

# Town of Rochester Community Solar Projects

## Questions & Answers

*In advance of January 30th vote on  
Permissive Referendums: Propositions #1 and #2  
Pursuant to NYS Town Law Article 7*



### ELECTION DETAILS

**Tuesday Jan. 30, 2018**

Accord Firehouse Social Hall  
22 Main St., Accord, NY 12404

**Polls open from Noon – 9PM**

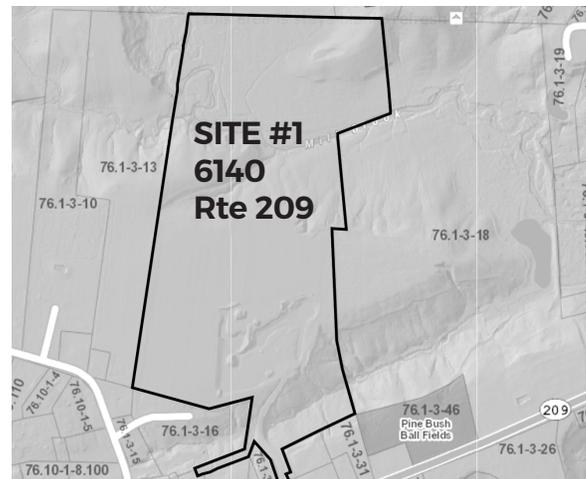
All eligible voters registered with the Ulster County Board of Elections by Jan. 16, 2018 are eligible to vote. Absentee ballots will be accepted upon application to the Ulster County Board of Elections.

The Town of Rochester Community Solar Projects are comprised of two solar facilities, each on their own separate parcel of land. With a combined system size of 11.2 MW DC, the two solar farms will generate lease revenue of \$112,000 annually, and \$2,446,608 over the terms of the 20-year leases. Proposition #1 and Proposition #2 are independent of each other and require individual balloting. The ballot is not a choice of one site or the other.

## Permissive Referendum for site 6140 Route 209 **PROPOSITION #1**

### Proposition #1 on the ballot will state:

“Should the Town of Rochester enter into an option and lease agreement with Borrego Solar Systems, Inc. for land area of 24.11 acres located at 6140 Route 209 Tax map parcel 76.1-3-17 for the purpose of erecting and operating a community solar system. The Initial lease term will be 20 years with the right to extend the term for up to 4 additional 5 year periods. Rental fee will be \$10,000.00 per megawatt DC per lease year with a 1% annual increase.”



LEASE SITE 1 | 6140 Route 209 | parcel 76.1-3-17

## Permissive Referendum for site Off Airport Road **PROPOSITION #2**

### Proposition #2 on the ballot will state:

“Should the Town of Rochester enter into an option and lease agreement with Borrego Solar Systems, Inc. for an area of land not to exceed 30 acres located off Airport Road Tax map parcel 69.3-2-41.100 for the purpose of erecting and operating a community solar system. The Initial lease term will be 20 years with the right to extend the term for up to 4 additional 5 year periods. Rental fee will be \$ 10,000.00 per megawatt DC per lease year with a 1% annual increase.”



LEASE SITE 2 | Off Airport Rd | parcel 69.3-2-41.100

# General Questions (for both sites)

## 1. Why did the Town consider community solar?

The Town Board identified the economic benefits of community solar. **The lease agreement with the solar developer will guarantee revenue every year for the next 20 years. This revenue will aid the town to pay bills for services it provides to residents and will be revenue that will replace revenue collected by taxes.**

The second consideration was energy conservation, safety, and the environment. Solar photovoltaic (PV) technology is neither new nor experimental. Although the industry has made gradual improvements over the decades, the materials and technology used today have changed little in the last 50 years. The sun is a renewable energy source. In only one hour, the amount of energy that shines on the Earth equates to the amount used by the world’s population in an entire year. Unlike solar powered energy, fossil fuels are nonrenewable resources. Not only do they take years to form, but the rate of use is far greater than the rate of formation. Fossil fuels are a limited resource. The gallon of gasoline you burned took millions of years to make, but you used it in just a few minutes. When you burn a gallon of gas, there’s one less gallon to go around. Solar energy is — at least for the next 4 or 5 billion years — a renewable resource.

