



Ministry of Energy and Public Utilities

Annual Report

July 2022 - June 2023

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List of Abbreviations

BESS	Battery Energy Storage System
CEB	Central Electricity Board
CFPP	Centre de Formation et de Perfectionnement Professionnel
CNIS	Carbon Neutral Industrial Sector
CWA	Central Water Authority
EEMO	Energy Efficiency Management Office
GCF	Green Climate Fund
GI	Geotechnical Investigations
GIS	Gas Insulated Switchgear
IPP	Independent Power producer
IRENA	International Renewable Energy Agency
KPI	Key Performance Indicator
MARENA	Mauritius Renewable Energy Agency
MEPU	Ministry of Energy and Public Utilities
MEXA	Mauritius Export Association
NAO	National Audit Office
NGO	Non-Governmental Organization
PPA	Power Purchase Agreement
RE	Renewable Energy
RSNSA	Radiation Safety and Nuclear Security Authority
SME	Small and Medium Enterprise
UNDP	United Nations Development Programme
UG	Underground
URA	Utility Regulatory Authority
WMA	Wastewater Management Authority
WRU	Water Resources Unit

Foreword by Hon Minister of Energy and Public Utilities



It is with great pleasure that I present to you the Annual Report on Performance of the Ministry of Energy and Public Utilities for the Financial Year 2022-2023. In a world shaped by dynamic challenges and evolving landscapes, our journey through the realms of energy, water, and wastewater has been marked by resilience, innovation, and a steadfast commitment to sustainability. This Annual Report provides an insight on the performance, achievements, and the challenges in these sectors.

As we reflect on the past financial year, we find ourselves at the nexus of profound transformations in the global energy landscape. Our efforts in the energy sector have been guided by a vision of a cleaner and more sustainable future. We have embraced the imperative of transitioning to renewable sources, investing in cutting-edge technologies, and fostering a culture of innovation that propels us towards a low-carbon future. We have maintained the implementation of the reviewed RE Roadmap 2030 for the Electricity Sector with an increased target of 60% share of RE in the energy mix. The National Biomass Framework and the Carbon Neutral Industrial Sector RE Scheme were launched to further these objectives. Additionally, contracts were awarded by CEB for the implementation of RE projects of 130MW, represented a significant leap in our green transition. The dispute between the CEB and Terragen Ltd was resolved after payment of operational damages by the latter which restarted functioning on 11 April 2023.

The Energy Efficiency Management Office has continued its efforts to encourage greater use of energy efficiency appliances through implementation of mandatory labelling for additional appliances and energy audits. Sustained media campaigns have been maintained across the country to further improve energy efficiency.

In the water sector, we recognize the critical role we play in the stewardship of this precious resource. Water is not only vital for sustaining life but also the linchpin

of our interconnected ecosystems. Our initiatives in water conservation, infrastructure development, and community engagement reflect a holistic approach to water management. We are proud to report on our strides toward ensuring equitable access to clean water, managing resources efficiently, and contributing to the global dialogue on sustainable water practices. Significant investments were made in pipe replacement across the island and to improve the supply of potable water to the population and to address Non-Revenue Water.

Simultaneously, our commitment to addressing the challenges of wastewater management remains unwavering. We understand the profound impact of responsible wastewater treatment on the health of communities and the environment. Protection of the environment through better sanitation remains a priority of my Ministry.

Our achievements and milestones underscore our dedication to being at the forefront of positive change in these sectors.

I extend my sincere gratitude to the staff of my Ministry and Departments as well as Parastatal Bodies falling under its aegis who have worked conscientiously to achieve our national goals.

The journey ahead may be marked by challenges, but with a shared commitment to sustainability, we are confident in our ability to forge a path towards a brighter, more sustainable future.

Hon Georges Pierre Lesjongard,
Minister of Energy and Public Utilities

Remarks by the Supervising Officer

As we embark on the unveiling of the 6th edition of the Annual Report on Performance for the Financial Year 2022/2023 for the Ministry of Energy and Public Utilities, I am pleased to share with you the multifaceted strides and accomplishments across our diverse portfolio in the energy, water, wastewater and radiation safety and security sectors.

In the realm of energy, we have been resolute in our commitment to pioneering sustainable solutions. The past year has witnessed ground-breaking advancements in renewable energy projects, underscoring our dedication to reducing our carbon footprint. Through innovation and strategic investments, we are not only meeting the demands of today but also laying the groundwork for a resilient energy landscape that stands the test of time.

Our journey in the water sector reflects our understanding of water's pivotal role in sustaining life and ecosystems. We have worked together with stakeholders and the assistance of an international expert on building a legal framework for water management through the drafting of a Water Resources Bill to ensure the management, regulation, responsible use, conservation and protection of this invaluable resource.

Wastewater management has been a focal point of our sustainability initiatives. We recognize the importance of treating wastewater responsibly, safeguarding both public health and the environment. Our investments in advanced treatment technologies and adherence to stringent environmental standards are indicative of our commitment to responsible wastewater disposal and treatment.

As regards the radiation safety and security, we have upheld the highest standards in ensuring the well-being of our communities and the environment. Our rigorous safety protocols and state-of-the-art security measures exemplify our unwavering commitment to protecting lives, property, and the integrity of our operations.

Throughout these sectors, the common thread that binds our endeavours is a commitment to excellence, innovation, and sustainability. We understand that success is not only measured by financial performance but by the positive impact we have on the communities we serve and the environment we cherish.

As we navigate a future that demands agility, responsibility, and resilience, we express our gratitude to partners and stakeholders. Our collective efforts have been instrumental in shaping the success outlined in this report, and we look forward to continued collaboration as we strive for even greater heights.

I thank the staff of my Ministry and the entities under its aegis for their collaboration in delivering on the objectives in the different sectors under the purview of the Ministry. I would also like to express my gratitude to the Honourable Minister of Energy and Public Utilities for his continuous support and guidance.

Zeenat Guness-Goolbar (Mrs)

Permanent Secretary

Ministry of Energy and Public Utilities

Introduction

In line with the requirement of the Finance and Audit Act, the Ministry of Energy and Public Utilities (MEPU) has prepared its Annual Report on Performance for the Financial Year 2022/2023.

It is the firm belief of the Ministry that a clear leadership, dedicated staff, transparency and accountability are the basis of sound governance that ultimately leads to efficient and effective organisational performance.

This report provides an overview of the Ministry's main roles and functions, achievements and evaluates its key actions, major projects, programmes and measures planned for the year. It also provides a statement of revenue and expenditure for the Financial Year 2022/2023.

This Annual Report summarises major activities of the MEPU for the period July 2022 to June 2023.

About this Report

Part I sets out the Vision, Mission, Overview of the Ministry, its roles and key functions, including those of the major agencies under its purview. It also comprises the Supervising Officer's Statement and a Gender Statement.

Part II highlights the major achievements, status on actions taken, including the implementation of budget measures, key actions and other Internally Developed KPI's. It also comprises the approach to Risk Management, Citizen-Oriented Initiatives and Good Governance.

Part III provides information on the financial performance of the Ministry.

Part IV is about the trends, challenges and the strategic directions of the Ministry.

Part 1 - About the Ministry of Energy and Public Utilities

1.1 Vision and Mission

1.1.1 Vision

Ensure energy and water security, safe disposal of wastewater and peaceful use of nuclear technology and ionizing sources.

1.1.2 Mission

Our Mission is to fulfil our commitment to the nation by ensuring:

- the availability of reliable electricity, water supply and wastewater disposal services;
- the development of renewable sources of energy;
- the promotion of peaceful use of nuclear technology and safe utilization of ionizing sources in line with international safety practices; and
- the development of programmes for the promotion of energy efficiency

1.2 Roles and Functions of the Ministry

The main functions of the Ministry are the formulation of policies and strategies in the energy, water and wastewater sectors, radiation safety and nuclear security and the establishment of a responsive legal framework to govern the development of these sectors.

1.2.1 Key Functions of the Ministry

- To formulate policies and strategies for energy, water, wastewater and radiation safety and nuclear security;
- To ensure that policies and strategies for these sectors are effectively implemented;
- To implement of projects for the mobilization of water resources to meet the needs of the country;
- To improve the distribution of potable water and monitoring the quality of water;
- To assess water needs and determine allocation of water to different sectors and users;
- To provide an appropriate legal framework for the energy, water and wastewater sectors;
- To implement projects to promote efficient use of energy;
- To ensure availability of electric power on a 24-hour basis;
- To ensure the safe disposal of wastewater to protect the integrity of our water resources;
- To implement policies, projects and international conventions for the peaceful and safe application of ionizing radiation and nuclear security in the country;
- To promote the development of renewable energy.

1.2.2 Key Legislations

In the exercise of its mandate, the Ministry is guided by the following comprehensive set of laws which constitutes the legislative framework:

