www.maesha.eu

Detailed energy database for Mayotte

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 957843 (MAESHA). This output reflects only the author's view and the European Union cannot be held responsible for any use that may be made of the information contained therein.

Deliverable D1.3
Detailed Energy Database for Mayotte

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DELIVERABLE 1.3 – VERSION 1
WORK PACKAGE N° 1

Nature of the deliverable		
R	Document, report (excluding the periodic and final reports)	X
DEC	Demonstrator, pilot, prototype, plan designs	
DEM	Websites, patents filing, press & media actions, videos, etc.	
O	Software, technical diagram, etc.	

Dissemination level		
PU	Public	X
CO	Confidential, restricted under conditions set out in Model Grant Agreement	
CI	Classified, information as referred to in Commission Decision 2001/844/EC	

Quality procedure

Revision	Date	Created by	Short Description of Changes

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More information on the project can be found at https://www.maesha.eu

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EXECUTIVE SUMMARY

This report constitutes the Deliverable 1.3 of the EU-funded Horizon 2020 project MAESHA presenting the detailed energy database for Mayotte. This deliverable contains the description of the data collection process, the data categories, the data sources as well as the structure of the energy dataset, which is provided as an Excel file accompanying the report.

The first section provides information on the steps followed in the data collection process starting from the initial identification of the data requirements by the modelers and the development of the relevant templates up to the final consolidation of the comprehensive dataset for Mayotte. Furthermore, all the data categories and the data sources are listed. A special section is dedicated to the data limitations and how these are going to be addressed during the development of the energy-economy modelling tools in WP2.

Section 2 describes the overall structure of the Excel-based energy database and presents the contents of each sheet as well as the relevant information and data sources. More specifically, details are provided regarding the economic accounts including information on GDP, employment, trade/competitiveness, sectoral production, and income.

The conclusions on the data collection process and on the data finally collected are summarized in the Section 3 of the deliverable.

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NOTATIONS, ABBREVIATIONS AND ACRONYMS

Acronyms	
CRE	Commission de régulation de l'énergie de France - French Energy Regulatory Commission
E3-ISL	Energy-Economy-Environment island-scale model
EDM	Electricité De Mayotte
ETPC	Entreprise de Travaux Publics, Concassage
EU	European Union
GDP	Gross Domestic Product
GHG	Greenhouse Gases
GVA	Gross Value Added
IEDOM	Institut d'Emission des Departements d'Outre-Mer
INSEE	Institut national de la statistique et des études économiques - National Institute of Statistics and Economic Studies
LPG	Liquefied Petroleum Gas
MAESHA	DeMonstration of smArt and flExible solutions for a decarboniSed energy future in Mayotte and otHer European islAnds
NACE	Nomenclature statistique des activités économiques dans la Communauté Européenne
PP	Power Plant
PPE	Programmation pluriannuelle de l'énergie – Multiannual Energy Programme
PV	Photovoltaics
RES	Renewable Energy Sources

SMSPP	Société Mahoraise de Stockage de Produits Pétroliers
SOMAGAZ	SOciété MAhoraise de GAZ

1. INTRODUCTION

Accurate, reliable and inclusive data is a key prerequisite for the robust modelling of an energy-economy system in the short-, medium- and long-term horizon. Consequently, data is a key resource for MAESHA project, required to inform the modelling activities in WP2. Data is collected in WP1 and will be used for energy system modelling and the design of flexibility services for the power system of Mayotte.

This document accompanies and describes the detailed energy database for the Department of Mayotte which is required to build the modelling tools within WP2 at the adequate spatial and temporal resolution. The assessment of the current energy situation in Mayotte required the collection of data and information on existing energy and electricity infrastructure, energy demand and supply, balancing and other ancillary service needs, renewable energy potential, power plants, electricity grid, short-term and strategic energy planning, cost of energy and electricity, load seasonality (i.e., touristic season), energy prices, economic and labor market data and demographic information. In addition, data related to weather conditions, load curves, renewable energy production forecasts and technical specifications are also required to ensure the optimal design of the RES systems and flexibility options to be developed and installed in Mayotte. As indicated by EDM – the owner of the data – the latter will remain confidential and available only to the members of the MAESHA consortium.

The database will serve as input for the modeling tools and solutions developed within Work packages 2 and 4, namely real-time, short-term and long-term energy system modelling for the island of Mayotte. Similar databases will be developed in the context of the Work Package 10 in order to replicate these modelling tools for the follower islands of the MAESHA project.

The data categories gathered in the framework of Task 1.3 involve macroeconomic data (GDP, Gross Value Added by sector, labor force and employment by sector), demographic parameters (population, number of households, household size), economic accounts, GDP components, transport activity data and vehicle stock, penetration rates of household appliances, all cost items that formulate electricity prices by type of consumer (power subscription, taxes, etc.), other fuel prices, electricity consumption by type of consumer, consumption of oil products, hourly power generation and hourly capacity factors for solar PV stations, the power plant inventory, the electricity production mix, new energy project investments, the balance between electricity demand and supply, grid losses, grid data such as voltage and frequency, GHG emissions, local holidays and weather historical data as well as weather forecast data.

The procedure of Task 1.3 is summarized in the next section and includes the following steps:

1. Identification of data requirements
2. Clarifications regarding data requested
3. First check of data availability
4. Preparation of data templates
5. Dissemination of data templates to EDM
6. Data collection from EDM and other sources
7. Submission of data to E3M
8. Data consolidation and handling

1.1. DATA COLLECTION PROCESS

The data collection has been a collaborative process where various MAESHA partners were involved in order to identify, collect, review and categorize the various data categories for Mayotte in a structured way. The first sub-task of the Task 1.3 was the identification of the data requirements for the development of the modelling tools in WP2. The partners involved developed a list with all the data categories that ideally should be obtained for their modelling work and provided the necessary clarifications to EDM regarding the data categories requested. EDM partners indicated which data categories are applicable for Mayotte (e.g. Mayotte does not use coal or nuclear power at all), which data are available and specified possible data sources. At least two (2) remote meetings have taken place in order to establish a process to gather all data, determine technical issues regarding data collection as well as to provide further clarifications on the data requirements. Most of data were requested for modelling tools developed in WP2, so data collection was informed by the D2.1 developing the architecture of the energy system model for Mayotte.

Having finalized the determination of all the data needed, the next step was to develop comprehensive, Excel-based data templates covering the majority of the data needs for the long-term energy-economy modelling exercise. These templates were prepared by E3Modellingand communicated to EDM partners both in English and French in order to facilitate communication and exchanges with local stakeholders in Mayotte. These templates comprised six (6) parts:

- an Excel file regarding socio-economic factors (including GDP, sectoral production, labor market data) and demand-side energy data for buildings, industries and transport sectors, prepared by E3Modelling
- an Excel file including all necessary supply-side data (with a focus on power generation mix and electricity-producing technologies) and fuel prices, prepared by E3Modelling
- a Word file served as a technical guide for filling in the aforementioned Excel templates and included a questionnaire on possible new energy projects and existing energy, transport and climate policies in Mayotte, prepared by E3Modelling
- an Excel file including requirements for high-resolution electricity generation data by plant (15-minute resolution) to be used for short-term modelling (Task 2.4), prepared by HIVE
- an Excel file including request for historical weather data, prepared by HIVE
- an Excel file including local and school holidays required for load profile modelling, prepared by HIVE

In general, the electricity consumption and the supply-side energy data that concerned mainly the power sector of Mayotte have been collected to the greatest extent possible as these were under the possession of EDM. Regarding the demand-side energy data, scattered data and information have been collected mostly from local official reports as well as local fuel suppliers. The data infrastructure created in the task will be used in Work Package 10 to map and categorize energy system data in MAESHA follower islands.

1.2. DATA SOURCES

All data sources used for the population of the data templates and the modelling tools were obtained from official local and national sources as well as local stakeholders, apart from the historical weather data and weather forecasts that were derived from Meteomatics[1]. Useful information and data have been gathered from official local technical and economic reports as well as relevant policy documents.

The data sources are listed in the following sections.

[1] Confidential data were collected by HIVE.

1.2.1. EDM[2]

Electricité de Mayotte (EDM), a MAESHA partner, is a public-private company that is responsible for the production, distribution and supply of electricity on the territory of Mayotte. EDM was the main provider of data regarding the power sector of Mayotte and the local intermediary for the provision of other relevant data (e.g., oil consumption from SIGMA-TOTAL, economic accounts from INSEE) as well as the provider and translator of the local reports. More specifically, EDM provided the consortium with the following data categories:

- Electricity consumption by type of contract (type of customer) and power subscription
- Complete list of existing power plants, their type, location, year of commissioning and installed capacity
- Complete list of power plants under construction or under licensing procedure, their installed capacity, location and the expected year of commissioning
- The technical specifications of the new batteries[3] connected to Mayotte grid, which are expected to be operational in 2021
- Electricity prices by type of contract/customer and power subscription as well as all relevant components (pre-tax price, subscription per month and year, taxes)
- Energy-related GHG emissions of Mayotte by major emitting sector for 2018 and especially for power generation from 2015 until 2019
- Voltage and Frequency data of the power system
- Electricity generation and the respective fuel consumption of the diesel-fired plants Longoni and Badamiers, as well as the average primary reserves

1.2.2. INSEE[4]

The National Institute of Statistics and Economic Studies (INSEE) of France collects, analyses and disseminates information on the French economy and society. The data was acquired by INSEE either via direct communication of EDM or via the official website of the Institute and were the following:

- Demographic data, such as population, labor force, number of households, type of households (e.g., multi-family, single-family, etc.), average household size
- Economic data, such as the Gross Domestic Product and its components, the total gross value added (GVA), the sectoral GVA and production, the economic accounts of Mayotte for 2015-2016, employment by sector of activity, imports and exports
- Penetration of appliances in households (e.g., refrigerators and freezers, air-conditioning systems, laundry machines, etc.)
- Number of passenger cars and 2-wheelers by household

1.2.3. Group SOMAGAZ - SIGMA[5]

[2] http://www.electricitedemayotte.com/

[3] Confidential data, not included in the deliverable

[4] https://www.insee.fr/en/accueil

[5] http://www.somagaz.net/qui-sommes-nous/sigma-somagaz/

The SOciété MAhoraise de GAZ (SOMAGAZ) was created in 1996 and is the leader in the Mayotte gas market, specialized in LPG (Liquefied Petroleum Gas) distribution. Since then, it has continued to multiply its initiatives:

- to make domestic gas accessible to the greatest number of people via a local network of over 160 sales outlets;
- to respond to the public authorities' desire to combat the intensive use of charcoal, which contributes to the island's deforestation
- to provide Mayotte with clean energy, an economical alternative to paraffin, which is the cause of many domestic accidents.

In 2007, SOMAGAZ, through its subsidiary SIGMA, created a gas filling center in Mayotte to secure its supplies. SIGMA, an industrial gas services company based in Longoni, has been bottling gas imported in bulk by gas tanker directly in Mayotte.

The data obtained by SIGMA concern the annual consumption of LPG as well as the annual storage of LPG terminal.

1.2.4. TOTAL[6]

TotalEnergies Mayotte and SMSPP (Société Mahoraise de Stockage de Produits Pétroliers) are fuel retailers and have a network of close to ten service stations in Mayotte, where they retail the fuels and offer related services. Two of these service stations sell marine fuel. They also market lubricants, white products (gasoline, diesel, etc.), jet fuel, liquefied petroleum gas (LPG). They are also involved in logistics and the supply chain through Société Mahoraise de Stockage des Produits Pétroliers (SMSPP), which operates three depots located on Petite-Terre and the main island.

TOTAL provided the consumption of all refined oil products in Mayotte (paraffin, LPG, aviation and marine fuel, gasoline, diesel).

1.2.5. IEDOM[7]

The Institut d'émission des départements d'outre-mer (IEDOM) carries out its tasks within the Eurosystem, which is composed of the European Central Bank and the national central banks of the Euro area. IEDOM is responsible for ensuring the territorial continuity of the central bank's tasks by delegation from the Banque de France in the overseas departments and territories whose currency is the Euro: Guadeloupe, French Guiana, Martinique, Mayotte, Reunion, Saint Barthélemy, Saint Martin, Saint Pierre and Miquelon and the French Southern and Antarctic Lands (TAAF). IEDOM is a subsidiary of the Banque de France which implements its missions of monetary strategy, financial stability and services to the economy while respecting the specificities of the overseas territories.