The Town Board unanimously voted to move forward with the lease of town property subject to permissive referendum based on these two reasons.

## 2. This seems rushed? Why so quick? (see the timeline insert page)

**The vote will be the culmination of 21 months of deliberate and public work and discussion by the Town Board, dating back to April 2016.** By NYS Town Law Article 7, the vote must be held not less than 60 days or more than 75 days after receipt of the permissive referendum petitions. Those dates are January 29, 2018 until February 12, 2018.

The conceptual discussion of solar use of town property first began in Spring of 2015. The Environmental Conservation and Historic Preservation Commissions, the Zoning Review Committee, the Ulster County Planning Board, and NYSERDA also offered information to the discussions.

At the same time this was occurring, the NYS Public Service Commission was developing and changing the rules for community solar in New York State. The concept is new, but it is a high priority of the Governor. Incentives to build community solar are substantial. It was important for the Town to monitor this and to react quickly as the applicants would have to register and be placed in a “queue.” The incentives decrease as a project lowers in the queue. **Getting on the queue promptly means a better financial contract for the Town.** The higher up the queue the greater the tax and incentive benefits would be for the project.

## 3. What will I be voting on?

There will be 2 propositions on the ballot. **The Town Board has agreed to enter into 2 separate lease agreements subject to permissive referendum vote** of eligible electors of the town (voters). The actual proposition language is shown on the cover of this pamphlet. Each is a separate vote. A majority of yes votes will allow the Town to enter the lease as agreed to. A majority of no votes will void the lease.

## 4. What is community solar?

Community solar is a large scale solar enterprise in which subscribers can sign up to lease or purchase a share of the production from the solar facility as a credit on their electric bill. Subscribers receive credits on their electricity bill for the energy produced by “their” portion of the larger solar facility. Community solar is authorized by the state electricity regulator, which in New York is the Public Service Commission. Community solar allows residents and businesses to benefit from solar if they can’t (or don’t want to) install panels on their respective properties. When the community solar facility generates electricity, the utility compensates the solar facility with bill credits for the energy it generates. These bill credits are distributed among the community solar customers, reducing the amount the customer pays to the utility. Rochester residents will be offered the opportunity to subscribe first before any remaining credits are then offered to others.

## 5. What will be built?

**Borrego is allowed to build up to 5.6 MW DC capacity of solar electricity per site**, subject to the terms and conditions of the contract and subject to compliance with all federal, state and local requirements, and consistency with the Town’s Solar Law, as determined by the Town Planning Board. A Special Use Permit and Site Plan approval must be obtained from the Town Planning Board by Borrego. They will be subject to all federal and NYS building codes and requirements.

**Once constructed, solar farms require very little maintenance.**

As such, there is no need to build travel infrastructure to accommodate traffic. Electrical engineers will service the inverters and transformers on average once per quarter. Solar PV panels have a very low failure rate (approximately 1 in 10,000 per year), and are easily replaced. The panels require no on-site water or chemicals to keep clean. Natural weather conditions, such as snow and rain, occur with enough frequency and quantity to naturally keep the panels clean.

## 6. Who benefits?

**Everybody who lives in the Town.**

- The Town stands to receive approximately \$112,000 per year with the contract for both sites. Borrego will pay the Town of Rochester \$10,000 per MW DC installed with 1% annual increase for each of the next 20 years (with 5.6MW DC for each site, that amounts to about \$56,000 per year per site -- rising at 1% per year).
- **Over the span of the 20 year lease the Town would receive \$1,233,064.22 per project or over \$2.46 million.**
- The contract specifies that to the extent possible, local contractors will be used for such services as: felling and clearing trees, clearing land, planting and replanting, fencing, and so forth.
- Borrego has agreed to fund an educational program in cooperation with the Rondout Valley School System.
- The contract calls for Borrego to offer solar energy from its Rochester facilities to Rochester residential users at a price about 10% below what it will offer that electricity to other customers. There is a slightly complicated formula involved that depends upon the level of rebates that Borrego secures from the State. That price is not simply 10% below the going Central Hudson price as some have suggested.
- The contract specifies that a LMI (Low to Moderate Income families) program will be set up if NYSERDA agrees to financially support it. NYSERDA (New York State Energy Research & Development Authority) would provide financial or credit-rating support to allow LMI families to participate in the program.

