

**MOZ 22/0004 Ministry of Mineral Resources and
Energy – Norwegian Water Resources and Energy
Directorate – Institutional Cooperation Phase II
Programme Document 2023 - 2026**

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Abbreviations

ADE	Agência Nacional de Desenvolvimento Geo-Espacial (https://www.ade.gov.mz/)
ARENE	Autoridade Reguladora de Energia / The Mozambican Energy Regulator
bcf	Billion cubic feet (10 ⁹ cubic feet)
CA	Cooperation Area
DNE	Direcção Nacional de Energia
DPC	Direcção de Planeamento e Cooperação
DPREME	Direcção Provincial de Recursos Minerais e Energia
EDM	Electricidade De Moçambique
ESWG	Energy Sector Working Group
FCDO	Foreign, Commonwealth & Development Office
FUNAE	Fundo de Energia
GoM	Government of Mozambique
HCB	Hidroeléctrica de Cahora Bassa
ICA	Institutional Cooperation Agreement
IDP	Internally Displace Person
IGEPE	Instituto de Gestão das Participações do Estado
IM	Implementation Manager
IMF	International Monetary Fund (www.imf.org)
IPP	Independent Power Producer
MIREME	Ministerio de Recursos Minerais e Energia
MTR	Mid-term Review of phase 1, carried out by KPMG.
NES	National Electrification Strategy
NVE	Norwegian Water Resources and Energy Directorate
PCE	Presidente de Conselho Executivo (≈ General Manager)
PM	Programme Manager

PO	Programme Owner
PPA	Power Purchase Agreement
PS	Permanent Secretary
PT	Project Team
RME	Norwegian Regulatory Authority for Energy
RNE	Royal Norwegian Embassy
SHS	Solar Home System
TBI	Tony Blair Institute
tcf	Trillion cubic feet (10 ¹² cubic feet)
TWG	Technical Working Group

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1 Summary and Key Programme Data

This document presents a second phase of an institutional cooperation between the Ministerio de Recursos Minerais e Energia (**MIREME**) of Mozambique and the Norwegian Water Resources and Energy Directorate (**NVE**) running during the years 2017 – 2022. This second phase is henceforth referred to as **the Programme**.

The intended Programme impact is ***socio-economic development and poverty reduction through increased access to sustainable electricity supply on- and off-grid.***

The Programme consists of four Cooperation Areas:

- CA1. Legal Framework
- CA2. Governance of the Power Sector
- CA3. Strategic Advice to ARENE's Management
- CA4. Key Technical Skills in ARENE

These are described in this document in terms of challenges to overcome, expected outcomes and means to address the challenge. Annex 2: Work plan for 2023 contains a work plan for the first year and preliminary plans for 2024.

The main cooperating institutions are NVE on the Norwegian side, and the Ministry of Mineral Resources and Energy (MIREME) and the Autoridade Reguladora de Energia (**ARENE**) (the Mozambican Energy Regulator) on the Mozambican side.

The most important risk causes representing a threat to achieving the impact are considered to be:

- Weak management and coordination by the line ministry.
- Thin human resources in the benefiting institutions.
- Weak motivation of partner institutions to deliver the outcomes.
- Donor crowding spreading the effort of the partner too much.
- Limited availability or loss of subject matter experts at NVE (for use on international programmes)

The programme mechanisms for risk management are further detailed in section 5.

2 Strategic Context

2.1 Introduction

This chapter summarises the actual situation of importance to the relevance and implementation of the proposed programme.

2.2 Country Context

Debt undermined investors' confidence

Since 2000 Mozambique experienced a long period of sustained growth, with annual growth consistently above 5%. However, this was disrupted in 2016 by the hidden debt crisis and worsened by the effects of cyclones Idai and Kenneth in 2019 and the COVID-19 pandemic in 2020.

The disclosure of US\$1.3 billion of previously undisclosed commercial debt, equal to about 10% of GDP and accumulated between 2009 and 2014 by issuing guarantees to state-controlled companies, undermined investors' and donors' confidence and more than halved the average rate of growth from 8.4% between 2003 and 2015 to 3.3% between 2016 and 2019.

Only in 2022 have confidence in Mozambique improved in the international arena. A legal process has been running in the country prosecuting 19 individuals for participating in the scam. Verdicts in the first court were delivered in the end of 2022. The improved confidence has, among other, manifested itself in a new agreement with the International Monetary Fund (IMF), including budget support.

Human capital development is low, with large geographic disparities

In 2020, Mozambique scored a Human Capital Index (HCI) of 0.36, ranking as no. 167 of 172 indexed countries. Mozambique's population is predominantly rural, with 80% of the poor across the country currently living in rural areas, and half of Mozambique's population is projected to remain in rural areas by 2040. Traditional agriculture remains the primary source of livelihood in rural Mozambique. Despite the significant potential, agricultural production and value addition are underdeveloped. Half of the rural population and half of Mozambican women are illiterate (compared to 19% of urban adults and 27% of men), and the highest rates are in the northern provinces of the country.

The conflict and fragility in the northern provinces of Mozambique is further stressing economic development with up to a million internally displaced persons (IDPs) by December 2022, according to data from UNDP.

Five-year Government plan outlines growth in the energy sector

The five-year Government Plan (2020–2024) focuses on the development of a more diversified and competitive economy. The infrastructure sectors energy, transport, and

digital are identified as vital cross-cutting enablers to achieving the objectives of the plan.

Growth in the energy sector will draw on public and private investments in

- a) power generation, with a focus on increased contribution from renewable energy
- b) strengthening of distribution and transmission networks
- c) expansion of electricity access¹, with a particular focus on rural and peri-urban areas, including a new target for electricity access at 64% by 2024.

Energy is an enabler of ICT and vice versa

Access to good-quality communication and broadband services is an enabler of economic development in general and of introduction of new product and services in particular. This also applies to the power sector, where two-way communication between the service provider and client and electronic payment solutions are important factors for development of affordable and reliable services.

The application of digital solutions can help address some of the key challenges for energy providers, such as:

- low customer payback rates, by controlling hardware remotely, providing customer support proactively and improving compliance with connection rules;
- inflexible payment structures, by avoiding the need to send staff into the field; and
- poor ability to assess the performance of the systems they provide, by gaining the possibility to monitor the state of the system remotely.

Conversely, access to energy is necessary for mobile network providers to deploy and maintain their infrastructure and for individuals to charge their communication devices. The digital economy is not possible without reliable electricity supply. Therefore, there are important dependencies and synergies between infrastructure for energy and ICT.

Natural gas is a potential game changer

Mozambique has proven natural gas reserves of at least 180² trillion cubic feet (**tcf**), the fourth largest in Africa³ and the fourteenth largest in the world.

Mozambique currently produces natural gas from the Inhassoro, Pande and Temane fields, and 82% of the total production (212 billion cubic feet (**bcf**) in 2018) is exported

¹ "Access" to energy can be defined in different ways. For example, IEA specifies "a household having reliable and affordable access to both clean cooking facilities and to electricity, which is enough to supply a basic bundle of energy services initially, and then an increasing level of electricity over time to reach the regional average".

² <https://www.trade.gov/country-commercial-guides/mozambique-oil-gas-0>

³ <https://energycapitalpower.com/top-ten-african-countries-sitting-on-the-most-natural-gas/>

to South Africa. Production will soon start for feeding the Temane gas-to-power plant and an LPG and light oil plant.

Late in 2022, with the start of production at Coral South floating LNG-plant, an additional 3.4 MT/annum will be produced for sale to BP for a period of 20 years, renewable for an additional 10 years. Several other projects for development of the resources in the Rovuma basin are planned, but timing is currently uncertain due to the insurgency in Cabo Delgado since 2017, recently spreading also to Nampula. However, it must be assumed that the resources will be developed, if necessary with floating installations.

If development of the northern gas fields is not expanded soon, new investments may become commercially less attractive in a longer perspective. Increased focus on emissions of greenhouse gases and climate change may put pressure on gas prices and the technical alternatives may develop faster than anticipated, as happened after the signature of the Montreal Protocol on Substances that Deplete the Ozone Layer. The opportunities for, and feasibility and impacts of, CO₂-storage in the north should be clarified without delay, since this may have important commercial implications for the gas fields viability.

The northern gas resources may form the basis for the development of an important export industry and can also drive establishment of domestic industrial facilities. The national income from these fields will provide a significant boost to the state budget in years to come, but longer-term implications are currently unclear and would benefit greatly from research studies.

2.3 Sectoral and Institutional Context

New electricity law adopted

In October 2022, the new General Electricity Law (12/2022) entered into force. The changes introduced by this law aims at modernizing the sector structure and clarifying roles and key areas of responsibility of the different public and private actors.

The new law must, without undue delay, be complemented by necessary regulations to become fully effective. The development of regulations must follow due legal procedure.

MIREME, ARENE and FUNAE are the key authorities in the energy sector

The Ministry of Mineral Resources and Energy (*Ministério dos Recursos Minerais e Energia, MIREME*) is the Government agency in charge of energy policy and sector planning.

The Energy Regulatory Authority (*Autoridade Reguladora de Energia, ARENE*) was established in September 2017 to provide regulatory oversight of the sector.

Electricidade De Moçambique (EDM) is the state-owned, vertically integrated power utility in charge of electricity generation, transmission, and distribution countrywide.

However, there is no government monopoly in either generation or distribution. Also in transmission there is room for private investment.

The Energy Fund (*Fundo de Energia*, FUNAE) is a public entity which promotes development of power options for off-grid electrification, with particular focus on new and renewable energy. It also has a role in the supply of liquid fuels in rural areas.

The governance structure in the power sector has been recently revised, in line with the newly instated State-Owned Enterprises Law. Even more recently, in 2020, the Institute for Management of Government Shares (*Instituto de Gestão das Participações do Estado*, IGEPE), was given the oversight responsibility for EDM as part of its mandate to manage the Government's stake in commercial enterprises.

Private sector participation has materialized in the power generation segment

Several independent power producers (IPPs) have power purchase agreements (PPAs) with EDM. Since 2015 about 480 MW in five generation plants have been added. In the future the gas-fired Temane Thermal Power Plant (*Central Termica de Temane*), which will add 450 MW of capacity to the grid network. This plant was procured competitively by the Government of Mozambique. Development cooperations like PROLER, Proenergia and GET FIT all support private sector participation in on-grid investments.

In 2020, private generation represented 40% of domestic consumption and 12% in terms of the total generation capacity including exports. Peak demand has increased from about 530 MW in 2010 to about 945 MW in 2020 and the current energy mix comprises 57% hydropower, 38% gas power, 8% other thermal, and about 1% imports⁴. Considering the Cahora Bassa Hydropower (*Hidroeléctrica de Cahora Bassa*, HCB) plant, renewable energy accounts for 84% of the installed capacity, but most of the power from HCB is exported. Hydropower generation has significant seasonal variation, whereas solar and wind, which, although being insignificant at the moment, are on the rise, have short term variation.

Low access to electricity and clean cooking

In spite of recent progress, Mozambique's infrastructure access — to electricity, clean cooking, and internet — is among the lowest in Africa.

