



- GLOBAL IMPACT SERIES

CARBON EMISSIONS IN CONSTRUCTION | HABITAT FOR HUMANITY

A Habitat build in Jackson, Michigan. *Inset:* (From left), Jesse Vega-Perkins, Andrew Timmins, Lia Delaney, Maeghen Goode, and Marisa Zelip.

It has become clear that we need to drastically reduce carbon emissions to prevent catastrophic climate change associated with more than 1.5 degree of warming. The building sector accounts for 39% of global carbon emissions, and 11% of global emissions comes from the production of building and construction materials. The high emissions due to building and constructions make this area a prime target for reductions.

Habitat for Humanity International (HFHI) partners with communities in 70 different countries to construct or renovate affordable homes. Within the United States, there are over 1,100 affiliate organizations in all 50 states that operate as their own independent organization with guidance from HFHI. In an effort to understand and decrease their carbon emissions due to construction, HFHI launched a Carbon Footprint Mapping and Mitigation Project. HFHI partnered with a Dow Fellows team to understand barriers and opportunities in implementing a Carbon Footprint Project among their many affiliates and compare the Carbon Footprint Project to other carbon emission standards and metrics in the building industry.

GATHERING INFORMATION

First, the team performed an intensive literature review on existing sustainability tools and standards in the building industry. This gave them a baseline to compare HFHI's Carbon Footprint Project to similar industry efforts. After the preliminary research, the team developed interview plans to assess the barriers and opportunities of implementing a Carbon Footprint Project within HFHI. The team conducted one-hour interviews with 15 HFHI affiliates in Michigan and 3 representatives from HFHI via Zoom. The knowledge, opinions, and understandings gained from the interviews were used to develop recommendations to improve the Carbon Footprint Project implementation.

// The goal had been to really let affiliate see their voice in the planning process for HFHI”

— Andrew Timmins

PROJECT IMPACT

The recommendations and research the Dow Team provided will help HFHI implement their Carbon Footprint Project across their many different affiliates. Through the team’s research, they found that HFHI is at the forefront of implementing sustainability into the building and construction sectors. Because carbon mapping and mitigation is so new, the affiliates will require guidance and communication from HFHI on how to carry out a Carbon Footprint Project. The diversity and uniqueness of each affiliate presents both a challenge and an opportunity for HFHI. There can’t be a one-size-fits-all road map due to differences in size, funding, resources, and leadership between each affiliate. On the other hand, the diversity of affiliates can bring unique perspectives, experiences, and knowledge that can be used to address these very challenges. Knowledge sharing among affiliates will be important when administering a Carbon Footprint Project in Michigan and throughout the United States. This project gave affiliates a voice in the planning process, and provided invaluable insight to HFHI on how to best inspire and support affiliates to carry out the ambitious goals of a new Carbon Footprint Mapping and Mitigation Project.

// One thing that I personally was really excited about—talking about to different [HFHI] affiliates—was just how much experience and knowledge they have, and the power of sharing that with each other. Not necessarily just sharing it with HFHI, but building a network among affiliates to leverage each other’s experience. That was one of our main recommendations...encouraging affinity groups for different affiliates who have similar challenges...”

— Jesse Vega-Perkins

PROJECT TEAM

- Lia Delaney, Medical School/School of Public Health
- Maeghen Goode, School for Environment and Sustainability/Taubman College of Architecture and Urban Planning
- Andrew Timmins, College of Engineering,
- Jesse Vega-Perkins, School for Environment and Sustainability
- Marisa Zelip, Ross School of Business

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CLIENT

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- Habitat for Humanity Michigan

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This project addresses the following United Nations Sustainable Development Goals.

SUSTAINABLE DEVELOPMENT GOALS

