

Strengthening National Energy Information Systems in Africa
Joint AFREC-IEA webinar on National Energy Statistics Strategies
10th October 2024

Uganda's Experience on National Energy Information System

Presented by

Ian Kisawuzi

(Ministry of Energy and Mineral Development)

CONTENTS

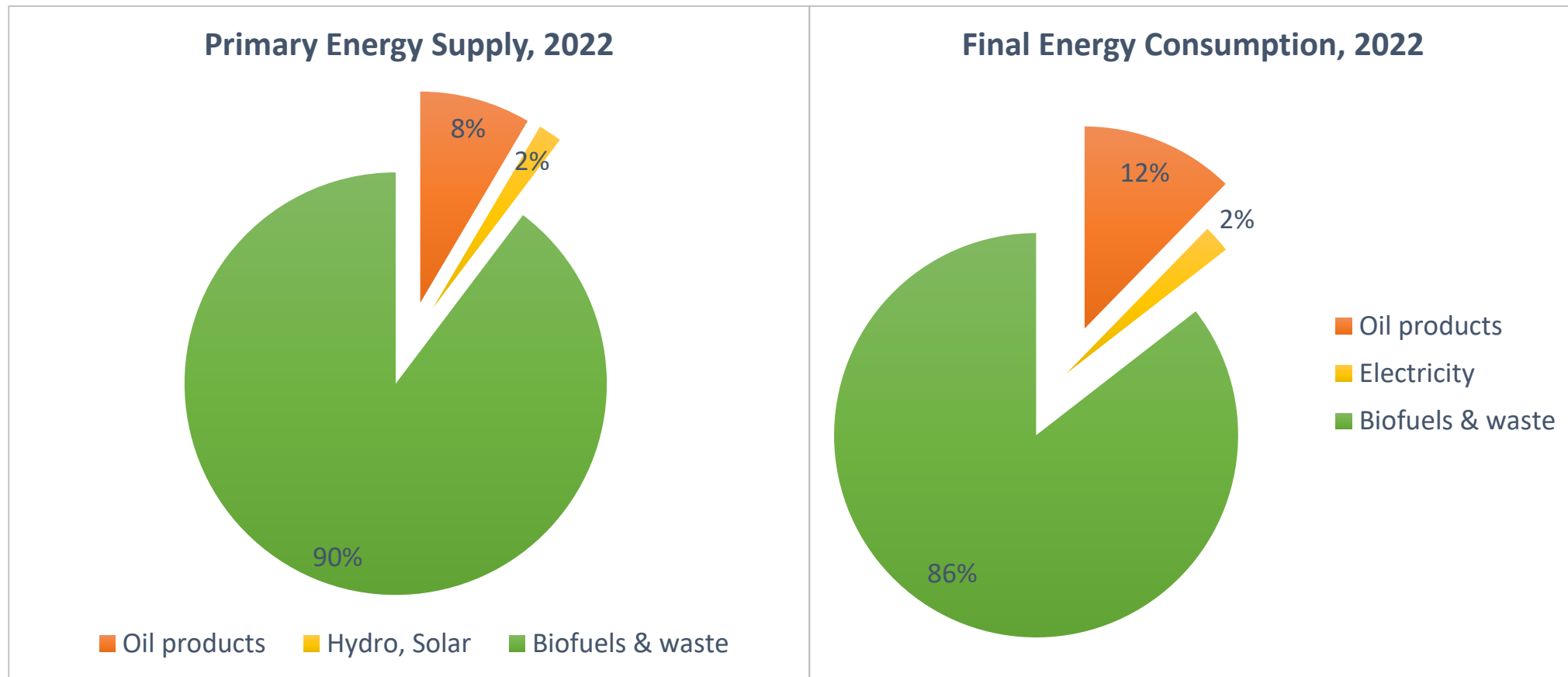
- Energy Sector Overview
- National Energy Information System (NEIS)
 - Statistics Database
 - Data Quality Mechanisms
 - Challenges

