Beacon Landfill Solar Project

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BQ Energy Company Profile

- World-wide experience in project development and a leader in developing renewable energy on brownfields and landfills since 2002.
- Have developed medium-sized wind energy projects (20-50 MW) and utility scale solar PV (1-30 MW).
- We Develop, Build, Own & Operate Projects in many different locations.
- Sell power to owners, third parties, or transmission market….. Or community buyers.
- Office in the Wappingers Falls, NY

Samples of Our Experience

Nerefco (2003)

23 MW wind facility located inside an operating oil refinery in the Netherlands

Steel Winds (2006 & 2012)

35 MW Wind facility located on an abandoned steel mill in Lackawanna, NY. Numerous energy and environmental awards

Steel Sun (2016)

10 MW photovoltaic project also in Lackawanna, NY

PatterSUN(2014)

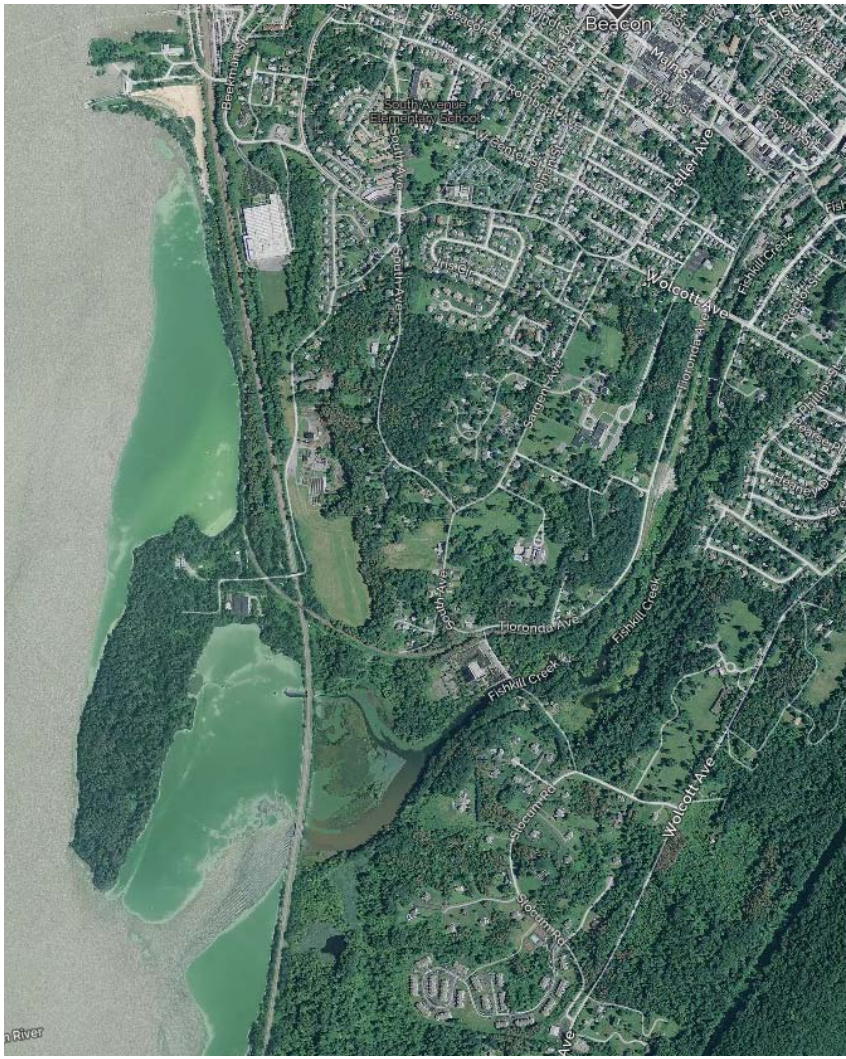
3 MW photovoltaic facility on a landfill property in Putnam County, NY

Annapolis MD (2017)

18 MW PV Facility in municipal landfill. Largest landfill solar project in the US

Beacon Project Overview

- City of Beacon issued RFP in 2015 for private company to build own and operate a solar project on the Dennings Point landfill.
- BQ Energy selected in 2016. Fought Central Hudson at the NYS Public Service Commission for about a year to allow the City to best use the electricity credits from the project. Won last Summer. Started construction in October.
- Project will offset about 60% of historical power bills. Higher when City reduces usage.
- Savings to the City based on RFP assumptions is around $140,000 per year.
- Startup in May 2018



Dennings Point Landfill

last April

Dennings Point Landfill

last week

DRAWING NOTES:

1. BACKGROUND DRAWING TAKEN FROM SURVEY BY TEC LAND SURVEYING, DATED MARCH 31, 2016 AND REVISED JUNE 15, 2017, AS WELL AS AERIAL IMAGES ACCESSED FROM GOOGLE EARTH ON APRIL 8, 2016, ACOE WETLAND BOUNDARIES APPROXIMATED FROM THE USFWS WETLANDS MAPPER, ACCESSED ON APRIL 8, 2016.
2. DIMENSIONS ARE APPROXIMATE. REFER TO FOUNDATION LAYOUT PLAN, PROVIDED BY GAMECHANGE, FOR EXACT LOCATION OF PV PANELS. DIMENSIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF WORK.