MAESHA partners used the Mayotte-specific economic reports 2017-2020 from IEDOM that included economic figures and data on demographics for Mayotte, information on the structure of the economy, data on the evolution of vehicle stock, traffic of passenger and freight transport, electricity and oil consumption.

1.2.6. CRE[8]

The Commission de régulation de l'énergie (CRE) is responsible for the proper functioning of the electricity and gas markets in France, for the benefit of end consumers and in line with the objectives

[6] https://totalenergies.yt/

[7] https://www.iedom.fr/iedom/

[8] https://www.cre.fr/

of the national and European energy policy. CRE conducted a mission in Mayotte to assess the energy situation and summarized the conclusions in the document "CRE's Guidelines on Multiannual Energy Programme of Mayotte", which has been extensively used in Deliverable 1.3 to provide relevant information on the current energy situation and future energy programme of Mayotte.

1.3. DATA LIMITATIONS

In general, the data collection process was smooth and efficient (despite the required translation from French to English and vice versa), and data collected are considered sufficient to a large extent. In some cases, the collected data are not in sufficient detail, meaning that the time-series may be limited (e.g., in case of GHG emissions by major sector, etc.) and the granularity may be low (e.g., in case of sectoral value added in Manufacturing, or in terms of split of fuel consumption by sector of activity etc.).

On the other hand, no data have been collected on the following:

- Primary production of biomass, final energy consumption by sector, non-energy consumption.
- Industrial production by sector (e.g., production of metals, cement, glass & ceramics, etc.)
- Transport activity data by mode (private cars, buses, 2-wheelers, navigation vessels, etc.) in passenger-kms/tonne-kms as well as vehicle-kms
- Time-series of heating degree-days (HDDs) and cooling degree-days (CDDs)
- Electricity consumption of representative neighborhood in hourly resolution required for the short-term energy modelling
- Hourly electricity load profile by type of consumer
- Prices of oil products by type of consumer

Despite the data gaps mentioned above, the modelling work in the other Work Packages won't be disrupted. The partners responsible for developing the modelling tools will adapt them accordingly and use assumptions based on expert's experience, common sense (e.g. heating and some industrial activities not relevant for Mayotte) and utilize information from countries or regions with similar characteristics of their energy and economy systems. After careful consideration of data availability, all modelling tools in WP2 will be developed with the highest quality and will be delivered on time, as the limited data unavailability will not pose additional risks and constraints in the design and development of island-scale modelling tools.

2. Structure of the Database

The energy database for Mayotte has been consolidated and structured over one Excel file, including energy and economy data as well as a library containing the most recent policy and technical documents on the energy sector in Mayotte. Each sheet of the Excel-based file corresponds to data of different categories and is structured in time series in order to be directly usable by the island-scale modelling tools. The data sources as well as data-specific notes are listed in each sheet. The file starts with a summary sheet that presents the contents of the Mayotte dataset and concludes with notes on several issues deserving additional clarifications, including abbreviations, NACE coding, units of measurement for energy products, etc.

The following sections outline the contents of each Excel sheet of the database as well as the relevant data sources. The database including all data gathered in Task 1.3 can be found in the relevant attached Excel file.

Table 1: Contents of the energy database

Name of the sheet	Brief description	Data sources
Socio-economic Data	Demographic data such as population, labor force and number of households as well as economic data like Gross Domestic Product, Gross Value Added, sectoral value added, employment by sector of activity etc.	INSEE and the economic reports of IEDOM
2015 Economic accounts	GDP components and Economic accounts of 2015 for Mayotte.	INSEE
2016 Economic accounts	GDP components and Economic accounts of 2016 for Mayotte.	INSEE
Industrial Production	Measurement of industrial production (currently unavailable).	N/A
Households Data	Demographic and structural indicators as well as penetration of appliances in households.	INSEE and the Marketing Study of Standard MDE Offer of EDM
Transport Data	Data related to the stock of vehicles and traffic activity in terms of passengers-km and freight per transport mode (road, maritime, air). Data are available for the number of passengers and tones per transport mode.	annual economic reports of IEDOM and the Multi-annual Energy Programme of Mayotte
Electricity Prices	Formulation of electricity tariffs by type of purchase contract and customer type (subscription by year and month, pre-tax tariffs in peak and off-peak hours, taxes).	EDM

Other fuel prices	Pre-tax and after-tax prices of imported fuels, excise taxes and VAT (Value Added Tax).	annual economic reports of IEDOM
FEC breakdown	Breakdown of final energy consumption by end-use sector.	CRE's Guidelines on Multiannual Energy Programme of Mayotte, 2020
Electricity consumption	Annual electricity consumption by type of customer.	EDM
Fossil Fuel consumption	Annual consumption of other fuels, mainly oil products (gasoline, diesel, LPG, jet fuel, kerosene).	EDM, Total, SIGMA-SOMAGAZ and the Annual Economic Reports of IEDOM
Existing PPs	Power plant inventory of Mayotte electricity system and relevant details, such as location, technology type, installed capacity, year of commissioning.	EDM
Future PP projects	Planned power plant projects or under construction in Mayotte and relevant details, such as location, technology type, installed capacity, expected year of commissioning.	EDM
Electricity Balance	Electricity balance of Mayotte power system (consumption, net production, losses and self-consumption, transformation input?).	EDM
Voltage & Frequency Data	Voltage and Frequency data of Mayotte power system with 10-minute resolution.	EDM
Other Power data	Technical potential of Renewable Energy Sources and transmission & distribution electricity losses.	CRE's Guidelines on Multiannual Energy Programme of Mayotte, 2020
Primary Production	Primary/Indigenous production of biomass (currently unavailable).	N/A
GHG emissions	Annual GHG emissions per sector in tn CO_2-eq.	EDM
Project Investments	Planned project investments in the energy sector in Mayotte.	Multi-annual Energy Plan (PPE) 2019-2023/2024-2028 of Mayotte, 2020 (draft)

Local & School Holidays	Local and school holidays of Mayotte from 2015 to 2025.	HIVE, EDM
NACE	NACE classification of economic activities codes used in the "Socio-economic Data" sheet.	-
Notes	Notes on the units & abbreviations.	-

A variety of local official reports related to the energy sector of Mayotte have been also collected. The following table lists the main documents used to obtain information and data regarding the structure of the economy, the energy sector and the policy overview of Mayotte.

Table 2: Directory of local policy documents and technical reports

Document	Brief description
Multi-annual Energy Plan (PPE) 2019-2023/2024-2028 of Mayotte, 2020 (in draft version)	The Multiannual Energy Plan (PPE) is the foundation of France's energy future for the coming years. It expresses the directions and priorities of the public authorities for the deployment of all forms of energy in France, in order to achieve the objectives of the energy policy defined in articles L. 100-1, L. 100-2 and L. 100-4 of the Energy Code. It defines the guidelines and means for achieving the carbon budget accounting for the guidelines defined in the National Low-Carbon Strategy.
Mayotte Disconnection Threshold Study, by CAPSIM & EDM, 2018	This document presents the analysis on the disconnection threshold of random electric power plants on the Mayotte network, comparing different thresholds in terms of lost renewable energy and impact on network security by 2023.
CRE's Guidelines on Multiannual Energy Programme of Mayotte, 2020[9]	This document constitutes the detailed analysis of CRE to assess the needs of the power system of Mayotte for the time horizon defined in the Multiannual Energy Programme of the island.
Annual Economic Report of Mayotte - Rapport Annuel Economique de Mayotte of 2017, 2018, 2019 & 2020, IEDOM[10]	These reports present in detail the socio-economic and financial situation of Mayotte, using figures and sectoral analyses based on the latest 5-year period. They provide information designed to enable an outside observer to gain a deeper understanding of the area concerned.

2.1. SHEET "CONTENTS"

The first sheet of the Excel-based database provides an overview of the following sheets as well as a brief description of the data included in each sheet. The sheet names are hyperlinked with the respective sheets in order to facilitate the handling of the database by the users.

[9] https://www.cre.fr/content/download/22000/279267

[10] https://www.iedom.fr/IMG/rapport_annuel_iedom_mayotte_2020/#page=16, https://www.iedom.fr/IMG/pdf/iedom-rapport_d_activite_2019-planche.pdf, https://www.iedom.fr/IMG/pdf/iedom-rapport_annuel_2018-planche_2.pdf, https://www.iedom.fr/IMG/pdf/iedom-rapport_annuel_2017.pdf

Sheet Name	Description
Socio-economic Data	Demographic data such as population, labor force and number of households as well as economic data like Gross Domestic Product, Gross Value Added, sectoral value added, etc.
2015 Economic accounts	GDP components and economic accounts of 2015 for Mayotte.
2016 Economic accounts	GDP components and economic accounts of 2016 for Mayotte.
Industrial Production	Measurement of industrial production (currently unavailable).
Households Data	Demographic and structural indicators as well as penetration of appliances in households.
Transport Data	Data related to the stock of vehicles and traffic in terms of passengers and freight per transport mode (road, maritime, air)
Electricity Prices	Formulation of electricity tariffs by type of purchase contract and customer type (subsciption by year and month, pre-tax tariffs in peak and off-peak hours, taxes).
Other fuel prices	Pre-tax and after tax prices of imported fuels, excise taxes and VAT (Value Added Tax).
FEC breakdown	Breakdown of final energy consumption by end-use sector.
Electricity consumption	Annual electricity consumption by type of customer.
Other Fuel consumption	Annual consumption of other fuels, mainly oil products (gasoline, diesel, LPG, jet fuel, kerosene).
Existing PPs	Power plant inventory of Mayotte power system and relevant details, such as location, technology type, installed capacity, year of commissioning.
Future PP projects	Planned power plant projects or under construction in Mayotte and relevant details, such as location, technology type, installed capacity, expected year of commissioning.

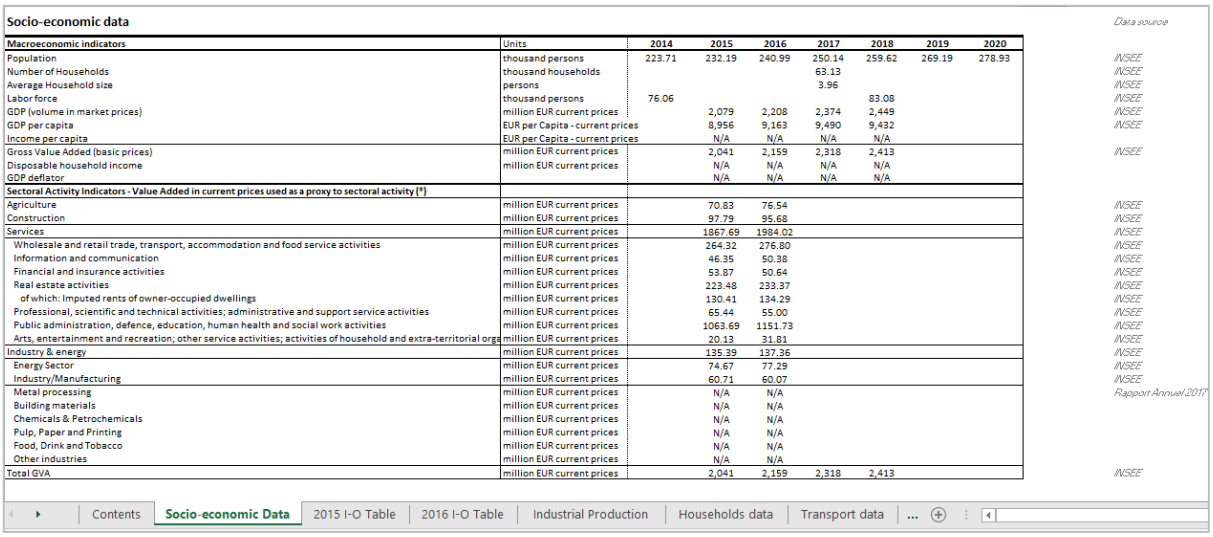
Contents | Socio-economic Data | 2015 Economic accounts | 2016 Economic accounts | Industrial