ENERGY SECTOR OVERVIEW

Energy Sector Overview

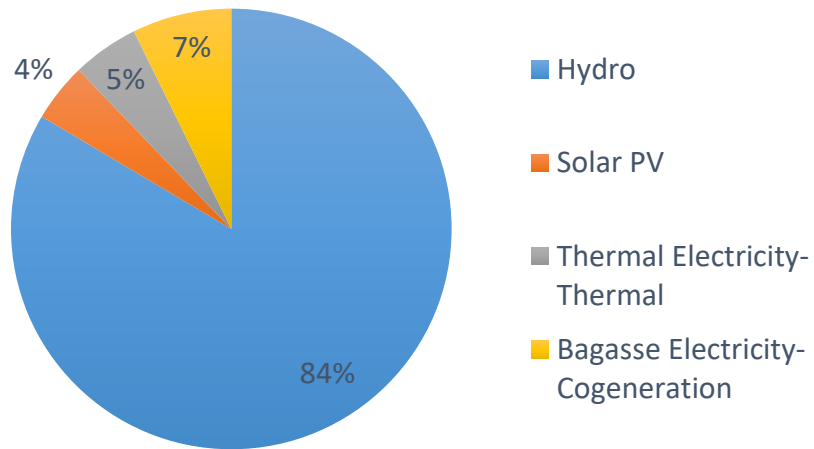
Indicator	
Population (UBOS, 2022)	44,212,800
Energy consumption per capita in kgOE/a (2022)	343.4
Electricity consumption per capita in kWh/a (2022)	89.17
GDP at market prices in trillion UGX (UBOS, 2021)	184.288
GDP at market prices in billion USD (1 UGX=3,757; UBOS, 2021/22)	49.052
Energy consumption per GDP in kgOE/\$1,000 GDP (2022)	309.5
Primary Energy Intensity; TPES and GDP in kgOE/\$1,000 GDP (2022)	446.6