SYSTEM SUMMARY

DESCRIPTION	VALUE	UNITS
UNISS AC CAPACITY	1,915,000	WATTS
GROSS DC CAPACITY	2,794,680	WATTS
DC-AC RATIO	1.42	RATIO
ROW SPACING	11.0	FEET
GROUND COVER RATIO	0.51	RATIO
REFERENCE WEATHER DATA	BEACON	MET 7.1, SYN
FIRST YEAR KWH OUTPUT	3,502,000	KWH
CAPACITY FACTOR	0.1430	RATIO
INVERTER: HUAWEI SUN2000-25KTL-US		
INVERTER OUTPUT VOLTAGE	480	VOLTS
INVERTER OUTPUT POWER	25,000	WATTS
TOTAL NUMBER OF INVERTERS	79	EACH
NUMBER OF STRINGS PER INVERTER	6	EACH
MODULE: GCL-P6/72H		
MODULE POWER RATING- TYPE A	325	WATTS
TOTAL NUMBER OF MODULES-TYPE A	4176	EACH
MODULE POWER RATING- TYPE B	330	WATTS
TOTAL NUMBER OF MODULES-TYPE B	4356	EACH
MODULES PER RACK, VERTICALLY	2	PORTRAIT
MODULES PER STRING	18	EACH
MAX DC SYSTEM VOLTAGE	1000	VOLTS
NUMBER OF STRINGS	474	EACH
RACK: GAME CHANGE		
RACK ANGLE	25	DEGREES

LEGEND

- EXISTING CONTOUR 1' INTERVAL
- EXISTING CONTOUR 5' INTERVAL
- PROPERTY LINE
- LIMIT OF LANDFILL CAP
- REQUIRED SETBACKS
- EXISTING/PROPOSED DRIVEWAY
- EXISTING/PROPOSED STORMWATER LINE
- EXISTING/PROPOSED OVERHEAD ELECTRIC
- EXISTING/PROPOSED SANITARY SEWER LINE
- EXISTING/PROPOSED FENCE
- EXISTING TRAIN TRACKS
- EXISTING ROCK WALL
- ACOE WETLAND BOUNDARY
- EXISTING HYDRANT
- EXISTING SANITARY MANHOLE
- EXISTING WATER WELL
- EXISTING MONITORING WELL
- EXISTING GAS VENT W/ 5' & 10' OFFSET
- EXISTING/PROPOSED UTILITY POLE
- EXISTING STORMWATER CATCH BASIN/MANHOLE
- EXISTING/PROPOSED TREELINE
- TREE REMOVAL HATCH
- WETLAND HATCH
- EXISTING BUILDING
- PAVEMENT HATCH
- GRAVEL / RIP RAP HATCH
- INV-## INVERTER
- ACCB-## AC COMBINER BOX
- WS WEATHER STATION
- INV-## STRING W/ INVERTER #
- AC AC ELECTRIC TRENCH

GRAPHIC SCALE

(IN FEET)
1 inch = 80 ft.

NAD83 NY-EAST
TRUE NORTH TO BE V.I.F.

REV. No.	ZONE		DATE	BY
2	–	RELOCATE FENCE, ADD SUMMARY	9/18/17	JSC
1	2	ADDITIONAL VENT, NEW MODULE, ETC.	9/5/17	JSC

SUNLIGHT BEACON LLC
MUNICIPAL LANDFILL SOLAR PROJECT
CITY OF BEACON DUTCHESS COUNTY

PROPOSED
OVERALL LAYOUT PLAN

BQ ENERGY LLC
PROJECT DEVELOPER
47 S Hamilton St.
Poughkeepsie, NY 12601

CRAWFORD & ASSOCIATES
ENGINEERING, P.C.
4411 Route 9, Hudson New York 12534

DATE	DRAWN BY	JSC
5/25/17	DESIGNED BY	JSC
SCALE	CHECKED BY	AFA
1" = 80'	APPROVED BY	AFA

C&A JOB# 4715.0

DRAWING C-1.1

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