A. Sector Analysis

1. Current situation and major challenges of the sector:

This paper provides an overview of the Energy sector in Malawi. Only about 25.9% of the population has access to electricity, including grid and off grid, with rural access much lower. The Government of Malawi aims to raise electricity access to 70% by 2030. The country's electricity generation is dominated by hydropower, making it vulnerable to climate-related variability such as droughts and low water levels. Theft of electrical equipment such as transformers and other materials.

Solar energy, especially off-grid solutions, is rapidly expanding and improving rural access. The Malawi Electricity Access Project (MEAP) is helping to accelerate both grid and off-grid connections and is working side by side with the Malawi Rural Electrification Programme (MAREP) which is focusing on expanding the grid through the construction of powerlines in remote areas. Major projects such as the Mpatamanga Hydropower Project and Nkhotakota Solar Power Station are underway to increase capacity and diversify the energy mix. Malawi continues to have unreliable electricity supply due to aging infrastructure and frequent blackouts. There is an overdependence on hydropower, which is highly vulnerable to climate change. Financial and investment constraints prohibit large-scale and decentralized energy development. The Government of Malawi has tried to combat this through policies such as the National Energy Policy (2024) and through the implementation of large hydropower projects to try to close supply gaps. Another method used to combat this is the expansion of solar and battery storage which is critical to reduce reliance on hydropower. Off-grid solutions and innovative financing mechanisms will continue to expand rural access and regional interconnections with Mozambique and other neighbors may enhance stability and reliability. ESCOM is the sole distributor in the country and EGENCO is one of the generation stakeholders. The weakness in electricity infrastructure is highlighted by the cyclones which hit Malawi in 2022 and 2023 where transformers and distribution lines were damaged. Hydropower plants such as Tedzani and Kapichira were also hard hit during these cyclones so the need to build stronger and efficient infrastructure is paramount to addressing the perennial blackouts which are experienced in the country each rainy season. Malawi is attempting to get involved in the Southern Africa Power Pool and the Malawi-Mozambique Interconnector in a bid to benefit from regional power sharing agreements which could serve as a way for ESCOM and EGENCO to make efficient use of electricity.

2. Sector policy, strategic plan, priority areas:

a) Malawi 2063 (MW2063)

In 2021, Malawi started pursuing a development vision for the next forty years: **Malawi 2063 (MW2063)**. Industrialization is one of the three pillars in the vision. The pillar recognizes the important role that energy plays in social-economic development. In recognition of this role, the Government of Malawi (GoM) wants to "*...continue investing in the energy sector beyond hydro, which is currently the main source of energy. .....Our aim is to reduce the current shortage in power generation that has led to frequent power outages and affected the growth of mining and industry production"* (MW2063, page 19).

b) Energy Policy (2018)

The country's Energy Policy which was approved by cabinet in 2018 and launched in November 2019, has the following objectives, among others: (a) to improve efficiency and effectiveness of

the commercial energy supply industries; (b) to improve the security and reliability of energy supply systems; (c) to increase access to affordable and modern energy services; (d) to stimulate economic development and rural transformation for poverty reduction. The country's policy and strategy in energy are aligned to the Sustainable Development Goal 7 which seeks to "*ensure access to affordable, reliable, sustainable and modern energy for all".*

c) Integrated Resource Plan (IRP 2017-2037)

The sector has an Integrated Resource Plan (IRP: 2017-2037) updated in 2024 which puts together all planned projects in the sector. They include those to which funding has been committed as well as those still awaiting financing. The main target for the GoM is to be able to generate and transfer sufficient energy to meet the growing demands. Due to financial challenges, ESCOM has not been able to meet the 8,000 annual connection targets. In March 2024, ESCOM Successfully completed the implementation of the JICA funded Rehabilitation of Lilongwe Substations Project which projected 80,000 new connections in and around Lilongwe and neighboring districts.