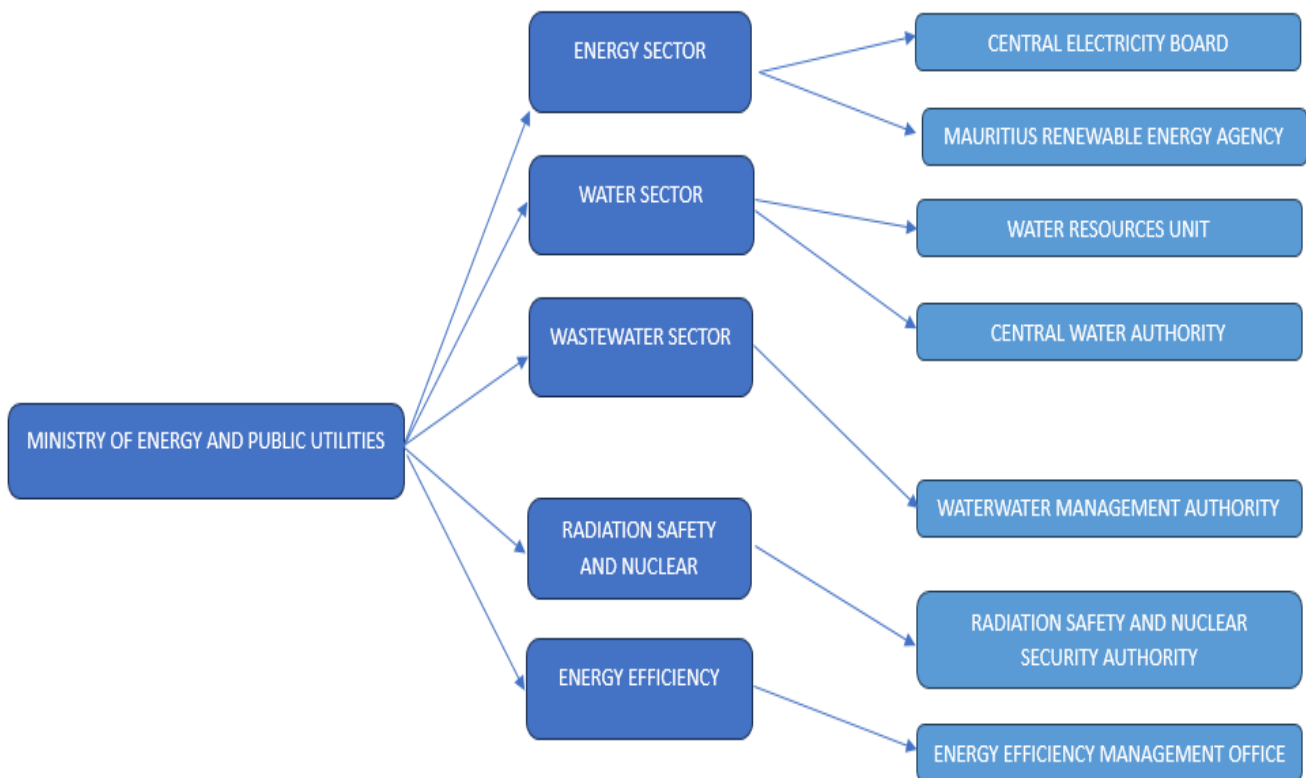
ENERGY SECTOR	WATER AND WASTE WATER SECTORS	RADIATION PROTECTION
Central Electricity Board Act	Rivers and Canals Act	Radiation Safety and Nuclear Security Act
Electricity Act	Ground Water Act	
Utility Regulatory Authority Act	Central Water Authority Act	
Energy Efficiency Act	Wastewater Management Act	
Mauritius Renewable Energy Agency Act		

1.2.3 Strategic Policy Documents and Reports

- National Water Policy 2014;
- Energy Efficiency/ Demand Side Management Master Plan and Action Plan 2017;
- Mauritius Energy Sector –Assessment of Electricity Demand Forecast and Generation Expansion Plan with Focus on 2015 to 17 period (World Bank 2015);
- Master Plan for Water Resources – 2012 – 2050;
- Mauritius Wastewater Master Plan- 2014 – 2033;
- National Integrated Water Resources Management Plan – 2017;
- Energy Efficiency Observatory Report 2021-2022;
- Roadmap for 2021-2024 for Improving Water Supply Service;
- 10-year Roadmap for Integration of Electric Vehicles;
- Renewable Energy Roadmap 2030 for the Electricity Sector (Review 2022);
- RSNSA Strategic Direction 2022 – 2025;
- Energy Transition – Goal 1 COP 26 Round Table Report;
- Renewable Energy Strategic Plan (RESP) 2018 – 2023; and
- Integrated Electricity Plan 2013 - 2022

1.2.4 Departments/ Statutory Bodies

The Ministry comprises several departments and parastatal bodies which are responsible for the technical guidance and policy formulation as well as the provision of services as depicted in the organigramme.



➤ Water Resources Unit (WRU)

The WRU department is responsible to formulate policies in relation to the control and the use of water resources, to prepare and monitor plans for the conservation, utilisation, control and development of water resources as well as conduct and coordinate research and investigation on the economic use of water.

The Unit also focuses on promoting, designing and constructing, schemes and works for the development of water resources, in consultation with the appropriate authorities. They also ensure that water supply conforms with the standards as laid by legislations and implement and monitor the construction of dams, feeder canals

and other water resources infrastructures; and implement integrated water resources management.



➤ **Energy Efficiency Management Office (EEMO)**

The EEMO was established under the Energy Efficiency Act and is responsible for the promotion of efficient use of energy and national awareness thereof, as a means of reducing carbon emissions and protecting the environment. The EEMO performs its functions, inter alia, through the development of strategies, programmes and action plans, projects as well as the establishment of procedures, guidelines, minimum energy performance standards regarding any equipment, machine or appliance which is imported, manufactured or sold in Mauritius and devise any labelling requirements and specifications thereof.



➤ **Radiation Safety and Nuclear Security Authority (RSNSA)**

The RSNSA was established by the Radiation Safety and Nuclear Security Act 2018, as an effectively independent regulatory body with the main objective to regulate and control all radiation sources and practices for the adequate protection of people and the environment against the harmful effects of ionizing radiation.



➤ **Mauritius Renewable Energy Agency (MARENA)**

The Mauritius Renewable Energy Agency (MARENA) is a body corporate regulated by the MARENA Act. MARENA is responsible to promote renewable energy (RE) and create an environment conducive to the development of RE.

The mission of MARENA is to ensure transition to a sustainable lifestyle through the country’s energy demand being increasingly met by RE to support sectoral developments in-keeping with international commitments.

MARENA plays an advisory role on RE policy and strategy; elaborates RE strategic plans; develops guidelines and standards for RE projects; and encourages and supports studies and research on the RE technologies and their implementation, among others.



➤ **Central Electricity Board (CEB)**

The CEB was established by the Central Electricity Board Act and is responsible for the control and development of electricity services in Mauritius. Its main function is to prepare and carry out development schemes relating to electricity services. It is also responsible for the planning and operation of the electricity services whilst ensuring that the revenues earned are sufficient to meet the expenses. It also collects fees on behalf of any entity, with the approval of the Minister.

Hotline / Helpdesk

Unit	Hotline	E-mail
Central Electricity Board (CEB)	130	ceb@ceb.mu



➤ **The Central Water Authority (CWA)**

The CWA was established by the Central Water Authority Act and is responsible for the treatment and distribution of water for domestic, industrial and commercial purposes throughout Mauritius. It ensures that there is adequate water supply to the population through its six water supply zones.

Hotline / Helpdesk

Unit	Hotline	E-mail
Central Water Authority (CWA)	170	cwa@intnet.mu



➤ **Wastewater Management Authority (WMA)**

The WMA was established by the WMA Act and is responsible for all matters relating to the collection, treatment and disposal of wastewater. It operates and maintains sewer networks all over Mauritius by means of its wastewater treatment and pumping stations.

Hotline / Helpdesk

Unit	Hotline	E-mail
Wastewater Management Authority (WMA)	800 1300	wma@intnet.mu



➤ **Utility Regulatory Authority (URA)**

The Utility Regulatory Authority (URA) is an independent body set up by the Government of Mauritius to regulate the utility services, namely electricity, water and wastewater. Its objects are to ensure the sustainability and viability of the utility services; protect the interests of consumers; promote efficiency in both operations and investments in respect of utility services; and promote fair competition in the utility services industry.

1.3 Gender Policy Statement

The Ministry's Gender Policy Statement subscribes to the broad principles of the National Gender Policy Framework 2008 and is guided by its comprehensive vision. It reflects our commitment to mainstreaming gender in our specific sector intervention, ultimately promoting gender equity and equality for a sustainable society.

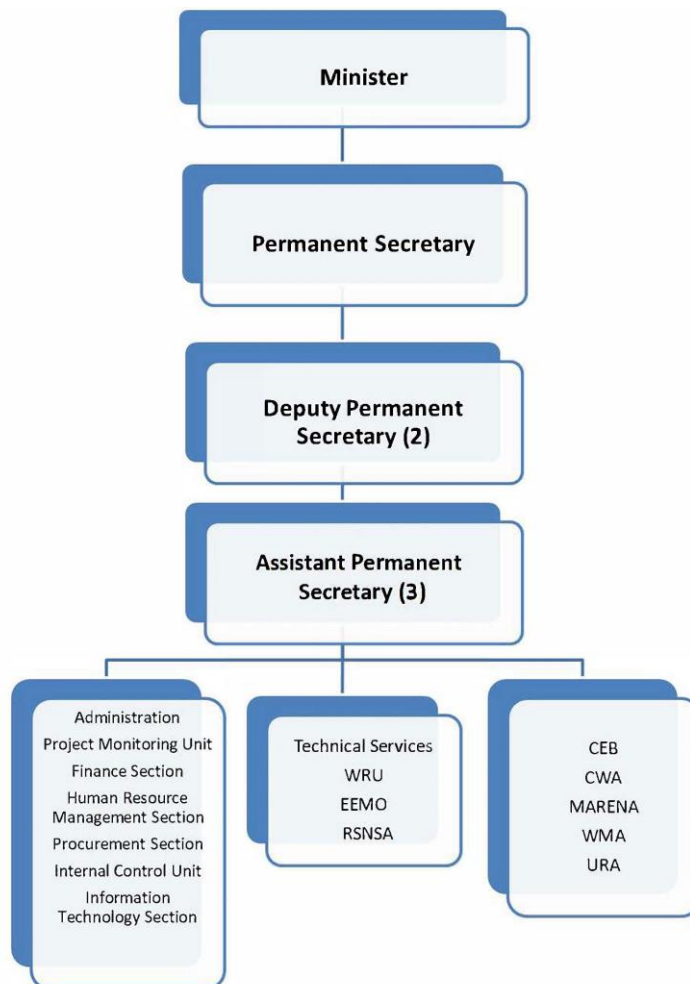
The Gender Cell oversees gender issues and ensures that all activities and programmes are gender sensitive and aims to promoting gender parity in all departments and at all levels within the Ministry. Moreover, in order to provide a conducive environment whereby a culture of equal respect of men and women prevails, the Ministry ensures the participation of both men and women in policy development and decision-making processes at all levels.

1.4 Organizational Structure of the Ministry of Energy and Public Utilities

About Our People

The Permanent Secretary is the administrative head of the Ministry. She is assisted in her functions and duties by two (2) Deputy Permanent Secretaries and three (3) Assistant Permanent Secretaries as well as officers from various cadres.

The technical arm of the Ministry consists of the Technical Services, the Water Resources Unit (WRU), the Radiation Safety and Nuclear Security Authority (RSNSA), the Energy Efficiency Management Office (EEMO) and its Statutory Bodies.



