



CDFA Releases Report: “Puerto Rico 127 Corridor Roadmap to Redevelopment”

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David Rogers and Stephen Samuels of Frost Brown Todd were part of a five-person project response team from the Council of Development Finance Agencies (CDFA) to travel to Puerto Rico earlier this year to investigate an 1,800-acre brownfield site on the southern coast of the island. The site is now mostly abandoned, but once hosted the second largest petrochemical processing plant in the world. Decades of heavy industrial use throughout the Puerto Rico “127 Corridor” has brought significant environmental challenges in the form of contaminated soil, air and water sources. Continued assessments will determine the precise nature and extent of the contamination, the environmental media impacted, and the cost and time needed to remediate the sites. The redevelopment plan calls for extensive cleanup and the introduction of an “eco-industrial zone” with utility-scale photovoltaic energy resource recovery, a biofuel innovation hub and a renewable energy-powered industrial park. The purpose of the initial investigation was to provide financing suggestions for the cleanup and redevelopment of the site, with specific focus on financing strategies for electric, water/sewer and roadway infrastructure.

On June 14, 2018, the CDFA released its official “Puerto Rico 127 Corridor Roadmap to Redevelopment” report. An introduction can be found below.

About the CDFA

The Council of Development Finance Agencies is a national association dedicated to the advancement of development finance concerns and interests. CDFA is comprised of the nation’s leading and most knowledgeable members of the development finance community representing public, private and non-profit entities. Project response team site visits are available through CDFA’s Brownfields Technical Assistance Program, funded by the U.S.

Environmental Protection Agency (EPA). CDFA provides resources and technical assistance related to revolving loan funds, tax incentives, tax increment finance and other tools available for redevelopment finance. For more information about CDFA, visit www.cdfa.net.

Puerto Rico 127 Corridor Roadmap to Redevelopment

The Roadmap to Redevelopment is a product of the CDFA Brownfields Technical Assistance Program, which is funded through a grant from the U.S. Environmental Protection Agency (EPA). The program provides technical assistance to brownfields communities on redevelopment finance. For communities that require detailed, hands-on assistance for their redevelopment efforts, CDFA Brownfields Project Response Teams comprised of CDFA staff and technical assistance partners are available to conduct site visits and offer financing strategies. The goal of these visits is to provide communities with specific, actionable steps that can transform brownfields into economically-productive sites in accordance with the goals and plans of the community. CDFA will coordinate 36 Brownfields Project Response Teams over the life of the program.

The Roadmap to Redevelopment was developed through a multi-day process that included interviews with numerous stakeholders from the government, business, and non-profit sectors. The strategies provided are based on the input of development finance experts, CDFA staff, and the interests of stakeholder groups gathered during the Project Response Team site visit.

This report provides a framework for financing the cleanup and redevelopment of Puerto Rico's 127 Corridor based on the provided Eco-Industrial Zone master plan. Specifically, the CDFA team focused on providing suggestions for financing improvements to water/sewer, roadway, and electrical infrastructure to accommodate future eco-industrial users.

The report includes general suggestions on how to manage information regarding existing conditions and needed improvements. Such information is critical in understanding the

opportunities and challenges of the PR127 Corridor. First and foremost, environmental assessments must be completed throughout the Corridor. Some properties may require minimal amounts of remediation and could be ready for redevelopment with relatively little effort. Other properties may need significant remediation and interested developers will require an understanding of the time and cost requirements of completing cleanup. Phase II Assessments will provide this critical information.

Equally important to developers and investors is understanding what infrastructure assets (water/sewer, roadway, and electrical) exist and what, if any, improvements are needed and/or planned. As the report discusses, investment interest in the PR 127 Corridor is very promising, but significant improvements are needed to provide future users with adequate electrical power, water/sewer service, and transportation. The extent and process for these improvements has not been determined. Planning for these improvements must begin by clearly mapping existing infrastructure assets.

Suggestions related to financing the needed improvements include use of federal program funds (e.g. EPA, appropriated Federal Emergency Management Agency (FEMA) Disaster Relief Funds) to catalyze investment. Traditional development finance tools including bonds, revolving loan funds, and public-private partnerships are also suggested as important components in assembling the capital to fund improvements. Efforts to attract private capital to the Corridor should include the use of tax credits and incentives. The PR 127 Corridor can be transformed into the Eco-Industrial Zone through organized leadership and a combination of many (or all) of the tools described herein.