Energy Supply and Consumption, 2022

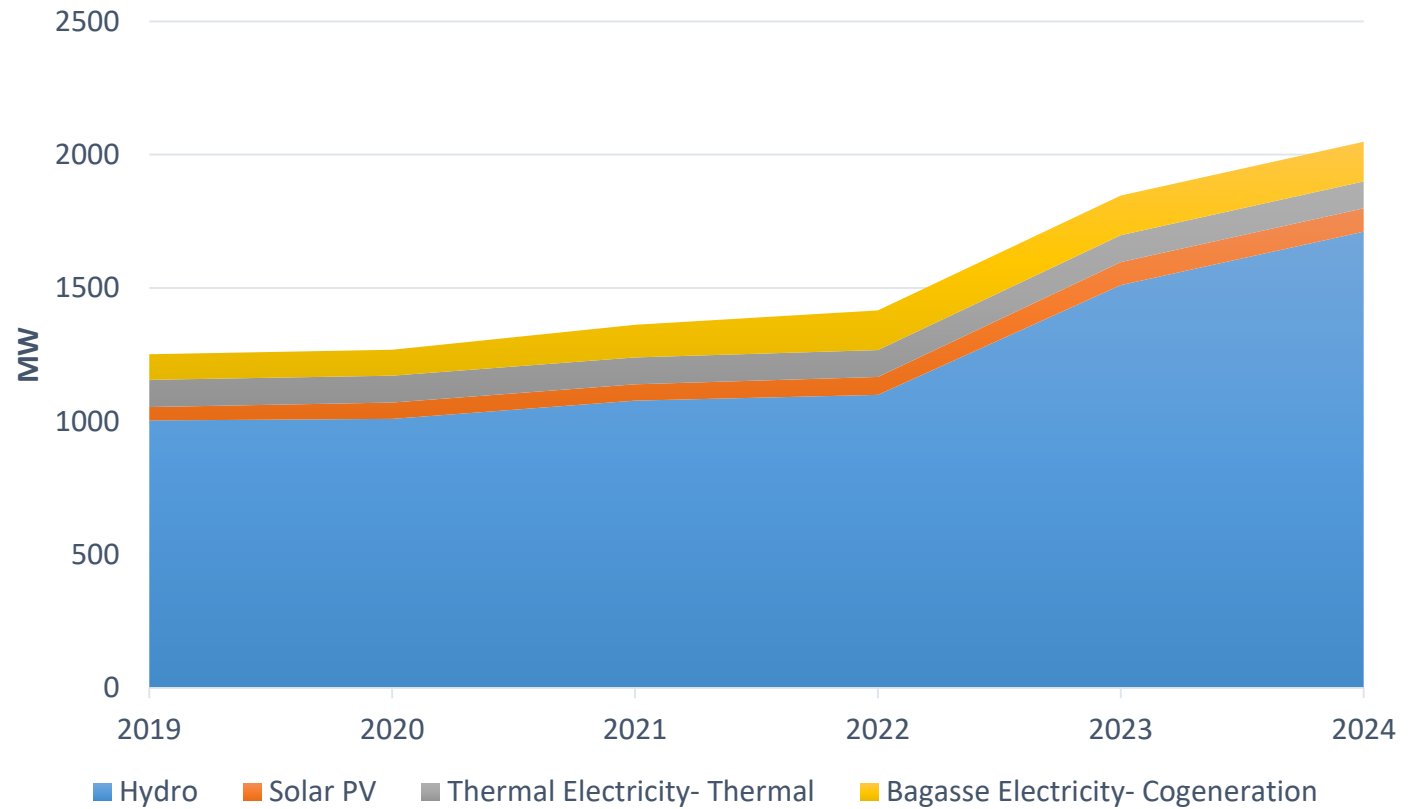


Electricity Generation

Electricity Generation Mix, 2024



Installed capacity (2019-2024)



NATIONAL ENERGY INFORMATION SYSTEM (NEIS)

National Energy Information System (NEIS)

- The NEIS is guided by the Energy and Mineral Strategic Plan for Statistics (EMDSPS III)
- This is a building block for the broader Plan for National Statistical Development (PNSD III)
- It is also aligned to the National Development Plan (NDP III) objective of **‘strengthening the capacity of the National Statistical System to generate data for National development’**.

Stakeholders in the implementation of the NEIS

- Head - Ministry of Energy and Mineral Development
- Other Ministries, Departments and Agencies
- Private Sector including the Public
- Development Partners
- International bodies

Note: *The NEIS is managed by the Statistics Committee*

Data User Needs Assessment in NEIS

Data production is mostly **demand-driven**, with most of it being **produced on request**.

Data demanded includes;

- ✓ Electrification rate
- ✓ Power tariffs
- ✓ Power generation
- ✓ Transmission purchases, sales and losses
- ✓ Distribution purchases, sales and losses
- ✓ Power imports and exports
- ✓ Petroleum imports, sales, prices, etc.

