The building of a solar farm

What goes into solar farm, what does it look like and how does it work?

1

Pre-seeding

- We work to seed sites prior to start of construction.
- Assists with soil and vegetation stabilization, weed suppression and stormwater management.
- Required by law to develop and comply with a comprehensive stormwater management planned call a SWPPP (Stormwater Pollution Prevention Plan).
- SWPPP must include measures to control erosion and sedimentation.

2

Piles

- Steel piles are driven into ground to support racking and solar trackers.
- Piles take up <5% of the land on a solar farm.
- No concrete foundations.
- 5-6 feet above ground.
- Piles are spaced 8-10 feet apart north to south.
- Rows are spaced 20-25 feet apart east to west.

Piles are driven into the ground, with no concrete foundations.

3

Racking and Trackers

- Solar panels are mounted on racking, which is fastened horizontally atop the piles.
- Racking with tracking systems rotate quietly and very slowly east to west to follow the sun to maximize energy generation.
- Smart tracking systems also protect solar panels from hail and wind!
- Height from ground to racking is about 4-6 feet.
- Rows are 20-25 feet apart east to west.

Smart trackers rotate quietly and very slowly to follow the sun.

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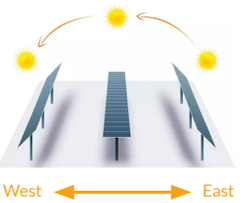
Photovoltaic solar panels (PV modules)

- Solar panels are designed to absorb (not reflect) sunlight.
- Generate DC power by converting photons from sunlight to electrons flowing through semiconductor material, creating an electrical current.
- Are put in series in the form of "strings" to achieve a nominal operating voltage to facilitate efficient electrical current flow.

Racking rotates the solar panels slowly, 2-3 degrees every 5 minutes.



5

Inverters

- Strings of solar panels are combined in parallel, either through a wire-harness or combiner box.
- The combined strings called DC feeders are connected to DC inputs of a solar inverter.
- String or central inverters convert the DC power to AC power.
- In combination with the inverter is a medium-voltage transformer which allows for the AC power output to be combined into AC feeders going to a substation.

Sound at a solar project limited to inverters and the transformer, interiorly located and cannot be heard past the project boundaries.

6

Substation / Switchyard

- Electricity from solar farms flows into local electric grid, exactly the same as a fossil fuel electric plant.
- A substation is the main point of connection to the existing grid, where power is measured and raised to grid voltage as needed.
- A substation is a fenced facility owned and operated by a utility.
- Substations contain protection equipment, controls, and auxiliary services such as capacitor banks to provide power quality support and protection to both the grid and the solar farm.

7

Fencing – Interior and Exterior

- Game style on project exterior matches rural aesthetic.
- Exterior fencing is typically 7 feet in height for game fencing, taller if there is a special local code requirement.
- Trees and shrubs may be planted for screening – they also provide additional homes for birds and other wildlife.
- Interior fencing is used to manage rotational sheep grazing.
- The only chain link fencing used is around the substation, as per code requirements.