ENGAGING YOUTH

ADVANCING ORGANIC MATERIALS MANAGEMENT IN PUERTO RICO

Recycling partnership is building a local coalition of sustainable materials management stewards by engaging college students and other community members to foster organics diversion through composting.

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Puerto Rico’s MSW Stats
- Land Mass: 3,515 square miles
- Population: 3,726,000
- Waste Generation: 5.5 lbs/person/day
- Operating RCRA-Compliant Landfills: 29
- Recycling Diversion Rate: 11%
- Combustion with Energy Recovery: Proposed 2,100 tons/day incinerator (with state government support)

PUERTO Rico is running out of disposal options for municipal solid waste (MSW). Landfills are being forced into closure due to noncompliance with federal regulations, capacity, negative environmental impacts and major environmental justice concerns. As a potential solution, in 2012, the state government proposed a large-scale (2,100 tons/day) waste-to-energy facility on the northern part of the island. While the proposal has cleared the EPA permitting process, its fate is still in the air as it is unpopular with many citizens, as well as the island’s municipal governments (all but one has opposed it).

For the past three years, an alternative approach of advancing sustainable materials management (SMM) has been proposed and is being promoted by the Puerto Rico Recycling Partnership (PRRP), a collaborative multi-stakeholder platform initiated in 2010 by EPA’s Region 2 Administrator Judith Enck, and currently supported by the Puerto Rican government. The PRRP employs a collaborative and transparent problem-solving process, and is open to anyone from the Puerto Rican community. It is facilitated by Mark Lichtenstein, Executive Director of the Environmental Finance Center (EFC) at Syracuse University, and guided by nine working groups (teams) formed around commodity-specific challenges (like Organics Management or Special Materials), and functional needs (such as Governance or Education and Outreach). In 2012, the PRRP produced the “Puerto Rico Integrated Solid Waste Management Strategy,” targeting sustainable organics management as one of its top priorities — especially as organic, yard and low-quality paper waste represent close to half of the overall materials stream by weight.

The PRRP’s goal is to advance materials source reduction, reuse, recycling and composting through working partnerships involving government, nonprofit organizations, academia, the general public, environmental groups and the private sector. Organizational support is provided by leadership from various agencies including: the EPA Region 2 Caribbean Environmental Protection Division; the Puerto Rico Department of Natural Resources; the Puerto Rico Environmental Quality Board; the Puerto Rico Solid Waste Management Authority; and the U.S. Department of Agriculture, Rural Development Agency (USDA RD). With the support of a diverse group of stakeholders from across the broad Puerto Rican community, progressive policy development and advocacy, community-based projects and unique education and outreach initiatives are well underway. Continually growing, the partnership currently has 250 members.

ORGANICS TEAM INITIATIVES

Since organic materials represent 35 percent of the Puerto Rico discard stream by weight, the PRRP Organics Team proposed a program that would: 1) Rapidly reduce organics entering the landfills; and 2) Create numerous environmental stewards throughout Puerto Rico, with the intent to foster more interest in SMM within Puerto Rican communities. This resulted in the Puerto Rico Organics Management Education Internship, initially funded through a USDA Rural Development grant awarded to the EFC, and supported by EPA Region 2 and local recyclers. The objective of the internship program is to build a local coalition of sustainable materials management stewards (SMM Stewards).
by engaging college students and other community members from various universities and communities, and teach them about SMM and organics diversion through composting. EFC hired a local coordinator to manage the program. Intensive training and curriculum was developed and co-taught by a team of individuals in both Puerto Rico and New York, including EFC staff as well as core program planning partners from the Cornell Waste Management Institute. Interns acquired skills needed to educate K-12 students and teachers throughout Puerto Rico about SMM concepts with a focus on organics management, particularly “on-site” options. Interns utilized curricula with pertinent activities and posters (available in Spanish and English) and interpreters helped with communication.

Interns, who received a stipend or college credit for their time, formed teams and were required to work with a local school to implement an organics management program. Through experiential learning, they constructed outdoor and indoor compost bins, which provided students with a hands-on opportunity to learn how to manage organics through food scraps collection, create feedstock recipes, and develop outreach to other students and teachers. During the first round of the internship, over 40 student interns and 12 teachers/professors from six universities across Puerto Rico participated in the training, thus reaching out to 20 K-12 schools and over 1,300 students and teachers. The internship program was so successful that a second round (in September 2012) was held with an additional 30 interns.

Members from a “sister” organization to the PRRP, the Virgin Islands Recycling Partnership (VIRP), which is also facilitated by EFC and EPA Region 2, worked with EFC staff members to develop a program modeled from the Puerto Rico SMM Internship. More than 100 interns have participated in both programs. Social media tools are being utilized, such as Facebook and Wiggio, to provide a platform for the interns to share successes and challenges as well as exchange reports and technical assistance.

Some internship projects have connected composting with sustainable agricultural needs in Puerto Rico. For example, the PRRP has identified the island municipality of Vieques — located just east of the main island — as a pilot community due to its unique MSW management challenges, and because improving its environment and quality of life is an objective of President Obama’s Task Force on Puerto Rico. An EFC team engaged elementary, middle and vocational high school students to demonstrate organics management science and systems, as well as compost’s use to support food production. In total, these interns engaged 500 elementary school students in Compost 101 workshops, which included food scraps collection and organics management. Seventy-five middle school students were involved in developing a edible forest and garden, while 20 vocational high school students will develop a food co-op and marketing plan for the produce harvested.

The EFC and PRRP are also active with the Vieques Sustainability Task Force — a strategy of the President’s Task Force on Puerto Rico, led by EPA, and charged with addressing a multitude of needs in the community. Vieques has garnered particular interest due to the island’s more than 60-year use as a bombing range and testing ground, and the resulting residual environmental impacts in the community. A newly formed Vieques Recycling Partnership (VRP), also facilitated by the EFC and EPA, has enabled public dialogue around issues of solid waste management, but also the general cleanup efforts on Vieques.

Other PRRP projects include addressing one of the major barriers to large-scale organics recycling: outdated and burdensome composting regulations. According to its Co-Chair Carlos E. Pacheco, the PRRP Organics Team is evaluating issues related to institutional composting, municipal composting, source separation of fermented organics, and agricultural grade composting. The PRRP Sustainability Speaker Series has been initiated, featuring talks by experts in different subject areas related to the partnership with the goal of advancing policy development and dialogue in the island.

EXPANDING TO VIRGIN ISLANDS

Expanding into the Caribbean, in 2012, the Virginia Islands Recycling Partnership (VIRP) hosted two organics management workshops that reached a total of 60 students and community participants from St. Croix, St. John, St. Thomas, and the British Virgin Islands. PRRP, VIRP, EFC, EPA and USDA RD efforts to move sustainable materials management models forward in the Virgin Island communities could provide valuable lessons for leaders in other jurisdictions. “The great lesson here is to never underestimate the power of organizational collaboration coupled with an impassioned team of people,” says Mark Lichtenstein of EFC. The success of the program stems from the imminent need to address a discard management crisis, the passion and high energy from the interns, and a strong collaboration among government at all levels, nonprofit organizations, universities in both Puerto Rico and the mainland, and the private sector, the general public, and last, the dedication and will of everyone involved to strive for positive change in their communities.

Many interns continued their work with the schools after the internship ended and became actively involved in the PRRP’s activities. “The PRRP gave me the opportunity to become involved with the recycling world…and has inspired me to continue creating programs that divert [recyclables] throughout the island, at events such as the San Sebastián Festival, which succeeded in diverting 220 percent more material than the year before,” notes Jessica Seigle, a former intern and now a leader in Puerto Rico’s Zero Waste movement. “The PRRP is an empowerment tool for change in our management of solid waste.”

Rafael Fernández and Ana Arache are based in Puerto Rico, and are Project Assistant’s with the Environmental Finance Center (EFC) at Syracuse University. Both have been members of the PRRP since its inception in the spring of 2010, and participated in the first round of Sustainable Materials Management (SMM) Internship. José Alcina de Vivo Recycling and Jean Bonhotal, Director of the Cornell Waste Management Institute were key to the development and success of the SMM internship. Angel Arroyo-Rodriguez, an Environmental Planner/Sustainability Coordinator with Ohio EPA, serves as an advisor to the PRRP Organics team. Carlos Pacheco, of Trito Agro-Industrial Services, Inc., Co-Chairs the PRRP Organics Team. The “Puerto Rico Integrated Solid Waste Management Strategy” can be accessed at www.prrcycles.org.