Energy access, in both electricity and clean cooking, remains low with significant rural-urban disparities. In 2021, the grid electrification rate had achieved 39% coverage and is reported to have reached 40.8% on-grid and 44% total after 2022⁴. The rural electricity access rate is estimated to about 8%, against 72% in urban areas.

Only 17% of the population in the northern provinces have access to electricity (about 14 million people living without modern energy solutions). Only 4% of the population in Mozambique have access to clean cooking solutions, all of which is concentrated in urban areas (12% in urban areas and 0% in rural areas).

⁴ ALER/AMER: Renováveis em Moçambique 2022.

Access to grid electricity has expanded more than three times through grid extension and off-grid solutions. Mozambique increased electricity access at a faster rate (8% in 2006 to 39% in 2021) when compared with the 20 countries with largest access deficit in the world. However, such a rapid expansion, whether driven by concessional or debt funding, presents challenges for the grid company, since connection of large numbers of consumers with low spending on electricity threatens to create a financial burden for the utility. If the financial viability of the business becomes compromised or worsened, this may impact negatively on the stability of supply.

Currently, EDM serves more than 2 million customers with all 154 district capitals across the country being reached by the grid. FUNAE and a few private companies complement these efforts with off-grid solutions.

The use of clean fuels such as liquified petroleum gas (LPG) and electricity is mostly concentrated in the cities and used by higher-income households. Biomass fuels remain the main source of energy, with charcoal being the preferred fuel in most urban and peri-urban areas, and firewood preferred in rural areas.

National Electrification Strategy

In 2018, the GoM launched a National Electrification Strategy (**NES**) aiming to provide electricity for all Mozambicans by 2030 to be implemented through *Programa Nacional de Energia para Todos* (National Program Electricity for All).

The GoM has implemented a zero-connection fee policy for clients in the residential and social category (Ministerial Decree No. 70/2020). Furthermore, the electricity tariff structure has a social tariff applied to customers qualifying for the social category (currently US\$1.8 per kWh for up to 100 kWh per month). The combination of the two policies make access to electricity services affordable to low-income consumers, if they can be connected. However, the ceiling for consumption for the social category will serve as a barrier to using electricity for cooking.

From 2023, Energia para Todos will also have a component for off-grid electrification. The electrification effort is further supported by several other donor programmes, like PROLER, Get.FIT, and BRILHO that aim at promoting renewable energy based generation projects and off-grid initiatives.

Energy Strategy for 2023 – 2033

A proposal for an energy sector strategy has been developed by a consultant financed by AfDB, but not yet presented to the Council of Ministers. The proposal is comprehensive, but not very operational in that prioritisation of initiatives and tasks related to policy implementation are lacking. The strategy thus requires further detailing and prioritisation to become a document that can guide development and implementation of government policy.

Private sector participation for off-grid electricity and clean cooking services

There is a growing focus on private sector participation to expand off-grid access to electricity and Mozambique is seeking the participation of the private sector to develop innovative business models to provide off-grid electricity and clean cooking services.

The off-grid and clean cooking markets are in early stages but have shown a positive and sustained growth over the last few years. In the solar home systems segment, around 90,000 off-grid products have been sold between 2016 and 2020, with over 40% distributed in the 2020. Mobile money infrastructure and adoption is a precondition for the scale-up of off-grid electrification. Around 42% of surveyed unelectrified households¹³ live within 30 minutes of mobile money agents and 75% within 1 hour⁵.

About 71% of these products were sold through PAYGO business models and 29% by over-the-counter sales in cash. It is estimated that the informal products make up around 40% of the market.⁶ Some companies are trying to bundle off-grid and clean cooking products (efficient biomass stoves for wood and charcoal) to consumers. The market is dynamic and rapidly evolving, with many local and foreign companies in the process of entering the Mozambican off-grid solar and clean cooking market.

There are also efforts to get private sector into the mini-grid segment, with or without support from donors. Achieving this is dependent on development of secondary legislation detailing the rights and responsibilities of both private and public sector, covering areas such as tariffs, compensation in case of grid encroachment and performance guarantees.

⁵ Based on USAID survey which covered 2,688 households in 9 provinces, excluding Niassa and Maputo City. This survey targets, and is therefore representative of, the markets of interest to SHS companies. Unelectrified households refer to those that responded that they do not have an EDM connection (88%).

⁶ USAID (United States Agency for International Development). 2020. *Mozambique Consumer Affordability Assessment*.

3 Programme Description

3.1 Programme Impact

The impact targeted by the programme design is *socio-economic development through increased access to sustainable electricity supply on- and off-grid*.

3.2 Long Term Outcome

The Programme's outcome is to *achieve a comprehensive management of the energy sector as a tool for long term economic development*.

This is to be achieved through targeted efforts in the areas of development and implementation of the legal framework and capacity building in the administration, in particular in the regulator. The Programme's specific near-term Outcomes are⁷:

- A complete revised legal framework being successfully applied in Mozambique.
- The new energy sector strategy successfully applied with clear priorities.
- On- and off-grid electrification efforts coordinated in an efficient way.
- ARENE developing well as an organisation, optimising the use of its resources.
- Efficient, consistent operation and case handling in ARENE.

3.3 Cooperation Area 1: Legal Framework

3.3.1 Target Institution

MIREME and ARENE are both targeted in this CA. It is judged important to strengthen the coordination between these two authorities, that both have important and interlinked responsibilities under the revised legal framework and each their own responsibilities in developing regulations.

3.3.2 Current situation

During the cooperation 2017-2022, NVE advised MIREME during a revision of the electricity law, where USAID provided support for the drafting. The resulting law has now been enacted, signed by the President and published (Law 12/2022 of 11 July). It entered into force in October 2022.

NVE already started the work of developing regulations in pursuance to the new law in 2022, but this work must be continued⁸. Proper implementation of the revised legal framework will also require an effort. There is also a need to coordinate the development and implementation of regulations between MIREME and ARENE, which

⁷ The wording does not exactly match the formulation in the description of the different Cooperation Areas to make for more readable text here.

⁸ NVE has identified at least 15 instances in the new law that need to be clarified in regulations as a result of the new law entering into force.

both receives support from several donors in related areas. BRILHO, ProEnergia and PROLER are probably the programmes with greatest interest in the legal framework.

3.3.3 Challenge to overcome / Problem to Solve

The law is intended to clarify the space for the private sector. For this to be achieved, the regulations foreseen by the law must be developed without delay, and the administration must develop the practice in applying the revised legal framework.

The necessary new and revised legal framework must therefore:

- Be completely developed.
- Be understood by the bureaucracy, the private sector and the public in general.
- Be implemented, backed by good case handling routines.

The currently insufficient coordination between authorities, and the limited human resources available represent a complication for the work. There is also a climate of wariness and suspicion among different entities that may complicate successful cooperation during the development of the legal texts.

3.3.4 Expected Outcome

The expected *outcome* of this cooperation area is **a complete revised legal framework being successfully applied in Mozambique**. This will be instrumental for supporting the necessary transformation of the energy sector.

3.3.5 How to address the challenge

The assistance will rely on legal expertise from NVE and the Norwegian Regulatory Authority for Energy (**RME**). This will be complemented with consultants hired for drafting legal texts.

A working group consisting of participants from MIREME, ARENE, EDM, FUNAE, and possibly also other institutions, will be formed in Mozambique to guide the work. The working group will discuss the proposed legal texts and provide guidance and input to their further development. The working group will also be at the centre of hearings for getting input from the donor community and society.

A local adviser is already recruited, and local presence will be further strengthened by recruiting a resident adviser that can contribute to the work with development of legal texts, but above all to the efforts for implementation of the revised legal framework. Various communication efforts will be carried out to spread awareness of the new legal framework and how to make use of it.

Most of the capacity building on drafting will take place as on-the-job training through participation in the working group. During the phase for implementation, NVE will work through facilitating the process of developing case handling routines and guidelines in MIREME and ARENE.

Roughly the first two years of the programme will focus on completing the necessary regulations and the last two years on developing the administrative practice, although this may start earlier, as regulations become approved.

Table 1. Result chain for the cooperation area

OUTCOME		
A complete revised legal framework being successfully applied in Mozambique.		
INPUTS	ACTIVITIES	OUTPUTS
Staff from MIREME Staff from ARENE Staff from other key stakeholders Expertise from NVE Consultants' work	1.1. Drafting legal texts. 1.2. Build awareness of the new legal framework in the administration and in society. 1.3. Develop case handling skills and tools.	1.1. New and revised regulations (15+ areas need to be regulated in pursuance to the new law) 1.2. Information campaigns on content and implications of the new legal framework delivered in Maputo and a few provinces. 1.3. Guidelines and competent case handlers.
INDICATORS		1.1. Legal framework completed with all necessary regulations. 1.2. Two to three information campaigns delivered for stakeholders. 1.3. Guidelines for 3 – 5 high priority regulations adopted and case handlers applying these.

3.3.6 Assumptions / Comments

The following assumptions are of critical importance for the success of the cooperation area:

- MIREME assumes active leadership of the work and manages to pass the regulations to be developed (some would need to be approved by the Council of Ministers).
- MIREME allocates qualified resources with a clear mandate.
- Cooperation in the reforms from EDM and other ministries. Lacking will to implement changes has the potential to obstruct and slow down reform.
- MIREME coordinates the different processes for developing the legal framework effectively.
- ARENE is actively involved in the drafting process. This was not the case in the period 2017-2022. Instead MIREME and ARENE each developed different sets of regulations without active coordination with each other.

EDM receives support from several donors. Norway, for example, supports a procurement reform, Treasury Risk Management og Technical Assistance for large investment projects. Some of the reforms introduced by the new law likely will require further technical assistance, not included in this Programme, to EDM and other entities in the power sector.

3.4 Cooperation Area 2: Governance of the Power Sector

3.4.1 Target Institution

MIREME is the institution tasked with overseeing the power sector and providing the sector goals. This CA is mainly targeting internal processes in the ministry. However, the widening scope of electrification to also comprise off-grid electrification implies that the cooperation must foster a good cooperation also with FUNAE and the private sector.

3.4.2 Current situation

A new energy strategy has recently been prepared with assistance from AfDB, but it is not yet submitted to the Council of Ministers. The strategy document must be complemented and operationalised with clear prioritisations before it can be approved and become the basis for formulation of policy and programmes to promote the development of the country. This must have a foundation in a context of an energy sector in rapid transition.

Southern Africa is in a situation where the energy system is stressed to a considerable degree and there is a lack of energy in certain areas. Sustained economic development of the region call for greater cooperation among countries, at the same time as the security of supply in each country must be satisfactorily addressed. This situation offers a great opportunity for Mozambique, who has important energy resources that can be developed for electricity supply. Mozambique has signalled an ambition to be a regional supplier of renewable energy.

Migration of demand between energy carriers, the fact that solar and wind are now least cost solutions, and the regional demand and supply situation represent important boundary conditions for the energy sector. The energy transition, the rapid technological development and the decarbonisation of the global economy makes it challenging to predict future demand as:

- energy storage becomes a common component of the power system;
- new technologies for energy management become available;
- the cost of generation and storage technologies change rapidly;
- export products may be required to come with documentation on the greenhouse gas footprint, and small footprints may offer competitive advantages;
- some of today's baseline technologies (*e.g.* petrol cars) may become increasingly unavailable; and
- new market opportunities for low- or zero-carbon energy carriers may emerge.

