 01	Direct Management reserve	REGIE	90.000,00	-	-	-	90.000,00	0%
Z	General Means		1.220.000,00	442.807,30	147.099,79	589.907,09	630.092,91	48%
Z 01	Wages and salaries		810.000,00	370.329,34	132.888,34	503.217,68	306.782,32	62%
Z 01 01	Project management	REGIE	450.000,00	310.733,17	100.075,16	410.808,33	39.191,67	91%
Z 01 02	Administrative and financial staff	REGIE	300.000,00	59.596,17	32.813,18	92.409,35	207.590,65	31%
Z 01 03	Other support staff	REGIE	60.000,00	-	-	-	60.000,00	0%
Z 02	Investments		50.000,00	13.455,47	996,14	14.451,61	35.548,39	29%
Z 02 01	IT and office equipment	REGIE	20.000,00	13.336,65	996,14	14.332,79	5.667,21	72%
Z 02 02	Vehicles	REGIE	30.000,00	118,82	-	118,82	29.881,18	0%
Z 03	Operating costs		225.000,00	50.632,78	12.665,27	63.298,05	161.701,95	28%
Z 03 01	Office premises / rental	REGIE	24.000,00	21.205,58	11.217,72	32.423,30	8.423,30	135%
Z 03 02	Fuel and maintenance	REGIE	30.000,00	16.435,17	2.209,89	18.645,06	11.354,94	62%
Z 03 03	Internet & Communication	REGIE	12.000,00	478,18	1.028,43	1.506,61	10.493,39	13%
Z 03 04	Telecommunication costs	REGIE	60.000,00	1.752,96	410,13	2.163,09	57.836,91	4%
Z 03 05	Office consumables	REGIE	17.500,00	949,28	696,08	1.645,36	15.854,64	9%
Z 03 06	Missions costs	REGIE	81.000,00	9.042,39	300,79	9.343,18	71.656,82	12%
Z 03 07	Other operating costs	REGIE	500,00	769,22	3.197,77	2.428,55	2.928,55	-486%
Z 04	Audit, Monitoring and Backstopping		135.000,00	7.694,23	-	7.694,23	127.305,77	6%
Z 04 01	M&E (incl baseline, MTR and FE and capitalization exercise)	REGIE	80.000,00	7.694,23	-	7.694,23	72.305,77	10%
Z 04 02	Technical backstopping	REGIE	20.000,00	-	-	-	20.000,00	0%
Z 04 03	Audits	REGIE	35.000,00	-	-	-	35.000,00	0%
Z 99	Conversion rate adjustment		-	695,48	550,04	1.245,52	- 1.245,52	
Z 99 98	Conversion rate adjustment	REGIE	-	695,48	550,04	1.245,52	- 1.245,52	
	Total		4.000.000,00	1.146.592,22	907.444,24	2.058.396,46	1.941.603,54	51%

10.6 Resources in terms of communication

Waeterloos, E. (2020) Mozambique: A year later: slowly recovering from Idai cyclone, but shielding from Covid-19 [Open.Enabel - Belgian Development Agency / Mozambique: A year later: slowly recovering from Idai cyclone, but shielding from Covid-19](#)

Waeterloos, E. (2020) Mainstreaming gender in the (renewable) energy sector in Mozambique, [Open.Enabel - Belgian Development Agency / Mainstreaming gender in the \(renewable\) energy sector in Mozambique](#)

Waeterloos, E. (2020) The role of alternative sources to achieve sustainable access to energy for all in Mozambique [Open.Enabel - Belgian Development Agency / The role of alternative sources to achieve sustainable access to energy for all in Mozambique](#)