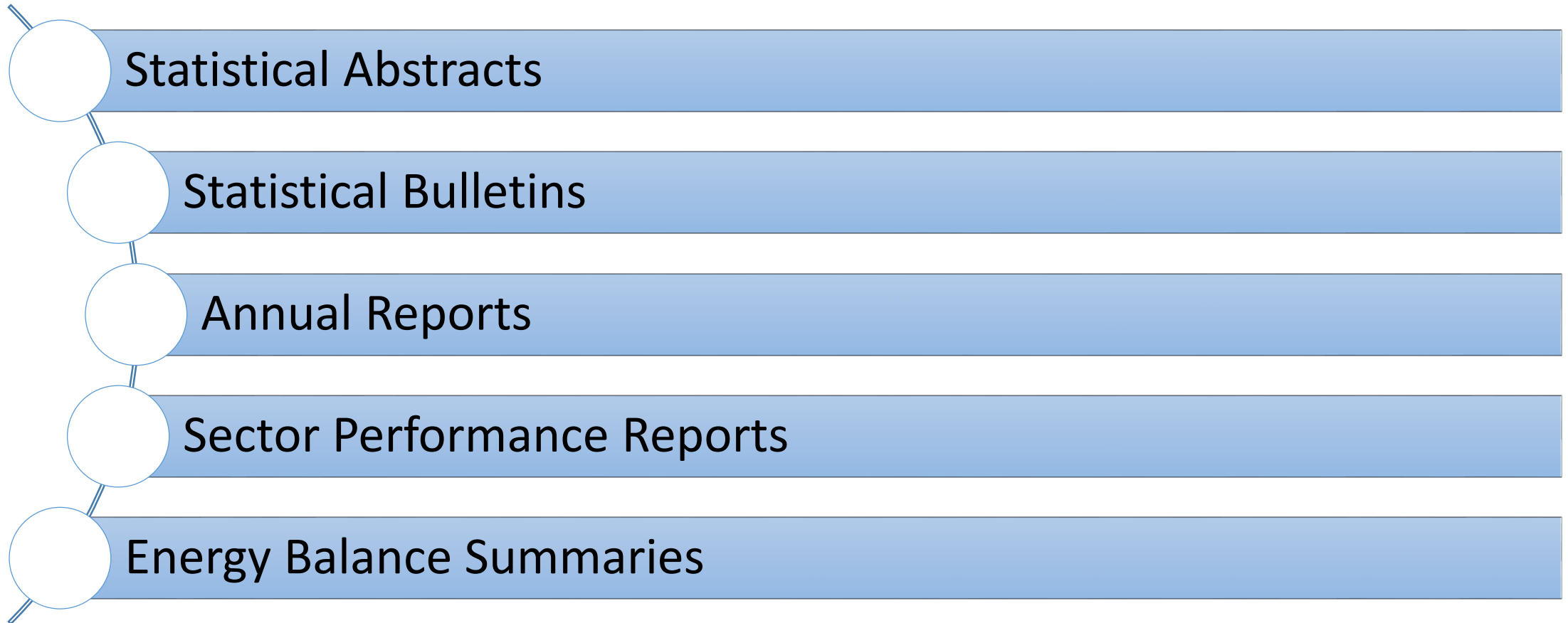
Data sources for the NEIS

Data collection is guided by the **NEIS data collection guidelines** together with specific and **robust data collection templates**.