3. Donor activities and commitments:

Several development partners have been working in the energy sector in Malawi through the following projects:

- **The UNDP** has been working to expand energy access and promote renewable energy, including solar mini-grids, clean cooking solutions, and rural electrification. Key initiatives include the Lake Chirwa Island solar mini-grid project and the Solar for Health initiative, which electrifies health centers. The UNDP also fosters youth innovation and supports policy and institutional strengthening to accelerate Malawi's energy transition, making energy more accessible, affordable, and sustainable for its people.
  - Lake Chirwa Island Solar Mini-Grid: A $15 million investment in renewable energy, including a solar mini-grid on Chisi Island in Zomba, to power households and support local entrepreneurship.
  - Solar for Health: This initiative installs solar panels in health centers and storage facilities to provide constant, cost-effective electricity for health services and helps create green jobs.
  - Clean Cooking Solutions: The UNDP supports the transition from traditional wood-based cooking to advanced woodstoves, LPG, electric, and biogas cookstoves.
  - Sustainable Energy Management Support: This project assists Malawi in managing energy systematically, with a focus on reducing unsustainable wood exploitation and increasing efficiency.
- **The World Bank** has committed about US$ 150 million on Access to Electricity Project through which over 250,000 households will be connected by 2025. The Bank is also in partnership with other donors and the private sector in developing the 340 MW Mpatamanga hydropower project. The Bank will provide US$50 million. The Bank, in conjunction with the European Union is supporting the Malawi-Mozambique Interconnector project. The project is in the implementation phase. The World Bank is also assisting Malawi with the National Energy Compact under the Mission 300 Africa Energy Summit.

- **The European Union** will provide US$ 23 million to finance the Malawi-Mozambique Interconnector, of which US$ 20 million is a grant, and US$3 million is a loan to the Government of Malawi.

4. Budget situation:

For the 2025/2026, the GoM has earmarked MK 21 billion for the sector however budget analysts believe that the country requires around MK468 billion to make significant impact. This represents a financing Gap of approximately MK 447 billion.

The Rural Electrification (RE) Act (2004) makes provisions for the promotion, funding, management, and regulation of rural electrification. Through the Act, the GoM created a Rural Electrification levy which is collected through fuel sales. Using the levy, the GoM has been able to finance the Rural Electrification Program. The fund was financing Phase VIII through which more than six hundred sites will be electrified. As of 2024 MAREP 9 was hit with financial challenges, and this delayed vital assistance to Malawians (Ministry of Energy, Nyasa Times).

5. Dialogue structure of the sector:

The launch of MW2063 necessitated a review of the dialogue structure between the GoM, development partners, and other stakeholders. While maintaining the same spirit of having Sector and Technical Working Groups, these groups have been re-organized to align them to Pillars and Enablers of MW2063. The energy sector is part of the Economic Infrastructure Enablers Group in which the Principal Secretary for Transport has been the Co-Chairperson. welcomes special presentations from the Government which feed into the Economic Infrastructure Enablers Group.

B. JICA's Position

1) History of JICA's cooperation:

JICA has been supporting the Energy Sector in the areas shown below:

【Planning】
(Exp) Advisor for Electric Power Development Plan (2013 May - 2016 Mar)

【Generation】
(GA) The Project for Introduction of Clean Energy by Solar Electricity Generation System (Grant Agreement signed in February 2010)
(GA) The Project for Expansion of Tedzani Electricity Hydropower Station (Grant Agreement signed in March 2015)
(Regional) Data Collection Survey on Development of Small Hydropower Rural Electrification (2021 Jun - 2022 Mar)

【Transmission/ Distribution】
(GA) The Project for Improvement of Substations in Lilongwe City (Project Completed in May 2024)
【Renewable Energy】

(Study)[1] Feasibility Survey for Electrification of Upland Villages by Micro Hydro-Solar Hybrid Power Generating System with Battery (2016 Dec - 2018 Feb)

JICA supported the Government of Malawi in constructing a 19.1 MW Tedzani IV Hydropower Station which was handed over to the Government of Malawi in June 2021. This was an important contribution to the GoM's vision of attaining 1,000 MW energy by the year 2025. The estimated cost of the project was MK 38.33 billion (approximately US$ 46.9 million).

From mid-2022 to 2024, JICA assisted the GoM in rehabilitating and upgrading Old Town and Kanengo substations in the city of Lilongwe. This project has assisted in improving distribution efficiency and also provided up to 80,000 new connections.

As ongoing assistance, JICA provides capacity building through short and long-term training courses to Malawians in the sector. The courses are held either in Japan, online or on a third country arrangement (outside of Malawi and Japan).