1.4.1 Staffing as at 30 June 2023

Grade	Number
Administrative Cadre	5
Professional /Technical Cadre	69
Inspectorate Cadre	5
HR Cadre	3
Finance Cadre	9
Procurement and Supply	4
Internal Control	2
Secretarial Services	9
General Services Cadre	47
Receptionist/Telephone Operator Cadre	4
Workmen's Class	36
Officer from CISD	2
Safety and Health Officer*	1
Total	196

**One officer is posted on a part-time basis

1.4.2 Senior Staff

Administration			
Post	Name	Tel No.	E-mail
Permanent Secretary	Mrs. Zeenat GUNESS-GOOLBAR	211 8470	zguness@govmu.org
Deputy Permanent Secretary (Water and Wastewater Sector)	Mrs. Renuka Devi BISSESSUR	213 4884	rdbissessur@govmu.org
Acting Deputy Permanent Secretary (Energy Sector)	Mr. Toolsy GARBURRUN	213 0023	tgarburrun@govmu.org
Assistant Permanent Secretary (Water Sector)	Mrs. Bhoojeshwaree RAMSURN	210 3774	bkamulsing@govmu.org
Assistant Permanent Secretary (Energy Sector)	Mr. Farhan Mohammed Shariyad DAWOO	212 5477	fdawoo@govmu.org
Assistant Permanent Secretary (Wastewater Sector)	Mrs. Sonalee SOORJUN-GAUJEE	208 2401	sonaleegaujee@govmu.org
Manager, Human Resources	Mrs. Anuradha HEERASING	210 3774	aheerasing@govmu.org
Manager, Financial Operations	Mr. Mohamed Siddiq EMRITH	213 6260	memrith@govmu.org
Manager (Procurement and Supply)	Mr. Ravisankar OODIT	206 8070	roodit@govmu.org

Technical Unit, Atchia Building, Port Louis			
Post	Name	Tel No.	E-mail
Director Technical Services (Public Utilities)	Mr. Doumeraj JAHAJEEAH	206 8070	jahajd71@gmail.com
Deputy Director Technical Services (Public Utilities)	Vacant		
Lead Engineer (Project/Planning)	Mr. Avisshal BEETUN	206 8070	abeetun@govmu.org
Lead Engineer (Civil)	Mr. Nurley RAMSURN	206 8070	nramsurn@govmu.org

Advisers			
Post	Name	Tel No.	E-mail
Senior Adviser	Mr. Tirat MOOSSUN	201 3973/74	tirat.moossun@gmail.com
Technical Adviser	Mr. Vishwanath D. JHUMMON	210 3774	vishwanath.jhummon@govmu.org
Adviser on Information Matters	Mr. Andy Kinsley LAI KONG LING	201 3973/7	kinsleylai.lai@gmail.com
Adviser on Public Relation Matters	Mr. Moganaden MURTHOO	210 3774	-

Water Resources Unit			
3rd Floor, Royal Commercial Complex, St. Ignace Street, Rose-Hill			
Post	Name	Tel No.	E-mail
Director, Water Resources	Mr. Lomush JUGGOO	403 5400	ljuggoo@govmu.org

Radiation Safety and Nuclear Security Authority			
Royal Road, Helvetia, Moka			
Post	Name	Tel No.	E-mail
Director	Mr. Faradally Abdoulla OLLITE	434 3000	faradally@gmail.com

Energy Efficiency Management Office, The Celicourt Tower, Port Louis			
Post	Name	Tel No.	E-mail
Director, Energy Efficiency	Mr. Oomeshwar SEWTOHUL	206 8070	osewthul@govmu.org

1.4.3 Gender Staffing Proportion

The staffing position gender-wise as at 30 June 2023 was as follows:



52 %



48 %

1.4.4 Vacancies Filled

- Six (6) vacancies have been filled by the Public Service Commission, namely Radiation Protection Officer (2), Technical Officer, Energy Efficiency (1), Director, Energy Efficiency (1), Technical Officer (1) and Hydrological Officer (1).
- Four (4) vacancies have been filled under delegated power, namely Gauge Reader (1) and General Worker (3).

1.4.5 Retirement

- 2 officers have retired from the service on ground of age.
- 1 officer has retired from the service on ground of age limit.

1.4.6 Training

- 138 officers have attended training locally mostly offered by the Civil Service College, Mauritius.
- 61 officers have followed training overseas including virtually.

Local Training courses conducted during financial year 2022-2023

Institution	Course/Workshop	No. of Attendees
Civil Service College, Mauritius	Court Proceedings	2
	Advance Excel	21
	Writing effective Minutes of Meeting	4
	Tender Preparation and Evaluation	2
	Public Sector Financial Management	6
	Writing skills for PQs	1
	Gender Mainstreaming	1
	Registry Procedures	3
	Writing Skills for Parliamentary Questions and Cabinet Documents	1
	Induction- Assistant Permanent Secretary	2
	Induction - Office Management Assistant	2
	Safety & Health in workplace	10
	Training Programme for Middle Management (Batch 1)	1
	Training Programme for Support Staff, Level 2	4
	Training Programme for Frontline/Supervisory/Technical Grades, Level 3	1
	National Environment and Climate Change Fund Capacity Building for Round Table	1
	Performance Management System	2
	Implementing OSH Management System	1
	Workshop on Project Management	1
	Training Programme for Workmen's Group	1
	Leadership and Management for Frontline/Supervisory/Technical Grade	1

	Training Course First Aid	1
	Training Course on Tea Making and Service	1
	Essentials of Psychology and Counselling Skills/Techniques	3
Ministry of Public Service, Administrative and Institutional Reforms	Training course for Training Manager	1
	Using Internet and Email	1
	Implementation on OHS	3
	Defensive driving	2
Ministry of Labour, Human Resource Development and Training	Occupational Safety & Health	3
Energy Efficiency Management Office	Awareness talk on energy conservation and Energy Efficiency	55

International Training courses conducted during financial year 2022-2023

<u>Organiser</u>	<u>Course/Workshop</u>	<u>No. of Attendees</u>
Indian Authorities -ITEC	Online - Energy Efficiency Practitioners Course in Industrial Utilities	1
	Online - Environmental Risk assessment	2
	Online - Emerging Contaminants and Water Ruese	2
	Online - Water Transmission and Distribution	2
	Online - Calibration Techniques & Uncertainty Budgeting of Water Flowmeters - 22 to 26 Aug 2022	2

	Flow Measurement & Control Techniques/Software in Industrial Process & Water Distribution System	2
	Online - Energy Systems, Security and Net Zero Emission	2
	Online - Energy Efficiency Practitioners Course in Industrial Utilities	5
Singaporean Authority	Sustainable Integrated Water Resources and Stormwater Management	1
	Clean Energy and Emission Reduction	1
The Embassy of the Arab Republic of Egypt	Sustainable Development	1
	Assessment and Analysis of Water/Industrial Wastewater	2
The SADC Secretariat	SADC Multi-Stakeholders Dialogue	2
	Stakeholder Engagement Workshop	1
The Common Market for Eastern and Southern Africa (COMESA)	Validation Workshop on Formulation of COMESA Model Solar Standards & Common Customs Tariff Framework for Solar Products and Review of COMESA Model Energy Policy	1
	Virtual Capacity Building Workshop on Trade in Services	1
The African-Asian Rural Development Organization (AARDO)	Online - Technological Innovations on Integrated Water Management	1
The Government of the People's Republic of China	Renewable Energy Development and Management for Developing Countries	2
	Online - Integrated Energy System Planning and Construction for African Countries and African Union	1
	Online - Energy Development and Industrial Policy for Developing Countries	2
	Online - Small Hydropower and sustainable Development of Rural Communities for Developing Countries	2

	Online - Experiences and Case Analysis in Atmospheric Pollution Prevention and Mitigation	1
	Virtual – Upgrading and Renovation of Urban and Rural Power Grid for Developing Countries	8
	Virtual – “Wastewater Treatment Construction for Developing Countries	3
	Virtual - Advanced Seminar of African Union on Clean Energy	8
	Water Conservancy Technology for Developing Countries	1
	Effective Management of Power Plants	2
	Technology of Low Carbon Treatment, Green and Emission Reduction of Sewage for Developing Countries	1
Japanese Authority	Online - Renewable Energy	1

1.4.7 Other

- Engineer/Senior Engineer (Planning/Maintenance) proceeded on leave without pay for Emigration purposes followed by 2 months leave without pay for personal reasons during the period of review.
- Hydrological Technician proceeded on leave without pay to take up employment in Parastatal Body from 10.01.2022 to 30.06.2023 followed by application for permanent transfer.
- Hydrological Technician proceeded on leave without pay for Pre-Registration training purposes with effect from 08.03.2023 for 2 years.

1.4.8 Staffing of Statutory Bodies as at 30 June 2022

	CWA	WMA	CEB	MARENA	URA
Employees	1627	573	2200	10	11
Trainees	19	-	13	1	1
Retired	26	6	69	-	-

PART II – ACHIEVEMENTS AND CHALLENGES JULY 2022-JUNE 2023

2.1 Major Achievements

2.1.1 Energy

Central Electricity Board

❖ Renewable Energy (RE) Roadmap 2030 for the Electricity Sector

The RE Roadmap 2030 for the Electricity Sector was revised in 2022 in view of the revised targets of the share of RE in energy mix which increased from 40% to 60% by 2030, together with the announcement of the phasing out of coal in the generation of electricity by the same timeframe. The Roadmap comprises a series of measures in order enable meeting the RE targets and to cater for the substitution of displacement of coal by other renewables

❖ National Biomass Framework

Mauritius is at a crucial stage of its energy transition in order to achieve 60% of Renewables in its electricity mix by 2030 and according to the Renewable Energy Roadmap 2030 for the Electricity Sector. Biomass is called upon to play an important role in the generation of firm (base load) energy. Government agreed to the National Biomass Framework which was launched in June 2023.

❖ CEB Power Generation for the last year

The total energy generated during the period 01 July 2022 to 30 June 2023 was 2,923.4 GWh, which represents a 3.1% increase over the last corresponding period (2,835.9 GWh). The CEB generated 1,758.3 GWh, and purchases from IPPs amounted to 1,165.2 GWh. The energy mix for the review period consisted of 15.1% renewables, 27.8% coal, and the remaining 57.1% from fuel oil and kerosene. The CEB's share of the total energy generated reached 60.1%, compared to 39.9% from IPPs.

❖ **Resumption of Operations of Terragen Ltd**

On 4 March 2022, Terragen Ltd had issued a Notice of Force Majeure Event to CEB due to the act of war by Russia causing rise in the price of coal and it ceased operations on 29 April 2022. A mediation exercise in respect of declared Force Majeure by Terragen on account of rising coal prices has not been conclusive. The CEB successfully managed to ensure electricity security of the country until Terragen Ltd resumed operations on 11 April 2023 after payment of a penalty fee of Rs88 Million for suspended operations.