Figure 1: Sheet ***Contents of the Mayotte energy database***

2.2. SHEET "SOCIO-ECONOMIC DATA"

The first sheet contains the demographic data such as population, labor force, number of households and average household size for Mayotte for the historical years 2014-2020, where available. All data are acquired from INSEE and the economic reports of IEDOM. The population data for the years 2019 and 2020 are estimated figures. In particular, this sheet includes the following socio-economic data:

- Population
- Number of Households, average household size
- Labor Force
- GDP, GVA and sectoral value added



Socio-economic data

Macroeconomic indicators	Units	2014	2015	2016	2017	2018	2019	2020	Data source
Population	thousand persons	223.71	232.19	240.99	250.14	259.62	269.19	278.93	INSEE
Number of Households	thousand households				63.13				INSEE
Average Household size	persons				3.96				INSEE
Labor force	thousand persons	76.06				83.08			INSEE
GDP (volume in market prices)	million EUR current prices		2,079	2,208	2,374	2,449			INSEE
GDP per capita	EUR per Capita - current prices		8,956	9,163	9,490	9,432			INSEE
Income per capita	EUR per Capita - current prices		N/A	N/A	N/A	N/A			
Gross Value Added (basic prices)	million EUR current prices		2,041	2,159	2,318	2,413			INSEE
Disposable household income	million EUR current prices		N/A	N/A	N/A	N/A			
GDP deflator			N/A	N/A	N/A	N/A			
Sectoral Activity Indicators - Value Added in current prices used as a proxy to sectoral activity (*)									
Agriculture	million EUR current prices		70.83	76.54					INSEE
Construction	million EUR current prices		97.79	95.68					INSEE
Services	million EUR current prices		1867.69	1984.02					INSEE
Wholesale and retail trade, transport, accommodation and food service activities	million EUR current prices		264.32	276.80					INSEE
Information and communication	million EUR current prices		46.35	50.38					INSEE
Financial and insurance activities	million EUR current prices		53.87	50.64					INSEE
Real estate activities	million EUR current prices		223.48	233.37					INSEE
of which: Imputed rents of owner-occupied dwellings	million EUR current prices		130.41	134.29					INSEE
Professional, scientific and technical activities; administrative and support service activities	million EUR current prices		65.44	55.00					INSEE
Public administration, defence, education, human health and social work activities	million EUR current prices		1063.69	1151.73					INSEE
Arts, entertainment and recreation; other service activities; activities of household and extra-territorial orga	million EUR current prices		20.13	31.81					INSEE
Industry & energy	million EUR current prices		135.39	137.36					INSEE
Energy Sector	million EUR current prices		74.67	77.29					INSEE
Industry/Manufacturing	million EUR current prices		60.71	60.07					INSEE
Metal processing	million EUR current prices		N/A	N/A					Rapport Annuel 2017
Building materials	million EUR current prices		N/A	N/A					
Chemicals & Petrochemicals	million EUR current prices		N/A	N/A					
Pulp, Paper and Printing	million EUR current prices		N/A	N/A					
Food, Drink and Tobacco	million EUR current prices		N/A	N/A					
Other industries	million EUR current prices		N/A	N/A					
Total GVA	million EUR current prices		2,041	2,159	2,318	2,413			INSEE

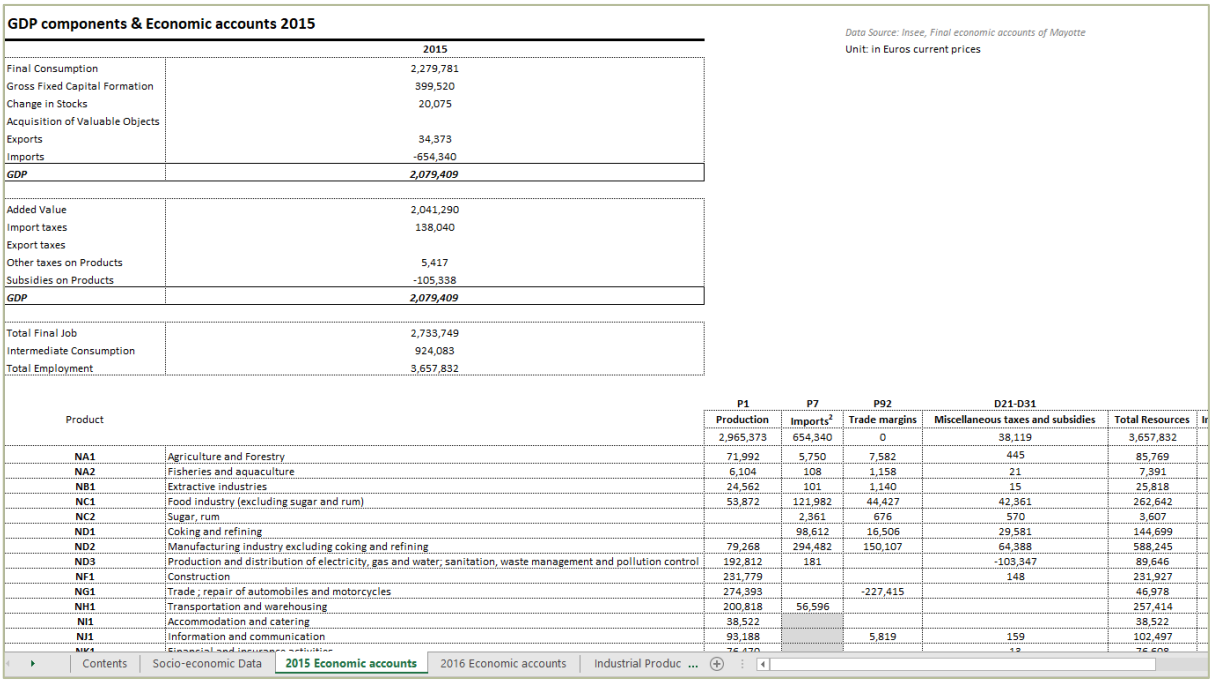
Contents | Socio-economic Data | 2015 I-O Table | 2016 I-O Table | Industrial Production | Households data | Transport data | ...

Figure 2: Sheet ***Socio-economic Data***

2.3. SHEET "2015 ECONOMIC ACCOUNTS"

This sheet contains the economic and financial figures of Mayotte for the year 2015, derived directly from INSEE. More specifically, the sheet includes data for:

- GDP and its components for 2015
- Economic accounts of 2015, including production, demand, taxes, imports and exports by sector of activity



GDP components & Economic accounts 2015

Data Source: Insee, Final economic accounts of Mayotte
Unit: in Euros current prices

	2015
Final Consumption	2,279,781
Gross Fixed Capital Formation	399,520
Change in Stocks	20,075
Acquisition of Valuable Objects	
Exports	34,373
Imports	-654,340
GDP	***2,079,409***
Added Value	2,041,290
Import taxes	138,040
Export taxes	
Other taxes on Products	5,417
Subsidies on Products	-105,338
GDP	***2,079,409***
Total Final Job	2,733,749
Intermediate Consumption	924,083
Total Employment	3,657,832

Product		P1 Production	P7 Imports[2]	P92 Trade margins	D21-D31 Miscellaneous taxes and subsidies	Total Resources	Ir
		2,965,373	654,340	0	38,119	3,657,832	
NA1	Agriculture and Forestry	71,992	5,750	7,582	445	85,769	
NA2	Fisheries and aquaculture	6,104	108	1,158	21	7,391	
NB1	Extractive industries	24,562	101	1,140	15	25,818	
NC1	Food industry (excluding sugar and rum)	53,872	121,982	44,427	42,361	262,642	
NC2	Sugar, rum		2,361	676	570	3,607	
ND1	Coking and refining		98,612	16,506	29,581	144,699	
ND2	Manufacturing industry excluding coking and refining	79,268	294,482	150,107	64,388	588,245	
ND3	Production and distribution of electricity, gas and water; sanitation, waste management and pollution control	192,812	181		-103,347	89,646	
NF1	Construction	231,779			148	231,927	
NG1	Trade ; repair of automobiles and motorcycles	274,393		-227,415		46,978	
NH1	Transportation and warehousing	200,818	56,596			257,414	
NI1	Accommodation and catering	38,522				38,522	
NJ1	Information and communication	93,188		5,819	159	102,497	
NK1	Financial and insurance activities	76,470			13	76,608	

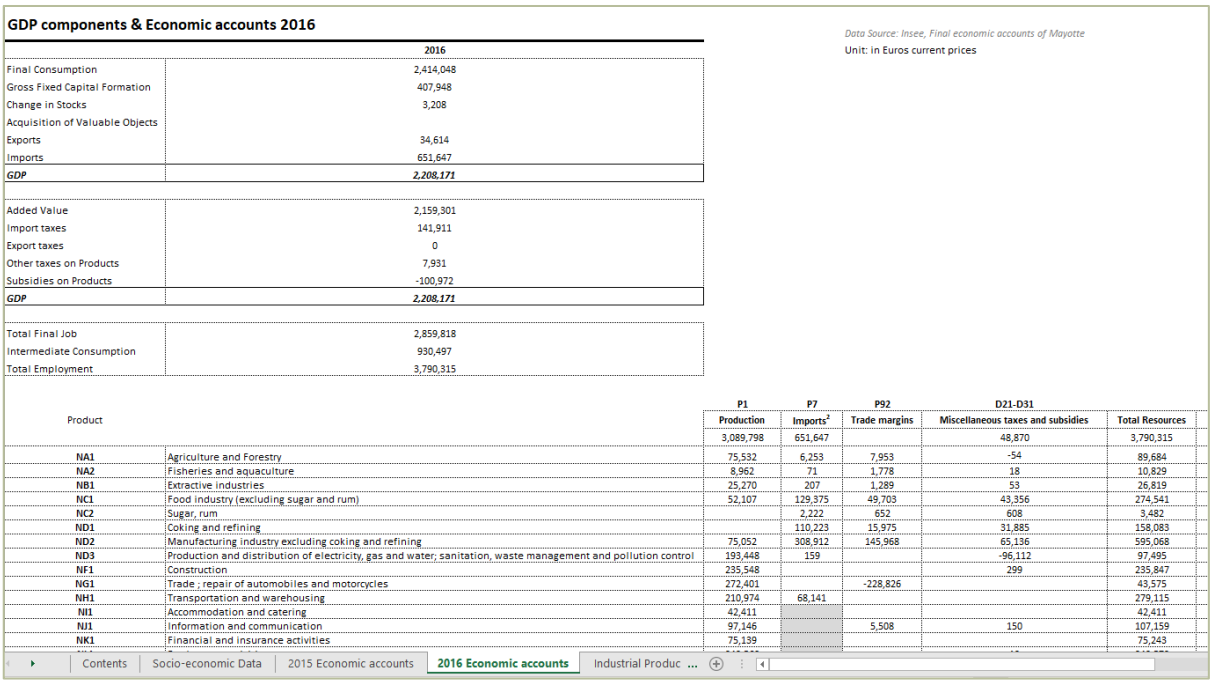
Contents | Socio-economic Data | 2015 Economic accounts | 2016 Economic accounts | Industrial Produc ...