➤ Primary sources: Surveys

➤ Secondary sources: Data producers, Administrative records

Publications for NEIS data

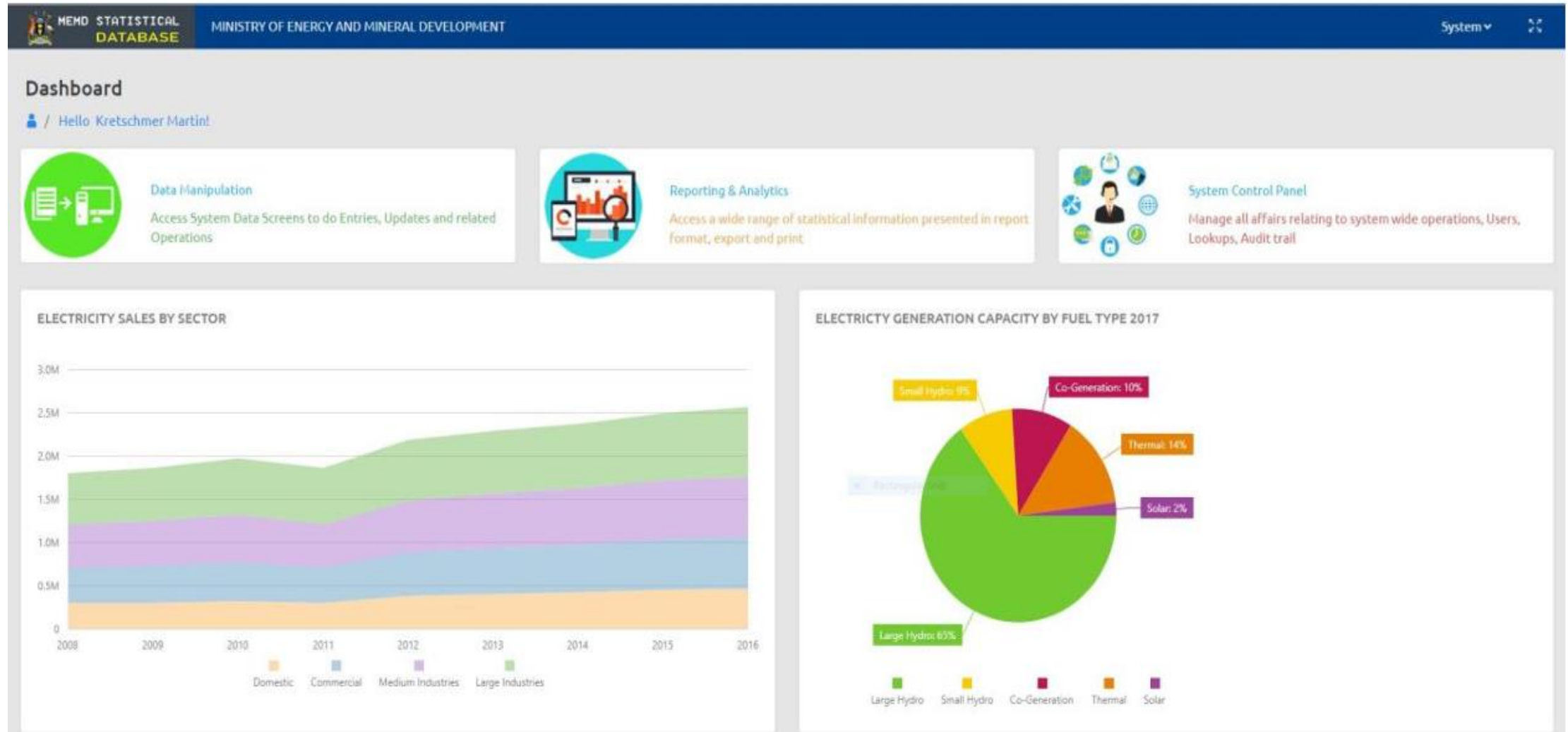


Data Management System for NEIS

- ❑ A robust **Information and Communication Technology** infrastructure that acts as a backbone for statistical production.
- ❑ Reliable fast **internet connectivity**, both wireless and Ethernet, with an up to date and secure server, used in communication with both data producers and users within the sector.
- ❑ **Computers, printers and phones** for data collection and analysis.
- ❑ Various **Database Management Systems (DBMS)**, decentralized at departmental level, used for data storage.
- ❑ A one-stop centre **Statistics DBMS**, at the Ministry's headquarters.

STATISTICS DATABASE

Dashboard - Statistics Database



Input section – Statistics Database



Electricity Generation

Operational Power Generation Plants, Planned Power Generation Plants...



Electricity Distribution

Distribution Purchases, Sales by Sector And Company, Sales by Company, Sales by Sector Mwh...



Electricity Transmission

Transmission Substations, Era Feed In Tariffs, Uetcl Bulk Supply Tariff, Uetcl Sales...



Fossil Fuel Statistics

Annual Petroleum Imports, Petroleum Sales, Petroleum Consumption By Sector, Annual Crude Oil Prices...

Analytics/Previews – Statistics DB



Biofuel Statistics

Amount Of Charcoal Produced, Firewood And Charcoal Consumption, Stove Types For Cooking...



Energy Utilization in Institutions

Energy Utilization in Health Facilities, Energy Utilization in Schools...



Energy Utilization in Uganda

District Electrification Status, Utilization of Lighting Sources, Utilization of Cooking Sources...



NSI Indicators

NSI Energy Indicators...



Other Statistics

UGX-USD Exchange Rates, Population of Uganda...

DATA QUALITY MECHANISMS

Data quality mechanisms

Statistics are only valuable if they are fit for purpose and meet these dimensions of quality statistics

Relevance

Methodological soundness

Reliability

Accuracy

Interpretability

Coherence and comparability

Accessibility

Completeness

Timeliness

Process for ensuring data quality

The methodologies used are aligned to **Internationally recognized standards** for data collection.

The data collection templates are **pretested** before the actual data collection.

The data compiled at the centre is **double checked** for errors.

In case of questionable results, especially from secondary sources, a **verification** exercise is carried out from the primary source for consistency.

CHALLENGES

Challenges faced during implementation of the NEIS

Limited resources to build the capacity of staff to effectively understand, present and disseminate information in a standard format.

Most staff collecting the data do not have a statistical background.

The Ministry's offices and data collection centres are scattered, yet there is limited facilitation in terms of transport and related logistics to monitor and carry out the required statistical activities.

THANK YOU