❖ **Launching of the Carbon Neutral Industrial Sector (CNIS) Renewable Energy Scheme**

In the National Budget Speech for the Financial Year 2022-2023 (referencing Measures 194 to 199), the Government has set forth its commitment to achieving carbon neutrality in the Industrial Sector by 2030. Pursuant to the Budget Speech, a series of consultations were conducted with the Mauritius Export Association (MEXA), a pivotal representative of the Industrial Sector, to ensure the effective implementation of the proposed measures. These discussions took place under the auspices of the Ministry of Energy and Public Utilities.

In January 2023, the Carbon Neutral Industrial Sector RE Scheme was officially launched with a capacity allocation of 100 MW. During this initial phase, the CEB has invited applications for Renewable Energy projects from Industrial Customers, excluding those operating in the Sugar and Energy Sectors, both in Mauritius and Rodrigues. The Scheme aims to expedite efforts to achieve the national objective of a 60% share of RE in the electricity mix by 2030. It provides eligible Industrial Customers with the opportunity to engage in the production of electricity from clean renewable sources. Furthermore, this initiative will allow these customers to meet their energy needs while also benefiting from the reliability of the CEB grid.

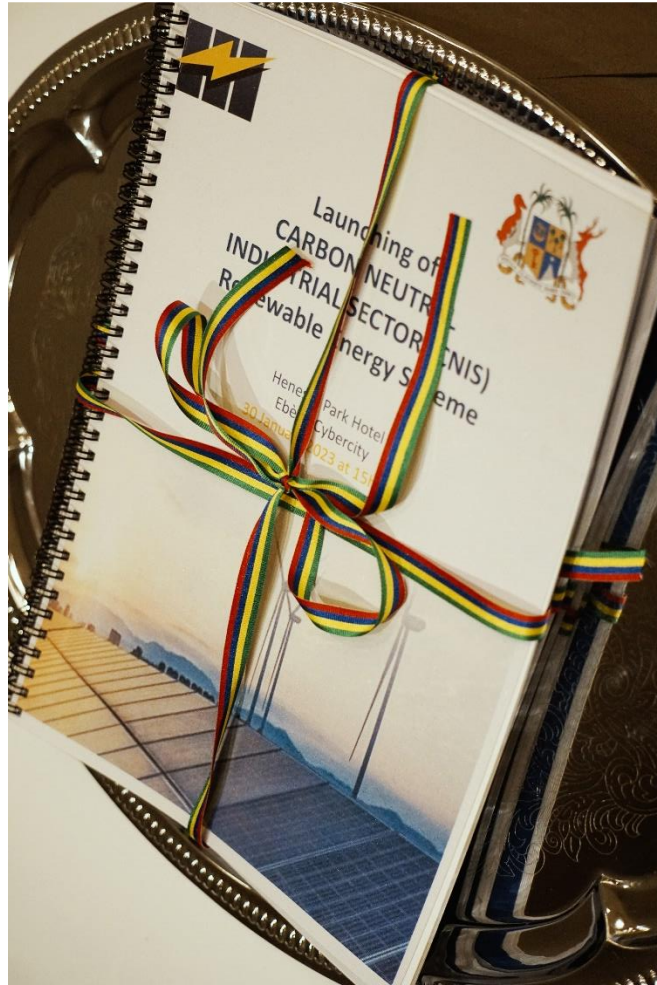


Figure 1: Launching of CNIS RE Scheme

❖ **Construction of 8 MW Solar PV Farm at Tamarind Falls, Henrietta**

The 8 MW Solar PV Farm constitutes the second phase of CEB's flagship 10 MW solar project at Tamarind Falls, Henrietta. This follows the successful commissioning of the first phase, which features a 2 MWp solar PV farm, in April 2019.

The construction was undertaken by BHEL India and spans a surface area of roughly 200,000 m². The facility will be linked to CEB's Henrietta Substation via a dedicated 22kV line. Upon becoming operational, the farm is projected to generate an estimated 14 GWh of electricity per year.



Figure 2: Construction of the Solar PV Farm

It is worth highlighting that the investment for this 8 MW Solar PV Farm comes entirely from a Dollar Line of Credit Agreement (LOC), facilitated by the Government of India and Exim Bank India. A virtual launching ceremony was held on 20 January 2022, graced by both the Honourable Prime Minister of Mauritius and the Honourable Prime Minister of India.

❖ **Design, Supply, Installation, Testing, and Commissioning of 1 MW Solar PV Farm at Grenade, Rodrigues**

In line with the vision of “Rodrigues Île Verte”, the CEB issued a call for proposals for the development of a 1 MW Solar PV Farm at Grenade, within the compound of the existing wind farm. Following bidding exercise in, the CEB awarded the contract to Corexsolar International in 2021. The project is being implemented and 90% of it has been anticipated to be fully operational by November 2023. The PV farm's annual energy output is projected to be approximately 1.8 GWh.

❖ **Implementation of a 20 MW Battery Energy Storage System**

A 20 MW Battery Energy Storage System (BESS) using lithium-ion technology is being implemented at Amaury for peak shaving. However, in consideration of the national target of 60% renewable energy (RE) in the energy mix by 2030, the BESS will also be

equipped with frequency regulation capabilities to support the integration of variable renewable energy generation into the grid. The contract was awarded in July 2022.

❖ **Large Scale Independent Power Producers (“LSIPPs”)**

Under the CEB Greenfield Renewable Energy Scheme, which was launched in October 2021, the CEB entered into an ESPA with the Rose Belle Sugar Estate Board in June 2022. This agreement pertains to the Le Val PV Farm Ltd, which has a capacity of 15MWac. The project is currently in the permitting stage.

Phase 2 of the Greenfield Renewable Energy Scheme was reopened on 28 March 2023 and closed on 24 May 2023 for an additional capacity of 30MWac, extendable to 40MWac. In total, ten applications have been received for utility-scale projects, which are now under review.

Moreover, two RFPs were launched on 18 March 2022 to solicit bids for the purchase of electrical energy from Small Scale Renewable Energy Hybrid Facilities (SSREHF) and Renewable Energy Hybrid Facilities (Solar PV + Battery Storage). Subsequently, seven Power Purchase Agreements (PPAs) were signed in February 2023. The total capacity awarded amounts to 130 MWac, comprising four SSREHF projects with a capacity of 10 MWac each and three REHF projects with a capacity of 30 MWac each.

❖ **CEB Medium- Scale Distributed Generation RE Scheme**

The total capacity of the scheme is 40 MW. The CEB has been accepting applications since December 2020, and 164 MSDG applications have been received, accounting for an equivalent capacity of 38,327 MW.

❖ **CEB Public Sector Entities RE Scheme**

The total capacity of the scheme is 10 MW. The CEB has received 35 applications from various prospective Public Sector Entities, including Statutory Bodies and Government-owned entities, for an equivalent capacity of 5,245 MW.

The implementation of the other existing MSDG schemes was pursued during the financial year 2022/2023. The total number of MSDGs commissioned during this period, along with their equivalent capacities, are provided below:

MSDG Schemes	No. of PV Systems Commissioned	Equivalent Capacity (kW)
MSDG Net Metering Scheme	-	-
MSDG Gross Metering Scheme	24	2,260
Public Sector Entities (PSE) Scheme	5	45.74
Smart City RE Scheme	-	-
No Tariff Category-MSDG	-	-
TOTAL	29	2,305.74

❖ **Revised Tariffs for Energy Exported Under CEB’s MSDG- Smart City/ Public Sector Entities Schemes**

In December 2022, the CEB announced an upward revision of tariffs for energy exported under the MSDG - Smart City / Public Sector Entities Schemes. The new rate is now set at MUR 4.20 per kWh and applies to all units (kWh) of electricity exported to the CEB grid within the framework of these Schemes. The adjusted tariffs include a premium, offered by the Government, designed to incentivise the development and implementation of solar photovoltaic (PV) generation projects under these Schemes.

❖ **Small Scale Distributed Generation (SSDG) RE Schemes**

The implementation of the various SSDG schemes was pursued during the financial year 2022/2023. The total number of SSDGs commissioned during this period and their equivalent capacities are given hereunder:

SSDG Schemes	No. of PV Systems Commissioned	Equivalent Capacity (kW)
Green Energy Scheme for SMEs	4	8
Domestic Household Gross Metering Scheme	626	2749

Domestic Household Electric Vehicle Gross Metering Scheme	20	160
Home Solar Project – Phase 2A	432	648
TOTAL	1,082	3,565

Energy Efficiency Management Office (EEMO)

➤ Awareness Raising

Changing the behaviour of consumers is a grass root approach which the EEMO pursues through its awareness raising activities in order to inculcate a culture of energy conservation and energy efficiency in Mauritius.

➤ Talks

Talks on energy saving and the efficient use of energy are held in Primary and Secondary schools, Community Centres, Social Welfare Centres around the country as well as public institutions. Details of talks conducted during FY 22/23 can be found in table below:

Sn	Description	Audience
1	Social Welfare Centres and Community Centre	457
2	Women’s Council	174
3	SMEs	36
4	Public Institutions	363
Total		1030



Figure 3: Talks being delivered by EEMO Officer in SWCs

➤ Energy Efficiency Competitions 2023

Three Energy Efficiency Competitions were launched by the EEMO on January 16, 2023. The first competition was a painting competition for primary school children studying in Grade 3 & 4 students / Classe de CE2 et CM1. The theme for the phase one of the drawing and painting competition was “Save Energy, Every Action Counts”. Phase two was a live painting competition performed by 40 shortlisted students from phase 1. The theme for the phase two was “Save Energy. It begins with you”. It was held on Thursday May 04, 2023 at the Rajiv Gandhi Science Centre, Old Moka Road, Bell Village.



Figure 4: Live painting competition held at Rajiv Gandhi Science Centre

The second competition was a mural competition for secondary school students of all grades. The theme for the competition was “Energy Saving and Energy Efficiency”. 33 Colleges submitted their video/picture along with a brief on their work.



Figure 5: The Mural of Rivière des Anguilles State College. 1st Prize Winner of the Mural Competition



Figure 6: The Mural of Camp de Masque State College, 2nd prize winner of the Mural Competition

The third competition was the Energy Efficiency Slam Poetry 2023 with the theme "Nou Lenerzi, Nu Lavenir" which was held on 01 April 2023 at the Nelson Mandela Centre.



