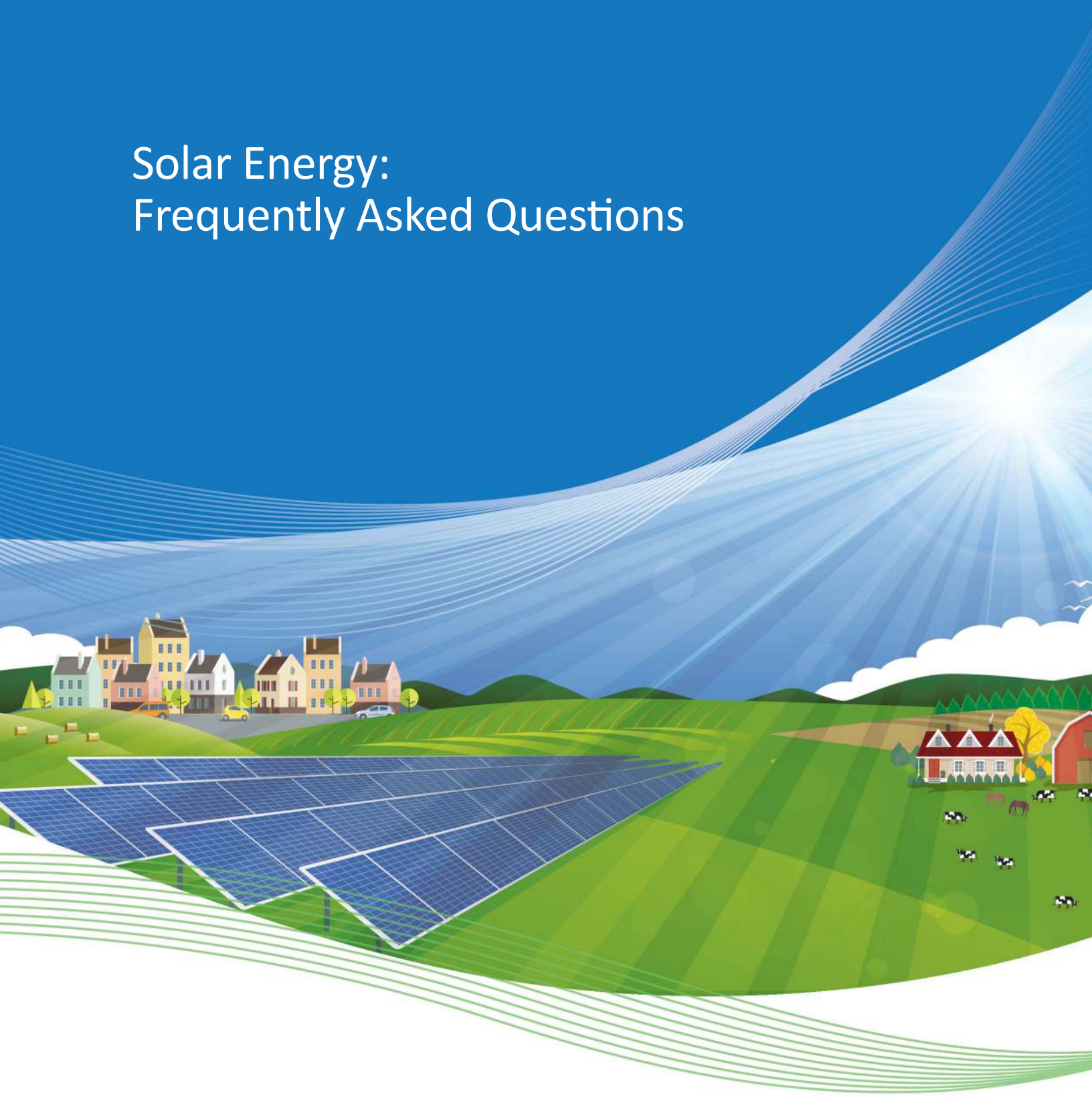
Solar Energy:
Frequently Asked Questions



GERONIMO® ENERGY

a nationalgrid company

farmer-friendly
adjective: exhibiting a respect and appreciation for hardworking farmers, their communities, and the rural American way of life.

