



In Partial Fulfillment of the Requirements for the Degree of

Master of Sustainability Solutions (MSUS)

Madison Doyle

Will present her Master's Culminating Experience Project

ReEnvision Waste at Salt River Project

Abstract

Waste management within the office represents a major sustainability problem for many corporations. Salt River Project (SRP) faces unique challenges at Coronado Generating Station (CGS) and the employee recreation facility Project Employee Recreation Facility (PERA). Addressing major waste streams at CGS involved shifting perspectives, adapting current infrastructure, and incorporating recycling into employee resources. Composting represented an easy to communicate and effective solution to minimizing waste at the newly remodeled PERA club, where the emphasis of the site is employee training, events, and catering. Employee engagement at both sites was based on the evidence based 6 step approach to implementing sustainable practices, including sparking initial engagement, forming working sustainability teams (Green Teams) and communicating effectively (Russo & Hoffman, 2008). These efforts helped bring sustainable initiatives and efforts to sites that are otherwise overlooked by SRP sustainability and employee engagement efforts. Further, these two sites modeled how sustainable change can be made in existing facilities as well as how sustainability can help model new facility infrastructure and marketing. The project was evaluated based on the Corporate Sustainability Management System framework in order to identify strengths, weaknesses, and areas for improvement.

Thursday, April 25, 2019

8:30 a.m.

Wrigley Hall, 481

Faculty, students, and the general public are invited.



In Partial Fulfillment of the Requirements for the Degree of

Master of Sustainability Solutions (MSUS)

David Edward Faught

Will present his Master's Culminating Experience Project

Driving Sustainable Behavior in the Office at Arizona State University

Abstract

Office workers at Arizona State University can decrease their environmental footprint and enhance their positive impact in the workplace by engaging in targeted pro-environmental behavior. This project has researched and developed methods to lower the barriers to pro-environmental behavior and increase community engagement among workers at Arizona State.

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Kayla Kutter

Will present her Master's Culminating Experience Project

ASU Electric Vehicle Program

Abstract

One solution to the problems of poor air quality and increasing heat in Phoenix, Arizona is to change the way the population uses transportation. In the US, around one-fifth of all carbon dioxide (CO₂) emissions are due to cars and trucks used for transportation and the increasing level of CO₂ emissions is exacerbating our impact on the climate and is causing a shift in climate. By switching from combustion engine vehicles to public transportation, electric vehicles, or going entirely vehicle-less, the amount of CO₂ being released into the atmosphere every day will be decreased. If public transportation, riding a bicycle or walking is not an option, electric vehicles (EVs) are ideal as a lower-carbon emitting option over traditional combustion engines when they are recharged using renewable energy sources, like solar.

To encourage the adoption of EVs, this project pushed to overcome a few of the traditional barriers to adoption – initial cost, charging station infrastructure, and education about EVs. First, charging infrastructure was installed on all four ASU campuses. Then, to discover the biggest barriers to EV adoption, a literature review was conducted to develop a general understanding of barriers which guided the creation of survey questions. This survey was distributed to all staff and faculty at ASU (over 9,500 individuals) and received over 1,400 responses. To begin building the EV program at ASU, other universities with EV programs were interviewed to learn best practices and to understand what is most effective in encouraging EV adoption on campus. The responses determined that ASU needs to: 1. Install more charging stations on campus; 2. Offer premium parking for EV/hybrid users or a discounted parking pass or free charging; 3. Add charging stations to ASU interactive map; and 4. Develop an incentive program with EV dealerships. The project built partnerships with EV dealerships to lower the initial costs associated with buying and leasing EVs. Finally, to increase awareness of EVs, the dealership partners brought EVs to campus for a demonstration day paired with Earth Day. The ASU EV program will reduce barriers to EV adoption to help reduce CO₂ emissions related to transportation at the ASU campuses.