Figure 7: Slam competition held at the Nelson Mandela Centre

A Prize Giving Ceremony was held at la Scala, Caudan Arts Centre on June 01, 2023 in the presence of the Minister of Energy and Public Utilities, Honourable Georges Pierre Lesjongard.



Figure 8: 1st Prize Winner, Painting Competition -Vivaan Auckel



Figure 9: 1st Prize Winner-Riv. des Anguilles State College

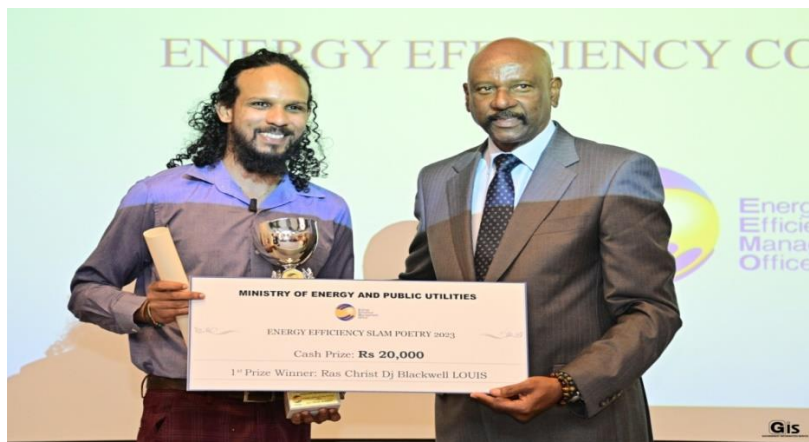


Figure 10: 1st Prize Winner- Ras Christ Dj Blackwell Louis

➤ **Energy Efficiency (Labelling of Regulated Machinery) 2017**

In 2022, amendments were brought to the Energy Efficiency (Labelling of Regulated Machinery) regulations to allow dealers to sell new models of appliances which are more energy efficient. Moreover, the energy efficiency threshold for the application 25% levy at import on energy inefficient appliances was revised upwards by 20% for refrigerators and 30% dishwashers.

To-date 25 dealers are registered on the online system set up by the EEMO and more than 963 applications for registration have been received and 922 certificates of registration have already been issued.

➤ **Mandatory Energy Audits**

The Energy Efficiency (Energy Consumer and Energy Audits) Regulations 2017, provide, inter-alia, that energy audits shall be carried out at large energy consumers when so directed by the EEMO. The regulations were initially being enforced in Government buildings and in 2018, the Energy Efficiency (Energy Consumer and Energy Audit) Regulations were amended to extend the categories of large energy consumers to parastatal institutions, local authorities and government-owned or government-controlled bodies with an effective date of January 01, 2019 and to the private sector to be effective as from January 01, 2021.

For the Government, parastatal, local authorities and government-owned or government-controlled bodies, a large energy consumer is defined as one with an average annual energy consumption of 15 toe (equivalent to 174,418 kWh) and for the private section, one with an average annual energy consumption of 100 toe (equivalent to 1,162,787 kWh). The total number of notifications for mandatory energy audit issued and number of energy audits completed, to date as per the different categories of large energy consumers are shown in Table below.

Category of large energy consumer	No. of notifications issued				No. of energy audits completed
	2017	2019	2021	2022	
Government/Local Authority/Government-owned or Government-controlled/Statutory Body	21	20	0	10	30
Private Sector	-	-	20	20	11

As at June 2023, energy audits carried completed in 30 large energy consumers in the public sector and 11 large energy consumers in the private sector have identified electricity savings measures which amount to 56 GWh/yr.

Radiation Safety and Nuclear Security Authority

In order to promote radiation safety and nuclear security, the RSNSA has implemented the following measures:

- The Personal Radiation Monitoring Service being provided by the Services Unit of the RSNSA has been extended to all the radiation workers who require monitoring of their occupational exposure to radiation. The number of radiation workers being monitored has been increased from 1225 in 2022 to 1315 in 2023.
- The RSNSA has established formal cooperation with the US Department of Energy for assistance and support for the strengthening of the nuclear security regime in Mauritius. In May 2023, the RSNSA has signed a Statement of Cooperation the Office of the Nuclear Smuggling Detection and Deterrence (NSDD) of the US Department of Energy (DoE) for Mauritius to receive assistance for the installation of detection systems, in particular at our ports on entry, for the detection of any smuggling of nuclear and radioactive materials which may be used for terrorist acts.
- The INSSP Review Mission for Mauritius was held from 06 to 10 February 2023. The workshop was hosted by the RSNSA in collaboration with the International Atomic Energy Agency at Caudan Conference Centre at Caudan Waterfront, Port Louis. It comprised a one-day national workshop to raise awareness on nuclear security for senior governmental officials. The workshop was followed by the INSSP review meetings held from 07 to 10 February 2023. The review meetings gathered representatives of key national stakeholders with responsibilities for nuclear security to develop a new INSSP for Mauritius. The meetings comprised of presentations, discussions and working sessions to review our progress made, challenges and needs in relation to nuclear security.



Mauritius Renewable Energy Agency (MARENA)

- **National Scheme for Emerging Project Concepts Based on Renewable Energy Technologies (NSEPCRET)**

The National Scheme for Emerging Project Concepts Based on Renewable Energy Technologies (NSEPCRET) has been set by MARENA in collaboration with the Ministry of Energy and Public Utilities (MEPU), the Central Electricity Board (CEB), the Energy Efficiency Management Office (EEMO) and the Mauritius Research and Innovation Council (MRIC). NSEPCRET aims at solely on-grid connections where the promoters are allowed to export electricity to the grid against a form of remuneration. NSEPCRET was launched on 15 September 2022 and closed on 14 December 2022. 7 proposals were received as listed and detailed below:

SN	Company Name	Project Proposal Title	Technology
1	La Compagnie industrielle de L'Ouest LTD	Wastes to H2 Power SMO	Waste to Energy
2	HAF Industries Mauritius	HAF Industries Mauritius Refinery & Power Transmission Facility	Hydrogen on Board Generator
3	SUNfarming Africa Holding Ltd	SUNfarming 1MW Food & Energy Training Centre in Gros Cailloux	Solar PV
4	Axian Energy Green	Innovative Tracker Project	Solar PV
5	RC Solar Company Limited	Agrovoltaic with Made in Morris Solar Panels	Solar PV
6	MOL (Mauritius) Ltd	Ocean Thermal Energy Conversion (OTEC) in Mauritius	OTEC
7	Rynwan Steel.Ltd	Production and selling of electricity	Waste to Energy

The total capacity allocated under this scheme is 10.4 MW with a total combined investment of around Rs 5.6 billion. The NSEPCRET round 2 was launched on 13 July 2023 with a set deadline of 12 October 2023.

➤ **SUNfarming Agri-PV project**

SUNfarming Africa's project has been implemented as part of the National Scheme for Emerging/Innovative Renewable Energy Technologies by the Mauritius Renewable Energy Authority. The inauguration of the 200 kWp Agri-PV plant took place on 26 August 2023 at Gros Cailloux. Esteemed figures, including Honourable Georges Pierre Lesjongard, the Minister of Energy and Public Utilities, Honourable Kavydass Ramano, the Minister of Environment, Solid Waste Management, and Climate Change, Mr. Danen Beemadoo, the Chief Executive Officer of MARENA and Mr. Doumeraj Jahajeeah, the Chairman of MARENA, Mr. Chetan Jankee, Project Manager, International Projects, SUNfarming Africa, Mr. Peter Schrum, Chairman and Main Shareholder of the SUNfarming Group and Mrs. Tijana Roso, Senior Expert, Renewable Energies, German Energy Agency (dena) graced the occasion with their presence.



Figure 11: Inauguration of SUNfarming Agri-PV

➤ **Offshore Wind**

The Technical University of Denmark (DTU) – Wind and Energy Systems Department has carried out a feasibility study on the potential of implementing an offshore wind project in Mauritius. Further studies shall be required to determine the feasibility of offshore wind in Mauritius.

Utility Regulatory Authority (URA)

Following the Central Electricity Board's (CEB) tariff application, new tariffs (tariff levels and tariff structures) were approved by the URA on 16 December 2022. The new tariffs came into effect on 01 February 2023.

In May 2023, the Authority held a licence handing ceremony in honour of the first electricity service licences to be issued since its operationalisation. The ceremony was held at its offices in Ebene. Alteo Energy Ltd was awarded a Transitional Generation Licence while Provisional Generation Licences were issued to Green Rock Ltd, Green Yellow (Arsenal) and Le Val Village Photovoltaïque Ltd.

As at date, the Authority has issued five (5) Transitional Licences and three (3) Provisional Licences. In progress, there are eleven (11) Transitional Licences and seven (7) Provisional Licences.

In June 2023, the URA published the National Electricity Grid Code on its website (www.uramauritius.mu), including the Generation Code, Transmission Code, Distribution Code, System Operator Code and the Governance code.

2.1.2 Utilities Regulation

Legislative Framework

In the exercise of its mandate, the URA is guided by a comprehensive set of laws which constitutes the legislative framework for the sector. To date, the following legal instruments, which have been developed, serve to facilitate and support URA in its regulatory role:

LEGAL INSTRUMENT	STATUS
Utility Regulatory Authority Act 2004 (amended 2008 and 2016)	In Operation
Electricity Act 2005 (amended in 2020)	Proclaimed (June 2022)
Central Electricity Board Act 1963 (amended in 2020)	Proclaimed
Mauritius Renewable Energy Agency Act 2015	Proclaimed
Energy Efficiency Act 2011	Proclaimed
Competition Act 2007	Proclaimed
Consumer Protection Act 1991	Proclaimed

2.1.3 Water

The following measures have been implemented for water mobilisation:

- For the Riviere des Anguilles Dam Project, additional portions of land are to be acquired from SIT Ltd, Omnicane Ltd and Groupe St. Aubin. The survey has been completed and all plans and drawings for acquisition procedures have been submitted to the Ministry of Housing and Land Use Planning in May 2023.
- The feasibility study for the enlargement of La Nicolière Reservoir has been awarded to SMEC International PTY Ltd. in association with VYYAASS Consulting Engineer Ltd. The Consultant has confirmed the raising of Nicoliere dam by 20m to increase the reservoir capacity from 5.26 Mm³ to around 33 Mm³. This raising will also entail, amongst others, the re-alignment of the last 3 Km of La Nicoliere Feeder Canal.
- Drilling of four (4) boreholes at Cote d'Or, Bambous and Valentina and at La Baraque were completed in August 2022 with a total yield of around 6,500 m³/day to supplement potable water supply in the respective zones.