Figure 3: Sheet ***2015 Economic accounts***

2.4. SHEET "2016 ECONOMIC ACCOUNTS"

This sheet contains the economic and financial figures of Mayotte for the year 2016, derived from INSEE. More specifically, the sheet includes data for:

- GDP and its components for 2016
- Economic accounts of 2016



GDP components & Economic accounts 2016

Data Source: Insee, Final economic accounts of Mayotte
Unit: In Euros current prices

	2016
Final Consumption	2,414,048
Gross Fixed Capital Formation	407,948
Change in Stocks	3,208
Acquisition of Valuable Objects	
Exports	34,614
Imports	651,647
GDP	*2,208,171*
Added Value	2,159,301
Import taxes	141,911
Export taxes	0
Other taxes on Products	7,931
Subsidies on Products	-100,972
GDP	*2,208,171*
Total Final Job	2,859,818
Intermediate Consumption	930,497
Total Employment	3,790,315

Product		P1	P7	P92	D21-D31	
		Production	Imports[2]	Trade margins	Miscellaneous taxes and subsidies	Total Resources
		3,089,798	651,647		48,870	3,790,315
NA1	Agriculture and Forestry	75,532	6,253	7,953	-54	89,684
NA2	Fisheries and aquaculture	8,962	71	1,778	18	10,829
NB1	Extractive industries	25,270	207	1,289	53	26,819
NC1	Food industry (excluding sugar and rum)	52,107	129,375	49,703	43,356	274,541
NC2	Sugar, rum		2,222	652	608	3,482
ND1	Coking and refining		110,223	15,975	31,885	158,083
ND2	Manufacturing industry excluding coking and refining	75,052	308,912	145,968	65,136	595,068
ND3	Production and distribution of electricity, gas and water; sanitation, waste management and pollution control	193,448	159		-96,112	97,495
NF1	Construction	235,548			299	235,847
NG1	Trade ; repair of automobiles and motorcycles	272,401		-228,826		43,575
NH1	Transportation and warehousing	210,974	68,141			279,115
NI1	Accommodation and catering	42,411				42,411
NJ1	Information and communication	97,146		5,508	150	107,159
NK1	Financial and insurance activities	75,139				75,243

Contents | Socio-economic Data | 2015 Economic accounts | 2016 Economic accounts | Industrial Produc ...

Figure 4: Sheet ***2016 Economic accounts***

2.5. SHEET "INDUSTRIAL PRODUCTION"

This sheet corresponds to the industrial production in Mayotte. The main industrial company in Mayotte is ETPC[11], which has been active in Mayotte for over 30 years and offers a wide range of construction products (building materials) for the building and public works industry. The company is organised around four activities:

- Extraction, rock crushing and marketing of aggregates at the Koungou and M'tsamoudou sites
- The production and sale of ready-mixed concrete at the Majicavo and Pamandzi sites
- The production of prefabricated concrete products (light and heavy) at the Majicavo site
- The recovery of inert waste from earthworks or deconstruction sites at Koungou, Pamandzi and Iloni

No data were available on the tonnes of industrial production. To cover this data gap, EDM has been contacted to provide relevant information from local stakeholders. This information will be avalysed together with the economic data on manufacturing industrial activity (from "Economic accounts" sheets) to estimate industrial production for the building materials sector.

[11] https://www.etpc-mayotte.fr/

Industrial production data

Sector		2015	2016	2017	2018	2019	2020
Non Metallic Minerals (ktn product)	Glass	N/A	N/A	N/A	N/A	N/A	N/A
	Ceramics	N/A	N/A	N/A	N/A	N/A	N/A
	Cement (cement kilns with & without clinker)	N/A	N/A	N/A	N/A	N/A	N/A
	Others (other nonmetallic minerals stone clay etc.)	N/A	N/A	N/A	N/A	N/A	N/A

... | 2015 Economic accounts | 2016 Economic accounts | **Industrial Production** | Households data | Transpor ...

Figure 5: Sheet *Industrial Production*

2.6. SHEET "HOUSEHOLDS DATA"

This sheet corresponds to data that characterizes the residential sector in Mayotte. All data are derived from INSEE and the Marketing Study of Standard MDE Offer of EDM. It includes:

- Number of households by type (single-family, multi-family, etc.) and vintage (e.g. split by year of construction)
- Penetration of appliances in households, including appliances like refrigerators, washing machines, freezers, dishwashers, cooker/oven, low energy bulbs, computers, TVs etc.

RESIDENTIAL

	2015	2016	2017	2018	2019	2020	Data source	Notes
Demographic - structural indicators								
Number of households (in thousand)			63.13				INSEE	
Households size (inhabitants/household)			3.96				INSEE	
of which: Fully-insulated households (%)			11.00%				Marketing Study of Standard MDE Offer-EDM	
of which: Single-familiy			92.07%				INSEE	
of which: Multi-family			7.93%				INSEE	
of which built before 1982			4.45%				INSEE	
of which built 1982-1991			8.05%				INSEE	
of which built 1992-2001			16.52%				INSEE	
of which built 2002-2006			16.81%				INSEE	
of which built 2007-2011			19.33%				INSEE	
of which built 2012-today			34.84%				INSEE	
Volume of appliances (% saturation)								
Low energy bulbs						74.0%	Marketing Study of Standard MDE Offer-EDM	Note: About half of househ
Refrigerator			71.2%	73.0%		97.0%	INSEE, Marketing Study of Standard MDE Offer-EDM	Note: 37% of refrigerators i
Freezer (independent)			71.8%	75.0%		90.0%	INSEE, Marketing Study of Standard MDE Offer-EDM	Note: 36% are less than 2 y
Washing machine			40.6%	44.0%		82.0%	INSEE, Marketing Study of Standard MDE Offer-EDM	Note: 58% of washing mach
Dishwasher				2.0%		9.0%	INSEE, Marketing Study of Standard MDE Offer-EDM	Note: 66% of dishwashers a
Television			77.2%	83.0%		96.0%	INSEE, Marketing Study of Standard MDE Offer-EDM	
Computer			31.8%			63.0%	INSEE, Marketing Study of Standard MDE Offer-EDM	
Cooker/Oven				76.0%			INSEE	
Microwave				52.0%			INSEE	
Electric rice cooker						47.0%	Marketing Study of Standard MDE Offer-EDM	
Vacuum cleaner				9.0%			INSEE	
Ceiling ventilator						21.0%	Marketing Study of Standard MDE Offer-EDM	
Air-conditioning			22.8%			60.0%	INSEE, Marketing Study of Standard MDE Offer-EDM	Note: the number of air cor
Solar water heaters			4.0%				INSEE	
Water heaters						49.0%	INSEE, Marketing Study of Standard MDE Offer-EDM	Note: 31,000 water heaters
Two-wheeler (at least one)			12.2%			20.0%	INSEE, Marketing Study of Standard MDE Offer-EDM	
Car (at least one)			27.4%	29.0%			INSEE	

... | 2015 Economic accounts | 2016 Economic accounts | Industrial Production | **Households data** | Transpor ...

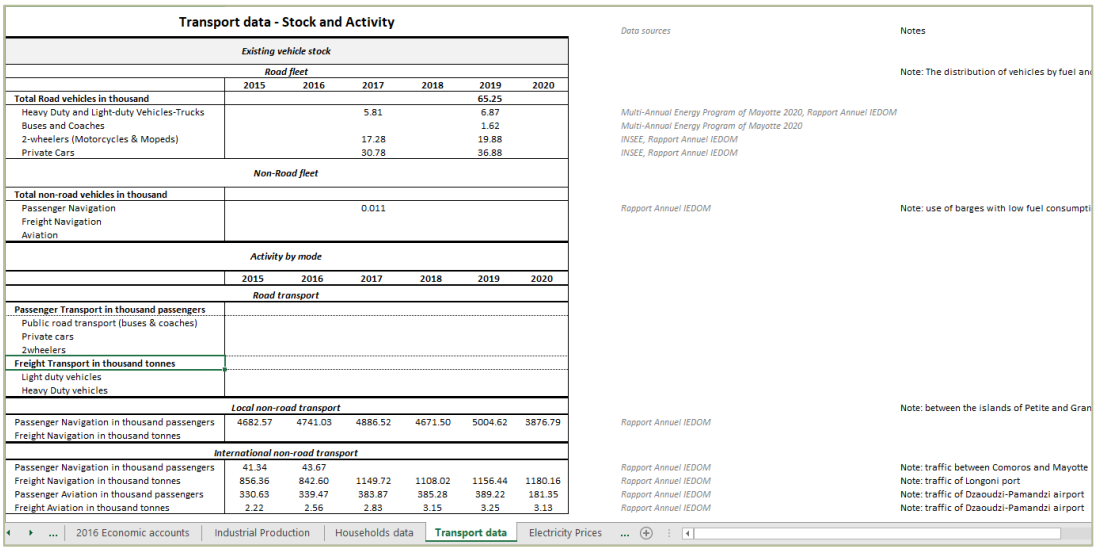
Figure 6: Sheet *Households data*

2.7. SHEET "TRANSPORT DATA"

This sheet includes data for the vehicle stock and the transport activity in Mayotte. All data are derived from the annual economic reports of IEDOM and the Multi-annual Energy Programme of Mayotte. The sheet includes data collected for:

- Stock of vehicles by transport mode (private cars, vans and trucks, etc.)
- Transport traffic by mode (passenger, freight) in passengers or tonnes

Data on the distribution of vehicle stock by fuel (e.g., between gasoline and diesel cars) and vintage are not available.



Transport data - Stock and Activity

	2015	2016	2017	2018	2019	2020	Data sources	Notes
Existing vehicle stock								
Road fleet								Note: The distribution of vehicles by fuel an
Total Road vehicles in thousand					65.25			
Heavy Duty and Light-duty Vehicles-Trucks			5.81		6.87		*Multi-Annual Energy Program of Mayotte 2020, Rapport Annuel IEDOM*	
Buses and Coaches					1.62		*Multi-Annual Energy Program of Mayotte 2020*	
2-wheelers (Motorcycles & Mopeds)			17.28		19.88		*INSEE, Rapport Annuel IEDOM*	
Private Cars			30.78		36.88		*INSEE, Rapport Annuel IEDOM*	
Non-Road fleet								
Total non-road vehicles in thousand								
Passenger Navigation			0.011				*Rapport Annuel IEDOM*	Note: use of barges with low fuel consumpti
Freight Navigation								
Aviation								
Activity by mode								
	2015	2016	2017	2018	2019	2020		
Road transport								
Passenger Transport in thousand passengers								
Public road transport (buses & coaches)								
Private cars								
2wheelers								
Freight Transport in thousand tonnes								
Light duty vehicles								
Heavy Duty vehicles								
Local non-road transport								Note: between the islands of Petite and Gran
Passenger Navigation in thousand passengers	4682.57	4741.03	4886.52	4671.50	5004.62	3876.79	*Rapport Annuel IEDOM*	
Freight Navigation in thousand tonnes								
International non-road transport								
Passenger Navigation in thousand passengers	41.34	43.67					*Rapport Annuel IEDOM*	Note: traffic between Comoros and Mayotte
Freight Navigation in thousand tonnes	856.36	842.60	1149.72	1108.02	1156.44	1180.16	*Rapport Annuel IEDOM*	Note: traffic of Longoni port
Passenger Aviation in thousand passengers	330.63	339.47	383.87	385.28	389.22	181.35	*Rapport Annuel IEDOM*	Note: traffic of Dzaoudzi-Pamandzi airport
Freight Aviation in thousand tonnes	2.22	2.56	2.83	3.15	3.25	3.13	*Rapport Annuel IEDOM*	Note: traffic of Dzaoudzi-Pamandzi airport

... | 2016 Economic accounts | Industrial Production | Households data | **Transport data** | Electricity Prices | ...

