PEPSICO BEVERAGES NORTH AMERICA

Renewable Energy Project

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PepsiCo Beverages North America (PBNA) is a division within PepsiCo with annual revenue of $20B+. PepsiCo has publicly committed to reducing its greenhouse gas (GHG) emissions 20% in absolute terms by 2030. As its largest operating division, PBNA is looking to develop a strategic plan to procure and invest in self-generation of renewable energy to eliminate indirect (Scope 2) emissions associated with purchased electricity.

The range of supply options, together with variable regulatory settings, provides considerable complexity. A critical first step was to determine how much to invest in self-generation. Doing so would involve performing a technical and financial feasibility analysis for more than 600 sites across the U.S. and Canada. Some of the complexities to identify feasible projects include the following: physical space, roof condition, utility infrastructure, electricity rate structures, and availability of financial incentives. The process of vendor selection was equally challenging because vendors' bids were not standard. Therefore, the required due diligence to interpret and compare bids would slow progress towards PBNA's goals.

To capture these opportunities for improvement, the Tauber team performed a four-phased analytical approach. First, the team created a database to consolidate internal and external information relevant to evaluate solar projects. Next, the team developed a comprehensive model to rapidly evaluate the environmental and financial impact of potential solar projects at all PBNA locations. The model is capable of taking inputs from the database and calculating the GHG takedown and internal rate of return (IRR) of each project. Third, the team performed a refined analysis of the top 30 projects and prepared an RFP template to standardize the bidding process. Lastly, the team analyzed green power procurement options to offset the electricity usage not covered by self-generation and ranked them based on additionality, reputational risk, cost savings, financial risk, and lead time.

The model developed by the team can analyze all 600+ locations in under 30 minutes, making it possible to efficiently reevaluate all locations when economic conditions and financial incentives change. By using the model's results, the team identified 30 attractive solar projects to be installed in the next three years, representing a net present value of $6.9MM. The projects identified will produce 22.7 GWh of renewable energy annually (equivalent to 2,183 homes' electricity use). The team also provided a plan to transition to 100% renewable electricity over the next three years by participating in utility-scale community solar programs, engaging in power purchase agreements with solar developers, and purchasing unbundled renewable energy credits. If implemented, this plan will realize additional savings of $1.5MM annually.