All these trends offers both challenges and opportunities by affecting changes in future load patterns and regional and international energy markets. Conventional wisdom can soon become disproven by the future realities. In order to take advantage of the situation, and avoid being side-lined by developments, it will be important to *be well informed and move at the right time.*

The financial support to electrification is ramping up at an ever-greater speed. Currently EDM is managing the grid-based programme, but large sums (24 MUS\$ from the World Bank alone) are now going into the off-grid electrification sector.

Since off-grid electrification now has become important, and is recognised as such, MIREME needs to assure adequate coordination of the electrification efforts, both on- and off-grid. There is therefore an urgent need to build capacity in MIREME to manage the overall governance of the electrification efforts. Off-grid electrification has not been a priority in the past, and it must receive a balanced attention, where on- and off-grid electrification is weighed against each other based on factual information.

MIREME also has an important portfolio of potential projects. The development of the Mpanda Nkuwah is entrusted to a special office, but still will require significant attention from MIREME, as will other projects on- and off-grid triggered by the different donor programmes supporting electrification and energy transition. MIREME can benefit from support in a wide area of activities, as they develop.

As mentioned in section 3.7, there has recently been important changes in the leadership of MIREME that will make it necessary to confirm the orientation of some of the activities before full implementation is started. The assistance with further developing the strategy is requested by MIREME and can start immediately. However, the follow-up of this activity in coming years needs to be agreed with MIREME, and an activity in the 3rd quarter of 2023 will be required to clarify this before the development of the work plan for 2024.

3.4.3 Challenge to overcome / Problem to Solve

The energy sector is in transition, and existing plans and roadmaps may be misleading in a new reality in constant change, also in terms of geopolitical trends. The new draft energy sector strategy will be an important tool for developing energy resources and infrastructure in Mozambique for economic development and social advancement. However, in its current form, it fails to identify clear priorities and entry points where to launch activities.

Giving more people access to on- or off-grid electricity is a national goal, and there are several donor-funded programmes targeting this area. Currently rural areas lag seriously behind the urban and peri-urban areas in coverage, indicating a need for high level attention to the matter.

An effective implementation of the electrification process must:

- Give clear guidance to project implementors regarding priorities and incentives.
- Channel available funds to well-designed incentives so that goals are achieved.
- Follow developments closely.
- Inform policy development based on the situation on the ground.
- Periodically adjust the course to optimise use of resources.

MIREME must quickly develop the necessary skills and tools to manage the electrification effort according to its mandate.

3.4.4 Expected Outcomes

The expected *outcomes* of this Cooperation Area is MIREME successfully:

- applying the new energy sector strategy with a clear focus on priorities and key entry points; and
- coordinating electrification on- and off-grid in a way that serves Mozambique's long-term development objectives and ensures rational prioritisation, rapid deployment, sustainable electrification and efficient application of available funds.

The outcomes may be adjusted after initial consultations with a new National Director of Energy.

3.4.5 How to address the challenge

The operationalisation of the new energy sector strategy must start with an exercise for identifying the top priorities for the next two to three years and how to address them. The draft document's 9 vectors and 158 actions are not helpful in identifying where to start. This exercise must be carried out by MIREME staff, but can be facilitated by outsiders. Whereas it is urgent to start this process to have the strategy ready for approval by the Council of Ministers in June 2023, the follow-up activities in 2024 are less clear. A process will therefore be implemented in Q3 with MIREME management to define the work programme for 2024 and beyond. Activities from 2024 should also contribute to the CA outcome.

The new energy sector strategy identifies the establishment of a unit in the ministry for coordination of electrification as an important action for achieving universal access. Such a unit may be organised as a new, dedicated unit or placed in an existing. It is foreseen to provide Technical Assistance to this unit, to help it establish an effective organisation and workflow. The assistance will require an agile approach, adapting the effort to the development of needs among the staff responsible for the work in MIREME.

NVE will contribute by mobilizing a team, primarily from the Energy and Licensing Department, strengthened by external experts bringing key experience to the process, and consultants for fact-finding studies and development of specific planning tools for supporting the unit's activities. The assistance will rely on a wide range of methods, such as workshops and seminars to develop priorities, organisational arrangements and work processes, consulting assignments for strategic fact-finding and technical expertise for defining, designing and developing/procuring tools necessary for the work. Study visits may also be considered. The National Agency for Geospatial Development (**ADE**) (<https://www.ade.gov.mz/>) may prove to be a valuable asset in this CA.

Whereas clear steps towards establishing the electrification coordination unit have been taken by MIREME, it may take some time before it is established and staffed. This part of the assistance will probably not start until 2024, due to budgetary constraints, but in any case it is unlikely that the unit will be operative until the second half of 2023. If there should be further delays, it should be considered if the funds should be reallocated to other tasks.

Table 2. Result chain for the cooperation area

OUTCOME		
<p>MIREME is successfully:</p> <ol style="list-style-type: none"> 1. applying the new energy sector strategy with a clear focus on priorities and key entry points; and 2. coordinating electrification on- and off-grid in a way that serves Mozambique’s long-term development objectives and ensures rational prioritisation, rapid deployment, sustainable electrification, and efficient application of available funds. 		
INPUTS	ACTIVITIES	OUTPUTS
<p>Staff from MIREME Expertise from NVE Critical equipment Consultants’ work</p>	<p>2.1 Energy sector strategy</p> <ol style="list-style-type: none"> 2.1.1. Facilitated workshops for operationalisation of the new energy sector strategy. 2.1.2. Deepening of the analysis of cross-cutting issues in the strategy (consultant). 2.1.3. Process with MIREME for establishing a work programme for 2024 onwards. <p>2.2 Electrification coordination unit</p> <ol style="list-style-type: none"> 2.2.1. Tools to support planning that can be periodically updated in-country. 2.2.2. Support to develop organisation and work processes. 2.2.3. Fact base for guiding the work and policy development. 	<p>Energy sector strategy</p> <ol style="list-style-type: none"> 2.1.1. Priorities and entry points for implementation of the strategy. 2.1.2. High quality analysis of cross-cutting issues. 2.1.3. Work plan for 2024 with tentative plans for 2025-26. <p>Electrification coordination unit</p> <ol style="list-style-type: none"> 2.2.1. Web-based GIS tool (other tools may be added later when needs are clarified). 2.2.2. Agreed work procedures and planning cycle developed by the unit. 2.2.3. Data for use in unit’s work.
INDICATORS		<p>Energy sector strategy</p> <ol style="list-style-type: none"> 2.1.1. Output itself (document) 2.1.2. Output itself (document) 2.1.3. Output itself (document). <p>Electrification coordination unit</p> <ol style="list-style-type: none"> 2.2.1. Output itself (functional GIS tool) 2.2.2. Output itself (document) 2.2.3. Data sources and data bases supporting prioritisation and monitoring (various formats).

Other activities and outputs may be added after the verification with new MIREME leadership mentioned in section 3.7.

3.4.6 Assumptions / Comments

The following assumptions are of critical importance for the success of the cooperation area:

- That MIREME allocates high level staff for participation in the activity targeting the energy strategy.
- That the responsibility for coordinating the electrification effort is clearly allocated within MIREME and the executive and political layers are firmly committed to the work.

- That the coordination unit in MIREME is adequately staffed. The World Bank is committed to support the human resources.
- Mozambique has a National Agency for Geo-spatial Development (ade.gov.mz). This service can have an important role in supporting the development of the unit by providing expertise in geographical information systems and geo-spatial modelling.

3.5 Cooperation Area 3: Strategic Advice to ARENE's Management

3.5.1 Target Institution

The Mozambican Energy Regulator – ARENE – is a formally independent regulator with authority in the power, liquid fuels and downstream natural gas sectors. Being established in September 2017, and receiving its leadership in November 2019, it is currently in a formative phase, where it is still just beginning to execute its powers.

3.5.2 Current situation

ARENE is a comparably new institution, being fully operational only since the end of 2019. The mandate of ARENE is founded in the ARENE-law (law 11/2017) and further detailed in the new Electricity Law (law 12/2022). The administrative practice in the area is therefore still under formation, and important choices need to be made.

The organisation is rapidly expanding, but staff recruited has no previous experience with regulatory tasks, and support services like IT are also still lagging behind. ARENE is receiving assistance in the form of consultants from several other donor programmes (*e.g.* PROLER, the EU Energy Resource Centre, BRILHO, GetFIT). Absorbing all the assistance with the stretched human resources available represents a challenge in itself.

Although it was foreseen since the start of the institutional cooperation 2017 – 2022 that NVE should lend assistance to ARENE, this never really started due the long time it took to provide ARENE with leadership and the disruptions caused by the pandemic during 2020 and 2021. At the end of 2021, ARENE requested NVE/RME to provide strategic advice to ARENE's management. NVE/RME agreed to this, and initially provided assistance over Teams.

NVE and RME has mobilised a core team for strategic advice consisting of the Chief of Staff of the Director General of NVE and the Director of RME. With this core team the programme will be in a good position to assist in their ARENE prioritisation and strategic choices. NVE/RME can provide advice based on their own experience (the regulator role is a government monopoly) and experience with supporting regulators in other countries.

ARENE made a study visit to NVE and RME in June 2022, followed up by a visit by part of the strategic advice team in November 2022, where areas for support were discussed. This strengthened contact between NVE/RME and ARENE at the end of the 2017 – 2022 programme constitutes the stepping stone for work in phase 2.

3.5.3 Challenge to overcome / Problem to Solve

ARENE has a number of challenges to address in the years to come. They need to expand rapidly, and they are expanding the human resource base and field of activities. However, the resources available are still rather limited in the light of the list of responsibilities given in the ARENE law (Law 11/2017), where 20 different areas where ARENE has competence to intervene are defined.

Some of the areas where ARENE is required to pronounce itself are politically sensitive (tariff setting, arbitration). The first steps of active regulation of the power sector can have crucial importance for ARENE's future standing in society. ARENE will also need to build its knowledge of an increasingly complex sector, based on its own information systems. It is currently expected that the most important opportunities for assistance will be in the areas:

- Developing an information system for the power sector. This will be needed for several purposes, including economic and technical regulation, development of a thorough understanding of the cost structure in the sector and benchmarking.
- Strategic development of human resources.
- Development of frameworks for economic and technical regulation.

However, this must be further verified through a dialogue with ARENE management, and the assistance must be responsive to needs as they appear.

Successful development of the organisation and its activities will require careful prioritisation and planning of activities. Donors have partly their own agenda, and it will be important to keep a keen eye on their alignment with the priorities of Mozambique and ARENE.

3.5.4 Expected Outcome

The expected *outcome* will be to optimise the use of ARENE's resources and achieve a well-managed development of its organisation and prioritisation of activities.

Activities will have to be adapted to the challenges confronting ARENE at any specific time and the needs that arises from them. Focus will be on helping ARENE to determine priority areas for development and to decide what to do, with what resources and how to empower them to do it.