## 7. Who will own the property?

This is a lease agreement. **The Town will continue to own the property.** The solar facility will be owned by a third party independent power producer. As per the lease agreement, that independent power producer is responsible for all maintenance on the property and the equipment. They are also responsible to remove all equipment at the termination of the lease and for a complete decommissioning of the solar facility.

## 8. What about the environment?

Solar energy is a clean, renewable energy. Fossil fuels produce around 21.3 billion tons of CO2 each year. According to scientists and environmentalists, CO2 is a contributor that causes the average surface temperature of the Earth to rise.

The production from each Town site (@5.6 MW DC) is estimated to offset the same amount of carbon emissions as over 6,000 acres of trees in 1 year (according to US EPA).

The raw materials used to build a solar array are recyclable. The byproducts produced by solar is just power.

Borrego has proposed planting a bee/butterfly/hummingbird mix outside of the array in all the cleared area. This will benefit species like the Karner Blue butterfly, honey bees, monarch butterfly, and yellow- faced bee, which are all endangered or threatened as well as hummingbirds and all other native pollinators. Essentially, **they are adding biodiversity to the sites while also producing clean power.**

Borrego will restore that area as grassland habitat (targeting pollinators) and include a wildlife gap under the fence to cultivate grassland species biodiversity.

## 10. Is solar safe?

Solar photovoltaic cell (PV) panels do not create heat, and are composed of non-toxic materials, do not erode, and do not produce any emissions. The sealed PV panels do not leech metals into the environment and are recycled at the end of their lifecycle. All module, inverter, and transformer components used in solar panel construction are judged to be safe.

Solar panels are designed to absorb light from the visible spectrum, not to reflect it, although some upward reflection does occur. To assist light absorption, each PV panel is treated with an anti-reflective coating. Naturally occurring ponds and streams, snow, and even certain kinds of soil and vegetation are similarly reflective. In fact, the sunlight that is reflected away from solar panels produces the same amount of glare as a flat pond or lake. Additionally, the solar panels are mounted at an angle that allows for the most light to be absorbed throughout the year, which results in the panels facing the sky at shallow angles (typically less than 25 degrees) As a result, what little light is reflected is not visible to ground-level observers.

All solar farms are required to be approved by the FAA as potential glare hazards for aviators. To date, no PV array has been deemed a glare hazard. In fact, there are a significant number of PV power plants built next to highways and around airports.

The International Commission on Non-Ionizing Radiation Protection has established 833 milli-Gauss (mG) as the limit for prolonged exposure to electro-magnetic fields. The inverter is the strongest source of magnetic fields in the solar facility with levels varying from 150-500 mG at a distance of one to two feet. At 150 feet, the inverter’s magnetic field levels drop below 0.5 mG or less, often falling to the background level of earth’s magnetic field of 0.2 mG. No other solar PV component emits EMFs that are measurable above the earth’s magnetic field. There are no EMFs emitted at night.

## 9. How do solar panels work?

The electricity-making process starts with sunlight striking the solar panels. The energy from this action is converted into low-voltage DC electricity. This low-voltage DC electricity is fed into the inverters where it is converted into low-voltage AC electricity, which is then fed into the transformers where the electricity is converted into medium-voltage AC electricity. The medium-voltage electricity is connected to the grid.

Solar Power Facilities are made up of 3 key components; Modules, Inverters & Transformers.