Figure 7: Sheet ***Transport data***

2.8. SHEET "ELECTRICITY PRICES"

This sheet contains the electricity tariffs by type of customer as well as the relevant taxes applied on the tariffs. The electricity tariffs are distinguished into the following categories[12]:

- Blue tariff for residential customers (<36 kW)
- Blue tariff for non-residential customers (<36 kW)
- Blue tariff for public lighting (<36 kW)
- Blue + tariff for professionals and public services (>36 kW)
- Green tariff (>108 kW)

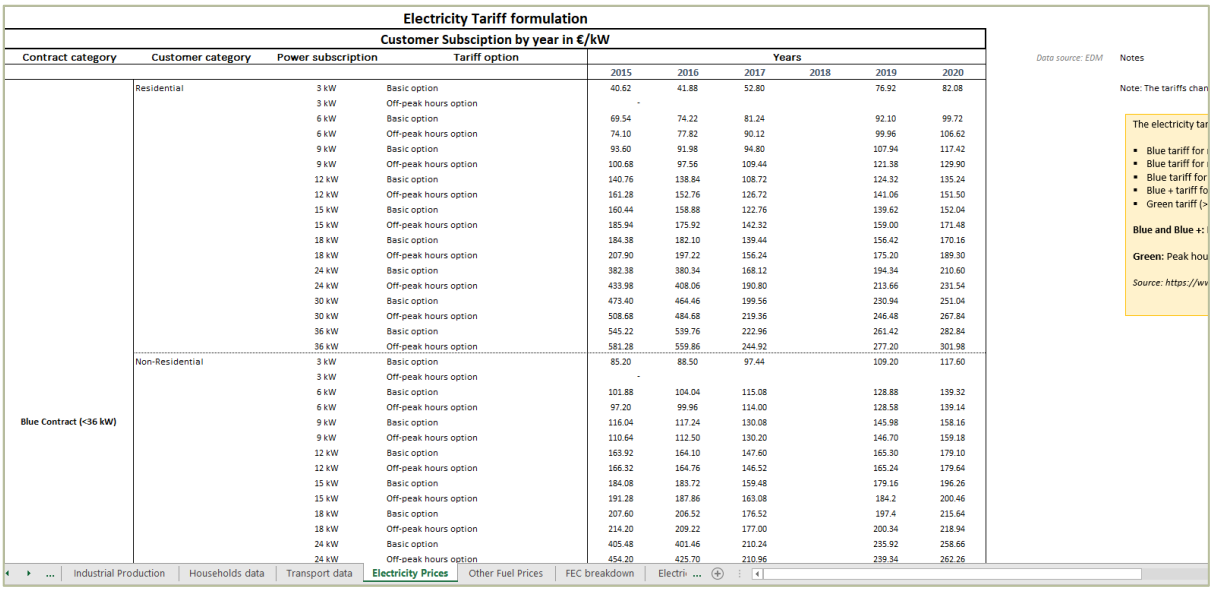
The tariffs change twice a year (November and August). The electricity prices included in this sheet represent the annual average prices of the two time periods. The tariffs are formulated based on:

- The customer subscription by year
- The customer subscription by month
- Tariff for energy consumption
- Taxes on electricity

Some customers can select between two tariff options: basic option and off-peak hours option. In the latter case, the tariffs are favorable when the electricity consumption occurs during off-peak hours[13].

[12] https://www.electricitedemayotte.com/collectivites/les-tarifs/

[13] **Blue and Blue +:** Peak hours: 7 am to 11 pm every days & Off-peak hours: from 11 pm to 7 am every day. **Green**: Peak hours: 10 am to 12 pm and 6.30 pm to 9.30 pm every day except Saturday and Sunday



Electricity Tariff formulation

Customer Subsciption by year in €/kW

Contract category	Customer category	Power subscription	Tariff option	2015	2016	2017	2018	2019	2020
Blue Contract (<36 kW)	Residential	3 kW	Basic option	40.62	41.88	52.80		76.92	82.08
		3 kW	Off-peak hours option	-					
		6 kW	Basic option	69.54	74.22	81.24		92.10	99.72
		6 kW	Off-peak hours option	74.10	77.82	90.12		99.96	106.62
		9 kW	Basic option	93.60	91.98	94.80		107.94	117.42
		9 kW	Off-peak hours option	100.68	97.56	109.44		121.38	129.90
		12 kW	Basic option	140.76	138.84	108.72		124.32	135.24
		12 kW	Off-peak hours option	161.28	152.76	126.72		141.06	151.50
		15 kW	Basic option	160.44	158.88	122.76		139.62	152.04
		15 kW	Off-peak hours option	185.94	175.92	142.32		159.00	171.48
		18 kW	Basic option	184.38	182.10	139.44		156.42	170.16
		18 kW	Off-peak hours option	207.90	197.22	156.24		175.20	189.30
		24 kW	Basic option	382.38	380.34	168.12		194.34	210.60
		24 kW	Off-peak hours option	433.98	408.06	190.80		213.66	231.54
		30 kW	Basic option	473.40	464.46	199.56		230.94	251.04
		30 kW	Off-peak hours option	508.68	484.68	219.36		246.48	267.84
		36 kW	Basic option	545.22	539.76	222.96		261.42	282.84
		36 kW	Off-peak hours option	581.28	559.86	244.92		277.20	301.98
	Non-Residential	3 kW	Basic option	85.20	88.50	97.44		109.20	117.60
		3 kW	Off-peak hours option	-					
		6 kW	Basic option	101.88	104.04	115.08		128.88	139.32
		6 kW	Off-peak hours option	97.20	99.96	114.00		128.58	139.14
		9 kW	Basic option	116.04	117.24	130.08		145.98	158.16
		9 kW	Off-peak hours option	110.64	112.50	130.20		146.70	159.18
		12 kW	Basic option	163.92	164.10	147.60		165.30	179.10
		12 kW	Off-peak hours option	166.32	164.76	146.52		165.24	179.64
		15 kW	Basic option	184.08	183.72	159.48		179.16	196.26
		15 kW	Off-peak hours option	191.28	187.86	163.08		184.2	200.46
		18 kW	Basic option	207.60	206.52	176.52		197.4	215.64
		18 kW	Off-peak hours option	214.20	209.22	177.00		200.34	218.94
		24 kW	Basic option	405.48	401.46	210.24		235.92	258.66
		24 kW	Off-peak hours option	454.20	425.70	210.96		239.34	262.26

Data source: EDM

Notes

Note: The tariffs chan

The electricity tar

- Blue tariff for
- Blue tariff for
- Blue tariff for
- Blue + tariff fo
- Green tariff (>

Blue and Blue +:

Green: Peak hou

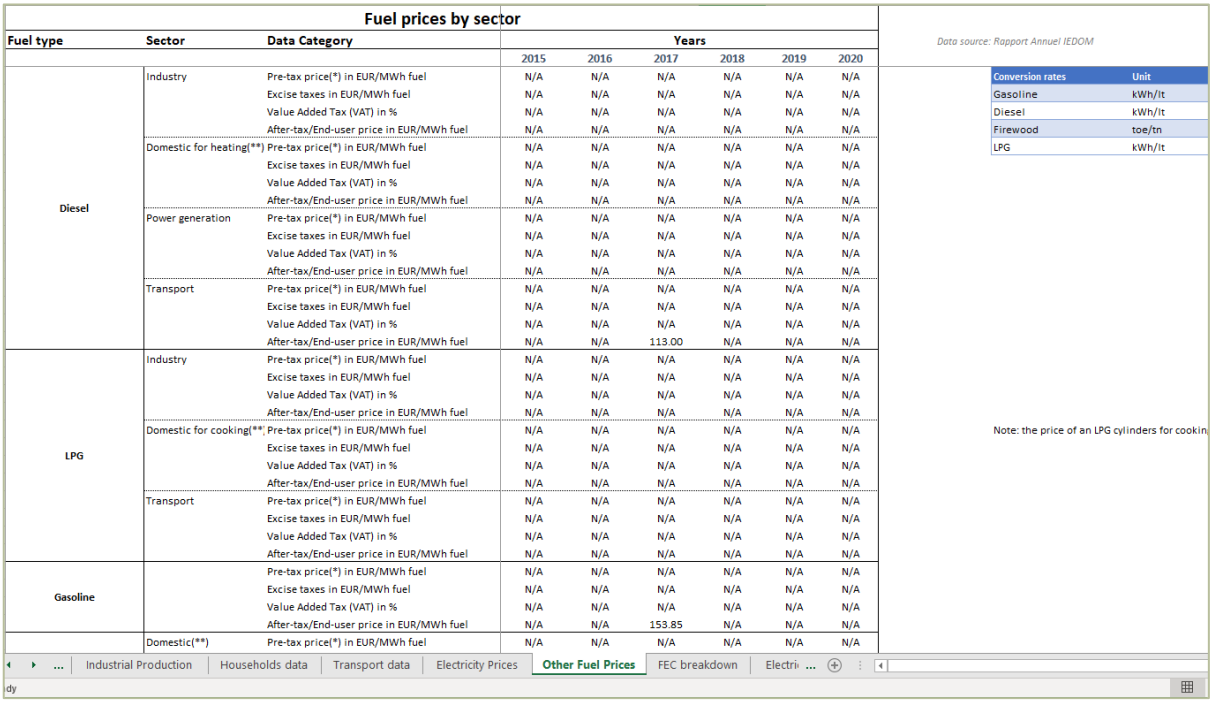
Source: https://ww

Industrial Production | Households data | Transport data | **Electricity Prices** | Other Fuel Prices | FEC breakdown | Electri ...

Figure 8: Sheet ***Electricity Prices***

2.9. SHEET "OTHER FUEL PRICES"

This sheet includes the prices of other energy commodities, namely oil products (diesel, gasoline, LPG, kerosene) by type of customer, categorized into industry, buildings and transport. Scarce data are available, mainly on gasoline and diesel prices by the Annual Economic Reports of IEDOM.



Fuel prices by sector

Fuel type	Sector	Data Category	2015	2016	2017	2018	2019	2020
Diesel	Industry	Pre-tax price(*) in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
		Excise taxes in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
		Value Added Tax (VAT) in %	N/A	N/A	N/A	N/A	N/A	N/A
		After-tax/End-user price in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
	Domestic for heating(**)	Pre-tax price(*) in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
		Excise taxes in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
		Value Added Tax (VAT) in %	N/A	N/A	N/A	N/A	N/A	N/A
		After-tax/End-user price in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
	Power generation	Pre-tax price(*) in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
		Excise taxes in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
		Value Added Tax (VAT) in %	N/A	N/A	N/A	N/A	N/A	N/A
		After-tax/End-user price in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
	Transport	Pre-tax price(*) in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
		Excise taxes in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
		Value Added Tax (VAT) in %	N/A	N/A	N/A	N/A	N/A	N/A
		After-tax/End-user price in EUR/MWh fuel	N/A	N/A	113.00	N/A	N/A	N/A
LPG	Industry	Pre-tax price(*) in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
		Excise taxes in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
		Value Added Tax (VAT) in %	N/A	N/A	N/A	N/A	N/A	N/A
		After-tax/End-user price in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
	Domestic for cooking(**)	Pre-tax price(*) in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
		Excise taxes in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
		Value Added Tax (VAT) in %	N/A	N/A	N/A	N/A	N/A	N/A
		After-tax/End-user price in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
	Transport	Pre-tax price(*) in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
		Excise taxes in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
		Value Added Tax (VAT) in %	N/A	N/A	N/A	N/A	N/A	N/A
		After-tax/End-user price in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
Gasoline		Pre-tax price(*) in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
		Excise taxes in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A
		Value Added Tax (VAT) in %	N/A	N/A	N/A	N/A	N/A	N/A
		After-tax/End-user price in EUR/MWh fuel	N/A	N/A	153.85	N/A	N/A	N/A
	Domestic(**)	Pre-tax price(*) in EUR/MWh fuel	N/A	N/A	N/A	N/A	N/A	N/A

Data source: Rapport Annuel IEDOM

Conversion rates	Unit
Gasoline	kWh/lt
Diesel	kWh/lt
Firewood	toe/tn
LPG	kWh/lt

Note: the price of an LPG cylinders for cookin

Industrial Production | Households data | Transport data | Electricity Prices | **Other Fuel Prices** | FEC breakdown | Electri ...

Figure 9: Sheet ***Other Fuel Prices***

2.10. SHEET "FEC BREAKDOWN"

This sheet is dedicated to the breakdown of the final energy consumption of Mayotte by end-use sector. Limited data are available.

Breakdown of Final Energy Consumption in %	2015	2016	2017	2018	2019	2020
Industry						N/A
Households						N/A
Services						N/A
Agriculture						N/A
Transport						40.0%

Data source: Document of CRE's

... | Electricity Prices | Other Fuel Prices | **FEC breakdown** | Electricity consumption | Other fuel consumption | Existing PPs | ...

Figure 10: Sheet ***FEC breakdown***

2.11. SHEET "ELECTRICITY CONSUMPTION"

This sheet presents the time-series data on electricity consumption by type of contract/customer. These data are obtained from EDM, while 2020 data are reported in the Annual Economic Report of IEDOM 2020. The inclusion of data for 2020 would allow for the analysis of how COVID-19 and lockdowns influenced electricity consumption in Mayotte.