3.5.5 How to address the challenge

The assistance will rely on a high-level core team, complemented with technical experts as required by the problem at hand. Consultants may be used for strategic fact-finding, but not for operational tasks. The "pressure" on ARENE will to some degree depend on external factors related to politically relevant conflicts of interest. The assistance will therefore need to act with a high degree of agility.

Delivering timely and relevant support to ARENE management will be a challenge. Making effective use of specialist resources in NVE and RME will require frequent contact and good coordination between ARENE and NVE/RME. At the same time, it is considered desirable to strengthen ARENE with an adviser to the management.

It has therefore been decided to recruit a resident adviser that can contribute to the work in ARENE and ensure effective liaising with staff at RME. He or she will also be responsible for planning the interaction between ARENE and NVE/RME. The resident adviser will be internationally recruited and should be a person with broad regulator experience. NVE and ARENE will collaborate on the recruitment of the resident adviser, who will be employed by NVE.

On taking up position, the resident adviser will work with ARENE management to concretise priority areas for strategic advice. It will be natural to review this plan annually, and the first one should be delivered by November 2023 to feed into the work programme for 2024.

An annual strategy workshop will be organised on a specific theme to be selected by ARENE. RME and NVE will function as facilitators at these.

Support will also be given through missions of experts from RME and NVE, to work with ARENE staff on identified high priority tasks.

Table 3. Result chain for the cooperation area

OUTCOME		
To optimise the use of ARENE's resources and achieve a well-managed development of its organisation and prioritisation of activities.		
INPUTS	ACTIVITIES	OUTPUTS
Staff from ARENE Expertise from NVE Consultants' work	3.1. Strategic advice on issues identified by ARENE. 3.2. Annual strategy seminars	3.1. Requested service. 3.2. Strategy formulated for selected areas.
INDICATORS		3.1. Written summary of service rendered (specified in annual work plans). 3.2. Strategy document for selected area.

The outputs for 3.1 and 3.2 will be specified on a yearly basis. The result framework will be updated accordingly, starting from the end of 2023 (workplan for 2024).

3.5.6 Assumptions / Comments

The following assumptions are of critical importance for the success of the cooperation area:

- That ARENE management makes active use of the resources mobilized by the Programme for strategic advice and involves NVE/RME in strategic discussions at an early stage.
- Information about the sector and situation is shared.
- ARENE has enough resources to develop its organisation.
- A qualified resident adviser can be recruited.

3.6 Cooperation Area 4: Key Technical Skills in ARENE

3.6.1 Target Institution

See section 3.5.1

3.6.2 Current situation

See section 3.5.2., to which may be added the following.

In 2023, ARENE will have to propose a new tariff for EDM, a tariff abiding by the provisions in the new Electricity Law. This will have important consequences for the sector actors, from consumers to generators.

A consultant has developed a tariff methodology, which is theoretically on good ground. However, applying the methodology requires relevant data. The initial experience is that getting the right data and assure the quality of that data may prove to be a challenge.

The ARENE law also gives ARENE a mandate to manage licensing processes. ARENE is still finding its place in this, where other authorities are awarding the actual permits (environmental, land access, operational etc.).

NVE and RME are well equipped to assist ARENE developing its skills and work processes. A team has been mobilised for capacity building in the areas of economic regulation and licensing. Additional resources will be added based on need.

3.6.3 Challenge to overcome / Problem to Solve

ARENE needs to expand rapidly, and is expanding the human resource base and field of activities. There is little experience with modern energy sector regulation in Mozambique, meaning that new staff will usually need coaching and training to become operational.

Successful development of the organisation and its activities will require targeted training and technical assistance to the staff. Some help can be got from consultants, but they cannot do the job for ARENE. Relying on consultants to develop activities carries with it a great risk of the advice not being sufficiently internalised in and understood by ARENE staff. Nor do consultancy companies have any first-hand experience with regulation, since this is a government monopoly.

One important and politically sensitive responsibility of ARENE is to approve tariffs, and EDM has requested a tariff adjustment for 2023. ARENE must respond to this request in a competent way. Another area that is important for the private sector, is the management of licensing processes. It would be beneficial if ARENE found a constructive way of filling its mandate in the near future.

NVE and RME have mobilised an experienced technical team covering the areas of economic regulation and licensing. The programme will assist ARENE with on-the-job training and skills development in workshops and seminars.

3.6.4 Expected Outcome

The expected **outcome** will be an efficient, consistent operation and case handling in ARENE of high priority areas.

The work in this CA will start with data collection and management for economic regulation. This is a key capacity in a regulator, and the foundation stone for many other activities. It may well be that the activities in the CA will all lie in this area, but it can at present not be excluded that other areas will also be included. If resources allow, an activity to look into ARENE's role in licensing will also be started. The outcome of this will heavily depend on what ARENE *decides* its role should be.

3.6.5 How to address the challenge

The assistance will rely on a core team from relevant technical departments in RME and NVE, complemented with additional technical experts as required by the problem at hand. Consultants may be used for fact-finding, but not for operational tasks.

The resident adviser recruited for the cooperation area Strategic Advice to ARENE's Management will also support this cooperation area by identifying needs, mobilising resources in RME and NVE, and delivering the assistance. Video conferences for consultations with key experts will be a useful complement to on-the-job training and workshops. Participation in formal courses can also be considered.

Further down the road, support for development of tools for specific work processes and analyses may be considered.

Table 4. Result chain for the cooperation area

OUTCOME		
An efficient, consistent operation and case handling in ARENE of high priority areas.		
INPUTS	ACTIVITIES	OUTPUTS
Staff from ARENE Expertise from NVE Commitment and staff from EDM, FUNAE and other regulated entities. Consultants' work	4.1. Development of practical work processes for case handling. 4.2. Specialised training courses 4.3. Fact-finding studies and analyses. 4.4. ICT tools for supporting the work.	4.1. Work processes developed, described and implemented. 4.2. Staff better prepared for their tasks. 4.3. Documents describing the environment ARENE is operating in. 4.4. Web-based tools for supporting work processes.
INDICATORS		4.1. Case handling becoming institutionalised. 4.2. New skills applied in daily work (regular surveys) 4.3. Output itself (reports) 4.4. Output itself

3.6.6 Assumptions / Comments

The following assumptions are of critical importance for the success of the cooperation area:

- That ARENE maintains a stable interaction with the resources provided by the Programme and share information and concerns with them.
- NVE/RME is actively involved in planning and implementing training activities across ARENE.

- Information about the sector and situation is shared.
- ARENE has enough resources to develop its organisation.

3.7 Theory of change

Long term impact

The expected Programme impact is stated above as “socio-economic development and poverty reduction through increased access to sustainable electricity supply on- and off-grid”.

Increased access to sustainable energy will be beneficial for society in a number of ways:

- Households with access to energy generally save expenses on other sources of energy like kerosene, diesel, batteries etc. even if they pay a full-cost tariff. The connection of a household to the grid is currently heavily subsidized by the Mozambican government. Electricity also provides better light at night than any other energy carrier, thus enabling increased hours to study or carry out economic activities. Finally, electricity is necessary for having access to radio, TV, internet and mobile networks.
- Businesses, small and large, operate more efficiently with a stable electricity supply. Electrical production equipment is usually much more productive than manual methods and cheaper to operate than combustion engine powered alternatives. Today, any major business will hardly be established if electricity is not available. Electricity dependent services also simplifies the operation of businesses, for example through mobile payments.
- Access to reasonably priced electricity can be an important incentive for the establishment of heavy industry, accompanied by job opportunities and significant tax income.

Sourcing the power necessary for increased access from renewable sources is beneficial for Mozambique because these options are now least-cost, and for the planet because it avoids large emissions of greenhouse gases.

The actual contribution from implementing the Programme to the realization of the expected impact will be contingent on many factors, some intrinsic to the Programme and its implementation, but many other exogenous and way out of control of the Programme, and even not realistic to mitigate, should adverse ones materialize.

The importance of exogenous factors complicates the measurement of the impact from the Programme, and the Programme must be managed with a clear understanding of the risks associated with such factors.

Challenges to overcome:

In order to achieve the desired impact, the Government has to address several challenges:

1. The energy sector needs a rapid transformation and development to deliver this impact. The investments and business enterprises necessary to accomplish it, will require capital from abroad, and qualified people, preferably from Mozambique but also from abroad, to implement. Access to capital require trust in the governance of the sector and reasonably predictable conditions for development

and implementation of projects and establishment of businesses. The necessary skills are currently relatively scarce in Mozambique, but they must be developed. It is dubious if it can be sustainable to rely to a large degree on an imported work force.

2. In order to achieve “bang for the bucks”, good coordination will be very important, both within the power sector and across sectors. A reliable supply of electricity is a prerequisite for economic development, not only because electricity has a great potential to increase productivity, but also because it is a necessity for many technologies that drive development today. Access to electricity, development of IT-infrastructure and other infrastructure like roads and special economic zones must therefore come hand in hand.

The natural gas resources represent an important asset for the development of the sector, since it can be the basis for capital for investment, energy for economic development and an opportunity to accelerate the development of skills in the workforce.

Outcomes from CA

The Programme focuses on developing:

1. the governance of the energy sector; and
2. a modernized and complete legal framework for it.

The outcomes defined for the four Cooperation Areas will all support this:

- Achieving the outcome of CA1, **“a complete revised legal framework being successfully applied in Mozambique”**, will provide a basis for a predictable environment for commercial actors. The Electricity Law was completely revised during the first phase of the programme (2017 – 2022). In this phase, focus will be on development of the necessary regulations and on the administrative practice of applying the new legal framework.
- Achieving the outcomes of CA2, **“MIREME applying the new energy sector strategy with a clear focus on priorities and key entry points”** and **“MIREME coordinating electrification on- and off-grid in a way that serves Mozambique’s long-term development objectives and ensures rational prioritisation, rapid deployment, sustainable electrification and efficient application of available funds”** will contribute to a good coordination of the energy sector development, in the first case regarding the electrification effort, but in the second also in a broader perspective, harnessing the opportunities that arise from the countries rich energy resources and the national, regional and global energy markets.
- ARENE, the new energy sector regulator, has an extremely important role to play in instilling trust in the sector governance. ARENE must quickly develop its ability to apply its authority. Achieving the outcome of CA3, **“optimise the use of ARENE’s resources and achieve a well-managed development of its organisation and prioritisation of activities”** and CA4, **“an efficient, consistent operation and case handling in ARENE of high priority areas”**, will support ARENE in developing its capacity to exercise its authority in the Mozambican energy sector.

Premises for implementation

It is outside of the scope and financial means of this Programme to address all factors that can make or break the desired development of Mozambique's energy sector. A wider and more diversified participation of the private sector will likely also require risk reduction in the form of subsidies and guarantees, in addition to the definition of clear roles, rights and responsibilities. There is also a need for capacity building in the private sector.

The design of the Programme has been guided by a desire to focus on areas of pivotal importance and where NVE is in a good position to make a difference by focusing on assistance where core areas of NVE's and RME's activities are relevant.

The Programme will further have to navigate an environment where not only the Government is an important actor, but also the several large donor programmes, like ProEnergia, PREFER, GetInvest, GetTransform, PROLER, GET.FIT, EnDev, BGFA and BRILHO, addressing different aspects and areas of the energy system. If good coordination can be achieved, programmes can support each other achieving good results, but if programmes become misaligned, the opposite might occur.