We know that nobody knows the land better than our landowner partners and tenants – which is why we retain open lines of communication with each of our land partners throughout the project lifecycle and compensate our land partners fairly.

Who is Geronimo Energy?

We are farmer-friendly and community-driven. Geronimo Energy was founded with deep roots in agriculture and an understanding and respect for agriculture, farmers, and their local communities.

Geronimo Energy, a National Grid Company, is a full-service renewable energy company headquartered in Minneapolis, Minnesota. We're experienced, competitive, and trusted by customers, partners, and our projects' community members. Geronimo Energy has thousands of megawatts (MW) of wind and solar project either under construction or in operation, as well as a multi-gigawatt development pipeline, across the United States.

Geronimo is excited to partner with our landowners to bring millions of dollars into their local economy via renewable energy development. We promise prompt responsiveness and diplomacy at all times, as well as a willingness to answer questions from supporters and objectors alike.

We look to hire from the existing local work force near our projects.

We work closely with our landowners and their neighbors during the siting process to ensure that our projects are well-received by the community to yield sustaining support for the long term operation of a project.

There are more that 71 gigawatts (GW) of solar installed in the U.S., enough to power more than 13.5 million homes.

Solar Energy Basics

Photovoltaic Solar Panels

Photovoltaic (PV) solar panels are designed to absorb as much incoming sunlight as possible. As light passes through the front surface of a solar panel, it is trapped in the panel's solar cells and converted to electricity. The most common solar panels available today are polycrystalline, thin film and monocrystalline.

Tracking Technology Maximizes Electric Output

While each site warrants its own unique design, the increase in the use of tracking solar panels has resulted in maximum solar resource for many of Geronimo Energy's projects. Tracking solar racking systems have unique technology that allows the panel to track the sun as it travels across the sky throughout the day. This allows for maximum solar energy absorption, extended sunlight capture in the mornings and evenings and greater electrical output during peak demand.