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8:30 a.m.
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In Partial Fulfillment of the Requirements for the Degree of

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Kellie Rorex

Will present her Master's Culminating Experience Project

The Bee Business: Determining the Practicality of Marketing Almond Honey for Bee Farmers that Participate in Almond Pollination

Abstract

Almonds are California's second most profitable agricultural product bringing in over 21 billion dollars in economic revenue every year ("California Almond Industry Facts", 2016). However, the success of the almond industry depends on pollination services offered by hundreds of bee farmers from around the United States. Although profitable for the bee farming business, almond pollination services provide an unsustainable business model for bee farmers. Bee farmers that participate in almond pollination are usually dependent on the revenue made from the two-week pollination services their bees provide in early February.

To combat the inefficiencies of pollination services for almonds, this project looks at diversifying income for bee farmers that participate in almond pollination by determining the practicality of marketing almond honey for cosmetic uses and uncovering new buyers. Almond honey is usually considered a useless byproduct from almond pollination and is wasted due to its bitter taste and marginal yields per hive. However, by building a new business model incorporating almond honey sales, farmers could diversify revenue streams and make up lost profits during almond pollination season. Minimizing the waste produced by almond pollination is also one of the project partners goals to make their business model more efficient and socially sustainable.

By building a current bee farming business model the entire bee business was analyzed for inefficiencies and opportunities. A cost-benefit analysis was then performed to determine the best scenario to extract almond honey to sell for cosmetic purposes. The cost-benefit analysis also helped build a new business model and BPM (business process management) that determined the price range almond honey could be sold at, buyers, and logistics.

Almond honey proved to be of interest to buyers and ways to sell and market the product were uncovered, however, the amount of almond honey produced by each farmer was too minimal to make a large difference in diversifying revenue streams for individual bee businesses. Therefore, the project was unable to determine a more resilient and sustainable business model for bee farmers, but it was able to introduce new business partners between beauty supply buyers and bee farmers as well as minimize almond honey waste.

Thursday, April 25, 2019

8:30 a.m.

Wrigley Hall, 481

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In Partial Fulfillment of the Requirements for the Degree of

Master of Sustainability Solutions (MSUS)

Samantha Zah

Will present her Master's Culminating Experience Project

Embedding Sustainability within the Navajo Nation Gaming Enterprise

Abstract

Many American Indian tribes lag behind Western society in economic development and narrowly pursue strategies that prioritize short-term financial return over long-term economic and environmental sustainability. The largest tribe with also the largest land base, the Navajo Nation (NN), relies heavily on the coal mining and combustion industry and Indian gaming. Both of these economic pursuits have resulted in a host of sustainability issues from climate change, water and soil contamination to high energy consumption and poor alignment with cultural values. To respond to this opportunity, I partnered with a leading Navajo Nation-owned economic development entity, the Navajo Nation Gaming Enterprise (NNGE) to research, develop, and test a sustainability framework. The goal of the project was to create leverage for NNGE Board of Directors adoption of sustainability by developing evidence for integrating sustainability into organizational activities. The project utilized the Framework for Strategic Sustainability Development's (FSSD) Five-Level model, the Office of Navajo Government Development's (ONGD) Sustainable Operations and Development model, and sustainability pilot projects. Project results include a comprehensive NNGE Sustainability Report, eight sustainability pilot projects, sustainability engagement with Navajo youth and NNGE professionals (Navajo and non-Navajo), promotion of a sustainability culture at NNGE, and stronger community and intratribal partnerships. As a project manager, the organizational context proved to be a challenging space to affect change within that required an adaptive approach to navigate multiple, and sometimes competing, cultural, social, and political dimensions. Effectively embedding sustainability within NNGE, this project serves as the pioneering effort to develop more sustainable economic development practices with NN-owned entities, provides insight for improved sustainability researcher-to-tribe relationships, and supports the integration of sustainability practices across the Navajo Nation.

Friday, April 26, 2019
12:00 PM
Wrigley Hall, 481

Faculty, students, and the general public are invited.