

case 1-430-451
March 23, 2016

Renewable Energy at the National Aquarium

Christina Gomez, energy and sustainability manager for the National Aquarium in Maryland, leafed through *Watermarks*, the Aquarium's semiannual publication, and reflected on the significant progress the Aquarium had made toward reducing its environmental footprint over the past 24 months. Gomez was hired in March 2013 to lead a new sustainability initiative aimed at reducing water and energy use, cutting material waste, and communicating the initiative's progress to the Aquarium's 1.5 million annual visitors. Two years later, the Aquarium had renovated its exterior harbor footbridge using recycled plastics, replaced disposable serving ware in the cafeteria with reusable plates and utensils, and adopted recycled paper and vegetable-based inks for its publications.¹ Despite these successes, Gomez had an even bigger challenge ahead. Dwarfing even the substantial cost of supplying 2.2 million gallons of water to the Aquarium's fish tanks, the Aquarium had hefty electricity bills, totaling nearly \$1.5 million in 2013.ⁱ Along with the utility costs, this electricity usage comprised a significant portion of the Aquarium's carbon footprint. Having made progress on other components of the Aquarium's sustainability initiative, Gomez now turned her attention toward the formidable task of greening the Aquarium's electricity consumption. Gomez had studied renewable electricity systems while in graduate school and knew there were several avenues the Aquarium could pursue. Given local irradiance, an on-site solar array could be a viable option in Maryland. Purchasing renewable energy certificates (RECs) could offer a quick fix for the problem, but Gomez was not sure if they were an optimal long-term solution. Recently, Gomez had heard about companies offering power purchase agreements (PPAs) and similar contract structures for discrete off-site solar projects, and this seemed like an interesting option to consider. Each potential option was worth considering, but unfortunately, Gomez had only two weeks to make a decision. The Aquarium's board of governors was scheduled to meet in April to decide on a renewable energy strategy that would direct electricity purchasing over the next two decades. Gomez knew that her recommendation needed to be sound, both for the long-term financial strength of the Aquarium and to keep her job. Despite the progress she had made over the past two years, she knew that the Aquarium was tightening its budget, and her job was seen as one potential area for cost cutting. A strong recommendation on energy planning could be just the thing to provide some job security. Gomez planned to work late that night.

ⁱ Estimate by case authors.

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