Students as change agents in a town-wide sustainability transformation: the Oberlin Project at Oberlin College

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An increasing number of colleges and universities are playing a crucial role in driving societal transformations and creating the physical and social conditions for accelerating progress towards sustainability. The potential of multi-stakeholder partnerships to enrich sustainability education through experiential learning is well documented. Yet there is less knowledge about the impacts on partnerships that result from student participation and the models that facilitate students to serve as agents of change and research. To address this knowledge gap, we examine the Oberlin Project at Oberlin College, an ambitious community partnership aimed at town-wide climate neutrality and sustainability. Findings show that contributions to stakeholder learning and partnership progress can occur through student participation models such as project-based learning, transacademic research, and internships.

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Introduction

Sustainability challenges are prompting a global burgeoning of university and college partnerships with societal stakeholders [1•,2]. While many exist in prosperous socio-economic conditions and large urban centers, there is emerging evidence that multi-stakeholder partnerships can potentially guide distressed post-industrial towns and cities towards revitalisation and greater sustainability [3••,4•,5]. Beyond promoting scientific research, such partnerships can integrate diverse college or university functions [6] such as economic and real estate development [7], product development and technology-transfer [8], and education [3••].

Despite the capacity of multi-stakeholder partnerships to unite diverse activities and actors into a comprehensive response to local sustainability challenges, undergraduate students are not widely positioned as core knowledge production and change agents in such partnerships [7,9,10]. There is, however, much scholarship demonstrating how multi-stakeholder partnerships can enhance sustainability education through experiential learning [11]. Benefits for students include enriched opportunities for critical thinking, linking knowledge to action, and enhancing inter-personal communication, teamwork and professional skills [12••,13–17]. Yet there is less knowledge on societal impacts that can potentially result from such student participation and the particular learning models that are used.

To address this knowledge gap, this study explores the ways in which undergraduate students can participate in a multi-stakeholder partnership and town-wide transition to post-carbon development and carbon neutrality. It considers the impacts of student contributions on stakeholder learning and partnership progress, and discusses obstacles that can impede student participation. We examine the Oberlin Project, an ambitious partnership between Oberlin College, the City of Oberlin and diverse community stakeholders to revitalise and transform the town[1] of Oberlin, Ohio (population 8300) towards post-industrial prosperity, sustainability and resilience. This case was selected principally for the instructional value arising from the Oberlin Project's pioneering nature. The project sets particularly ambitious sustainability goals and seeks to integrate students from diverse disciplines encompassing environmental and natural sciences, humanities, social sciences and the creative arts [18,19,20•].

Sustainability at Oberlin College

Founded in 1833, Oberlin College is a private, undergraduate liberal arts college and conservatory of music with approximately 2900 students. As the first co-educational institution in the U.S. and the first to accept African Americans, Oberlin College has a legacy of tackling

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[1] In this paper we differentiate between the 'City' (the municipal government) and the 'town' of Oberlin (the built and natural environment and the residents of the City of Oberlin's jurisdiction).

socially progressive causes. In recent years, the College's mission has increasingly embraced campus-wide sustainability education, carbon neutrality and green architecture.

An example of the latter is the Adam Joseph Lewis Center for Environmental Studies. Features of this ecologically designed, zero-discharge building include the filtering and recycling of wastewater through plants in a greenhouse and production of over 100% of the building's electricity needs on an annual basis from a rooftop solar array (which also extends to a parking lot installation). Designed and completed in 2000 before the U.S. Green Building Council's LEED system,[2] it is recognised as a pioneering architectural achievement in the U.S. [19]. Collaboratively realised by Professor David Orr (Oberlin Project founder) and colleagues, students, community members and City officials, in many ways this building laid the foundations for the Oberlin Project, which expands the pursuit of environmental sustainability from the level of single building to an entire town. Since the building's construction, campus-wide sustainability education and the nurturing of 'social consciousness and environmental awareness' have become integral to the College's strategic plan [21]. In 2010, the President of Oberlin College became a lead partner for the Oberlin Project and, in parallel, the College signed a Memorandum Of Understanding with the Clinton Foundation Climate Positive Development Program (CPDP) to attain climate neutrality by 2025. Students are seen as key actors in this shift, as they conceive and implement diverse sustainability projects on and off campus to accelerate progress towards this target.

Despite these commitments to sustainability, however, the College has found its long-term prospects challenged by the lasting effects of 20th century industrial decline. As the city's largest employer with key roles in shaping social and civil infrastructure in the area, Oberlin College is an 'anchor institution' [22] whose fate is intertwined with the socio-economic trajectory of the surrounding community. In the face of economic stress, many stakeholders have called for more integration of community concerns into the College's strategic plan. Some scholars argue that by aligning research, education and outreach with community needs, higher education institutions can become 'engaged universities' [23] that play a powerful role in cultivating sustainable social and economic development in distressed communities and regions [3[**],24]. In many ways, the Oberlin Project marks a shift towards this model of increased community engagement.

Overview of the Oberlin Project
The Oberlin Project was officially launched in late 2010. Guided by a project office employing four full-time staff, it unites Oberlin College (various faculty, administration, the sustainability office and the President), the City of Oberlin (the City Manager and various personnel) and the community (various organisations, NPOs, and local experts] in pursuit of the following six goals [25]:

1. Development of a 'Green Arts District' (at LEED Platinum for neighbourhood development) including a hotel/conference center, apartments, museums and commercial facilities to drive community economic revitalisation.
2. Transformation of local economy through new business ventures, expansion of existing commerce and spurring of investment.
3. Attainment of climate neutral then positive status by 2050 by shifting to renewables, improving energy efficiency and sequestering carbon.
4. Establishment of 20,000-acre greenbelt to supply forestry, biofuel and agricultural products, sequestration services and 70% of food consumption by 2030.
5. Creation of sustainability education alliance with local schools and colleges.
6. Replication of project in different regions across the U.S.

Although also involving academic research, these objectives are focused on implementation and triggering social, economic and environmental transformations. They reflect Orr's vision of 'full-spectrum sustainability' [26] where interrelated projects join 'the many strands of sustainability into an integrated response' [20, p. 1]. Consequently, the Oberlin Project targets virtually all aspects of the town including buildings, energy, lifestyles, economic and social systems, education, the natural environment, agriculture and policy.

The Oberlin Project posits that green development can reverse a long-term trend of economic decline. Situated at the heart of the 'Rust Belt',[3] poverty rates (24%) in Oberlin exceed national figures [27]. Economic resilience has been undermined by a regional decline of the manufacturing sector in the 20th century and high fossil fuel expenditures. In a case of 'enlightened self-interest' [28], the project is motivated by College desires to improve facilities and neighbourhood conditions to increase its ability to attract students and faculty.

Despite aggressive timelines, progress has slipped a few years behind schedule. Uniting local farmers, food distributors and landowners to create the 20,000-acre greenbelt, for instance, is proving highly challenging. Likewise,

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[2] If the LEED system was in existence when the building was designed it would have qualified as Platinum status.

[3] This signifies a strip of cities stretching across the north-eastern corner of the U.S. Throughout the 20th century this region has experienced severe socio-economic decline due to the closure of steel and heavy manufacturing industries in the wake of a transition to a post-industrial economy.