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University of
Pittsburgh



CECE

INNOVATION AND ECONOMIC PROSPERITY UNIVERSITIES
AWARDS PROGRAM

CASE
STUDY
2020

IEP CATEGORY – PLACE

University of Pittsburgh: The Business of Humanity Project

ABOUT THE BUSINESS OF HUMANITY PROJECT

In many respects, the [University of Pittsburgh's Business of Humanity \(BoH\) Project](#) defies conventional thinking when it comes to solving large-scale global problems, such as poverty. BoH embraces the idea that economic value and profits are not incompatible with social benefit as often thought but are mutually reinforcing.

The BoH project employs disruptive technologies to profitably and sustainably meet critical needs in underserved communities.

Begun as a collaboration between the University's Katz Graduate School of Business and Swanson School of Engineering, increasingly, BoH incorporates other areas of the University, including the School of Social Work, the Graduate School of Public Health, and the Graduate School of Public and International Affairs.

The BoH project accomplishes its vision through research, education and two technologically-linked demonstration projects. One project is in a tribal village in western India, where most homes lack electricity, running water, and basic sanitation. BoH's DC power initiative with partners in Tuvar, India has brought telemedicine to the village. Power was provided to the 50 poorest households, including for street lighting, as well as for pumps and filters for drinking water and new sanitation systems. The project has provided 8,000 people with access to wellness and health care. The outcomes are being studied at Harvard University's T.H. Chan School of Public Health.

The other location is in Homewood, a historic neighborhood in the east end of Pittsburgh that has struggled with high poverty, unemployment, and from a lack of investment. Lower utility costs and access to nutritious food are critical needs. Studies have found that energy costs tend to be comparatively higher and unaffordable for lower-income families because they are likely to experience housing with problems such as inefficient heating equipment and inadequate insulation. Like other underserved urban neighborhoods, Homewood also is considered a food desert. Not easily fixed by the addition of a supermarket, food



University of Pittsburg student and young Homewood resident learning about the Bioshelter established by BoH

deserts are inextricably linked to systematic inequalities in race, income, and education.

BOH PROJECT IN HOMEWOOD

Phase I

The first phase of the BoH project in Homewood included installing a state-of-the-art DC microgrid with solar panels on a pavilion creating an outdoor learning space, an off-grid bioshelter/greenhouse, and aquaponics and hydroponics systems to support food production. The DC microgrid in Homewood provides green power at approximately half of the cost of AC power, which is 10-12 cents per kilowatt hour compared to 6 cents per kilowatt hour for DC power. MBA students of Professor John Camillus, BoH cofounder and coauthor of *Business of Humanity®: Strategic Management in the Era of Globalization, Innovation and Shared Value*, have analyzed cost savings from DC power and studied its prospects for stimulating economic growth in the community. Two-way technology transfer is taking place with the advanced microgrid equipment in Tuvar being replicated in Homewood, and with equipment and consulting donated to Homewood by the Indian Institute of Technology, Madras. The growing systems in Homewood will be implemented in Tuvar in a final-phase agribusiness, economic development, and employment project there.

The majority of the construction of the Bioshelter was made possible by a grant from the Henry L. Hillman Foundation. Supplemental funding came from the Beall Family Foundation and the Bible Center Church of Homewood, whose Oasis Farm & Fishery program oversees the Bioshelter. Oasis Farm & Fishery provides educational programming to the community at the Bioshelter in STEM topics, including environmental science, alternative energy, and aquaponics. In 2019, more than 500 visitors, including international journalists, foundations and environmental activists, university students and school-age children in Homewood, have participated in tours and other programs at the Bioshelter.