The customers of EDM are able to to purchase prepaid meters (pre-paid units of energy) via the Ankiba system. Ankiba system (Ankiba: economy in Shimaoré) is a service offer that includes prepaid meters corresponding to residential customers, established in 2009. This system allows customers equipped with specific meters to have access to prepaid units purchased in shops, stations or EDM counters. The customers of this system make energy savings thanks to better control of their electricity consumption.

Electricity consumption by type of customer in MWh						
Type of contract/Customer type	2015	2016	2017	2018	2019	2020
Blue Contract			**214,895**	**220,461**	**229,381**	**240,925**
EDM employees			1,864	1,856	2,092	
Residential customers - Ankiba system			13,214	11,792	11,154	
Community Buildings DT			142	175	215	
Community Buildings ST			6,392	5,953	6,324	
Agricultural customers ST			482	533	534	
Residential customers DT			581	666	568	
Residential customers ST			147,990	153,561	161,479	
Public Lighting DT			1,159	1,350	1,012	
Public Lighting ST			3,555	3,865	3,488	
Professionals DT			2,907	3,341	2,736	
Professionals ST			36,608	37,369	39,779	
Blue Plus Contract			**24,237**	**24,644**	**26,016**	**23,821**
Administration DT			555	472	453	
Administration ST			5,592	5,294	5,555	
Municipality services ST			907	938	1,158	
Industry DT			7,629	7,778	7,767	
Industry ST			9,553	10,160	11,083	
Green Contract			**69,104**	**68,856**	**83,177**	**79,549**
Administration			14,524	15,017	16,990	
Municipality services			481	532	535	
Industry			54,099	53,307	65,651	
Total			**308,235**	**313,961**	**338,574**	

Data source: EDM, IEDOM 2020 Notes

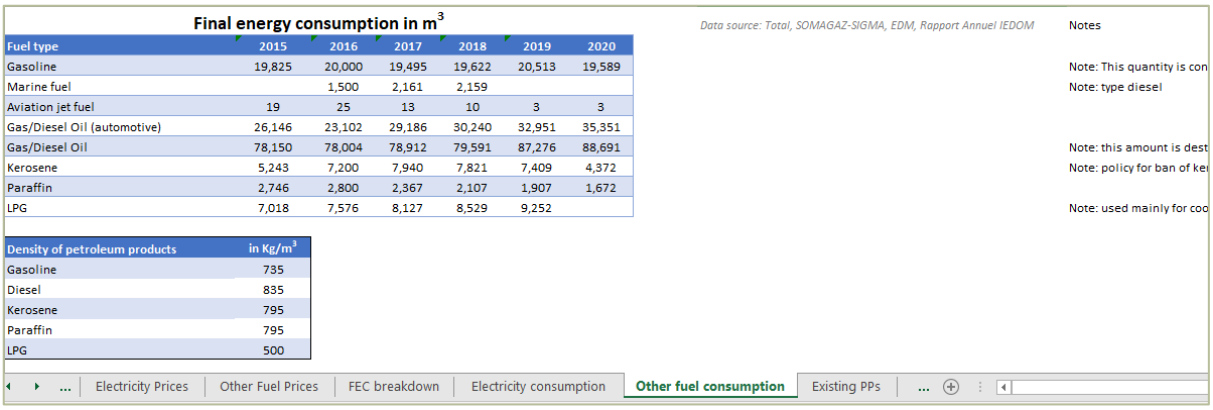
Note: EDM en
Note: Ankiba
DT: Double ta
ST: Simple ta

... | Electricity Prices | Other Fuel Prices | FEC breakdown | **Electricity consumption** | Other fuel consumption | Existing PPs | ...

Figure 11: Sheet ***Electricity consumption***

2.12. SHEET "FOSSIL FUEL CONSUMPTION"

This sheet presents the time-series data on the annual consumption of oil products (gasoline, diesel, kerosene, aviation and marine fuel, LPG). These data are obtained from EDM, Total, SIGMA-SOMAGAZ and the Annual Economic Reports of IEDOM. In addition, the sheet includes information about the sectoral split of oil product consumption.



Final energy consumption in m^3

Fuel type	2015	2016	2017	2018	2019	2020
Gasoline	19,825	20,000	19,495	19,622	20,513	19,589
Marine fuel		1,500	2,161	2,159		
Aviation jet fuel	19	25	13	10	3	3
Gas/Diesel Oil (automotive)	26,146	23,102	29,186	30,240	32,951	35,351
Gas/Diesel Oil	78,150	78,004	78,912	79,591	87,276	88,691
Kerosene	5,243	7,200	7,940	7,821	7,409	4,372
Paraffin	2,746	2,800	2,367	2,107	1,907	1,672
LPG	7,018	7,576	8,127	8,529	9,252	

Data source: Total, SOMAGAZ-SIGMA, EDM, Rapport Annuel IEDOM

Notes

Note: This quantity is con
Note: type diesel
Note: this amount is dest
Note: policy for ban of ke
Note: used mainly for coo

Density of petroleum products	in Kg/m^3
Gasoline	735
Diesel	835
Kerosene	795
Paraffin	795
LPG	500

Electricity Prices | Other Fuel Prices | FEC breakdown | Electricity consumption | Other fuel consumption | Existing PPs

Figure 12: Sheet *Fossil fuel consumption*

2.13. SHEET "EXISTING PPS"

This sheet presents the complete list of the existing operating power plants along with their type (diesel, solar PV, storage, biogas), their installed capacity, the location, the voltage level and the year of commissioning. These data are acquired directly by EDM.

PROJECT	City	Type	Installed capacity (kW)	Voltage level	Commissioning yea
Longoni I G31-G35	Grande Terre	Diesel PP	39295	High Voltage	2009
Longoni II G60,G70,G80	Grande Terre	Diesel PP	35100	High Voltage	2015
Badamiers G01-G04	Petite Terre	Diesel PP	4500	Medium Voltage	1987
Badamiers G05-G08	Petite Terre	Diesel PP	8400	Medium Voltage	1987
Badamiers G21-G22	Petite Terre	Diesel PP	10600	Medium Voltage	1987
Badamiers G23-G24	Petite Terre	Diesel PP	14600	Medium Voltage	1987
MAYOTTE EQUIPEMENT	KAWENI	Solar PV	53.68	Low Voltage	2008
DIRECTION EQUIPEMENT	M'TSAPERE	Solar PV	147.42	Medium Voltage	2008
Magasin NOSSI	KAWENI	Solar PV	73.1	Low Voltage	2008
SCI THOMAS	KAWENI	Solar PV	58.52	Low Voltage	2008
SEBM	LONGONI	Solar PV	81.7	Low Voltage	2008
MAIRIE MAMOUDZOU	MAMOUDZOU	Solar PV	35.36	Low Voltage	2008
RHL INDIGO (Blanchisserie Mayotte)	KAWENI	Solar PV	58.48	Low Voltage	2008
MAYOTTE ALUMINIM	KAWENI	Solar PV	86.4	Low Voltage	2009
SODIFRAM	KAWENI	Solar PV	29.92	Low Voltage	2008
SODIFRAM/Super K	KAWENI	Solar PV	153.12	Medium Voltage	2009
ETPC	LONGONI	Solar PV	123.2	Medium Voltage	2009
VICE-RECTORAT	M'TSAMBORO	Solar PV	228.2	Medium Voltage	2009
SODIFRAM/ Dépôt sec	KAWENI	Solar PV	216.48	Medium Voltage	2009
JUMBO SCORE	KOUNGOU	Solar PV	1840	Medium Voltage	2010
VICE-RECTORAT	TSINGONI	Solar PV	460	Medium Voltage	2010
VICE-RECTORAT	KOUNGOU	Solar PV	350	Medium Voltage	2009
EDM	MAMOUDZOU	Solar PV	38.57	Low Voltage	2009
EDM	LONGONI	Solar PV	1008	Medium Voltage	2010
SODIFRAM/dépôt sec Moussada	KAWENI	Solar PV	325.5	Medium Voltage	2011

Data source: EDM

Notes

Note: The 4 older unit

FEC breakdown | Electricity consumption | Other fuel consumption | Existing PPs | Future PP projects | Electricity Balance

Figure 13: Sheet *Existing PPs*

2.14. SHEET "FUTURE PP PROJECTS"

This sheet contains the complete list of the future power plants, which are either under construction or in licensing procedure, along with their type (diesel, solar, storage, biogas), their installed capacity, the location, the voltage level and the expected year of commissioning. These data are acquired directly by EDM.

PROJECT	City	Type	Installed capacity (kW)	Voltage level	Expected commissioning year
ECOLE MATERNELLE PAMANDZI 6 MGOMBANI	PAMANDZI	Solar PV	99.82	Low Voltage	2020
ECOLE MATERNELLE PAMANDZI 7 MANGAFOUTE	PAMANDZI	Solar PV	99.82	Low Voltage	2020
ECOLE PRIMAIRE PAMANDZI 4 STADE	PAMANDZI	Solar PV	81.84	Low Voltage	2020
AJP PAMANDZI	PAMANDZI	Solar PV	99.82	Low Voltage	2020
ECOLE PRIMAIRE INOUSSA SELEMANI	BOUENI	Solar PV	66.96	Low Voltage	2020
ECOLE MATERNELLE JEAN DE LAFONTAINE	BOUENI	Solar PV	79.98	Low Voltage	2020
POLE CULTUREL DE CHIRONGUI	CHIRONGUI	Solar PV	66	Low Voltage	2020
MJC MIRERENI	CHIRONGUI	Solar PV	55.44	Low Voltage	2020
HOTEL DE VILLE ET MEDIATHEQUE DE CHIRONGUI	CHIRONGUI	Solar PV	86.9	Low Voltage	2020
ECOLE ELEMENTAIRE ET MATERNELLE DE TSIMKOURA	CHIRONGUI	Solar PV	99.99	Low Voltage	2020
ECOLE ELEMENTAIRE ALI OUSSENI	CHIRONGUI	Solar PV	99.99	Low Voltage	2020
AO CRE STOCKAGE D'ENERGIE DEPOT DE LONGONI- RF	KOUNGOU	Storage	4000	Medium Voltage	2021
MPT ONGOJOU	DEMBENI	Solar PV	35.97	Low Voltage	2020
ECOLE MATERNELLE LOUIS LEPENSEC	DEMBENI	Solar PV	99.99	Low Voltage	2020
ECOLE ELEMENTAIRE DEMBENI	DEMBENI	Solar PV	99.66	Low Voltage	2020
ECOLE ELEMENTAIRE T6 TSARARANO	DEMBENI	Solar PV	74.8	Low Voltage	2020
ECOLE ELEMENTAIRE HAJANGOUA	DEMBENI	Solar PV	99.66	Low Voltage	2020
MPT HAJANGOUA	DEMBENI	Solar PV	35.97	Low Voltage	2020
MPT DEMBENI	DEMBENI	Solar PV	94.71	Low Voltage	2020
GROUPEMENT ECOLE MATERNELLE TSARARANO & ECOLE PRIMAIRE T11	DEMBENI	Solar PV	99.66	Low Voltage	2020
GROUPE SCOLAIRE DE ONGOJOU	DEMBENI	Solar PV	87.12	Low Voltage	2020
MAIRIE DE DEMBENI	DEMBENI	Solar PV	35.97	Low Voltage	2020
MPT ILONI	DEMBENI	Solar PV	99.66	Low Voltage	2020
ECOLE MATERNELLE ILONI	DEMBENI	Solar PV	99.66	Low Voltage	2020

Data source: EDM Notes

Note: The y

... FEC breakdown | Electricity consumption | Other fuel consumption | Existing PPs | Future PP projects | Electricity Balance ...

Figure 14: Sheet *Future PP projects*

2.15. SHEET "ELECTRICITY BALANCE"

This sheet includes the electricity balances of the power system in Mayotte for the years 2015-2020. More specifically, it contains:

- Fuel consumption of the two main diesel plants (transformation input)
- Gross and Net Electricity generation of the diesel plants and the PVs (transformation output)
- Losses and self-consumption of electricity
- Final electricity consumption
- Average primary reserve in % of electricity produced

These data are acquired by EDM.

