The building of a solar farm

lightsource bp

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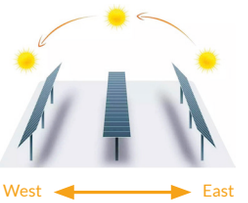
Photovoltaic solar panels (PV modules)

- 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.



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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.

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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.

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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.