The hydroponics system is maintained by students of the University of Pittsburgh's Hydroponics Club, which has ties to the Swanson School of Engineering. Hydroponics, a method of growing plants that uses 90% less water and that extends the growing season indefinitely, is considered the farming method of the future. Pitt students teach children in Homewood how to build simplified hydroponics systems. Students donate the produce to local food pantries serving Pittsburgh's urban neighborhoods. Bioshelter produce also is used in the preparation of meals on the

menu of the Everyday Café in Homewood, a nonprofit restaurant owned and operated by Bible Center Church. The earnings from the Everyday Café benefit Homewood-based organizations with a focus on entrepreneurship, youth development, and education.

Phase II

Currently, there is a Phase II for the BoH project in Homewood underway that when completed has the potential to be a national model for bringing economic opportunity through green infrastructure projects. A second solar pavilion and DC microgrid will be added, and DC wiring and appliances will be retrofitted to the offices of Bible Center Church. Navigating local regulatory requirements for DC power in the City of Pittsburgh, still considered a relatively new technology, has been challenging. But, the project may demonstrate how DC power can be safely and effectively implemented while preserving historic buildings and structures. In the past, Homewood, like other underserved urban areas, has been adversely affected by city planning and development projects that have demolished homes and other community buildings.

Phase II presents the opportunity to research the materials, equipment, and green infrastructure needed for the conversion to DC power, which could stimulate economic growth and new jobs. The training and manufacturing associated with the BoH project would leverage the existence of the University's Manufacturing Assistance Center (MAC) in Homewood, which links local residents and those in surrounding neighborhoods with good paying jobs in the advanced manufacturing sector. BoH cofounder and Swanson School of Engineering Professor Bopaya Bidanda codirects the MAC.

The BoH project in Homewood has become a living laboratory—one that BoH intends to replicate—in other locations. Additional sites in India and in Haiti, Colombia, and Rwanda are being discussed. BoH partners and supporters believe that this growing body of evidence points to a future where its guiding business principles will no longer be considered progressive but rather the norm and the standard.

LINKS TO FURTHER INFORMATION

Articles:

- [BoH Global Demonstration Project: The DC-HEaRT Initiative](#)
- [India and Homewood grow as testing ground for Pitt's 'business of humanity' idea](#)

Partnering Organizations:

- [University of Pittsburgh](#)
- [University of Pittsburgh - Joseph M. Katz Graduate School of Business](#)
- [Swanson School of Engineering](#)
 - [Pitt Hydroponics Club](#)
- [University of Pittsburgh – School of Social Work](#)
- [University of Pittsburgh – Graduate School of Public Health](#)
- [University of Pittsburgh – Graduate School of Public & International Affairs](#)
- [Everyday Cafe](#)
 - [Bible Center Church](#)

ABOUT APLU

The Association of Public and Land-grant Universities (APLU) is North America's oldest higher education association. APLU is a research, policy, and advocacy organization dedicated to strengthening and advancing the work of public universities in the U.S., Canada, and Mexico. The association's membership consists of public research universities, land-grant institutions, state university systems, and affiliated organizations.

APLU's mission is to: expand access and improve student success to deliver the innovative workforce of tomorrow; advance and promote research and discovery to improve society, foster economic growth, and address global challenges; and build healthy, prosperous, equitable, and vibrant communities locally and globally.

Based in Washington, DC, the association's work is furthered by an active and effective advocacy arm that works with Congress and the administration as well as the media to advance federal policies that strengthen public universities and benefit the students they serve.

ABOUT THE IEP UNIVERSITIES PROGRAM

APLU and its **Commission on Economic and Community Engagement (CECE)** established the Innovation and Economic Prosperity (IEP) Universities Program to help higher education institutions codify, elevate, and advance their campus enterprise supporting economic and community development.

The **IEP designation program** recognizes institutions that have demonstrated a meaningful, ongoing and substantial commitment to economic and community development, growth, and economic opportunity.

The **IEP awards program** recognize exemplary and innovative projects in university-based economic and community engagement:

- **Talent** and workforce development
- **Innovation**, entrepreneurship, and tech-based economic development
- **Place** development through public service, outreach, and community engagement

Learn more at: www.APLU.org/IEP