Data source: EDM

Transformation Input						
Fuel consumption in liters	2015	2016	2017	2018	2019	2020
Longoni	54,834,570	61,617,053	64,186,403	62,696,256	68,397,539	68,770,980
Badamiers	20,568,370	15,918,456	15,479,210	16,986,832	17,452,998	19,825,031
Total	*75,402,940*	*77,535,509*	*79,665,613*	*79,683,088*	*85,850,537*	*88,596,011*

Transformation Output	2015		2016		2017		2018		2019	
Electricity Generation in KWh	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Longoni	226,956,254	220,811,203	257,193,848	250,573,096	269,926,995	263,095,606	263,817,987	257,088,500	288,944,814	280,312,458
Badamiers	81,235,008	78,323,570	64,058,036	60,527,151	62,270,902	59,299,856	68,421,546	65,141,650	70,063,976	66,780,604
PV production										
Total	*308,191,262*	*299,134,773*	*321,251,884*	*311,100,247*	*332,197,897*	*322,395,463*	*332,239,534*	*322,230,150*	*359,008,790*	*347,093,062*

	2015	2016	2017	2018	2019	2020
Losses & Self-consumption						

Final Consumption	2015	2016	2017	2018	2019	2020
Electricity consumption in kWh			308,235	313,961	-	

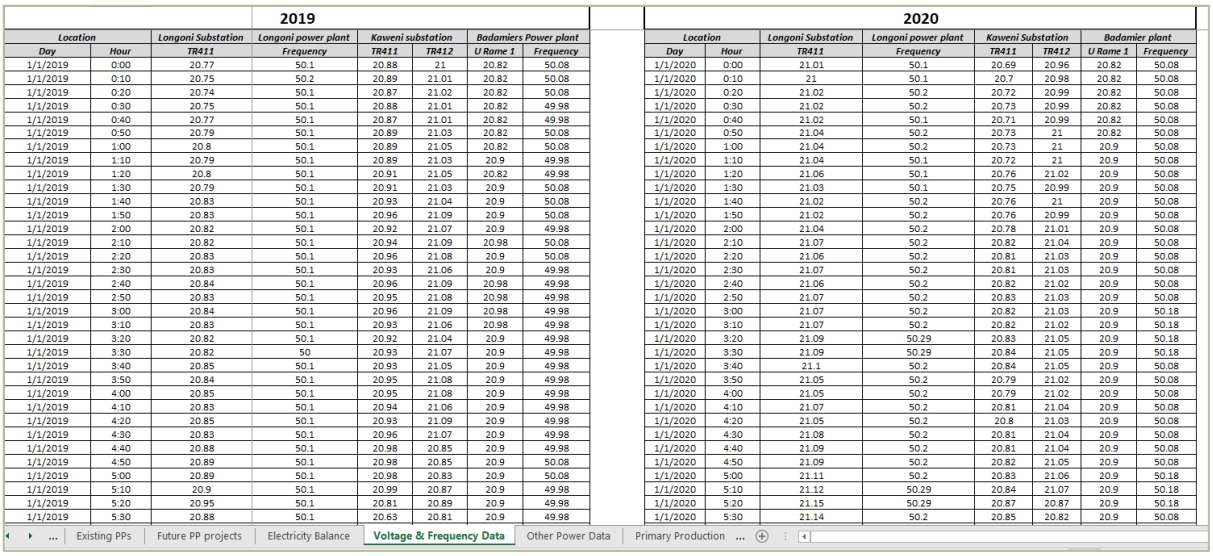
	2015	2016	2017	2018	2019	2020
Average Primary Reserve in % of power produced	18.90%	16.60%	15.80%	16.20%	16.48%	16.99%

... Existing PPs | Future PP projects | Electricity Balance | Voltage & Frequency Data | Other Power Data | Primary Production ...

Figure 15: Sheet *Electricity Balance*

2.16. SHEET "VOLTAGE & FREQUENCY DATA"

This sheet includes the voltage and frequency data measured in the substations and the power plants of Longoni and Badamiers for the years 2019-2020 in 10-minute resolution. These data are provided by EDM.

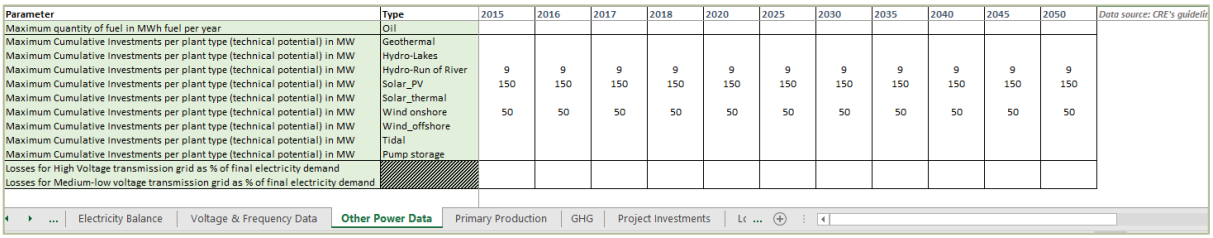


		2019							2020						
Location		Longoni Substation	Longoni power plant	Kaweni substation		Badamiers Power plant			Location		Longoni Substation	Longoni power plant	Kaweni Substation		Badamier plant	
Day	Hour	TR411	Frequency	TR411	TR412	U Rame 1	Frequency		Day	Hour	TR411	Frequency	TR411	TR412	U Rame 1	Frequency
1/1/2019	0:00	20.77	50.1	20.88	21	20.82	50.08		1/1/2020	0:00	21.01	50.1	20.69	20.96	20.82	50.08
1/1/2019	0:10	20.75	50.2	20.89	21.01	20.82	50.08		1/1/2020	0:10	21	50.1	20.7	20.98	20.82	50.08
1/1/2019	0:20	20.74	50.1	20.87	21.02	20.82	50.08		1/1/2020	0:20	21.02	50.2	20.72	20.99	20.82	50.08
1/1/2019	0:30	20.75	50.1	20.88	21.01	20.82	49.98		1/1/2020	0:30	21.02	50.2	20.73	20.99	20.82	50.08
1/1/2019	0:40	20.77	50.1	20.87	21.01	20.82	49.98		1/1/2020	0:40	21.02	50.1	20.71	20.99	20.82	50.08
1/1/2019	0:50	20.79	50.1	20.89	21.03	20.82	50.08		1/1/2020	0:50	21.04	50.2	20.73	21	20.82	50.08
1/1/2019	1:00	20.8	50.1	20.89	21.05	20.82	50.08		1/1/2020	1:00	21.04	50.2	20.73	21	20.9	50.08
1/1/2019	1:10	20.79	50.1	20.89	21.03	20.9	49.98		1/1/2020	1:10	21.04	50.1	20.72	21	20.9	50.08
1/1/2019	1:20	20.8	50.1	20.91	21.05	20.82	49.98		1/1/2020	1:20	21.06	50.1	20.76	21.02	20.9	50.08
1/1/2019	1:30	20.79	50.1	20.91	21.03	20.9	50.08		1/1/2020	1:30	21.03	50.1	20.75	20.99	20.9	50.08
1/1/2019	1:40	20.83	50.1	20.93	21.04	20.9	50.08		1/1/2020	1:40	21.02	50.2	20.76	21	20.9	50.08
1/1/2019	1:50	20.83	50.1	20.96	21.09	20.9	50.08		1/1/2020	1:50	21.02	50.2	20.76	20.99	20.9	50.08
1/1/2019	2:00	20.82	50.1	20.92	21.07	20.9	49.98		1/1/2020	2:00	21.04	50.2	20.78	21.01	20.9	50.08
1/1/2019	2:10	20.82	50.1	20.94	21.09	20.98	50.08		1/1/2020	2:10	21.07	50.2	20.82	21.04	20.9	50.08
1/1/2019	2:20	20.83	50.1	20.96	21.08	20.9	50.08		1/1/2020	2:20	21.06	50.2	20.81	21.03	20.9	50.08
1/1/2019	2:30	20.83	50.1	20.93	21.06	20.9	49.98		1/1/2020	2:30	21.07	50.2	20.81	21.03	20.9	50.08
1/1/2019	2:40	20.84	50.1	20.96	21.09	20.98	49.98		1/1/2020	2:40	21.06	50.2	20.82	21.02	20.9	50.08
1/1/2019	2:50	20.83	50.1	20.95	21.08	20.98	49.98		1/1/2020	2:50	21.07	50.2	20.83	21.03	20.9	50.08
1/1/2019	3:00	20.84	50.1	20.96	21.09	20.98	49.98		1/1/2020	3:00	21.07	50.2	20.82	21.03	20.9	50.18
1/1/2019	3:10	20.83	50.1	20.93	21.06	20.98	49.98		1/1/2020	3:10	21.07	50.2	20.82	21.02	20.9	50.18
1/1/2019	3:20	20.82	50.1	20.92	21.04	20.9	49.98		1/1/2020	3:20	21.09	50.29	20.83	21.05	20.9	50.18
1/1/2019	3:30	20.82	50	20.93	21.07	20.9	49.98		1/1/2020	3:30	21.09	50.29	20.84	21.05	20.9	50.18
1/1/2019	3:40	20.85	50.1	20.93	21.05	20.9	49.98		1/1/2020	3:40	21.1	50.2	20.84	21.05	20.9	50.08
1/1/2019	3:50	20.84	50.1	20.95	21.08	20.9	49.98		1/1/2020	3:50	21.05	50.2	20.79	21.02	20.9	50.08
1/1/2019	4:00	20.85	50.1	20.95	21.08	20.9	49.98		1/1/2020	4:00	21.05	50.2	20.79	21.02	20.9	50.08
1/1/2019	4:10	20.83	50.1	20.94	21.06	20.9	49.98		1/1/2020	4:10	21.07	50.2	20.81	21.04	20.9	50.08
1/1/2019	4:20	20.85	50.1	20.93	21.09	20.9	49.98		1/1/2020	4:20	21.05	50.2	20.8	21.03	20.9	50.08
1/1/2019	4:30	20.83	50.1	20.96	21.07	20.9	49.98		1/1/2020	4:30	21.08	50.2	20.81	21.04	20.9	50.08
1/1/2019	4:40	20.88	50.1	20.98	20.85	20.9	49.98		1/1/2020	4:40	21.09	50.2	20.81	21.04	20.9	50.08
1/1/2019	4:50	20.89	50.1	20.98	20.85	20.9	50.08		1/1/2020	4:50	21.09	50.2	20.82	21.05	20.9	50.08
1/1/2019	5:00	20.89	50.1	20.98	20.83	20.9	50.08		1/1/2020	5:00	21.11	50.2	20.83	21.06	20.9	50.18
1/1/2019	5:10	20.9	50.1	20.99	20.87	20.9	49.98		1/1/2020	5:10	21.12	50.29	20.84	21.07	20.9	50.18
1/1/2019	5:20	20.95	50.1	20.81	20.89	20.9	49.98		1/1/2020	5:20	21.15	50.29	20.87	20.87	20.9	50.18
1/1/2019	5:30	20.88	50.1	20.63	20.81	20.9	49.98		1/1/2020	5:30	21.14	50.2	20.85	20.82	20.9	50.08

Figure 16: Sheet ***Voltage & Frequency Data***

2.17. SHEET "OTHER POWER DATA"

This sheet corresponds to other data regarding the power system of Mayotte, such as the technical potential by type of Renewable Energy Sources (RES) and the losses of the power grid. These data are acquired by the document of CRE on the guidelines on multi-annual energy programme of Mayotte.