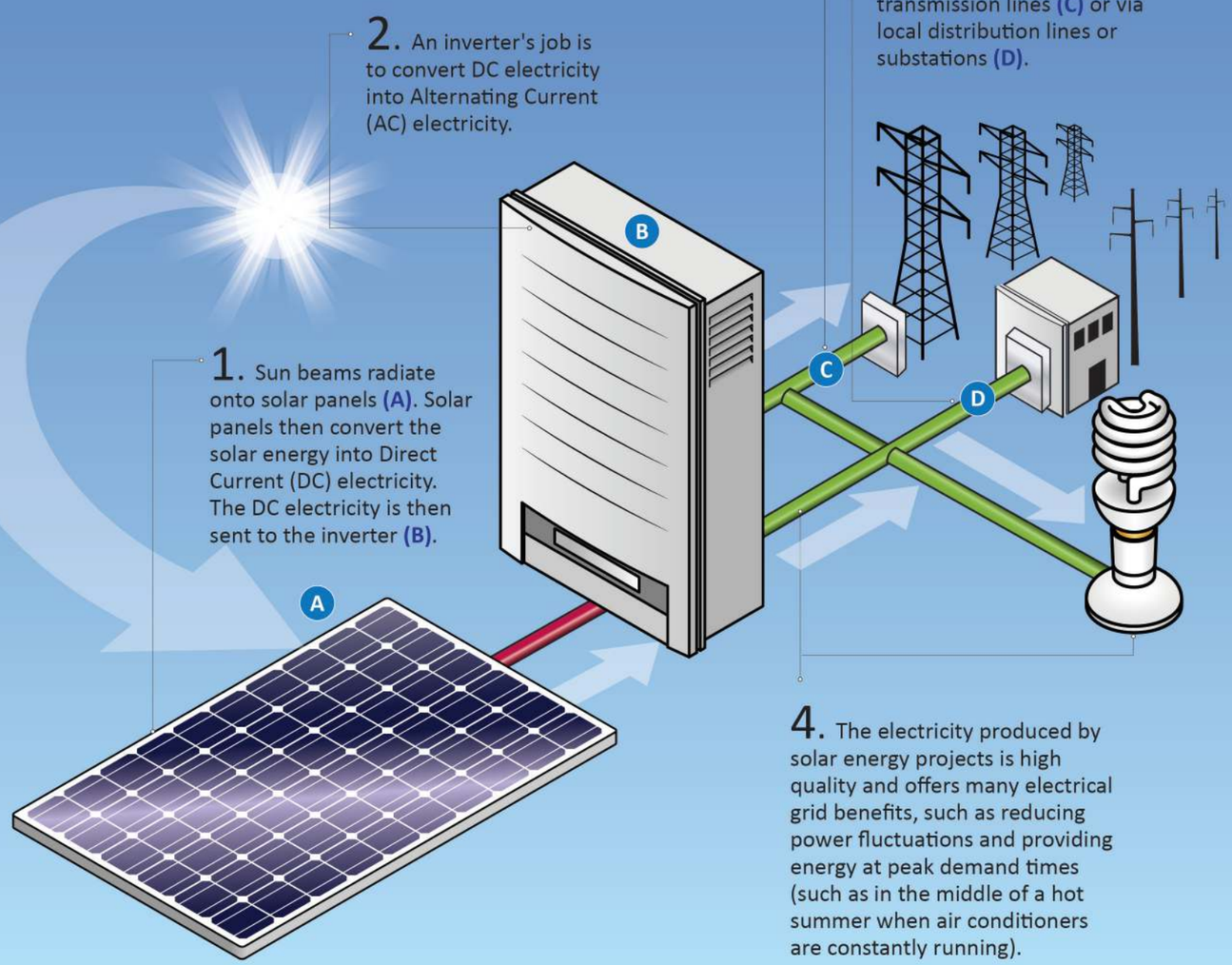
Fixed Tilt Technology

Fixed tilt racking systems are the most abundant type of racking system in the US. They typically face south to maximize the sun's rays throughout the year. The advantages of fixed tilt racking are their ability to withstand greater topographical grades and that they can be a more economic choice over tracking systems.

Solar Energy Projects Are Reliable

Did you know that no power plant is 100% reliable? Back-ups are needed for every type of energy producer. A modern solar panel produces electricity 100% of the time the sun is shining, but generates different energy outputs depending upon the solar strength and other factors. Over the course of a year, a solar panel can be expected to generate approximately 20% of its maximum output, which is known as the "net capacity factor."

How a Solar Panel Works



4. The electricity produced by solar energy projects is high quality and offers many electrical grid benefits, such as reducing power fluctuations and providing energy at peak demand times (such as in the middle of a hot summer when air conditioners are constantly running).

Solar Energy Facts

Geronimo's farmer-friendly approach ensures that each of our projects will benefit the local area for generations to come.

Responsible Planning and Siting

Geronimo Energy works hard to ensure our solar facilities are built to the highest of standards. When considering locations for our solar sites, we consider: the projected size of the facility, land type and quality, localized environmental impacts, the local climate and (if necessary) snow load, the host community's receptiveness to renewable energy, the electric service territory ownership, the proximity of the site to nearby existing electrical infrastructure, and permitting and interconnection considerations, among other factors.

Geronimo has experience in acquiring hundreds of thousands of acres for renewable energy projects and works diligently to identify the best land through local jurisdictions, permitting authorities, and landowner interest. Geronimo's farmer-friendly approach ensures that each of our projects will benefit the local area for generations to come. Geronimo is committed to providing each of its landowners with prompt responsiveness, expert advice and fair compensation. We work closely with landowners and neighbors during the siting process to ensure that projects are well received by the community and yield sustaining support for the long term operation of the project.

Advanced Solar Technology Keeps You Safe

Solar arrays not only produce clean energy for current electricity demand, but also provide clean energy for future generations. While stray voltage can be an issue with traditional electric generation sources for farmers with livestock, solar facilities that are built correctly will not produce stray voltage. All Geronimo Energy solar facilities are built to electric code and are thoroughly reviewed for any possible electrical impacts on the surrounding community. When siting and designing a project, stray voltage is addressed through various methods, including soil studies. Soil studies are conducted to determine the corrosive nature and thermal capacity of the earth. This helps ensure that all grounding equipment and buried cable are designed correctly and no stray issues arise from corroded grounding equipment.