Central Water Authority

Major Achievements During the Financial Year 2022/2023

S. N	Nature of Work	Location	Cost (MUR)	Status
1	Pipe laying works	Rose Hill	27 M	Completed
2	Procurement for the milling, resurfacing of roads and related works.	Rose Hill	113.4 M	Completed
3	Pipe laying Works	Laventure, Bon Accueil, Lallmatie, Petite Retraite	5.7 M	Completed
4	Procurement for the milling, resurfacing of roads and related works.	Bon Accueil Phase 1	25.9M	Completed
5	Procurement for the milling, resurfacing of roads and related works.	Laventure	38.9M	Completed

Wastewater Management Authority

Over the next three years, Government plans to invest around MUR 5.5Billion in wastewater infrastructure in various regions including areas prone to overflows as well in places where the existing disposal system is creating inconvenience and representing health hazards to inhabitants. The vision of Government for a sustainable environment and the expansion of the wastewater network is in line with the aspiration of the Mauritian population.

The WMA has worked on various projects for the period July 2022 to June 2023 such as 7 Works Contract to the tune of MUR 897 million at La Source, Quatre Bornes, Morcellement Goolamally, Cite Roma, Valleé des Pretres and Bernardin de St Pierre, Avenue Sivananda (Opposite Vacoas Market) are ongoing. And 4 Consultancy services to the tune of MUR 87.59Million for the Feasibility Study, Detailed Design and Preparation of Bidding Document to sewer various region inter-alia Bain Des Dames,

Caro Lalo, Camp Cavale and Robinson, Curepipe, Vallée des Prêtres and Rodrigues are ongoing.

With the increase in the number of customers connected to the public sewer system and the volume of wastewater to be treated, there is also a need to upgrade the main Wastewater Treatment Plants at Baie du Tombeau, St Martin and Montagne Jacquot. Government has approved an amount of MUR 140 million and MUR 85 million for the refurbishment works at St Martin and Montagne Jacquot Wastewater Treatment Plant respectively. Action has already been initiated at the level of the Authority for the refurbishment of the Wastewater Treatment Plants.

2.1.4 Complaints Management

As at 30 June 2023, 116 tickets on the Citizen Support Unit Portal were still open, out of which 114 pertained to complaints and 2 were in relation to general inquiry and suggestion. Furthermore, since 28 April 2017 to 30 June 2023, 33,605 tickets were issued to the Ministry, out of which 32,993 cases have been settled/ closed, representing 98%.

2.1.5 International Events

The Ministry participated in several international events as follows:

- (i) G20 India - First Energy Transition Working Group (ETWG). Meeting was held from 5 - 7 February 2023 in Bengaluru, Karnataka, India.
- (ii) G20-2nd Energy Transition Working Group held from 2 - 4 April 2023 in Gandhinagar, Gujarat.
- (iii) 3rd Biennial Commonwealth Sustainable Energy Forum held from 24 to 26 May 2023 in Marlborough House, London.

The Hon Minister of Energy and Public Utilities participated in the Ministerial Dialogue of the First Edition of India's flagship energy event "India Energy Week 2023 (IEW) from 6 to 8 February 2023 in India. The India Energy Week Strategic Conference was organised to bring together Ministers responsible for energy sector, policy makers, and global stakeholders to share insights on the oil, gas, energy agenda while focusing on decarbonisation and just energy transition in order to shape the future of energy.

2.2 Status on Implementation of Budget Measures 2022/2023

Para No.	Measure	Status as at 30 June 2023
185	CEB is investing in an 8 MW solar PV farm at Henrietta by February 2023 to increase its capacity from 2 MW to 10 MW.	Work in progress and launching is expected on 02 November 2023.
186	A 1 MW solar farm will be commissioned at Grenade in Rodrigues.	Contract has been awarded on 25.08.2022 to Corexsolar International SAS. Project is ongoing and is expected to be completed by 07 October 2023
189	To allow the CEB to accommodate more renewable energy on its grid, a 20 MW battery energy storage system will be installed at Amaury.	Contract has been awarded to SIEMENS on 07 July 2022. Project is at implementation phase.
190	To encourage production and supply of renewable energy by households and non-commercial entities: - (a) 5,000 solar PV kits with a total capacity of 9 MW will be installed on rooftops of households, religious bodies, NGOs, and charitable institutions; (b) A loan facility of up to Rs 250,000 will be made available by the DBM to domestic consumers at a concessional rate of 2 percent per annum to finance the acquisition of solar PV systems	(a)The contract for 2000 PV Kits was awarded on 08 August 2022, for an implementation period of 18 months. The successful bidder for the 3000 PV kits has already been identified by the CPB. The Notification of award process has already been initiated by the CEB and the award is expected in February 2023.
191	Individuals and companies will also be allowed to generate renewable energy up to a maximum of 150 percent of their annual requirement.	Completed. Communiqué has been issued
192	The CEB will purchase electricity under the Medium Scale Distributed Generation Scheme (MSDG) at a feed-in tariff of Rs 4.20 per Kw/h.	The communiqué has been issued on 08 December 2022.
193	The existing rental fee for production meters of Renewable Energy Schemes is also being waived.	Implementation in progress at the level of the CEB Revenue Management Section of the Customer Services Department

Para No.	Measure	Status as at 30 June 2023
196	<p>To this end, a renewable energy transition framework is being implemented through: -</p> <p>(a) The generation of up to 150 percent of existing usage by industrial users;</p> <p>(b) The provision of an agreed feed-in tariff of Rs 4.20 for industrial users by the CEB;</p> <p>(c) Allowing the setting up of both on-site and off-site PV installations by industries; and</p> <p>(d) The introduction of a Carbon Neutral Loan Scheme by the IFCM over 7 years at a preferential rate of 3 percent.</p>	<p>The Carbon Neutral Industrial Sector Scheme was launched by CEB in February 2023.</p>
199	<p>A Committee will be chaired by the Prime Minister to fast-track the implementation of Renewable Energy projects to attain this objective</p>	<p>A Monitoring and Evaluation Sub-Committee, also known as Facilitation Desk, under the Permit and Licenses Fast Track and Facilitation Committee for Renewable Energy Projects has been set up MEPU. First Fast Track Committee held in May 2023.</p>
211	<p>To this end, the Energy Efficiency Management Office will:</p> <p>(a) Introduce mandatory Minimum Energy Performance Standards for air conditioners; and</p> <p>(b) Extend the mandatory energy labelling to television sets and tumble dryers.</p>	<p>(a) The document is at drafting stage.</p> <p>(b) Discussions on the proposed amendments for the Energy Efficiency (Labelling of Regulated Machinery) Regulations are ongoing.</p>

Para No.	Measure	Status as at 30 June 2023
300	<p>To improve water supply throughout the island:</p> <p>(a) Rs 100 million will be provided to start the construction of the Rivière des Anguilles Dam and for the upgrading of La Ferme Reservoir;</p> <p>(b) Rs 1 billion will be invested in water distribution projects including:</p> <ul style="list-style-type: none"> (i) replacement of pipes in Rose Hill, Laventure, Lallmatie, Pierrefonds, Flic en Flac, L'Escalier, Chamouny, Chemin Grenier, Roche Bois, Plaine Verte, Plaine Magnien, Montagne Fayence, Ecoignard, Bon Accueil, Plaine Lauzun, Fond du Sac, Plaine des Roches and Roches Noires amongst others; (ii) construction of service reservoirs at Cluny, Riche en Eau, Salazie, Eau Bouillie and Alma; (iii) installation of pressure filtration plants at Beau Champ, Calebasses, Constance, Chazal, Rivière La Chaux, Melrose, Tyack, Yemen; and (iv) construction of new and upgrading of existing water treatment plants at Mont Blanc, Piton du Milieu and Pont Lardier. 	<p>Several of these projects have been completed such as Service Reservoirs, Pipe replacement at Beau Bassin, Rose Hill and others are in progress.</p>
301	<p>Moreover, Rs 100 million is being earmarked for the provision of water tanks and water pumps to some additional 12,500 households.</p>	<ol style="list-style-type: none"> 1. Number of applications received 12th February 2022 to 31st January 2023 40605 out of which 14025 for period 1st July 2022 to 31st Jan 2023 2. Total number of coupons issued from 12th February

Para No.	Measure	Status as at 30 June 2023
		<p>2022 to 31st January 2023 24178 out of which 13583 were issued for period 1st July 2022- 31st January 2023</p> <p>3. Number of coupons disbursed for water tank 12th February 2022 to 31st January 2023 11,000 out of which 9761 for period 1st July 2022 - 31st January 2023</p> <p>4. Number of coupons disbursed for water pump 12th February 2022 to 31st January 2023 11000 out of which 9720 for period 1st July 2022- 31st January 2023</p>
303	<p>Furthermore, some Rs 1.1 billion will be provided for the:</p> <p>(a) implementation of sewerage infrastructure projects in Grand Baie, Pailles, Quatre Bornes, Morcellement Goolamally, Terre Rouge, Pointe aux Sables, Bambous, and Residence Atlee, Highlands, Camp Rouillard, Vallée des Prêtres and Chamarel;</p> <p>(b) refurbishment of the wastewater treatment plants at Montagne Jacquot and St Martin; and</p> <p>(c) extension of sewer lines and connection to additional premises in sewered regions across the country.</p>	<p>Several of these projects have been completed, such as Residence Atlee, Highlands and others are in progress. All other projects are ongoing.</p>
431	<p>For charitable and religious institutions, we are: - Exempting them from payment of wastewater charges</p>	<p>A draft Waste Water (Fees) (Amendment) Regulations 2022 is being finalised for promulgation.</p>

2.3 Status on Implementation of Key Actions

Key Action	Key Performance Indicator	Target (as per Budget Estimates)	Status
Achieve 60 percent RE in the electricity mix by 2030	Contribution of RE in the Electricity mix	25%	22.6%
Efficient water distribution	Percentage of Non-Revenue Water	55%	61%
Improved sanitation and enhanced quality of water in aquifers and lagoons.	Percentage of premises connected to the sewerage system	28.6%	28.19 %

Contribution of RE in the Electricity mix

The contribution of RE in the electricity mix is calculated as the ratio of total RE generated and total energy produced. Due to lockdown in 2020 and 2021, there was a reduction in economic activities leading to decrease in demand for electricity. As activities picked up in end 2021 and 2022, there has been an increase in the denominator. The numerator (RE generated) has increased but not more than proportionately.