**Modules:**

- Backsheet: Polyethylene (most commonly used plastic; used in water bottles)
- Frame: Aluminum (same as most cooking pans)
- Glass: Tempered glass with anti-reflective coating
- Junction Box: copper wire and diode, solder for connections (halogen and lead free), polyethylene (plastic)
- Wafer: silicon (glass) and aluminum
- Leads: wires coming out of module are copper and PVC plastic as insulation over the wires and polyethylene connectors. Similar raw materials as household wire

**Inverters:**

- Computer: Controls inverter - smaller scale than most household laptops
- Otherwise the ‘guts’ individually are similar to the transformers on poles running to the resident’s houses or smaller electrical panels.
- They do emit some sound at 61.6 decibels at 1 meter. The average conversation is 60-70 decibels at 1 meter and traffic inside a car is 85 decibels. During the day when the inverters are working, surrounding noise should drown them out. Surrounding residents would not be able to hear anything. They do not make noise at night.

**Transformers:**

- Borrego specifies FR3 oil in ALL transformers, which is made from 100% vegetable oil and is carbon neutral. This is at a significant cost to the company, but if spilled, it is harmless and natural. Typically, transformers use mineral oil which is a byproduct of petroleum manufacturing. The FR3 also has a burning point that is double that of mineral oil, making these transformers safer in case of a fire.

# Permissive Referendum

6140 Route 209

PROPOSITION #1

## 1. What about the Town sand mine?

The Town will be unable to utilize the sand while the solar system is on top of it. The existing site will be graded, top-soiled, and seeded with grass to accommodate the solar array. However, the sand source will not go away. It will still be in the ground and available for the Town to continue to use when the lease expires. A mining permit can be applied for with the NYS DEC at that time.

## 2. Won't that cost the taxpayers money? What are the costs to the Town?

The \$56,000 per year lease payment will **both pay for the sand AND give the Town a net \$34,102 profit to be applied against taxes.**

### Analysis of Town current costs vs. projected Town costs:

Currently the Town uses approximately 4000 cubic yards of sand per year, on average. 4000 cubic yards = 5400 tons

Town Highway crew labor costs to screen and truck the sand to the salt shed	\$4,420
Screening rental	\$4,120
Fuel costs for trucking and screener	\$1,430
<b>Total costs to the Town for sand if they don't lease the property</b>	<b>\$9,950</b>

If the Town leases the property for solar it will need to buy and truck sand to the salt shed. The Town can buy the sand locally at the NYS bid price or less from either Mombaccus (Accord) or 209 Sand & Gravel (Napanoch)

Sand Cost - \$5.00 per ton (current price)	\$27,000
Town Highway crew labor costs to truck the sand to the salt shed	\$3,418
Fuel costs for trucking	\$1,430
<b>Total costs to the Town for sand if they do lease the property</b>	<b>\$31,848</b>

**Increase in Town yearly expenditures by buying sand instead of making its own. \$31,848 - \$9,950 = \$21,898**

## 3. What about the town mining permit?

A NYS DEC mining permit is required for any mining activity above a certain size in NYS. This permit is good for a 5-year period. The current permit is up for renewal. As the proposed lease is for a 20-year term, the mining permit would have to be renewed 4 times over that lease if the town continued to mine sand. There are permitting costs associated with each renewal.

If the Town moves forward with this project the mine would require permit closure and reclamation. The estimated costs to close and reclaim the mine are \$15,000 in site work and \$5,000 in fees and engineering costs. Some or all of these costs will be absorbed by Borrego with their installation of the facility.

To reopen the mine at the end of the 20-year lease would require a new permit. The projected costs of such (based on 2017-dollar estimates) would be \$50,000 to \$70,000, based on current permit requirements.

# Permissive Referendum

Off Airport Road

PROPOSITION #2

## 1. What are the costs to the Town?

The cost to the Town will be zero. The property is vacant property and is unused right now. The Town will retain ownership. Borrego will pay for all development on the property. This includes all costs for construction, and eventual decommissioning of the facility.

