

Commercial

Case Study: BJ's Wholesale Club

CHALLENGE Identify best sites for solar installations from among large, multi-state fleet of retail locations; install systems without impacting day-to-day operations

SOLUTION SurePath™ Solar power purchase agreement with Tioga Energy

- BENEFITS**
- Identify and secure available solar rebates/incentives
 - Optimize system design to result in lowest PPA pricing
 - Develop rooftop systems without any capital investment
 - Allow BJ's to focus on their core business without distraction

HIGHLIGHTS Projects were completed on time, without any disruption to BJ's retail business; systems generate an average 15% of the stores' energy needs and produce energy savings of approximately \$45,000 per year

PROJECT SUMMARY

BJ's Wholesale Club is the leading membership warehouse retailer in the eastern United States, generating over nine billion in retail sales annually. Running a tight margin business is critical to the company's success. As early as 2000, the company identified the power purchase agreement (PPA) as an ideal fit for their business model, bringing the energy savings of solar without the attendant costs and complexities.

BJ's was looking to expand their use of solar to other stores in their fleet. They required an experienced PPA partner who could advise when and where best to build and had the capability to work with minimum impact to core operations. They turned to Tioga Energy.

From a portfolio of nearly 200 BJ's facilities in multiple states, Tioga quickly identified four sites – two in Massachusetts and two in New Jersey – that offered the most economical PPA options. Working closely with its EPC partner Spire Solar Systems, Tioga then secured favorable government incentives and contracts for the sale of Solar Renewable Energy Credits (SRECs) for these projects, driving down the cost of electricity in the PPAs.

"Tioga does what they say they will, and more. They understand our needs and treat our business as their own. Tioga has demonstrated they are a committed long-term partner: I am delighted to be doing more projects with them."

– Kevin Moran, Manager of Utility and Energy Services, BJ's Wholesale Club

Tioga's understanding of the SREC market proved especially valuable for BJ's store in Ledgewood, NJ. Acting quickly to take advantage of the then-new SREC auction at the local utility – Jersey Central Power and Light (JCP&L) – Tioga scaled down the size of the originally planned system. While the smaller system produced less energy, it qualified for the auction and delivered BJ's even better savings.

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A sea of solar: BJ's Leominster facility

Combined Projects Summary

Totals for four projects; see back page for individual project details

LOCATIONS

Two retail locations in Massachusetts
Two retail locations in New Jersey

EPC PARTNER

Spire Solar, LLC
Bedford, MA

INSTALLATION TYPE

Rooftop arrays
S-5 non-penetrating metal roof mounts

COMBINED SYSTEM SIZE

1.6 MW DC

COMBINED SOLAR ARRAY

6,783 SolarWorld 230 watt PV modules

ONLINE DATE

May through August 2010

ENVIRONMENTAL BENEFITS

Prevents the release of 976 tons of CO₂ annually; equivalent to 2,120,000 vehicle miles not traveled

TIOGA ENERGY enables commercial, government and non-profit organizations to reduce energy costs while lowering carbon emissions. Through its SurePath™ Solar power purchase agreement (PPA), Tioga owns and operates renewable energy systems that provide organizations a hedge against energy price volatility and accelerate their access to clean energy without any capital outlay.

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Also important to the projects' success was the construction effort. With their stores operating daily for long hours, BJ's could not afford any interruption to the daily retail experience or to after-hours activities. Tioga and Spire scheduled work times to provide BJ's a seamless experience, keeping a low profile and often performing system checks in the early morning hours when no business was occurring.

The four systems, totaling 1.6 MW, were up and running within four months and without any delays. Generating an average of 15% of the stores' energy needs, they will save BJ's approximately \$45,000 year. Tioga's ability to deliver optimum energy production and cost-effective pricing gives BJ's confidence in Tioga as a continuing solar partner.

INDIVIDUAL PROJECT DETAILS



Flemington, NJ

INSTALLATION TYPE – Rooftop solar array
SYSTEM SIZE – 409 kW
SOLAR ARRAY – 1778 SolarWorld 230 watt PV modules
ONLINE DATE – July 2010
FIRST YEAR POWER GENERATION (EST.) – 510,304 kWh



Ledgewood, NJ

INSTALLATION TYPE – Rooftop solar array
SYSTEM SIZE – 499 kW
SOLAR ARRAY – 2171 SolarWorld 230 watt PV Modules
ONLINE DATE – August 2010
FIRST YEAR POWER GENERATION (EST.) – 520,874 kWh



South Attleboro, MA

INSTALLATION TYPE – Rooftop solar array
SYSTEM SIZE – 344 kW
SOLAR ARRAY – 1495 SolarWorld 230 watt PV modules
ONLINE DATE – May 2010
FIRST YEAR POWER GENERATION (EST.) – 371,843 kWh



Leominster, MA

INSTALLATION TYPE – Rooftop solar array
SYSTEM SIZE – 308 kW
SOLAR ARRAY – 1339 SolarWorld 230 watt PV modules
ONLINE DATE – May 2010
FIRST YEAR POWER GENERATION (EST.) – 329,640 kWh