Parameter	Type	2015	2016	2017	2018	2020	2025	2030	2035	2040	2045	2050	Data source: CRE's guideli
Maximum quantity of fuel in MWh fuel per year	Oil												
Maximum Cumulative Investments per plant type (technical potential) in MW	Geothermal												
Maximum Cumulative Investments per plant type (technical potential) in MW	Hydro-Lakes												
Maximum Cumulative Investments per plant type (technical potential) in MW	Hydro-Run of River	9	9	9	9	9	9	9	9	9	9	9	
Maximum Cumulative Investments per plant type (technical potential) in MW	Solar_PV	150	150	150	150	150	150	150	150	150	150	150	
Maximum Cumulative Investments per plant type (technical potential) in MW	Solar_thermal												
Maximum Cumulative Investments per plant type (technical potential) in MW	Wind onshore	50	50	50	50	50	50	50	50	50	50	50	
Maximum Cumulative Investments per plant type (technical potential) in MW	Wind_offshore												
Maximum Cumulative Investments per plant type (technical potential) in MW	Tidal												
Maximum Cumulative Investments per plant type (technical potential) in MW	Pump storage												
Losses for High Voltage transmission grid as % of final electricity demand													
Losses for Medium-low voltage transmission grid as % of final electricity demand													

Figure 17: Sheet ***Other Power Data***

2.18. SHEET "PRIMARY PRODUCTION"

Data on primary production of fuels in Mayotte are summarized in this sheet. There is no crude oil, natural gas or coal production on the island. Biomass production is not available.

Primary fuel production data(*)						
Biomass production						
	2015	2016	2017	2018	2019	2020
Maximum available quantity of fuel (in GWh fuel per year)	N/A	N/A	N/A	N/A	N/A	N/A

Primary fuel production data(*)						
Crude oil production						
	2015	2016	2017	2018	2019	2020
Maximum available quantity of fuel (in GWh fuel per year)	0	0	0	0	0	0

Primary fuel production data(*)						
Natural gas production						
	2015	2016	2017	2018	2019	2020
Maximum available quantity of fuel (in GWh fuel per year)	0	0	0	0	0	0

Primary fuel production data(*)						
Coal production						
	2015	2016	2017	2018	2019	2020
Maximum available quantity of fuel (in GWh fuel per year)	0	0	0	0	0	0

... Other Power Data | **Primary Production** | GHG | Project Investments | Local & School Holidays

Figure 18: Sheet ***Primary Production***

2.19. SHEET "GHG EMISSIONS"

Data on the energy related GHG emissions by sector of activity are included for 2018. There are no available post-2018 data, apart from the power generation sector.

GHGs emissions (*in tn CO2-eq*) — *Data source: EDM*

	2015	2016	2017	2018	2019	2020	Notes
Total							
Energy related CO2 emissions *(A5+A25)*							
Demand side *(A6+A16+A17+A18+A19)*							
Industry *(Sum(A7:A15))*							
Iron and steel							
Non ferrous metals							
Chemicals							
Non metallic minerals							
Paper and pulp							
Food, drink and tobacco							
Engineering							
Textiles							
Other industries							
Residential	1,269						
Services							
Agriculture	41,667						*Note: includes: ri*
Transport *(Sum(A19:A23))*							
Road transport	12						
Rail transport							
Aviation	17,583						
Inland navigation							
Other transport sectors							
Supply side *(Sum(A25:A29))*							
Power generation	195,980	201,437	208,468	209,489	225,726		*Note: includes er*
District heating							
Energy branch							
Refineries							
Other	31,150						

**Mayotte does not have a post-2015 GHG emissions inventory.*

... Other Power Data | Primary Production | **GHG** | Project Investments | Local & School Holidays | NACE | Notes

Figure 19: Sheet ***GHG emissions***

2.20. SHEET "PROJECT INVESTMENTS"

The main investments in Mayotte's energy system relevant to MAESHA scope are listed in this sheet as well as their expected year of materialization. These projects are obtained from the Multi-annual energy programme of Mayotte.

Project	Expected year of realization
Construction of high-voltage line between EDM's Longoni PP and Sada	2021
Deployment of recharging stations for plug-in hybrid and electric vehicles	2020
Commissioning of urban (perimeter of the Agglomeration Community of Dembéni-Mamoudzou - CADEMA) and interurban (perimeter of the Departmental Council) public transport	2022/2023
Full operation of anaerobic digestion unit(s) for biogas production (annual planned electricity production 8 GWh)	2023
Construction of a power plant fuelled with bio-propane and propane in Longoni area next to the LPG terminal.	2024

... | Other Power Data | Primary Production | GHG | **Project Investments** | Local & School Holidays | NACE

Figure 20: Sheet ***Project Investments***

2.21. SHEET "LOCAL & SCHOOL HOLIDAYS"

The local and school holidays of Mayotte until 2025 are acquired by the MAESHA partners HIVE and EDM. These will be used for the short-term electricity forecasting tool.

Local Holidays	2015	2016	2017	2018	2019	2020	2021
New year	2015-01-01	2016-01-01	2017-01-01	2018-01-01	2019-01-01	2020-01-01	2021-01-01
Miraj	2015-05-16	2016-05-05	2017-04-23	2018-04-13	2019-04-03	2020-03-22	2021-03-11
Easter Monday	2015-04-06	2016-03-28	2017-04-17	2018-04-02	2019-04-22	2020-04-13	2021-04-05
Abolition of slavery in Mayotte	2015-04-27	2016-04-27	2017-04-27	2018-04-27	2019-04-27	2020-04-27	2021-04-27
Labour Day	2015-05-01	2016-05-01	2017-05-01	2018-05-01	2019-05-01	2020-05-01	2021-05-01
Victory of the Allies	2015-05-08	2016-05-08	2017-05-08	2018-05-08	2019-05-08	2020-05-08	2021-05-08
Thursday of the Ascension	2015-05-14	2016-05-05	2017-05-25	2018-05-10	2019-05-30	2020-05-21	2021-05-13
Aïd El-Fitr	2015-07-18	2016-07-06	2017-06-24	2018-06-15	2019-06-05	2020-05-24	2021-05-13
Whit Monday	2015-05-25	2016-05-16	2017-06-05	2018-05-21	2019-06-10	2020-06-01	2021-05-24
National Day	2015-07-14	2016-07-14	2017-07-14	2018-07-14	2019-07-14	2020-07-14	2021-07-14
Aïd El-Kebir	2015-09-24	2016-09-13	2017-09-02	2018-08-21	2019-08-11	2020-07-31	2021-07-20
Assumption	2015-08-15	2016-08-15	2017-08-15	2018-08-15	2019-08-15	2020-08-15	2021-08-15
All Saints' Day	2015-11-01	2016-11-01	2017-11-01	2018-11-01	2019-11-01	2020-11-01	2021-11-01
Armistice	2015-11-11	2016-11-11	2017-11-11	2018-11-11	2019-11-11	2020-11-11	2021-11-11
Mawlid	2015-01-02	2016-12-11	2017-11-30	2018-11-19	2019-11-09	2020-10-28	2021-10-18
Christmas	2015-12-25	2016-12-25	2017-12-25	2018-12-25	2019-12-25	2020-12-25	2021-12-25
Ramadan period	6/18/2015 to 7/17/2015	6/6/2016 to 7/6/2016	5/27/2017 to 2017-06-24	5/17/2018 to 2018-06-15	5/6/2019 to 2019-06-05	4/24/2020 to 5/23/2020	4/14/2021 to 2021 05-13

School Holidays	2015	2016	2017	2018	2019	2020	2021
All Saints' break	10/10/2015 to 26/10/2015	10/10/2016 to 23/10/2016	09/10/2017 to 22/10/2017	06/10/2018 to 21/10/2018	12/10/2019 to 27/10/2019	10/10/2020 to 25/10/2020	09/10/2021 to 24/10/2021
Christmas break	12/12/2015 to 11/01/2016	12/12/2016 to 08/01/2017	11/12/2017 to 07/01/2018	08/12/2018 to 06/01/2019	14/12/2019 to 13/01/2020	12/12/2020 to 11/01/2021	11/12/2021 to 09/01/2022
Febuary break	28/02/2015 to 16/03/2015	27/02/2016 to 14/03/2016	27/02/2017 to 12/03/2017	26/02/2018 to 11/03/2018	23/02/2019 to 10/03/2019	29/02/2020 to 15/03/2020	27/02/2021 to 14/03/2021
April break	30/04/2015 to 11/05/2015	30/04/2016 to 09/05/2016	01/05/2017 to 08/05/2017	07/05/2018 to 13/05/2018	27/04/2019 to 05/05/2019	02/05/2020 to 10/05/2020	01/05/2021 to 17/05/2021

... | Other Power Data | Primary Production | GHG | Project Investments | **Local & School Holidays** | NACE | Notes

Figure 21: Sheet ***Local & School Holidays***

2.22. SHEET "NACE"

This sheet provides the NACE classification of economic activities, which will be used to categorise the economic data on the sectoral value added.

Code	Label
A	Agriculture, forestry & fishing
B, C, D & E	Industry (except construction)
C	*Manufacturing*
F	Construction
G, H & I	Wholesale and retail trade, transport, accommodation and food service activities
J	Information and communication
K	Financial and insurance activities
L	Real estate activities
	Imputed rents of owner-occupied dwellings
M & N	Professional, scientific and technical activities; administrative and support service activities
O, P & Q	Public administration, defence, education, human health and social work activities
R, S, T & U	Arts, entertainment and recreation; other service activities; activities of household and extra-territorial organizations and bodies

... | GHG | Project Investments | Local & School Holidays | **NACE** | Notes

Figure 22: Sheet *NACE*

2.23. SHEET "NOTES"

This sheet provides the abbreviations included in the excel-based energy database of Mayotte and the units of measurement.

Abbreviations

FEC: Final Energy Consumption
EUR: Euro (€)
GHGs: Greenhouse Gases
LPG: Liquified Petroleum Gas
AC: Air-Conditioning
PV: photovoltaic system
GDP: Gross Domestic Product
GVA: Gross Value Added
DME: Dimethyl Ether
B100: Pure biodiesel
H2: Hydrogen
LDV: Light Duty Vehicles
E85:85% ethanol fuel
PP: Power Plant
Hz: Hertz - unit of measurement of frequency
IEDOM - Institut d'emissiondes departements d'Outre-Mer

Units

toe: tonne of oil equivalent, or 10^7 kilocalories, or 41.86 GJ (Gigajoule)
ktoe: thousand toe

GWh: Gigawatt-hour or 10^9 watt-hour
kWh: kilowatt-hour or 10^3 watt-hour
MWh: megawatt-hour or 10^6 watt-hour
TWh: Terawatt-hour or 10^{12} watt-hour

tn: metric tonnes, or 1000 kilogrammes
Ktn: thousand metric tonnes
Mtn: Million metric tonnes

km: kilometre

... | GHG | Project Investments | Local & School Holidays | NACE | **Notes**

Figure 23: Sheet *Notes*

3. CONCLUSIONS

The Task 1.3 of the MAESHA project was finalized successfully as it gathered relevant data and information focusing on energy system, electricity consumption and production by technology, energy prices, car stock, power plant inventory, GHG emissions and socio-economic structure of Mayotte. The collected data are consolidated into the excel-based Mayotte energy database and will be used to inform the design and development of MAESHA modelling tools in WP2 and WP4. Data limitations do exist, nevertheless, using multiple sources, we managed to overcome reliance into one dataset and collect data from various available sources. In addition, the data collection process and the design of the architecture of island-scale modelling tools (Task 2.1) were implemented in a coherent manner with the one process directly informing the other (e.g., if data is not available for a specific industrial sector in Mayotte and EDM informs that there is no relevant industrial activity in the island, then this sub-sector may be omitted from the island-scale modelling tool in WP2).

The next step is to include these data into applied energy system models (capturing the short-, medium- and long-term horizon) in following WPs, populate the relevant input files and calibrate the models in order to reproduce the energy reality in Mayotte, capturing the specificities of the island. The active participation of several MAESHA partners enabled the effective data gathering and established close collaboration among institutes that will be exploited also in later MAESHA activities, e.g., when modelling tools will be applied in the MAESHA Follower islands.

The developed island-scale energy database is quite comprehensive, given data limitations in Mayotte. The database will be expanded in case additional data become available as the project progresses and if these data are crucial for subsequent modelling activities, efforts will be made to include these in a revised dataset.

4. ANNEXES

- Excel Templates (or a link to the place that these can be found)- accompanying excels
- Document with instructions for data collection