Background & History

Puerto Rico's 127 Corridor is located on the south coast of the island and belongs to the municipalities of Peñuelas and Guayanilla. This region was once a fertile agricultural area used to produce sugarcane and coffee. In the 1950s, oil refining companies and related industries began locating near the coast. The island's location made it an ideal refining station for South American oil imports to the U.S. throughout much of the 20th century. One of the

largest petrochemical complexes in the world was once located in the Corridor. These businesses flourished for nearly three decades, but in the 1980s, U.S. tax policy changed, oil prices soared, and industries collapsed. Before long, the region was filled with abandoned industrial sites and disinvestment was widespread. What remains today is an expansive area of deficient infrastructure and contaminated land, dotted by a handful of operational sites primarily being used for energy production or fuel distribution.

Over time, these changes have wrought economic, environmental, and social challenges for the nearly 11,000 residents living in and adjacent to the brownfield-impacted neighborhoods of the PR 127 Corridor. Today, the unemployment rate is above 20 percent, and the poverty rate is at 57 percent. Outmigration is a problem for these communities, particularly among youth populations, and home ownership has declined significantly. Residents have historically suffered from a variety of health problems, likely attributable to contaminated soil, air, and water sources.¹

In 2010, the U.S. EPA awarded a Brownfields Area Wide Planning grant to the non-profit regional consortium Desarrollo Integral del Sur, Inc. (DISUR) to create a reuse vision and implementation plan to cleanup and redevelop about 1,800 acres of the former petrochemical zone, an area comprising about 3,500 acres and some 42 different sites. The resulting reuse plan calls for an Eco-Industrial Zone, complete with utility-scale photovoltaic energy, resource recovery, a biofuel innovation hub, and a renewable energy powered industrial park. This vision was created by local residents and organizations and has since gained the support of the governor's office and Puerto Rico's Department of Economic Development and Commerce (DDEC).

As part of the planning process, the U.S. EPA funded 11 Phase I assessments throughout the Corridor, covering approximately one third of the impacted area. These assessments indicate the presence of petroleum related contaminants, PCBs, asbestos, and underground storage tanks (USTs), among other concerns. The final plan targets 16 properties for cleanup and redevelopment based on Phase I assessment findings and community input regarding redevelopment priority. Phase II assessments are needed to

determine the nature and extent of the contamination, the environmental media (soil, water, groundwater, and/or air) impacted, and the cost and time that will be necessary to remediate the sites. To date, no Phase II assessments have been conducted. The private owners of the properties have been hesitant to voluntarily provide such data or provide access to allow others to obtain them.

There is some hard data on several properties in the Corridor; four sites in the PR 127 Corridor are undergoing Resource Conservation and Recovery Act (RCRA) corrective action plans and are at various points in the remediation process. These include a large petrochemical complex that now operates an industrial wastewater treatment plant and industrial landfill (Former Union Carbide), a chemical manufacturer (former PPG Industries), a former petroleum refinery that is now used by a third party as a tank farm to store and distribute fuels (CORCO), and a former PVC manufacturing facility (Rico Chemical Company) that is remediated and no longer in operation. Contaminants of concern (COCs) at the RCRA sites include petroleum products, mercury, and various wastewater and industrial landfill pollutants.

Opportunity

The PR 127 Corridor is unique in Puerto Rico because it is already zoned for industrial use and would not require a special process to rezone for industrial operations. Such land in Puerto Rico is scarce and this factor could be influential in attracting future private investment. However, attracting private investment will require complete environmental data and reliable infrastructure. At the request of DISUR and DDEC, this report investigates both remediation financing strategies and potential infrastructure financing opportunities, specifically related to hardening the water, road, and electrical infrastructure of the Corridor. The following paragraphs describe the existing conditions of these critical systems.

Water/Sewer

The Report on Area-Wide Infrastructure prepared for DISUR under the EPA-funded Area-Wide Planning Program points to a lack of

potable water and sewer infrastructure along most of the PR 127 Corridor. Puerto Rico's Aqueduct and Sewer Authority (PRASA) supplies potable water to 98 percent of the island's 3.8 million residents. PRASA also provides sanitary service to urban centers, but septic systems are common in rural areas. A lack of stormwater management throughout the PR 127 Corridor means heavy flooding during rains.

While PRASA says that all residents living in Penuelas and Guayanilla are connected to its water system, it is unknown whether there is sufficient supply of water for industrial use in this area, or what the source(s) might be. The capacity and existing usage of the aquifers north of the site have not been determined, and the integrity of the piping and other infrastructure is suspect. Significant water losses caused by leakage or breaks are widely prevalent on the island.

Many existing operations have self-supplied withdrawals.² Eco-Electrica Natural Gas Power Plant, one of the remaining industries on the south coast, operates a desalinization facility and is said to provide distilled water within the PR 127 Corridor. Costa Sur Steam Power Plant has a private water service and the only sewer system in the Corridor, but it is not clear whether the sewer system is being used. Additional assessment and planning is needed to determine the capacity of existing potential water sources, and the cost and time required to make them available to industrial users.