Successful implementation of the Programme in particular hinges on the following key premises:

- That MIREME promotes and manages to pass the regulations to be developed.
- That MIREME allocates high level staff for participation in the activity targeting the energy strategy.
- That the responsibility for coordinating the electrification effort is clearly allocated within MIREME.
- That ARENE management makes active use of the resources mobilized by the Programme for strategic advice.
- That ARENE maintains a stable interaction with the resources provided by the Programme and share information and concerns with them.

Also other events can threaten the Programmes success. These are further discussed in section 5.1.

The current situation with regard to the key premises and the strategies employed to manage the risk stemming from them are further discussed in the sections presenting the cooperation areas. The risks affronting the Programme will require continuous attention and annual review.

The last quarter of 2022 saw the change of staff at the leadership level of MIREME. The work in Cooperation Area 2 will need to start with a brief verification phase to ensure that the new leadership is onboarded and takes ownership of the objectives. If necessary, the Cooperation Area must be modified to align with current priorities.

3.8 Relevance of Programme

3.8.1 Previous experience and need for continuation

NVE and RME carried out an institutional cooperation programme with MIREME and ARENE during the years 2017 – 2022. MIREME already in May 2022 raised the possibility of having a second phase funded with the embassy.

The 2017 – 2022 programme encountered several implementation problems, the main of which were delayed appointment of the leadership of ARENE (November 2019) and the pandemic 2020 – 2021. The first phase yielded good results in the area legal framework, but further work is necessary to ensure sustainability. The assistance to ARENE was only initiated.

Following the request of MIREME for a second phase, discussions were started for identifying the content of it, culminating in workshops on 14th and 15th September, where both MIREME and ARENE clearly requested the assistance of NVE in the areas described in this document.

There is thus a strong demand for the activities proposed, based on the needs in MIREME and ARENE and the experiences with working together during the first phase. NVE and RME have a unique position to impart practical knowledge in the areas of work proposed, since they fall within the core areas of activity in these institutions. Other development cooperation partners and consultants will normally not have this hands-on experience, since they are government monopolies.

3.8.2 Lessons learned

Local Presence

In the first phase a model for fairly intensive local presence (about half the year) was tested, but it never really worked satisfactorily. It was felt necessary to address this, and the Mid-term Review of Phase 1 also recommended to strengthen the local presence. Plans were made for a local adviser, but it became impractical to recruit resources when the pandemic struck, and in the light of the limited time left when travel became possible again, it was decided to leave this idea for the second phase.

Now that the work processes are well anchored in the counterpart institutions, the use of resident advisers for creating a strong local presence is considered to offer important advantages, and two resident advisers are proposed for ensuring effective programme implementation, one for the legal area and one for regulator assistance.

During the first phase, the ownership of some activities was found to reside in single individuals. When these individuals changed positions, ownership more or less vanished. To avoid this risk, it has been decided to anchor the programme at a high level in MIREME. This is sought to be achieved by introducing a formal Programme Owner at a high level in the ministry. This will strengthen the counterparts role in governing the programme and provides an entry point for effectively discussing concerns during implementation and assuring, and if necessary renegotiating, priorities

for the work. The Mid-term Review mentioned above also pointed out the need to ensure a flexible approach when scoping the programme, strengthen the counterpart role in the programme. And establish broader ownership, also at the political level.

During the first phase, programme management worked continuously with trying to establish a broad ownership of the programme and buy in from the political level of MIREME. These efforts were only partly successful, but at the start of the second phase, the discussions have been held with directors, the Permanent Secretary and the vice minister, providing a much more solid foundation for ownership than was the case at the start of the first phase.

4 Implementation arrangements

4.1 Institutional arrangements

The Ministry of Foreign Affairs of the Kingdom of Norway will enter into an In-Kind Grant Agreement with the Government of Mozambique for the assistance. The Ministry of Foreign Affairs will also enter into an In-House Procurement Agreement with NVE for the provision of the services.

NVE will enter into Institutional Cooperation Agreements (ICAs) with MIREME and ARENE, respectively. These agreements define the rights and responsibilities of the respective parties and the implementation modalities.

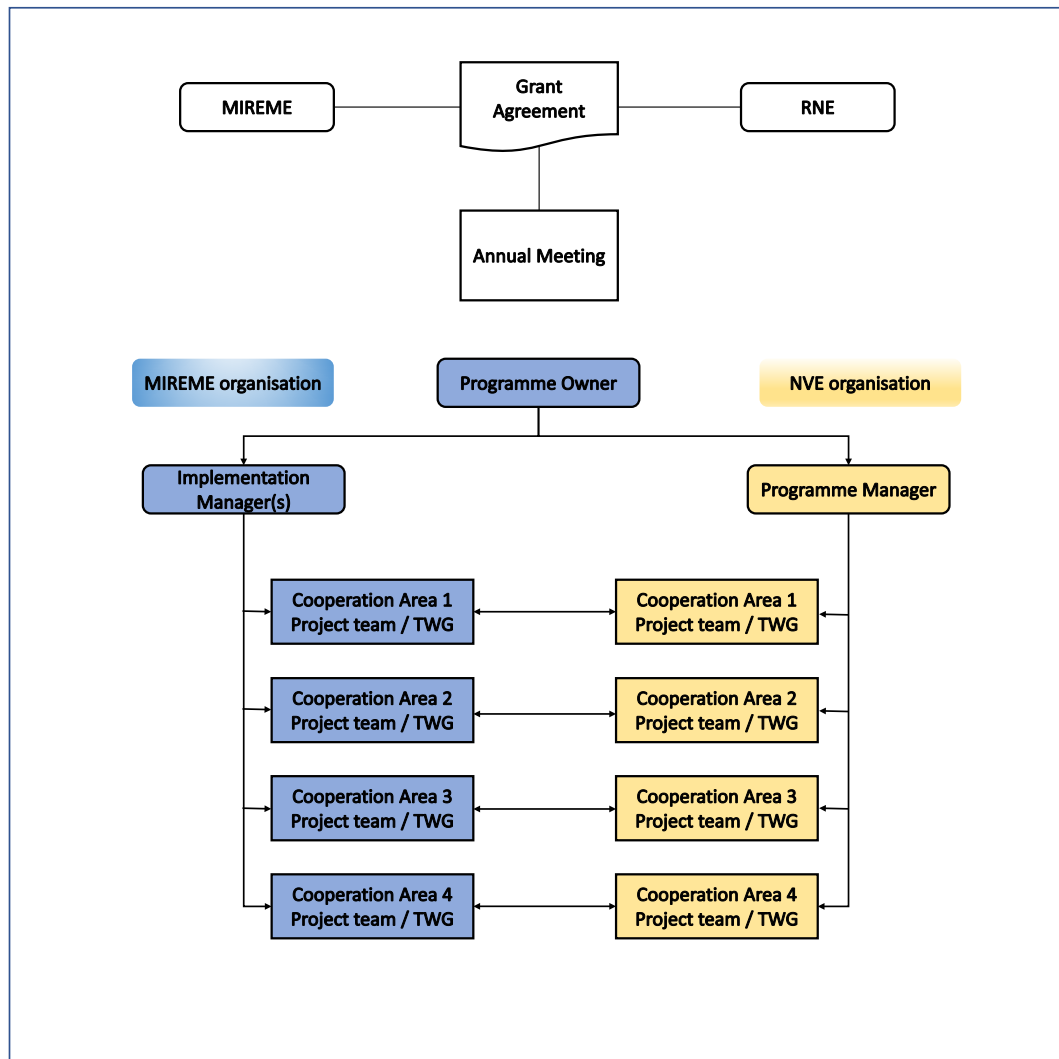
4.2 Programme organisation

The programme organisation will be formalised in the Institutional Cooperation Agreements with MIREME and ARENE. The proposed organisation is as follows:

- The Annual Meeting between MIREME and MFA is the highest organ for decision making. At the Annual Meeting, results achieved by the programme will be presented and discussed, and the way forward, based on the annual workplan approved at the beginning of the year, will be reviewed.
- The Permanent Secretary (PS) in MIREME has the role as Programme Owner (PO). He or she thus has the responsibility to oversee that the desired changes resulting from the programme takes place.
- The Programme Manager (PM) in NVE is responsible for the overall management of the Programme, including planning and reporting. Together with the relevant Implementation Manager, he or she is responsible for identifying necessary activities (projects) and mobilising the necessary resources to achieve the programme outputs.
- MIREME and ARENE nominates one Implementation Manager (IM) each. The Implementation Manager is the focal point for *management* (not economic reporting) of the Programme in their respective organisation and is responsible for overseeing the activities implemented.
- An Implementation Committee may be established with representatives from MIREME and ARENE (PS and IMs), the embassy and NVE (PM) for discussing matters of importance to the Programme, if necessary in between Annual Meetings.
- If deemed suitable, Implementation Boards may be established in DNE and ARENE for governing the respective Cooperation Areas to be carried out in the respective organisation. If established, the Implementation Manger will chair the Implementation Board.
- Project Teams (PT) and Technical Working Groups (TWG) will be the preferred ways of organising activities to ensure continuity in activities and availability of resources. They will also be a natural tool for transfer of capabilities. Project Teams will have a Project Team Leader in the implementing organisation. He or

she will be nominated in consultation between the Project Manager and the Implementation Manager. Technical Working Groups, when needed, may be established by the Programme directly, or by a Project Team. Technical Working Groups may include members outside of the host organisation (see figure below). The Project Team Leaders will normally liaise directly with the technical support teams in NVE.

Figure 1. A schematic presentation of the Programme organisation.



In terms of implementation, a stepwise approach will be applied:

- CA1: Legal Framework is already ongoing and ready to proceed without any delays. The first outputs are expected already by June 2023. At the beginning of 2023 the NVE Technical Support Team is already mobilised and a Project Team and Technical Working Group are being established in MIREME.

- Due to administrative changes in MIREME, CA2: Governance of the Energy Sector requires an initial process with the new leadership and, if priorities have changed, possibly a reformulation of some activities to align well with priorities. Since this is a new activity, there should be an internal review after 18 – 24 months to assess if there is a need to reorient activities. Work will start in the first quarter of 2023 with support to operationalising the new strategy.
- C3: Strategic Advice to ARENE’s Management and CA4: Development of Key Technical Skills in ARENE have already started in 2022, but the interaction still needs to be further formalised. After the resident adviser for CA3 has taken up position, presumably in the 3rd or 4th quarter of 2022, there should be a revision of the work programme to ensure it is well aligned with priorities and other donor activities. Technical Support Teams in NVE are already mobilised in the beginning of 2023 for strategic advice and support on data collection and licensing. Work will start with communication strategy and data collection in the first quarter of 2023.

4.3 Reporting

4.3.1 Roles

NVE is responsible for nominating PM and to ensure timely availability of technical support resources from NVE’s side in order to carry out the planned activities, including recruiting consultants when needed.

The collaboration partners have different roles in the reporting process. PM from NVE is to report to PO on Program activities carried out and inputs provided against budgets and plans, while PO have overall responsibility for the collaboration arrangement and to report to the donor on results at the level of outcome and impact of achievements.

PM is responsible for reporting on progress, outputs and program finances. Reporting of progress and results will be against targets set in annual planning. Where a deviation exists between actual results and targets, such deviation shall be explained.

MIREME has the main responsibility for reporting on the outcomes and results achieved by the programme, on the programme impact and on updates about risk factors.

NVE, MIREME and ARENE is responsible for allocating personnel from their organizations timely in order to cooperate effectively on developing the program outputs and review each other’s contributions.

Report	Responsible	Comment
<p>A Final Report, summarising the same areas the Progress Reports, and:</p> <ul style="list-style-type: none"> • an assessment of the Programme’s effect on society (Impact); • a description of the main lessons learned from the Programme; • an assessment of the sustainability of the results achieved by the Programme. • a financial report covering the programme expenditures will be annexed to the Final Report. 	<p>MIREME/ARENE and NVE</p> <p>NVE</p>	<p>Clause 7 in the In-kind Grant Agreement.</p>

4.3.3 Process and change management

Change management is the systematic work for dealing with the transition or transformation of an organization's goals, processes or technologies. Change management must cover identification of need for change, implement actions for effecting change, controlling change and helping people to adapt to change.

The Programme Owner in MIREME has the primary responsibility for change management there, and to communicate the needs to NVE. PO and PM will be in a continuous dialogue on the design of actions to cover these needs. PM and IM will work on implementing the actions, and reporting results back to PO, who has the overall responsibility to oversee that desired changes occur.

There will be an annual review of results and impacts to determine which changes the Programme has brought about.

4.4 Sustainability

Demand is very strong for the CA Legal Framework, as evidenced by the workshops for identifying priorities for a second phase and a request submitted by MIREME to MFA in December 2022, asking for support for this activity in the first half of 2023. Good progress and implementation of results thus seems very likely.

CA2 needs to be discussed with the incoming National Director of Energy, and possibly amended, to ensure adequate ownership of activities. There shall be a review after 18 – 24 months of CA2, offering a clear exit, if ownership fades.

CA3 and 4 are the result of clear requests from ARENE, and engagement has been good since June 2022. It is admitted that the continuous engagement can offer challenges, therefore the use of a resident adviser is considered necessary.

The introduction of a Programme Owner and Implementation Managers in the Mozambican counterpart organisation will further serve to safeguard sustainability.

A mid-term workshop will be organized by 1 March 2025, in accordance with the Grant Agreement, between the Norwegian Ministry of Foreign Affairs and the Government of Mozambique in order to take stock of progress, lessons learned thus far, and assess need for any adjustments going into the second half of the program.

5 Key Risks

The most important risk causes are considered to be:

- Weak management and coordination by line ministry.
- Thin human resources in the benefiting institutions.
- Weak motivation of partner institutions to deliver the outcomes.
- Donor crowding spreading the effort of the partner too much.
- Limited availability or loss of subject matter experts at NVE (for use on international programmes)

5.1 Risks

This section lists the identified key risk elements in the categories “External”, “Political”, “Institutional” and “Operational”. Risk is considered to be manageable.

External Risk	Proba- bility	Impact	Timing	Type of response	Example	Mitigating force
Corruption in the public sector or in associated organisations leading to loss of focus or reputational risk.	low	large	any	Share	The situation must be addressed in consultation with the MFA, who will have the final say as to what course of action to follow	The extreme outcomes are that the problem may be isolated, or lead to termination of the programme.
Motivation for the programme is more affected by meeting expectations on large budgets rather than to prioritize changes which can deliver the outcomes without high expenditures	medium	medium	any	Share	The situation must be addressed in consultation with the MFA.	The mitigating force of is difficult to predict as it can depend strongly on the situation at hand. Generally speaking, high level ownership in Mozambique will increase the possibility of effective mitigating action.
Pandemic or epidemics	low	large	any	Accept	Mitigating action not possible.	Some activities can be carried out over Teams, but progress will suffer.

Political Risk	Proba- bility	Impact	Timing	Type of response	Example	Mitigating force
Donor coordination or competition in the cases where there is more than one donor	high	medium	any	Transfer	Any issues will be referred to the MFA for decision and possible action.	Donor coordination may improve the situation, but if real conflicts of interest are behind the problem, activities may have to be rescoped.
Reorganising / merging of governmental institutions in the electricity sector	low	large	future	Reduce / enhance	Major reorganisations will absorb the attention of management and may make it impractical to continue programme activities.	Affected activities may be scaled down or terminated. On the other hand, reorganisations may offer opportunities for introducing new activities.
Political unrest / instability (upcoming election 2024)	medium	medium	2024	Accept	CA1 and CA2 may be slowed down if GoM becomes compromised. CA3 and CA4 are judged to be more robust. Mitigating action is not possible.	Affected components will be delayed.

<u>Institutional Risk</u>	Proba- bility	Impact	Timing	Type of response	Example	Mitigating force
Line ministry is not actively managing and coordinating its activities.	medium	large	any	Share	The issue must be brought to the table in MIREME, possibly with support from MFA.	Difficult to predict. If the political leadership is supportive, the problem may be solved.
Key position(s) in recipient organisation leaving their job and new personnel is not appointed anytime soon.	low	medium	any	Share	The issue must be brought to the table in MIREME, possibly with support from MFA.	Difficult to predict. If the political leadership is supportive, the problem may be solved.
Ability to identify / engage with the actual decision makers	low	large	any	Accept	If external decision makers with informal power intervenes or formal decision makers avoid making them, mitigating action is difficult.	Possible to terminate activities, but the decision must be taken in the light of the damage done.

Operational Risk	Probability	Impact	Timing	Type of response	Example	Mitigating force
Decision inertia (decisions taken too slowly, often due to lack of delegation)	high	large	any	Share	The issue and the course of action to be taken will be determined in consultation with MFA.	Difficult to predict.
Limited availability or loss of subject matter experts at NVE (for use on international programmes)	medium	medium	any	Reduce	Depending on the activity, progress may be scaled down or consultants used to cover the gaps.	Damage is usually limited, but progress is slowed down. If an area suffers frequent staff changes (<i>e.g.</i> people changing jobs), the issue is compounded with risk of lack of contextual understanding and impact can increase.
Lack of basic infrastructure (including IT, operational entities etc.)	high	medium	near	Reduce	The problem makes operations less efficient and effective. If infrastructure can't be remedied, activities may be rescoped to what is possible to achieve.	Lack of basic infrastructure usually has no quick fix, but sometimes workarounds can improve the situation.
Language barriers	high	medium	Any	Reduce	NVE has good experience with using simultaneous interpretation and good interpreters are available in Maputo.	The problem can to a large extent be mitigated by using interpreters.
Lack of contextual understanding	medium	high	Any	Reduce	NVE has developed a good understanding of the Mozambican work culture and context. Adequate onboarding of new staff is possible. The presence of residential advisers also significantly mitigates the risk.	Even though new staff will need to develop their own internal understanding, a raised awareness will significantly reduce risk.

5.2 Stakeholders

This section list the most important stakeholders that the programme will have to interact with.

Stakeholder Name	Focus	Interest	Interface with Programme
Local Partner MIREME	Electrification and industrial development driven by energy.	Modernising sector Achieve (mega)projects Reach full electrification	Main cooperation partner. Host organisation for agreements.
Local Partner ARENE	Balancing of actors' interests. Developing their capacity to fulfil their role.	Improve their operations Manage conflict	Main cooperation partner.
FUNAE	Rural energy supply. ¿Do they maintain a continuous focus on building plants, or do they want to actively promote private sector? ¿Do they have an ambition to maintain control of off-grid?	Off-grid Maintain dominating position?	Participant in TWGs. Regulated entity. Key actor under activities in CA2.
EDM	Maintain central position Deliver on electrification targets Control losses Improve economic performance Conservative to sector reform as reforms are perceived as threats to position.	On-grid Maintain current structure	Participant in TWGs. Deliver data to Programme activities in CA4. Regulated entity. Key actor under activities in CA2.

Stakeholder Name	Focus	Interest	Interface with Programme
Consumer rights organisation	Consumer rights ¿Maybe aspire greater political power?	Consumer rights	Participate in public hearings organised in Programme activities. May be consulted by Programme activities.
Consumers	Cost and quality of service	Living conditions	Participate in public hearings organised in Programme activities.
Business	Availability of service Quality of service and cost	Cost of operations Feasibility of connection	Participate in public hearings organised in Programme activities. May be consulted in CA2.
Industry	Availability of service Quality of service and cost	Cost of operations Feasibility of connection	Participate in public hearings organised in Programme activities. May be consulted in CA2.
HCB	Income Freedom of operation	Business development	Participate in TWGs. Participate in public hearings organised in Programme activities. May be consulted in CA2.

Stakeholder Name	Focus	Interest	Interface with Programme
IPPs	Income Freedom of operation	Business development	Participate in TWGs. Regulated entities. Deliver data to Programme activities in CA4. Participate in public hearings organised in Programme activities. May be consulted in CA2.
Other Donors (notably SWE, GIZ, KfW, ADF, FCDO/UK, USAID, Enabel, JICA, AfDB, WB, IFC, EU, UNIDO)	Strong energy sector focus, in particular clean energy and electrification, but also clean cooking.	Domestic political objectives	Coordination important for avoiding overlap of efforts and for seeking synergies.

5.3 Cross-cutting issues

Cross-cutting issues may sometimes be of great importance in programme implementation and are mandatory to report on. The following assessments have been made regarding cross-cutting issues in this Programme:

- **Anti-corruption:** The risk for misappropriation of funds in the Programme is very limited, since no funds will be transferred to Mozambique and NVE has adequate administrative systems and is audited. The work with strengthening ARENE will contribute to greater transparency of decisions in the energy sector and thus tend to reduce the space for corruption.

- **Climate and environment:** Programme activities have no significant direct impact (except necessary travel) on climate and environment. Through CA2 and CA4 it is possible that activities will move into areas where due concern for climate and environment can be relevant (strategy development, licensing processes). Improving the analysis of cross-cutting issues in a draft strategy is precisely one of the requests for assistance from MIREME. NVE has the necessary expertise to address these issues, when and where relevant.
- **Women's rights and gender equality:** This is not a relevant issue as regards the results expected from most programme activities. An exception is the work to build capacity of the Electrification Coordination Unit to be established. This unit clearly will need to keep track of WR&GE in its work and prioritisations. The actual work carried out by this unit is not the responsibility of the Programme, but gender issues will be kept in mind when designing support activities. However, MIREME is working on a gender strategy, so it is possible that the matter will be adequately dealt with without any intervention from the Programme. As for Programme activities, care will be taken to achieve a reasonable gender balance in training activities. Achieving this has not been a problem in phase I.
- **Human rights** (with a particular focus on participation, accountability and non-discrimination): This is not a relevant issue as regards the results expected from most programme activities. In case the support in CA4 moves into area of ARENE's role in licensing processes, it is possibly that human rights issues need to be included in the support.

6 Results Framework and Monitoring

The table below presents the results and monitoring framework for the Programme.

