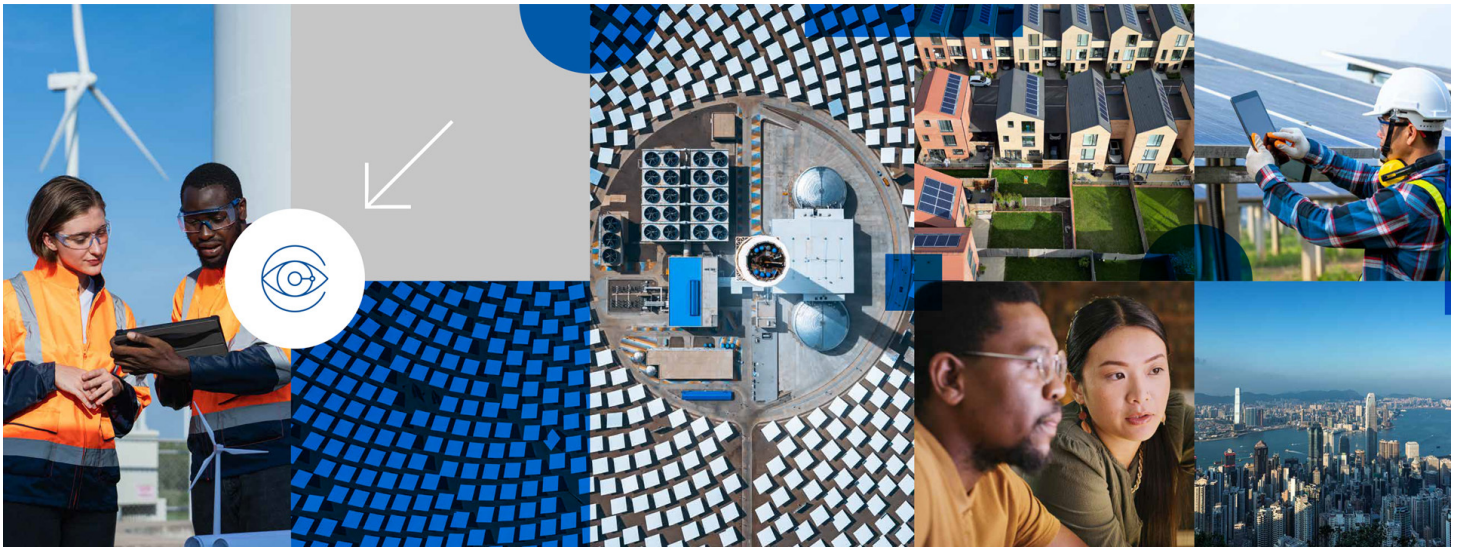


Sustainable Energy for All and IBM Launch New AI Solutions for Energy and Urban Development

- Through the pro-bono IBM Sustainability Accelerator program, the organizations worked together on two projects to enable policymakers to identify energy and infrastructure needs for communities in developing regions.
- IBM developed the Open Building Insights platform, which includes a brand-new AI model to identify building usage, empowering stakeholders to make informed decisions about sustainable development in Africa and India.
- The open-source model, Modeling Urban Growth, developed by IBM and available now on GitHub, predicts where cities will grow.



COP29 BAKU, Azerbaijan, November 14, 2024 –At the 29th United Nations Climate Change Conference of the Parties (COP29), IBM (NYSE: [IBM](#)) and Sustainable Energy for All (SEforALL) announce new, publicly available artificial intelligence (AI)-powered solutions to inform more sustainable urban development for cities and communities around the world, enabling decision-makers and policymakers to map urbanization and identify energy and infrastructure needs for communities in developing regions.

"At IBM, we're proud to launch solutions that harness the power of artificial intelligence to have an impact for communities around the world," said John Matogo, Corporate Social Responsibility Leader for Africa & the Middle East at IBM. "Collaborating with organizations such as Sustainable Energy for All through our IBM Sustainability Accelerator program helps us unlock innovation and work more closely in communities to tackle some of our biggest challenges, especially around energy and sustainable urban development."

of UN-Energy said: “At Sustainable Energy for All (SEforALL), we believe that integrating AI in the energy sector planning and evidence – especially for developing countries will go a long way in designing comprehensive solutions for many of the developmental challenges currently facing the Global South and its people. The Open Building Insights (OBI) Tool, that SEforALL has developed in collaboration with IBM, will help energy planners overcome critical data gap challenges to inform energy access and energy transition interventions, and better deliver results for those most in need.”

In 2022, IBM began collaborating with SEforALL through the [IBM Sustainability Accelerator](#) program. First, IBM worked with the SEforALL team through the IBM Garage, IBM’s collaborative engagement model. During the IBM Garage phase of the project, the organizations conceptualized and designed two AI solutions and an online platform to create a current and future view of buildings in regions of Africa and India.

Open Building Insights

[Open Building Insights](#) (OBI) is an interactive online platform running on IBM Cloud. OBI visually consolidates data in a map, providing information related to buildings in countries addressing urban planning challenges, such as building location, height, footprint area, and usage type. This visual consolidation makes AI models’ output easy to understand for non-technical users, and empowers stakeholders to make informed decisions about sustainable urban development.

OBI’s interactive map consolidates models created by the German Aerospace Center (DLR), which estimates buildings’ heights, by Open Energy Maps, which provides information about electricity status and consumption, and by IBM.

The brand-new AI model developed by IBM runs on IBM Cloud and was built using the IBM watsonx AI and data platform. It uses building-specific data – including its footprint, number of floors, roof image, location and other map data – to determine whether a building is residential or non-residential. This categorization is key to determining the energy needs of a certain urban area.

OBI is available for free to the public, containing information across all of Kenya, and is already being used in the country for energy planning. Based on information from the OBI platform, developed by IBM, Makueni County in Kenya obtained valuable insights to implement measures that are projected to benefit around 1,139,000 citizens by 2030.

The IBM model and DLR model are also available through OBI for the state of Maharashtra in India.

Modeling Urban Growth

[Modeling Urban Growth](#) (MUG) is an open-source AI model designed to predict where cities will grow. The model is trained on, and validates, historical data from satellite images; geographic data, such as slope and elevation; demographic data; and structural data, such as road layout, combining the data into a time series.

MUG helps users to map future urbanization and associated infrastructure needs, enabling decision makers to prioritize communities and developing regions that need support for issues like electrification and energy services. MUG is an AI Alliance project, and is publicly available and open-source on GitHub.

The model is currently trained on data from Africa, including: Nigeria, Benin, Togo, Ghana, Cameroon, Uganda, Kenya, Democratic Republic of the Congo, Tanzania, Rwanda, and Malawi. However, the model is designed to be re-trained by users for any country in the world, using publicly accessible data. On GitHub, MUG includes an explanatory guidebook on running the

code and making predictions using the same or different datasets, which further expands access to developers and decision-makers.

Recognizing the potential of this work to provide even greater insights for city planning and development through the power of AI, IBM has extended its collaboration with Sustainable Energy for All through the IBM Sustainability Accelerator. The organizations will initially focus on continuing to expand the Open Building Insights online platform in India and will explore integrating the Modeling Urban Growth AI model into the platform.

About the IBM Sustainability Accelerator

Launched in 2022, the IBM Sustainability Accelerator is a social impact program that addresses environmental threats impacting vulnerable communities around the world. Each year, the program selects about five projects to scale technology and AI solutions within a new sustainability topic area. To date, the IBM Sustainability Accelerator has supported 15 global projects across three active cohorts, focused on sustainable agriculture, clean energy and water management. For more information: <https://www.ibm.com/impact/initiatives/ibm-sustainability-accelerator>

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