Percentage of Non-Revenue Water

Due to the unavailability and non-functionality of some 270 water production meters, it is difficult to establish a baseline data and derive an exact percentage for Non-Revenue Water.

The figure for Non-Revenue Water is calculated as a difference between water production and sales. However, procurement proceedings have already been initiated for the replacement of the defective production meters. The Non-Revenue Water Unit has been revived.

2.4 Risk Management, Citizen Oriented Initiatives, Corporate Governance

❖ Internal Control

During the Financial Year 2022/23, 8 audit assignments were planned. 6 audit assignments which represent around 75% of the Annual Internal Audit Plan 2022/23 were completed.

❖ Audit Committee

The Audit Committee has met on 5 occasions during the financial year 2022/2023 to follow up on the implementation of the recommendations of the National Audit Office. An Action Plan as at 30 June 2023 was transmitted to the Office of the Public Sector Governance. The Audit Committee was deferred for the FY 2022/2023 as recommended by the Office of the Public Sector Governance as it was found that issues highlighted in the Action Plan would be addressed by Management and therefore, it was found no to be cost effective to have an Audit Committee at the level of the Ministry.

❖ Transformation Implementation Committee

As per Circular No.40 of 2021 issued by the Ministry of Public Service, Administrative and Institutional Reforms, Government has adopted five new KPIs for implementation by Ministries, Departments, Local Authorities and State-Owned enterprises.

As at end June 2023 the status achieved on the KPIs is:

KPI: 100% Utilization of Training Budget

Status: 61%

KPI: Implementation of the e-HR System

Status: 94%

KPI: Compliance of Buildings Housing Public Officers with Fire Safety Requirements

Status: 75%

Good Governance

Risk Management - Circular No.8 of 2021

A Risk Management Policy has been signed by the Accounting Officer on 31 August 2022 and same was uploaded on the Ministry's website.

A Risk Management Framework has also been developed and same approved by the Accounting Officer on 31 August 2022.

Two (2) Risk Assessments have been conducted by Parastatals and State-Owned enterprises and status of completion is 80%.

KPI: At least 75% of the implementation of the recommendations contained in the Corruption Risk Assessment Report of Financial Year 2020/2021

Status: 100%

❖ **Occupational Health and Safety**

70 occupational health and safety audits were conducted at the different Units of the Ministry and 2 fire drills were also carried out. Moreover, the following have been achieved:

- Joint site visits were also conducted at all Reservoirs around Mauritius for the implementation of Safety Signages around all reservoirs; and
- The completion of Phase 1 of the Occupational Safety & Health Management System at Head Office.

2.5 IMPLEMENTATION PLAN – DIRECTOR OF AUDIT COMMENTS

Issues	DOA Comments	Proposed Measures	Status of Action Taken
Loans to CWA for the implementation of Capital Water Projects	Several measures were being envisaged by the CWA in respect of cost reduction and revenue optimization with a view to achieving financial sustainability	<ul style="list-style-type: none"> • Various proposals were considered at the CWA level to review its business model which included amongst others, the possibility for the conversion of outstanding loans into other instruments. • Revenue generating streams have been identified 	A request has accordingly been made to the Ministry of Finance, Economic Planning and Development. Action taken at level of CWA
Non-compliance with legislation	Annual Reports and Financial Statements of CEB for the period 2019-2020 and those of CWA for the period 2018-2019 had not yet been laid before the National Assembly as at 20 December 2021.	<ul style="list-style-type: none"> • A Circular has been issued to refresh statutory bodies of the need to submit their Annual Reports by 31 August each year. 	Annual Report of CEB for the period 2019-2020 has been laid before the National Assembly on 12 April 2022. Annual Report of the CWA for the period 2018-2019 was submitted in August 2022.
Capital Investments in WMA through loans and Equity Participation	Proposals to move ahead for a financially sustainable WMA were being considered by an Ad-hoc Committee set up by the WMA Board.	<ul style="list-style-type: none"> • Work under progress for revenue generating opportunities. 	The Ad-hoc Committee set up to look into the financial situation of the WMA has submitted its proposals for short, medium and long term which has been approved by the MEPU.

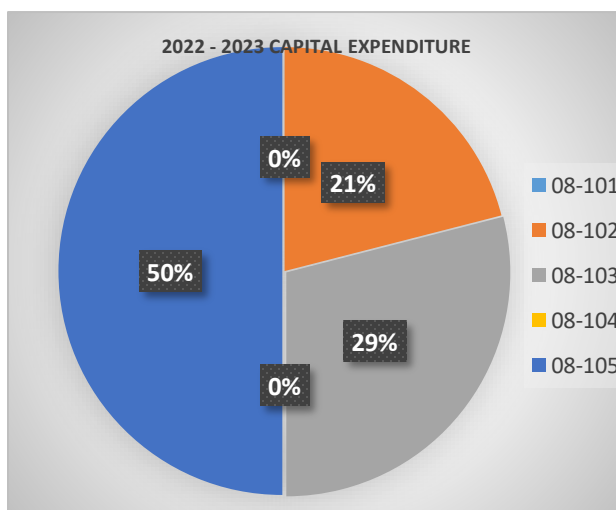
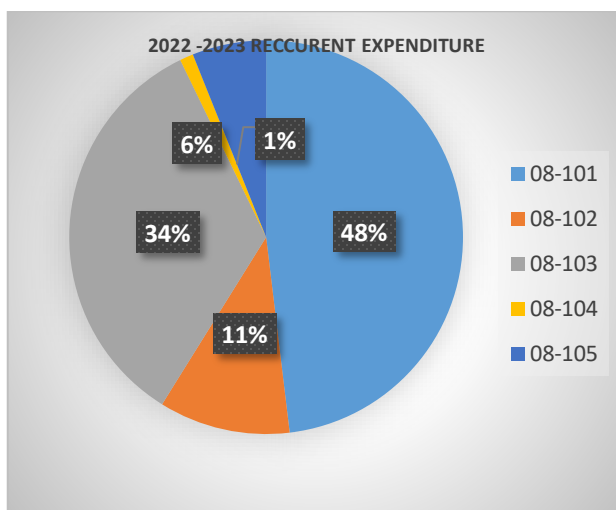
PART III - FINANCIAL PERFORMANCE

FINANCIAL HIGHLIGHTS

Overall Expenditure by Vote

A total amount of Rs. 2,707,000,000 was allocated to the Ministry in the Estimates 2022-2023, of which Rs. 244,000,000 for Recurrent Expenditure and Rs. 2,463,000,000 Capital Expenditure under Vote 8-1 and Sub-Heads 8-101: General; 8-102: Energy Services; 8-103: Water Services; 8-104: Wastewater Services; and 8-105: Radiation Safety and Nuclear Security Services.

The cumulative expenditure incurred in Financial Year 2022-2023 under the 5 Sub-Heads amounts to Rs. 1,554,089,876 under Recurrent Expenditure and Rs. 1,349,358,719 under Capital Expenditure, totaling Rs.1,554,089,576.

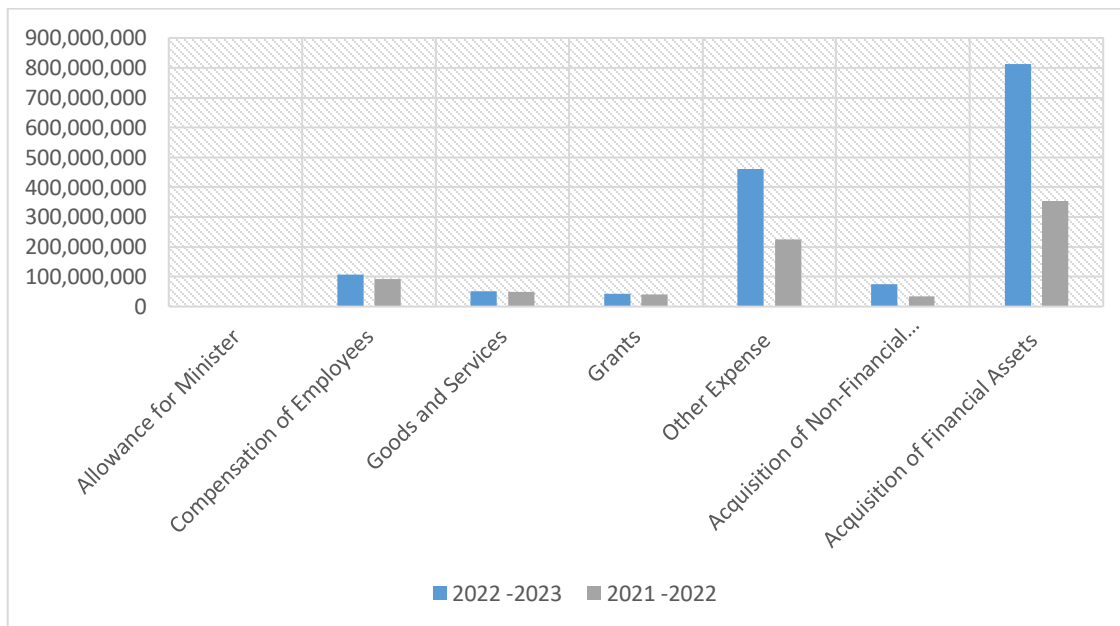


STATEMENT OF REVENUE

Revenue	Rs
Property Income	-
Sales of Goods and Services	39,460,008
Fines, Penalties and Forfeits	-
Miscellaneous Revenue	5,165,198
<i>Total Revenue from Property Income, User Fees and other Sources</i>	44,625,209

ANALYSIS OF MAJOR CHANGES

Out of the total provision allocated under Capital Estimates 2022/23, the percentage spent is 54.8%. It relays to delay in implementation of CWA and WMA projects.



Trends and Challenges

4.1 Trends

- Electricity generated was 2,884 GWh, of which about 500.5 GWh was from renewable sources representing 17.4 percent of the electricity mix.
- In 2022, the peak power demand in the Island of Mauritius was higher at 491.6 MW in 2022 compared to 470.8 MW in 2021. This was mainly due to the recovery of economic activities.
- In 2022, 320 million cubic metres (Mm³) of water were supplied to the population. Daily output in the network decreased from an average of 883,693 cubic metres (m³) in 2022 to 852,116 m³ as at end March 2023 in view of the prolonged dry season.
- Some 48 km of water pipes were commissioned and approximately 5,500 household connections were completed in the regions of Rose Hill, Laventure, Bon Accueil and Pont Blanc.
- Some 52 Mm³ of wastewater is being treated on a yearly basis by the 10 wastewater treatment plants around the island.
- As at March 2023, some 94,750 additional households were connected to the public sewer network.

4.2 Key Challenges

- Increase in the cost of projects and production of electricity due to significant rise in prices of raw materials, disruptions in supply chains and foreign exchange fluctuations;
- Considerable reduction in bagasse production is impacting on the generation of renewable energy in electricity mix;
- Effects of climate change on the rainfall pattern are impacting negatively on the effectiveness of water resource mobilisation;

- Ageing water distribution infrastructure and non-automated operations of the CWA resulting in high non-revenue water;
- Low rate of implementation of projects due to unavailability of skilled labour and non-performance of contractors;
- Financial sustainability of statutory bodies in the utility sector;
- Delays in obtention of permits and clearances for implementation of RE projects; and
- Inadequate technical resources for effective licensing and inspection of new state-of-the-art high-end and medical radiation facilities.

4.3 Strategic Directions

1. Ensure security of electricity supply, while increasing the share of renewable sources in the electricity generation mix

- Implement the Renewable Energy Roadmap 2030 and Smart Grid Roadmap;
- Introduce dedicated Renewable Energy (RE) Schemes for various economic sectors and accelerate implementation of existing schemes;
- Transition towards a cleaner source of energy in electricity production with the setting up of Liquefied Natural Gas (LNG) power plants;
- Increase the capacity of the Battery Energy Storage System of the CEB;
- Implement RE Generation projects (including Solar, Wind, Hybrid Facilities, Waste, Biomass and Wave) in partnership with the private sector;
- Install a reliable and accessible charging network, powered by cleaner energy sources to promote the use of electric vehicles; and
- Introduce an electric vehicles regulation to regulate the installation of charging infrastructure.

2. Promote Energy Efficiency

- Carry out comprehensive awareness campaigns to sensitise consumers on adopting energy efficiency initiatives;

- Introduce a regulation to provide for the mandatory Minimum Energy Performance Standards for air conditioners and electric motors;
- Extend mandatory energy audits in the public and private sector organisations;
- Develop a framework to facilitate growth of Energy Service Companies to implement recommendations of the energy audits;
- Extend the mandatory energy efficient labelling to also include television sets, washer dryers and tumble dryers; and
- Introduce energy efficiency parameters in the procurement of electronic appliances in the public sector.

3. Improve water supply across the island and reduce Non-Revenue Water

- Introduce a legal framework for the management, regulation, conservation and preservation of scarce water resources in an integrated and sustainable manner;
- Digitalise the water network and increase replacement of pipe networks to reduce operating cost and non-revenue water;
- Increase the water storage capacity with the construction of the Rivière des Anguilles Dam, rehabilitation of La Ferme Dam, enlargement of La Nicolière Reservoir and raising of spill way of Midlands Dam;
- Introduce a National Water Usage Policy to, amongst others, encourage use of tertiary treated effluents for irrigation of lawns, golf courses, green space at hotels, Integrated Resort Schemes;
- Promote conservation and strengthen protection of water resources;
- Increase water treatment capacity with the construction of new water treatment plants and rehabilitation of existing ones at Mont Blanc, Piton du Milieu and Pont Lardier; and
- Increase water production capacity with desalination of sea water and drilling of additional boreholes.

4. Increase coverage of sewer network across the island and ensure safe disposal of effluents

- Implement sewerage projects in regions including Grand Baie, Pailles-Guibies, Quatre Bornes, Terre Rouge, Pointe aux Sables, Bambous, Vallee Des Pretres, Curepipe and Chamarel;
- Refurbish St Martin and Montagne Jacquot Wastewater Treatment Plants;
- Extend sewer lines and connect additional premises located in sewerred regions to the sewerage network; and
- Implement Roche Bois Wastewater Pumping Station Project and Baie du Tombeau Wastewater Treatment Plant Project under a Build, Operate and Transfer (BOT) arrangement.

5. Ensure protection of people and the environment against the harmful effects of ionising radiation

- License and inspect radiation facilities and practices;
- Issue Codes of Practice and Guidelines for safe conduct of radiation practices;
- Conduct a National Threat Assessment for Nuclear Security; and
- Enhance the national radiation safety infrastructure and national nuclear security regime.

4.4 Situational Analysis

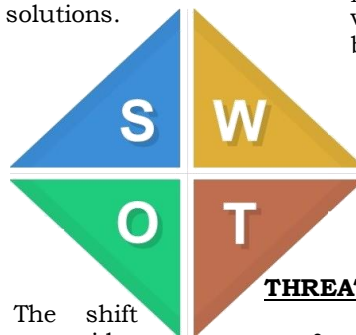
4.4.1 SWOT Analysis for the energy sector

STRENGTHS

- **Diverse Energy Sources:** The energy sector often has access to a wide range of energy sources, including fossil fuels, renewables (solar, wind, hydro), and nuclear power.
- **Technological Advancements:** Ongoing technological developments have led to more efficient and cost-effective methods of energy production, storage, and distribution.
- **Global Demand:** There is a constant and growing demand for energy on a global scale, providing the industry with consistent revenue streams.
- **Job Creation:** The energy sector is a significant contributor to employment, offering jobs in various fields such as engineering, research, development, and maintenance.
- **Innovation and Research:** The industry is often at the forefront of research and innovation, driven by the need for more sustainable and cleaner energy solutions.

WEAKNESSES

- **Environmental Impact:** Traditional energy sources, especially fossil fuels, have a significant negative impact on the environment, contributing to climate change and pollution.
- **Dependency on Non-Renewables:** Many countries still heavily rely on non-renewable energy sources, which are finite and contribute to geopolitical tensions.
- **High Initial Costs:** The initial costs of establishing renewable energy infrastructure can be high, although long-term operational costs may be lower.
- **Regulatory Challenges:** The energy sector is often subject to complex and evolving regulations, which can create uncertainty for businesses.
- **Vulnerability to Natural Disasters:** Energy infrastructure, especially in the case of power plants and offshore installations, can be vulnerable to natural disasters, impacting both production and distribution.



OPPORTUNITIES

- **Renewable Energy Growth:** The shift towards renewable energy sources provides opportunities for the development of new technologies and business models.
- **Energy Efficiency:** There is increasing demand for energy-efficient technologies and practices, creating opportunities for innovation and investment.
- **Global Collaboration:** Collaborative efforts on a global scale can lead to shared resources and advancements in sustainable energy solutions.
- **E-mobility Electrification of Transportation:** The growing trend towards electric vehicles presents opportunities for the energy sector to expand its market through increased demand for electricity.
- **Energy Storage Solutions:** The development of efficient energy storage technologies can address the intermittent nature of renewable energy sources.

THREATS

- **Price Volatility:** The energy sector is susceptible to fluctuations in commodity prices, affecting profitability and investment decisions.
- **Geopolitical Instability:** Political tensions and conflicts in key energy-producing regions can disrupt the supply chain and impact energy prices.
- **Competition from Non-Conventional Sources:** Non-conventional energy sources and decentralized energy systems could pose a threat to traditional centralized power generation models.
- **Public Perception and Opposition:** Negative public perception and opposition to certain energy projects, especially those involving fossil fuels or nuclear power, can create significant challenges.
- **Cybersecurity Risks:** Increasing reliance on digital technologies makes the energy sector vulnerable to cyberattacks, which can disrupt operations and compromise data security.

4.4.2 SWOT Analysis for the water sector

STRENGTHS

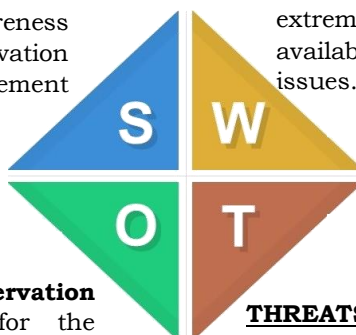
- **Critical Resource:** Water is a fundamental resource for life and is essential for various industries, agriculture and human consumption.
- **Infrastructure Investment:** Investments in water infrastructure, such as water treatment plants and distribution systems, continue to improved water quality and accessibility.
- **Innovation in water technologies:** Ongoing advancements in water treatment technologies and desalination techniques enhance the efficiency of water purification processes.
- **Renewable Water Sources:** Renewable sources of water, such as rainfall and sustainable groundwater recharge, provide a continuous supply of water.
- **Public Awareness:** Growing awareness about the importance of water conservation and sustainable water management practices can drive positive changes.

OPPORTUNITIES

- **Water Conservation Initiatives:** Opportunities exist for the development and promotion of water conservation initiatives, encouraging efficient water use at both individual and industrial levels.
- **Investment in Sustainable Technologies:** Continued investment in sustainable water technologies, such as smart water management systems and water recycling, can lead to improved resource utilization.
- **Public-Private Partnerships:** Collaboration between public and private sectors can lead to more efficient water management solutions and infrastructure development.
- **Water Reuse and Recycling:** Expanding efforts in water reuse and recycling can address both water scarcity and wastewater management challenges.
- **Community Engagement:** Engaging local communities in water management and conservation efforts can lead to more sustainable practices and increased awareness.

WEAKNESSES

- **Water Scarcity:** Many regions face water scarcity due to factors such as over-extraction, climate change, and inefficient water management practices.
- **Aging Infrastructure:** In some areas, water infrastructure may be outdated and in need of maintenance or replacement, leading to water losses and quality issues.
- **Contamination Risks:** The risk of water contamination from pollutants, industrial discharges, or agricultural runoff poses a threat to water quality and public health.
- **Unequal Distribution:** Water resources are not uniformly distributed, leading to regional disparities and potential conflicts over water access and use.
- **Dependency on Climate Patterns:** Changes in climate patterns, such as droughts or extreme weather events, can impact water availability and exacerbate water scarcity issues.



- **Climate Change Impact:** Changes in precipitation patterns, rising temperatures, and extreme weather events associated with climate change can exacerbate water scarcity issues.
- **Pollution and Contamination:** Increasing industrialization and urbanization can contribute to water pollution, posing threats to both human health and ecosystems.
- **Population Growth:** Rapid population growth can intensify water demand, leading to increased stress on existing water resources.
- **Lack of Regulatory Enforcement:** Weak enforcement of water quality regulations can result in inadequate protection of water sources and compromised water quality.