Programme level	Result	Indicator		Means of verification
Impact: Socio-economic development and poverty reduction through increased access to sustainable electricity supply on- and off-grid.	Industrial and commercial development accelerates and the general socio-economic situation improves.	General economic and socio-economic statistics and indicators.		The impact is affected by so many other development initiatives and exogenous factors that it is not realistic to measure the Programme's contribution.
Programme outcome: To achieve a comprehensive management of the energy sector as a tool for long term economic development.	The energy sector management actively supporting other development efforts.	Energy supply being less conceived as a constraint for establishing industry and businesses, and public services like health facilities, rural schools and public administration in rural areas being consistently electrified.		Also this result will be so strongly influenced by other development initiatives and exogenous factors that it is not realistic to measure the Programme's contribution
Cooperation Area	Outcomes	Outcome indicator	Baseline	Means of verification
1. Legal Framework	A complete revised legal framework being successfully applied in Mozambique.	The necessary regulations and guidelines for case-handling exist, are adopted and are applied.	A new law has entered into force, there are no regulations that are updated to the new legal basis.	Regulations specified by the new law exist. Guidelines for application of the law and regulations exist and are used.
2. Governance of the Power Sector	MIREME is applying the new energy sector strategy with a clear focus on priorities and key entry points. MIREME is efficiently coordinating electrification on- and off-grid.	Annual plans identify implementable actions that are realistic given MIREME's resources. Priorities based on factual information are communicated to implementors.	New strategy currently does not prioritise. There are no clear priorities weighing on- and off-grid against each other to guide implementors.	Official annual plan and verification of fulfilment. Implementors receive specific guidance and use it in project and business development.
3. Strategic Advice to ARENE's Management	ARENE achieves a well-managed development of its organisation with optimised use of its resources.	Are strategic choices conscious and explicit? Are clear prioritisations made, and what did they result in?	ARENE's Strategic Plan. Status for implementation is not known in any detail.	Organisational review
4. Key Technical Skills in ARENE	An efficient, consistent operation and case handling in ARENE of high priority areas.	Formalised routines and methods for case handling in high priority areas established and staff able to implement them.	It is difficult to identify how work is guided in some priority areas.	Organisational review

Annex 1. Budget

The total budget for the years 2023 – 2026 is given in the table below. All figures in 1000 NOK.

Cooperation Area	Hours NVE	Travel	Consultants	Res. adviser	Equip.& licenses	Sundry exp.	Sum
2023	3 013	1 506	3 756	2 500	0	225	11 000
0 Programme Coordination	1 006	275	0	0	0	0	1 281
1 Legal framework	616	264	2 480	1 250	0	150	4 760
2 Governing the Power Sector	273	161	736	0	0	25	1 194
3 Strategic Advice to ARENE Man.	592	505	500	1 250	0	50	2 897
4 Key Technical Skills in ARENE	526	301	40	0	0	0	867
9 Technical backstopping	0	0	0	0	0	0	0
9 Contingency	0	0	0	0	0	0	0
2024	2 669	1 742	4 364	6 000	0	225	15 000
0 Programme Coordination	814	275	0	0	0	0	1 089
1 Legal framework	616	425	2 480	3 000	0	150	6 672
2 Governing the Power Sector	359	213	1 784	0	0	25	2 381
3 Strategic Advice to ARENE Man.	353	365	25	3 000	0	50	3 793
4 Key Technical Skills in ARENE	526	465	75	0	0	0	1 066
9 Technical backstopping	0	0	0	0	0	0	0
9 Contingency	0	0	0	0	0	0	0
2025	2 825	1 821	1 304	6 000	0	50	12 000
0 Programme Coordination	749	216	0	0	0	0	965
1 Legal framework	455	336	580	3 000	0	0	4 371
2 Governing the Power Sector	443	272	624	0	0	0	1 338
3 Strategic Advice to ARENE Man.	359	376	25	3 000	0	50	3 810
4 Key Technical Skills in ARENE	611	482	75	0	0	0	1 168
9 Technical backstopping	209	139	0	0	0	0	349
9 Contingency	0	0	0	0	0	0	0
2026	2 083	1 262	105	4 500	0	50	8 000
0 Programme Coordination	856	393	0	0	0	0	1 249
1 Legal framework	455	151	40	2 250	0	0	2 896
2 Governing the Power Sector	0	0	0	0	0	0	0
3 Strategic Advice to ARENE Man.	365	313	25	2 250	0	50	3 003
4 Key Technical Skills in ARENE	407	406	40	0	0	0	853
9 Technical backstopping	0	0	0	0	0	0	0
9 Contingency	0	0	0	0	0	0	0
Sum all years	10 590	6 331	9 529	19 000	0	550	46 000

The amount allocated to resident advisers is a maximum based on the benefits specified in “Særavtale om tillegg, ytelser og godtgjørelser i utenriktjenesten”. Once the resident advisers have been recruited and the actual costs known, the budget will be adjusted and any available funds reallocated. The resident advisers are foreseen to be employed by NVE and receive benefits according to the agreement mentioned above (this is the standard approach in NVE).

Annex 2 presents a detailed budget for 2023. Annex 3 presents the unit costs used for the budgeting work.

Annex 2. Work plan for 2023

Introduction

This document presents the work plan for 2023 for the programme “MOZ 22/0004 Ministry of Mineral Resources and Energy – Norwegian Water Resources and Energy Directorate – Institutional Cooperation Phase II”. The Programme Document outlines the programme activities in general terms. Every year a detailed Work Plan must therefore be prepared and approved by the Royal Norwegian Embassy (**RNE**).

The Programme is planned to run from 2023 to 2026. This document presents the Work Plan for 2023, which includes activities in four Cooperation Areas (**CAs**):

- CA1. Legal Framework
- CA2. Governance of the Power Sector
- CA3. Strategic Advice to ARENE’s Management
- CA4. Key Technical Skills in ARENE

Preliminary plans for the year 2024 are also presented.

A Cooperation Area 0 covers coordination, and Cooperation Area 9 provides for ad-hoc Technical Assistance, if needed.

Cooperation Area 1: Legal Framework

The work is currently in a drafting phase, carried out with support of a Technical Working Group established by MIREME. The drafting is carried out by Lund&Co under their framework agreement with NVE, including a local consultant in Maputo. NVE coordinates the work and is responsible for the quality of the products. The legal team at NVE currently consists of 2 lawyers and 1 licensing practitioner. It is desirable to add a lawyer to broaden the area of expertise covered.

The work will be carried out through working group meetings, where texts are discussed and commented, and intensive drafting sessions where the TWG and the NVE team work together. Teams-meetings will be used for planning purposes, but are not adequate for production.

The implementation of the CA will be strengthened by the stationing of a resident adviser in MIREME. It is expected that the resident adviser will take up position in Q3.

Cooperation Area	Outcome			
1. Legal Framework	A complete revised legal framework being successfully applied in Mozambique.			
Activities 2023	Expected Result	Output(s) 2023	Budget assumptions	Comments (timing, assumptions,..)
1.1. Drafting legal texts	The new Electricity Law completed with necessary regulations.	Legal texts covering 6 – 8 areas requiring new or updated regulation submitted to Council of Ministers for approval.	4 visits to Maputo for 2 working sessions (in retreat) and 2 hearings. 12 weeks input NVE 7 round trips Costs accrue for meeting facilities, consultants (Lund&Co) and interpretation and translation.	A TWG is under establishment by MIREME. Consultant drafts, NVE supervises and coordinates process. The participants from the Legal Directorate in MIREME should successively be encouraged to take an active part in drafting.

In addition to the resources listed under budget assumptions, a resident adviser will be recruited to strengthen the coordination of the area and provide additional manpower. A resident adviser will also be able to enhance the capacity building of members in the TWG, ensure faster response to issues that needs to be dealt with, and make possible a more effective implementation of new legal framework. The budget provides for 250 000 per month for the resident adviser. This figure will be revised when the real cost is known. For 2023 it is assumed that 5 months will accrue. Recruitment starts in Q1. It is assumed that the adviser will be taking up position in Q3.

Plans for 2024

The Resident Adviser is expected to be operational the full year.

The main activity in 2024 will probably be a continuation of the work with developing regulations.

However, efforts to communicate the consequences of the new legal framework to sector actors may be initiated, as well as work with developing implementation tools.

Cooperation Area 2: Governing the Power Sector

Currently the work has two main tracks: assisting MIREME in finalizing and operationalizing the new energy strategy; and assisting in making the new unit for coordination of electrification operational.

The first task will consist in further developing an energy sector strategy developed by a consultant funded by AfDB. It does not provide any guidance for prioritisation, and in order to be a useful tool for MIREME, it must be clear what one should start with, and how. NVE will facilitate a session where the leadership of MIREME will establish priorities and entry points that are realistic given MIREME's resources.

There is also a need to better analyse the cross-cutting issues in the strategy. This will be contracted to a consultant through the framework agreements of NVE. Presentation and discussion of results in Maputo is expected.

Finally further assistance in the strategic area for future years needs to be clarified. This will be made in meetings in the third quarter.

The second task aims at assisting the new coordination unit in developing its organisation, workflow and toolbox. During 2021, phase I of the Programme contributed to the Concept Note describing the mandate of the unit, which as of February 2023 is not yet formally established, but under way of being so.

It is proposed to start work on developing a GIS-based tool that can guide analysis and prioritisation. Workshops with the units staff will be organised to develop operational manuals and priority tasks. Teams-meetings will be used for planning purposes, but are not adequate for production. Start of this task is contingent upon additional resources becoming available in 2023, for example after the recruitment of resident advisers is completed.

Cooperation Area	Outcome			
2. Governance of the Power Sector	MIREME is applying the new energy sector strategy with a clear focus on priorities and key entry points.			
	MIREME is efficiently coordinating electrification on- and off-grid.			
Activities 2023	Expected Result	Output(s) 2023	Budget assumptions	Comments (timing, assumptions,..)
2.1. Energy sector strategy	Identify 4 – 6 priority areas and entry points for implementation of the new energy sector strategy. Analysis of cross-cutting issues in the strategy. Tasks for 2024 clarified.	Prioritisations established for the strategy. Cross-cutting issues detailed in the strategy.	5.2 weeks input from NVE 4 round trips Costs accrue for meeting facilities for strategy workshop, and consultants for analysing cross-cutting issues.	Assistance was requested by MIREME in December 2022.
2.2. Electrification Coordination Unit	Work started on establishing a GIS-based tool to guide prioritisations. Foundation for regular operations.	Pending start of the activity: Work on GIS-tool started. Operational manuals (contribution to)	Currently not included in the budget for 2023.	The unit will not be ready to receive any assistance before the second half of 2023, at earliest.

Plans for 2024

Implement activities to be agreed in the strategic area.

Continue with developing the technical capacity of UCIE and the GIS-tool. Development of other tools and study visits may be contemplated.

Cooperation Area 3: Strategic Advice to ARENE's Management

The development of new activities in the CA will be generated by requests from ARENE. The work in 2023 builds on the activities initiated in the second half of 2022, where two specific needs led to requests for assistance. However, the implementation of the CA will rely on a resident adviser in ARENE. The resident adviser will support ARENE directly, but also serve to intensify the dialogue and help identify areas where NVE and RME can add value to the efforts of ARENE. It is expected that the resident adviser will take up position in Q3. An early task for the resident adviser will be to engage with ARENE management to detail the work programme and update the results framework for coming years of the Cooperation Area.

The requests for assistance received so far for 2023 are:

- Assistance to develop a more appropriate framework for delegation of authority in ARENE. This will be done based on experiences in NVE, which will serve as an example during discussions.
- Assistance to develop and implement a strategy for communication of tariff decisions. For this a technical working group will be established for working with resources from NVE's communication department. Stakeholders will first need to be mapped and characterized. This will help identify risks and opportunities related to the new tariff and its announcement. Supporting and potentially antagonistic segments of society must then be identified, and a strategy for managing the risks and taking advantage of opportunities designed. Finally messages and channels will be selected and communication delivered. The effects of the campaign should preferably be evaluated.

An annual strategy seminar will be organised on a specific theme. RME and NVE will function as facilitators at these. It may be advantageous to organise the seminar outside of Mozambique, for example in Europe, at least if other travels of participants can be taken advantage of.

In addition to this, NVE and ARENE will collaborate on recruiting the resident adviser (develop ToR, interview candidates). The hours spent on this will be charged to CAO, though.

Cooperation Area	Outcome			
3. Strategic Advice to ARENE's Management	ARENE achieves a well-managed development of its organisation with optimised use of its resources.			
Activities 20223	Expected Result	Output(s) 2023	Budget assumptions	Comments (timing, assumptions,..)
3.0 Detailed work programme	Priority areas and activities for strategic advice to ARENE management	First work programme for strategic advice will be developed by November 2023 and revised annually.	The resident adviser will do this.	Will be based on ARENE's Strategic Plan and expressed prioritisations. Will be revised annually.
3.1.1 Administration of ARENE	More effective use of management resources.	Proposal for revised routines for delegation of authority in ARENE	1 week input from NVE	Q1
3.1.2 Communication of tariff decisions	Communication of tariff decisions in a way that is understood and accepted by the public.	Stakeholder mapping and profiling. Stakeholder analysis and segmentation. Goals, target groups and strategy. Communication campaign designed and delivered. Evaluation	6.5 weeks input from NVE 5 round trips Costs accrue for consultants for stakeholder mapping and analysis, and for translation/interpretation. The budget currently has no allocation for delivery of a campaign.	As much work as possible in first half of 2023.
3.2 Strategy seminar	A strategy formulated for an agreed area.	Evaluation of last year's seminar and follow up (not 2023). Strategy document from seminar.	4 weeks input from NVE 8 round trips Cost will accrue for meeting facilities	Timed in the second half of 2023. It is tentatively proposed to organise the seminar in Europe, in which case ARENE will do most of the travel.

In addition to the resources listed under budget assumptions, a resident adviser will be recruited to maintain a continuous dialogue with ARENE management on the development of the organisation and mobilise and coordinate resources from NVE. A resident adviser will also be able to enhance the capacity building of ARENE management and ensure faster response to issues that needs to be dealt with.

The budget provides for NOK 250 000 per month for the resident adviser. This figure will be revised when the real cost is known. For 2023 it is assumed that 5 months will accrue. Recruitment starts in Q2. It is assumed that the adviser will be taking up position in Q3.

Plans for 2024

An annual strategy seminar will be held. Other activities will be added based on needs identified.

Cooperation Area 4: Key Technical Skills in ARENE

Support in this CA aims at developing technical skills, routines and methods for execution of core tasks of ARENE. Two areas are considered in the work plan for 2023, but due to budget constraints, only one is budget for at this time. They are:

- Data collection and quality assurance. This aims at developing skills, routines and tools for collection, quality assurance and processing of data needed for economic regulation.
- Development of ARENE's role in licensing of energy projects. From the ARENE-law, it is clear that ARENE has a role in processing license applications, but not the authority to issue the actual permits necessary, or the license itself. Instead, they will submit a recommendation to the Minister (of MIREME), who will issue the license. If the Minister does not follow the recommendation, a motivation must be given. Exactly how this processing among the awarding of permits from other authorities is to be carried out, is not clear at the moment. The assistance aims at supporting ARENE in defining the role of ARENE in the licensing process (both for tendered projects and non-solicited proposals) and developing relevant capabilities. The focus will be on how ARENE, given that it does not have the authority to award any of the necessary permits, can add value to the licensing process. This will include a study visit to Norway and 3 visits to Mozambique. The budget currently does not allow starting this activity in 2023. The situation will be reassessed after the resident advisers have been recruited.

In both areas, a hands-on approach in cases where ARENE is addressing real requests from the sector (tariff-adjustments and license applications in our cases) will be applied. In the case of data collection, the assistance will focus on on-the-job training. This is important, since the staff from RME must be able to fully appreciate the context of carrying out the work for ARENE. They need to participate in meetings with regulated entities and other authorities, carry out informal discussions and iterate on solutions. Teams will be used for planning purposes but will not be adequate for carrying out the assistance. Once a solid working relationship has been developed, the viability of increased use of videocalls will be considered.

In the case of licencing, the assistance will initially focus on sharing experiences, then moving on to idea-generating workshops on how ARENE can add value to licensing processes. The aim will be to develop a concept paper for discussion. Possibly a TWG with members from authorities issuing permits and licenses will be formed in the second half of 2023. This was proposed during phase I of the Programme, but was put on hold due to the lack of a CEO in ARENE.

Cooperation Area	Outcome			
4. Key Technical Skills in ARENE	An efficient, consistent operation and case handling in ARENE of high priority areas.			
Activities 2023	Expected Result	Output(s) 2023	Budget assumptions	Comments (timing, assumptions,..)
4.1. Technical Assistance on data collection and QA	ARENE establishes and continuously improves an efficient framework for collection, quality assurance and processing of data needed for economic regulation.	Initial framework for data collection (what to collect from whom and when) developed in consultation with regulated entities. Initial methodology for quality assurance of data.	10 weeks input from NVE 8 round trips Costs accrue for translation and interpretation.	RME initially provides one resource on data collection and one on QA of data. Systems will be manual, but with an aim to develop cloud-based solutions where regulated entities report directly into the database.
4.2. Technical Assistance on licensing	ARENE develops a clear and consistent role in licensing of energy projects.	Pending start of the activity: Concept note for ARENE's role in licensing.	Currently not included in the budget for 2023.	Currently ARENE organises public procurement calls, but do not interact with the development or assessment of necessary approvals.

Plans for 2024

The assistance on developing framework and tools for data collection and verification will run also in 2024. This work is of an iterative nature, and will probably continue throughout the programme in one form or another.

It is expected to continue the work with developing ARENE's role in licensing, maybe by establishing an intra-departmental working group to coordinate different authorities with a role in licensing and permitting.

Cooperation Area 0: Programme Management

Programme management is the responsibility of the Programme Manager in NVE. He is assisted by a Deputy Programme Manager. Normally NVE strives to allocate special responsibility to some CA or technical assistance area to the deputy. The administration of the International Department of NVE also provides support to programme management.

Cooperation Area		Outcome		
0. Programme Management	Same as Programme			
Activities 2023	Expected Result	Output(s) 2023	Budget assumptions	Comments (timing, assumptions,..)
Routine management Recruit resident advisers Development of plans Mobilisation of resources	Programme implementation according to plan.	Routine reports and formal meetings Programme activities implemented Resident advisers recruited	20 weeks input NVE 6 round trips	It is expected that the first year will require much attention from Programme Management as a number of new activities will need to be started and two resident advisers recruited. In future years it is expected that less resources will be needed, both because activities are continuing, not starting, and the presence of two well-established resident advisers will reduce the need to travel by providing a local foot-hold. Note, however, that the resident advisers are not administrative staff.

Cooperation Area 9: Technical Backstopping

Technical Backstopping provides a source of funding for implementing small, specific tasks that are judged to support achievement of outcomes, but that does not fit naturally in the technical assistance in the main Cooperation Areas. It provides a convenient way of offering flexibility and adapt to opportunities that appears during programme implementation. Currently there is no budget allocation for this. It may be reviewed in future years.

Budget

The table below presents the budget for 2023 in 1000 NOK. The financial reports will present figures on Cooperation Area level.

Cooperation area	Hours NVE	Travel	Consultants	Resident adviser	Equip.& licenses	Sundry exp.	Sum
0 Programme Coordination	1 006	275	0	0	0	0	1 281
1 Legal framework	616	264	2 480	1 250	0	150	4 760
1.1 Regulations	616	264	2 480	0	0	150	3 510
1.0 Resident adviser	0	0	0	1 250	0	0	1 250
2 Governing the Power Sector	273	161	736	0	0	25	1 194
2.1 Implementing the strategy	273	161	736	0	0	25	1 194
2.2 Electrification coordination unit	0	0	0	0	0	0	0
3 Strategic Advice to ARENE Management	592	505	500	1 250	0	50	2 897
3.0 Resident adviser	0	0	0	1 250	0	0	1 250
3.1.1 Administration of ARENE	48	0	0	0	0	0	48
3.1.2 Communication of tariff decisions	341	202	500	0	0	0	1 042
3.2 Strategy seminar	204	303	0	0	0	50	557
4 Key Technical Skills in ARENE	526	301	40	0	0	0	867
4.1 RME TA data collection&QA	526	301	40	0	0	0	867
4.2 NVE TA licensing	0	0	0	0	0	0	0
Total	3 013	1 506	3 756	2 500	0	225	11 000

The category Sundry expenses consists of cost for meeting facilities. The category Consultants also contains the cost for translation and interpretation.

Annex 3. Table over input data for budget 2023

The table below summarises input data used for different cost categories in the budget for 2023. They are based on actual costs and experience. Input data is updated as costs change due to the general cost in society and due to new agreements between the parties in the labour market and NVE and its suppliers. The hourly fee for NVE will be updated annually.

Enhetskostnader	NOK	Note	
Unit			
hoursNVE	1 280	Fra 1. januar 2023	
monthsMIREME	9 000	1000 USD per person og måned	
hoursC1	2 000	Lund&Co (antatt)	
hoursC2	1 450	Konsulentttjenester (rammeavtaler)	
hoursC3	1 000		
weekshNVE	48 000	37.5 h (ukeverk i Norge)	
weeksaNVE	53 760	42 h (ukeverk på reise)	
Air travel	23 500	Roundtrip air, including visa and airport travel, adjusted for e-visa	
Local transport	1 000	per week, city	
Field transport	14 000	per week, 4WD	
Rental car (week)	4 000	per week, small car	
Per diem	470	per day	oppdatert 10.01.23
Per diem (week)	3 290	per week	
Per diem (+28 days)	2 468	per week	
Per diem Norge	872	per day	oppdatert 10.01.23
Per diem Norge (week)	6 104	per week	
Hotel cost	1 250	per day 120 USD	
Hotel cost (week)	8 750	per week	
Hotel cost (5 nights)	6 250	per week	
Comp. all. abroad	584	per day	oppdatert 10.01.23
Comp. all. abroad (week)	4 088	per week	
Training	fill out lumpsum		
Equipment&licences	fill out lumpsum		
Expenses Consultants	fill out lumpsum		
month ResAdv	250 000	per month	
Conference facilities	fill out lumpsum		