## 2. Why can't this be built on the old town landfill site?

The site was considered, but disqualified for economic and construction reasons. The closed landfill site would allow a considerably smaller acreage area to be utilized for a solar facility. The solar companies could not offer the same lease agreement to the town because they would receive less financial incentives. A smaller solar facility would yield greatly reduced payments.

While it can be accomplished, constructing a solar facility on a closed landfill involves much more expensive construction methods due to the sensitive permeable membrane capping the closed landfill. There are regulations as to the weight of vehicles driven over a closed landfill. The NYS DEC has very specific regulations regarding closed landfills.

## 3. What about the trees on the site?

Because the site is being proposed for use as a solar facility, the trees which will be lost will be offset by clean energy production 20 times over. The production of solar energy (@5.6 MW DC) is estimated to offset the same amount of carbon emissions as over 6,000 acres of trees in 1 year (according to US EPA).

## 4. What about the visual impact of the solar facility?

The maximum height of the solar panels are capped at a height of 15 feet under the Town Zoning Law.

On both sites, as required by law, there will be a perimeter of trees to provide visual cover and separation. These buffer areas are a minimum depth of 50 feet. On a site by site basis, Borrego and the Planning Board will analyze sight lines and screening strategies. There will be tree transplanting and other effective coverage.

# Solar energy & use of Town property for solar facility leasing

Timeline for all date references are from public meetings

APR 2016	Town Board reviews Zoning Law as relates to solar energy. Begins discussions about utilizing Town property for solar energy.
MAY 2016	Town Board Zoning Law amendment (solar energy) discussion.
JUN 2016	Town Board Zoning Law amendment (solar energy) discussion.
JUL 2016	Town Board public hearing for Zoning Law amendment (solar energy). Town property solar use discussion.
AUG 2016	Town Board public hearing held for Zoning Law amendment (solar energy). Town property solar use discussion.
SEP 2016	Town Board Zoning Law amendment (solar energy) discussion. Town property solar use discussion.
OCT 2016	Attorney for the Town and Town Board develop and vote to release a Request for Proposal. Town Board adopts Chapter 140 -Zoning Law update – solar energy subsection.
NOV 2016	Town Board receives 6 proposals in response to the RFP. A committee begins a review of the RFP proposals.
DEC 2016	Town Board given updated information - NYS Community Solar and proposals.
JAN 2017	Town Board given updated information - NYS Community Solar and proposals.
MAR 2017	Town Board given updated information - NYS Community Solar and proposals.
APR 2017	Town Board votes to accept the RFP from Borrego Solar Systems, Inc.
MAY 2017	Supervisor gives update on solar projects.
JUN 2017	Town Board determines a SEQRA Negative Declaration for 6140 Route 209. Town Board approves signing of the 6140 Route 209 lease.
JUL 2017	Town Board determines a SEQRA Negative Declaration for Off-Airport Road. Town Board approves signing of the Off-Airport Road lease.
AUG 2017	Planning Board begins review of both Borrego Special Use Permit applications.
OCT 2017	Planning Board held a public hearing for the 6140 Route 209 project. Town Board discovers an error in public notice has occurred - The lease should have been signed subject to Public Notice of Permissive Referendum as stated in NYS Town Law Article 7.
NOV 2017	Town Board rescinds the resolutions authorizing lease signings to correct the error. Town Board votes new resolutions authorizing lease signings subject to permissive referendum. Town Board directs Planning Board to stop review until further notice. Public Notice of the lease signings subject to permissive referendum posted by the Town Clerk.
DEC 2017	Town Clerk receives petitions with the required minimum number of signatures requiring the Town Board to schedule a vote of qualified electors of the Town. Vote must be held not less than 60 days or more than 75 days after receipt - Jan. 29, 2018 until Feb. 12, 2018. Town Board votes to establish the language for Proposition #1 and Proposition #2 for the ballot.
JAN 2018	New Town Supervisor and Town Board take office. Town Board sets the vote date – enters into a contract with Ulster County Board of Elections. Town Board directs the Supervisor to create an information sheet for the voters