



CASE STUDY

# OPTIMIZING INVESTMENT IN MALAWI'S CLEAN ENERGY FUTURE

📅 MAR 2022 – OCT 2022

The Malawi Integrated Energy Planning Tool offers in-depth data and insights to inform the country's efforts to advance the sustainable development of clean energy solutions to close the energy access gap.

OUR PARTNERS



Global Energy Alliance  
for People and Planet

APRIL 2023







Integrated energy planning is crucial to achieving universal energy access. We are thrilled to support the launch of Malawi's energy programme and are committed to working together to scale clean energy for the people of Malawi... Through the tremendous leadership of Damilola and her team, we have worked closely to design an integrated energy plan that will put Malawi on a path to the least-cost, most-reliable electrification plan for the country.



**JOSEPH NGANGA**

Vice-President, Africa, Global Energy Alliance for People and Planet

## OBJECTIVE

Energy access in Malawi remains stubbornly among the lowest in Sub-Saharan Africa, at 15 percent of the total population electrified, and only one percent with access to clean cooking solutions. Integrated Energy Plans (IEPs) are a framework that helps direct investment and resources effectively and efficiently to where they are needed most in a given country. Well-designed IEPs help clearly define a country's goals for electrification, clean cooking access, and other essential energy needs.

As part of this project, Sustainable Energy for All (SEforALL) worked to develop an online, publicly available, interactive, and user-friendly data visualization platform to equip the Republic of Malawi's policy makers and energy practitioners with data and insights to make informed decisions on strategies and operations to advance energy access in the country. The IEP also provides actionable insights on how these goals can be reached. The tool sought to present interactive and downloadable data for Malawi based on integrated energy planning analyses to achieve universal energy access in the country by 2030.

## PARTNERS

We worked closely with the Malawian government to develop the updated Integrated Energy Plan. Our work was supported by the Global Energy Alliance for People and Planet.

## TECHNOLOGIES SUPPORTED

The IEP provides objective data to assist policy makers and the private sector assess the potential for sustainable energy solutions to deliver universal access, including solar home systems, mini-grids, grid expansion, clean cooking solutions and targeted support to electrify healthcare facilities. By necessity, the project assessed the relative potential roles for the full suite of available technologies to meet Sustainable Development Goal 7 (SDG7) objectives in Malawi.

## OUR ROLE

SEforALL served as the lead partner to the Malawian government in developing the plan, project managing its delivery, securing essential data sharing as well as sector buy-in, providing strategic advice/technical assistance, and leading on communications around the plan's launch.



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## RESULTS

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We developed a planning framework powered by extensive geospatial analytics and modelling. The resulting IEP provides actionable intelligence for the private sector and government stakeholders to plan the expansion of least-cost access to electricity, and access to clean cooking. A dedicated module of the IEP addresses health-facility electrification and medical cold-chain energy assessment in the context of Malawi's national COVID-19 vaccination rollout. GIZ has already used the data and analytics in the IEP to inform its installation of solar-battery systems at 93 health facilities in the country.

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## NEXT STEPS

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The insights on clean cooking in Malawi developed through the project highlighted the need for a revision to Malawi's Energy Compact to the United Nations, a mechanism also managed by SEforALL that helps to define public, private and civil-society commitments to meeting SDG7. Our learning from working with Malawi also informed the design of our next IEP partnership with the Government of Madagascar, which will also include critical insights on meeting cooling needs for the agriculture sector (for example, implementing cold chains for agricultural produce).



The launch of Malawi's IEP marks the start of a new chapter of evidence-based decision-making in the country. The IEP is easily accessible online for use by government institutions, the private sector, development partners, and the public.



**HON. IBRAHIM MATOLA**

Minister of Energy, Republic of Malawi

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## LEARN MORE ABOUT THE INTEGRATED ENERGY PLANNING TOOL HERE

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- [Malawi Integrated Energy Planning Tool](#)
- [Malawi IEP case videos](#)