Roads

Roadways throughout PR 127 Corridor include both short and long distance (cross island roads). Highway PR2 runs just north of the Corridor and connects the region to San Juan. PR 2 is also the only major access road connecting the Corridor to the western region of the island, and it floods during heavy rains, making it impassable. The other roadways throughout PR 127 are narrow and not designed to support heavy industrial traffic, yet large semi-trucks frequently pass through residential areas to pick up and deliver goods. Roadways are in need of repair and include no amenities for pedestrians, such as crosswalks or sidewalks. There are twelve bridges in the Corridor, most requiring significant restoration to be considered safe.

Puerto Rico's Highway Transportation Authority (PRHTA) is responsible for constructing, operating, and maintaining roads, highways, bridges, and all transit related facilities on the island. While road closures were at a very low rate of 1 percent early this year, PRHTA acknowledges that many projects are waiting in the queue. The immediate need for targeted, long-term recovery projects was approximately \$400M.

Electricity

The Puerto Rico Electric Power Authority (PREPA) is the public corporation that provides power to all of the Commonwealth's residents. Two major power stations are located within PR 127: 1) Central Costa Sur Steam Power Plant uses both fuel bunker oil and natural gas and is owned by PREPA; and 2) Eco-Electrica Natural Gas Plant, which uses only natural gas and is privately owned. Some of the challenges currently facing PREPA in this region include interconnectivity problems for local customers, procurement of private fuel sources, high operation costs, and a general lack of transmission towers and lines running from the south coast to the north coast, resulting in poor power transfer. PREPA has plans to diversify its production model by investing in more dual system units that can burn oil or natural gas, and improving transmission and distribution reliability with the goal of supporting renewables.³ Hurricanes Irma and Maria struck the island in September 2017, causing further damage to infrastructure in the PR 127 Corridor and throughout the island, and clearly illustrate the vulnerability of the island's power system by leaving millions without power for months after the storms. The potential for such natural disasters emphasizes the urgency of hardening the island's electrical infrastructure.

Federal Emergency Management Agency (FEMA) Disaster Relief Funding

In September 2017, hurricanes Irma and Maria caused island-wide devastation to critical infrastructure, commercial and industrial facilities, and housing, suddenly usurping many of the Commonwealth's resources for disaster recovery. In the wake of

major natural disasters, FEMA's Disaster Relief Fund is expected to grant additional funding by Congress through supplemental appropriations.

Governor Ricardo Rossello requested federal assistance in the amount of \$94B following the destruction. The request, detailed by Build Back Better Puerto Rico⁴, includes supplemental funding requests from various federal agencies, including the U.S. EPA, Economic Development Administration (EDA), Department of Commerce, Department of Energy, and the Department of Housing and Urban Development (HUD). The funds would be distributed to multiple eligible agencies to be spent on rebuilding efforts. Administration of funds typically requires projects to be completed in four years. Based on the recent history of Hurricane Katrina (2005) and Hurricane Sandy (2012), it is expected that the congressional disaster recovery bills and appropriations will occur in stages. Understandably, the FEMA funds will be in demand across the island and will be prioritized according to urgency of need. To the extent that the future impact of projects to the economy and resiliency of the island will be considered, there is a strong case for utilizing a portion of FEMA funds to address the infrastructure deficiencies of the PR 127 Corridor. The strategies below include suggestions on how to use some of these funds to catalyze cleanup and redevelopment.

¹ Grau, M and Roriguez, J. Brownfields Area-Wide Planning Pilot Program Report on Area-Wide Infrastructure. September 2012. Retrieved from:

http://www.disurpr.com/downloads/BAWP_P3_RAWI%20_V.1.2-F091912.pdf

² Grau, M and Roriguez, J. Brownfields Area-Wide Planning Pilot Program Report on Area-Wide Infrastructure. September 2012. Retrieved from:

http://www.disurpr.com/downloads/BAWP_P3_RAWI%20_V.1.2-F091912.pdf

³ Grau, M and Roriguez, J. Brownfields Area-Wide Planning Pilot Program Report on Area-Wide Infrastructure. September 2012. Retrieved from:

http://www.disurpr.com/downloads/BAWP_P3_RAWI%20_V.1.2-FO91912.pdf

⁴ Rossello, R. (November 2017) Request for Federal Assistance for Disaster Recovery Build Back Better Puerto Rico. Retrieved from:

https://media.noticel.com/o2com-noti-media-us-east-1/document_dev/2017/11/13/Build%20back%20better%20Puerto%20Rico_15105

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