2) Major outcomes:
The projects collectively strengthened Malawi's power sector by expanding access to electricity, improving supply stability, and supporting long-term energy planning. Key achievements include enabling up to 80,000 new electricity connections through substation rehabilitation, increasing grid reliability via the Tedzani IV Hydropower Station, and demonstrating the viability of solar energy for clean power generation. Technical assistance and advisory support helped the Government of Malawi develop sustainable energy and rural electrification plans, build institutional capacity, and guide implementation of the Malawi Rural Electrification Programme (MAREP), supported by evidence-based master plans identifying

3) Lessons learned:
Positive lessons can be drawn from the previous cooperation activities by JICA as follows: (a) Technical skills transfer was effective after the Follow-Up Study (F/S) to MAREP. The GoM, on its own, has been able to implement successfully Phases VI to VIII of MAREP. (b) The GoM agreed to co-finance the Tedzani IV project when there was a shortfall in the budget. This demonstrated the GoM's commitment to the sector. Monitoring Evaluation and reporting within the sector helps to avoid major setbacks and allows for a good basis of dialogue between JICA and the Implementing Agencies.

4) Cooperation Assets:
JICA has invested approximately US$70–75 million in Malawi's energy sector through major infrastructure and technical cooperation projects. Its flagship investments include a US$52 million grant for the Tedzani IV Hydropower Project, which added 19.1 MW to the national grid and improved supply stability, and roughly US$19 million for the rehabilitation and expansion of substations in Lilongwe, enabling tens of thousands of new electricity connections. In addition, JICA has provided long-term technical assistance and studies on energy planning, rural

[1] (Exp) Expert, (GA) Grant Aid Project, (Study) Technical Cooperation for Development Planning, Private Sector Partnership, Data Collection Survey

electrification, and clean energy (including solar), supporting institutional capacity and sustainable energy mix planning.

5) Comparative advantage of JICA's Cooperation:

JICA stands out as one of the few donors in the sector who provide assistance in the form of grants. For a resource-constrained country like Malawi, this aspect cannot be taken for granted. Having taken a leading role in the preparation of the MAREP, JICA understands the challenges of planning and implementing rural electrification programs in Malawi with grid extension. In addition, JICA has established long working relationships with the implementing organizations of the MAREP i.e., the Department of Energy, ESCOM, and EGENCO.

6) TICAD process:

At the Tokyo International Conference for African Development (TICAD) 9 held in 2025 in Yokohama, Japan, delegates made the following commitment under Economic Diversification and Industrialization:

> Leaders reaffirmed their commitment to advance Africa's economic diversification and industrialization by positioning the private sector as the main driver of transformation, with greater investment in manufacturing, value-added production and public-private partnerships to foster competitive industries. They agreed to promote the development of special economic and industrial zones, particularly in electronics, green technology, automotive and agro-industrial sectors, to strengthen value chains and enable Africa to export more processed goods rather than raw materials. Emphasis was placed on enhancing intra-African trade through the African Continental Free Trade Area (AfCFTA), integrating African economies into global supply chains and creating a more conducive business environment with regulatory reforms and incentives such as tax breaks for firms employing youth in emerging sectors like AI and data. Japan pledged to expand investments in African manufacturing and industrial hubs, while partners highlighted the importance of establishing the African Credit Rating Agency and exploring financial reforms to reduce the cost of capital and mobilize resources for industrial growth.

The above commitment from TICAD 9 supports **Sustainable Development Goal Number 7**. In view of the commitment and the SDGs, JICA is already on the right path to fulfilling the proposed goals in economic development. What is required is continuity of the efforts in the areas of cooperation where JICA has started to invest. Continuity will ensure that the assets that have been developed and those that will be developed in the sector are properly followed and maintained. In this regard, JICA could focus on the following targets:

1) Assist the GoM in constructing and rehabilitating infrastructure in the sector.
2) Align JICA's assistance with GoM's development strategies: MW2063; the National Energy Policy (2018); and the Integrated Resource Plan (2017 to 2037).
3) Transfer of expertise and know-how as well as capacity building of GoM officials in the energy sector through Knowledge Co-creation Program.