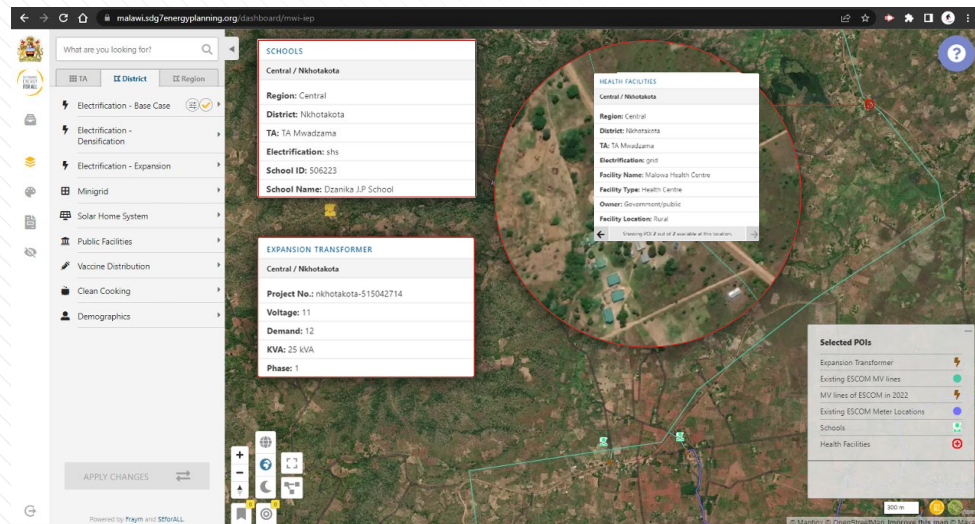




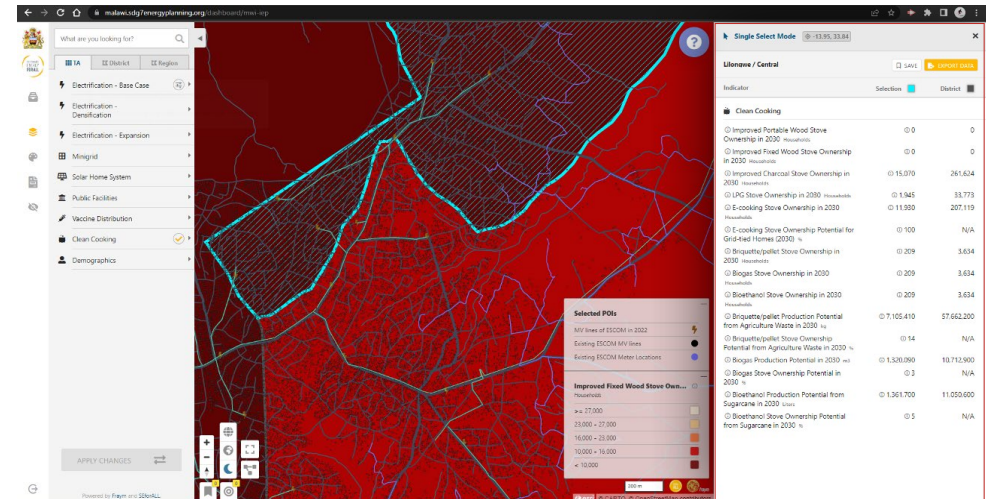
## SNAPSHOTS OF THE ONLINE IEP TOOL FOR MALAWI

The following snapshots from the online Malawi IEP platform provide examples of use cases of the platform, easily accessible for public and private planners and key stakeholders.

The first image below showcases a few currently un-electrified communities best served by grid extension (based on the least-cost analysis), and the extent of the subsequent required grid extension. Key technical features including the requirements down to the transformer level are available by clicking on the respective transformer on the map. The user can also explore electrification insights for essential public facilities (schools and health facilities), including the least-cost electrification solution.



The image in the top right highlights the customizable reports that the user can tailor to their needs. This particular example includes the potential for all major clean cooking fuels and solutions that are available in a selected area. After the report is created, the data can easily be downloaded by the user.



The bottom snapshot highlights how a private sector stakeholder interested in identifying viable mini-grid sites for investments can use the online interface for narrowing down these sites. Based on their criteria as it relates to capacity, number of customers and cost per connections etc.

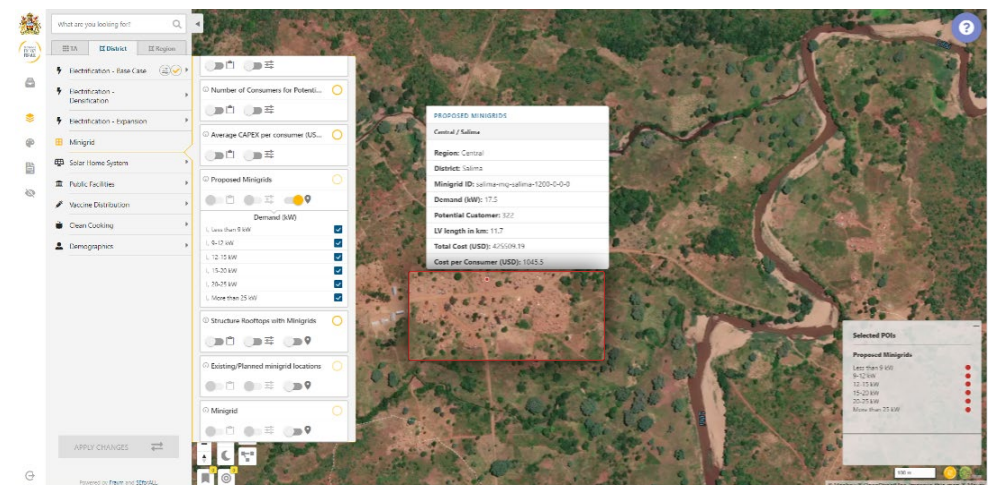






Photo right: IEP tool launch event in Lilongwe, Malawi (October 2022).

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## ABOUT SEFORALL

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Sustainable Energy for All (SEforALL) is an independent international organization that works in partnership with the United Nations and leaders in government, the private sector, financial institutions, civil society and philanthropies to drive faster action on Sustainable Development Goal 7 (SDG7) – access to affordable, reliable, sustainable and modern energy for all by 2030 – in line with the Paris Agreement on climate change.

SEforALL works to ensure a clean energy transition that leaves no one behind and brings new opportunities for everyone to fulfil their potential. Learn more about our work at [www.SEforALL.org](http://www.SEforALL.org).



We were able to access the information we needed on which types of fridges would be needed, where, and which health institutions would most benefit from a solar installation. In coordination with the Ministry of Health, the list of interventions was compiled in a very short time, and therefore we say thank you to the IEP.



**KHADIJA SUNGENI MUSSA**

Deputy Team Lead (Technical) and Energy Advisor: Policy and Energising Health - Energising Development Program at Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH