



**02.05.2016 - Electricity is essential to poverty alleviation and sustainable development. Over 1.1 billion people lack access to electricity, making it a central priority for the United Nations' 2030 Agenda for Sustainable Development.**

However, [the goal of providing universal access to electricity](#) carries significant challenges. Nearly 97% of people who lack access to electricity live in poor, remote and sparsely populated regions of Sub-Saharan Africa and developing Asia, and the infrastructure required to bring electricity to these areas can be extremely costly.

With these challenges in mind, the [KTH Royal Institute of Technology](#) (KTH) of Sweden, the [United Nations Department of Economic and Social Affairs](#) (UN-DESA) developed an electrification tool:

[Access to Universal Electricity](#)

. This tool provides an overview of the challenges inherent in providing electricity for all. The model takes into account local characteristics in finding the best combination of technologies that can provide universal access to the population of every country at the lowest cost.

#Electricity4All challenges participants to convert the current electrification tool from [Microsoft Visual Basic](#)

(VBA) to

[Python](#)

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This [challenge](#) involves converting the current Electrification model - written in Microsoft Visual Basic (VBA) - to a faster, open source language (Python) to significantly decrease running time. The current model is developed using programming language that takes an average of 50 hours to run for the 44 African countries that were considered in the analysis. In order to provide

analysts with the greatest flexibility, it is essential to minimize computational time. Initial experimentation suggests the model scenario processing time can be reduced to less than 5 hours with Python.

The winning solution will be used to run several new scenarios that will feed UN-DESA modeling tools for Sustainable Development Policies, including the Universal Access to Electricity Model. The submission deadline is Sunday 15 May 2016.

KTH will host an online Q&A session on Friday 6 May, 2016 at 9:00PM EST where participants can ask questions related to this challenge directly to the KTH Royal Institute of Technology personnel. RSVP, post questions either before or during and join the live event on Google+ On Air:

<https://plus.google.com/events/ca0p4ab5ilbgh1ifsg22dhhd4>

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### UNRICs Related Links

- [Electricity4All Challenge](#)
- [Access to Universal Electricity](#)
- [Sustainable Development Goals](#)

Photo: UN Photo. *Mongolian Family Uses Solar Energy to Power Home. A family in Tarialan, Uvs Province, Mongolia, uses a solar panel to generate power for their ger, a traditional Mongolian tent.*

