



Project Objective

The Fall of 2015, the Bass Connections Energy Access project team was formed to:

- Research meaningful energy access project opportunities for Duke University students in various geographies around the world
- Identify a DukeEngage-based electricity access student-led effort and/or create a program for the summer of 2016
- Consider ways by which sustainable electricity access could lead to the replacement or avoidance of fossil-based options such as kerosene and biomass that would yield improved health and climate outcomes
- Build upon feedback gleaned from companies and foundations experienced with student-led efforts to ensure that projects and programs are designed to guarantee valuable experiential learning outcomes while producing concrete real-world progress.

Background

Worldwide, 1.2 billion people lack access to electricity and the development benefits that it brings, and an additional 1 billion have limited electricity access through unreliable electricity grids. Moreover, nearly 3 billion people rely on traditional biomass (such as wood and charcoal) for cooking and heating. The use of biomass has an impact on global health, productivity, and gender equality. Electricity is central to nearly every major developmental challenge and opportunity that the world faces today. Sustainable, accessible electricity for all is essential to strengthening economies, protecting ecosystems and achieving global equity. It influences job quantity and quality, issues of national and international security, climate change, food production, and global prosperity.

Current Energy Access Work At Duke

There are a plethora of entities with which can be brought together under one platform as "Energy Access Project" to work to build collaborations and partnerships at Duke. Notable projects that Jim Rogers and Tim Profeta have ventured thus far are:

- On October 30, 2015, **DCID-RTI Professors and Practitioners Power for All Panel Discussion** was hosted at the Sanford School of Public Policy. The event featured Sarah Dimson from USAID's Power Africa program.
- **ENERGY 790: Energy & the World's Poor** was offered for the 2nd time Spring of 2016 with Jim Rogers and Tim Profeta adapting the course based on feedback from students, including increasing participation from guest experts and Duke professors.
- GIRI course on Energy Access & Social Impact arranged for Fall 2017

Two On The Ground Summer Projects

DukeEngage



Bass Connection is partnering with WindAid in Peru and IBEKA in Indonesia this summer with Energy Access projects. 5 undergraduate students along with 2 members from the Bass Connections team are going to these projects. Undergraduate students going to these projects applied for DukeEngage independent project funding. Hence, both the projects are supported by DukeEngage.

WindAid



WindAid is a non-profit based in Trujillo, Peru where students are given the opportunity to build wind turbines that are then distributed into select communities that are in need of electricity. A potential long-term relationship has been built with WindAid.

This summer, 3 students will be spending 10 weeks at WindAid. Once the students build the wind turbines at Trujillo, they will be spending the remaining of their DukeEngage time at Playa Blanca, a small fishing village. There, they will be assessing the impact of the turbines while also engaging in the community and educating them on the importance of the turbines.

IBEKA



Indonesia serves as an attractive site to explore energy access with its commitment to renewable energy, as seen by the Island of Sumba's goal to reach 100% renewable energy by 2025. There is one main community partner, IBEKA, and this team would like to scout other potential partners, businesses, and nonprofits to assess future opportunities for Bass Connections, the Energy Access Project, and DukeEngage. IBEKA currently has over thirty projects across the country and has been partnered with the UN.

This summer, 2 students will be spending 10 weeks at IBEKA. Kamanggih recently underwent an electrification project, although as of now, the electricity is only being used for basic needs while its neighboring communities have varying degrees to no access to electricity. Specific goals of this project are to complete an assessment of IBEKA's completed electrification project and better understand 1) what type of electrification project can lead to the most desired benefits for the community, 2) why and how some areas utilize electricity better than others, and 3) where an IBEKA project could have the most positive impact.

Future Direction

Given the momentum of energy access efforts at Duke, coupled with the core competencies of the University, Duke is a prime location to house a multi-disciplinary center of excellence. This will incorporate formal academic research, sustained external engagement, as well as ample educational opportunities for students. Example areas of work/research to accelerate access to energy include:

- Social and Economic Benefits of Access to Energy
- Financing Energy Access Ventures and Projects
- Government Policies
- Model Training Program for Businesses

Additionally, in anticipation of Summer 2016 (May – August), Harry Masters and Leighanne Oh will further the mission of the Energy Access Project with international development.

At both sites, the students will be:

- Extracting, building, and assessing relationships built with multiple international groups
- Derive the full impact of a Energy Access Bass Connections project and close the loop of a years work
- Scope out potential opportunities for Bass Connections next year
- Assess if these high impact, low resource areas for Energy Access are safe and effective places to send Duke Undergraduates and Graduate students in the future
- Capture lessons learned and enhance them for Fall 2016 - Spring 2017 through blogs, pictures, written pieces and interviews

The students will be researching the site, developing relationships, and furthering the Bass Connections missions at the following sites spending 3-4 weeks at each:

- Trujillo and Lima, Peru
- Jakarta, Bandung, and Kamanggih, Indonesia

Team Member Information

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Sreeram Dhurjati | MEM-P

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Blair Lanier | MBA-MPP

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Harry Masters | MEM-MBA

Leighanne Oh | M.S. Biomedical Engineering

Jim Rogers | Former CEO & Chairman of the Board, Duke Energy

Tim Profeta | Director in the Nicholas Institute for Environmental Policy Solutions