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# Achieving Energy Justice in Low Income Communities: Creating a Community-Driven Program for Residential Energy Savings

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# Going Against the Grain

University of Dayton Human Rights Center  
Social Practice of Human Rights Conference, Oct. 1-4, 2019

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## **Achieving Energy Justice in Low Income Communities: Creating a Community-Driven Program for Residential Energy Savings**

### **Presented by:**

**Anya Galli Robertson**, *University of Dayton*

**Kevin Hallinan**, *University of Dayton*

**Jennifer Hoody**, *University of Dayton*

**Session:** Economic Inequality and Climate Justice

### **Abstract:**

The cost of residential energy in the U.S. is unequally distributed, with low income households paying higher rates and spending 16.8% of their income on utility bills compared to 3.5% of all U.S. Residents.[1] Researchers have found that bringing the housing stock up to the efficiency of the median household would reduce excess energy cost by as much as 68%.[2] However, access to opportunities to reduce residential energy consumption and costs such as tax incentives and utility rebate programs tends to be biased toward wealthier, white homeowners. Additionally, low income residents are most likely to be renters, and residence owners have little incentive to improve the energy effectiveness of their properties. Beyond its economic benefits, energy efficiency is essential to reducing local environmental pollution from high-emissions energy sources and to reducing carbon emissions that contribute to global climate change, the direct and indirect harms of which are more likely to impact low income and non-white populations.[3] Our research explores methods of achieving energy justice in low income communities through a pilot study in the Twin Towers neighborhood of Dayton Ohio. By providing free wifi and smart thermostats, our pilot narrows the digital divide and provides immediate opportunities for residents to exercise more control over their energy use and learn more about how to further reduce their utility bills. Building on existing community resources and organizational capacity, we are developing a peer-to-peer education program with the goal of contributing to the long term eco-economic transformation of the Twin Towers neighborhood and developing a model for the replication of the program in other communities. We propose that engaging the community in the grassroots creation of a neighborhood energy savings initiative is a more effective approach - one that emphasizes energy justice rather than simply energy efficiency - than previous top-down efforts.

[1] Drehobl, A., & Ross, L. (2016). "Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities." American Council for an Energy Efficient Economy, Washington, DC.

[2] Lin, J. (2018). "Energy Affordability and Access in Focus: Metrics and Tools of Relative Energy Vulnerability." Behavior, Energy & Climate Change Conference. Behavior, Energy & Climate Change Conference, Washington, DC

[3] Mohai, P., Pellow, D., & Roberts, J. T. (2009). Environmental Justice. Annual Review of Environment and Resources, 34(1), 405–430.

**Presenter information:**

Dr. Anya Galli Robertson is an Assistant Professor of Sociology in the Department of Sociology, Anthropology, and Social Work at the University of Dayton. Her research centers on social movements and environmental sociology, with a particular emphasis on movement tactics, environmental politics, and mixed-methods research. Dr. Galli Robertson received her Ph.D. in Sociology from the University of Maryland in 2018, where her dissertation research centered on the foundations of environmental privilege in the US coal-fired power industry, analyzing political discourse and environmental policymaking surrounding the 2016 election. She received a BA from St. Olaf College in 2008 and an MA in Sociology from the University of Maryland in 2012. She has published sole and co-authored articles in a variety of academic journals including Environmental Sociology, Sustainability, Research in Political Sociology, Mobilization, and Local Environment.

Dr. Kevin Hallinan has been a faculty of Mechanical Engineering at the University of Dayton since 1988. He formerly served as Chair from 2000-2011, during which time he established a Master's Program in Renewable in Clean Energy. His research interests have been diverse, beginning with satellite thermal management, which led to the conduct of an experiment aboard Space Shuttle Columbia in 1996, to a present focus on building energy informatics and community sustainability. Dr. Hallinan is author of over 115 papers mainly focused on sustainable energy, has successfully graduated 20 Ph.D. students, and has garnered funding in support of his research of over \$4M. Hallinan has also been very active in the community. He has served as Co-Chair of the Advisory Committee for Dayton Regional Green, a regional sustainability umbrella organization from its inception through 2016. Lastly, he is Director of Innovation of a non-profit, Clean Energy 4 All, working to bring clean energy to low income neighborhoods.

Jennifer Hoody is an undergraduate student at the University of Dayton. Originally from Omaha, Nebraska, she is pursuing a BA in Mechanical Engineering and plans to graduate in December of 2020. Hoody began research the spring of her junior year with focus on the effectiveness of teaching energy saving behaviors to low-income residents with the goal of reducing utility bills. Through her research, she will be completing an Honors Thesis as a member of the University's Honors Program. Other extracurricular activities she is involved in include holding the Service Chair position in the engineering honors society Tau Beta Pi and being an active member of Dayton Civic Scholars, a civic engagement program focusing on serving and participating in the community and completing a capstone project in the Dayton community with her cohort.