Electromagnetic Field (EMF)

The term electromagnetic field (EMF) refers to electric and magnetic fields that are present around any electrical device. Electric fields arise from voltage or electrical charges, and magnetic fields arise from the flow of electricity or current that travels along transmission lines, power collection lines, substation transformers, house wiring, and electrical appliances. The intensity of an electric field is related to the voltage of the line, and the intensity of a magnetic field is related to the current flow through the conductors (wire). EMF can occur indoors and outdoors. In fact, all power lines produce EMF, including those that connect your home to the electrical grid.

While the general consensus is that electric fields pose no risk to humans, the question of whether or not exposure to magnetic fields potentially causes biological responses or even health effects continues to be the subject of research and debate. For a solar project, the sources of EMF are from electrical collection lines that will likely be buried underground and from the transformers installed at each inverter pad. EMF from underground electrical collection lines dissipates right next to the lines because they are installed below ground inside insulated shielding. A solar facility has to comply with the National Electric Code, which ensures proper installation, safety procedures, and equipment specifications for all of the electrical components utilized in the array. As a result, Geronimo Energy does not anticipate any issues to arise regarding EMF.

Reflection and Glare

The glass surface of modern solar panels can include an anti-reflective coating, similar to that used on optical equipment (camera lenses), as well as texturing to minimize any loss of incoming light. Studies have shown that PV solar panels reflect as little as 2% of incoming light, which means that PV solar panels are less reflective than water or window glass.

In the past, solar panel glare had primarily been a concern only for the aviation industry. However, recent studies have proved that solar panels pose minimal concern to pilots. In fact, there are numerous solar panel installations near U.S. airports, and there has never been a documented case of an accident due to solar panel glare. Hindawi Publishing Corporation, in conjunction with International Scholarly Research Notices, conducted an experiment that measured the potential glare that an aircraft pilot could experience as a result of ground-mount solar panels. Their findings concluded that "the potential for hazardous glare from flat-plate PV systems is similar to that of smooth water and not expected to be a hazard to air navigation."

By working with expert construction and technology partners, Geronimo Energy is able to model facility locations and solar panel arrays with no reflective glare issues or safety concerns. Geronimo Energy develops each solar site with the approved Federal Aviation Administration (FAA) and Sandia Labs solar glare hazard analysis tool, which identifies and mitigates solar glint and glare.

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Solar Energy and the Environment

Diligent Development

Protecting the earth, environment and its inhabitants is at the heart of why we do what do: solar energy is one of the least harmful types of energy production. The solar energy industry as a whole off-sets billions of tons of carbon dioxide emissions, consumes little to no water, and uses a naturally occurring and replenishing fuel source. Our business is the business of environmental stewardship, and Geronimo Energy will continue to take every step to ensure that we conduct business in the most environmentally responsible way possible.

Solar is a Good Neighbor

Solar projects are a relatively low impact development option for communities. They are low to the ground (approximately 10-15 feet above grade), are pollutant free, virtually noiseless, improve water quality, reduce runoff and do not create any odors or undesirable impacts.

Solar Projects Are Free Of Pollutants

Solar projects do not generate air or water emissions, produce any hazardous waste, deplete natural resources, cause environmental damage through resource extraction and transportation, or require significant amounts of water during operation. Solar power's pollutant-free electricity helps offset the environmental damage caused by other forms of power generation.

Wildlife Advocates

Prior to constructing a solar project, Geronimo Energy conducts local wildlife studies to ensure that each project is developed in the most environmentally-friendly way. Factors such as animal breeding areas and wildlife corridors are all considered when choosing a location for a solar project. Maintenance plans for the solar facility also take into consideration wildlife that may live within the fence. Geronimo Energy also follows DNR siting and seed mix guidance for solar arrays.

Geronimo Energy often develops a habitat conservation plan for our solar projects. After a solar project is constructed, areas that do not contain permanent project facilities will be revegetated with a low growing seed mix developed specifically for each site to ensure establishment, create a stable habitat, and promote biodiversity. In this way, Geronimo Energy's solar projects not only protect the environment by reducing carbon dioxide emissions and water usage, but they also help provide a safe harbor for vital ecosystem species. The creation of a stable habitat also helps reduce runoff and can improve water quality, two important topics for rural communities.

Protecting the environment

The solar energy industry as a whole off-sets billions of tons of carbon dioxide emissions, uses little to no water consumption, and uses a naturally occurring and replenishing fuel source.

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The Economics of Solar Energy

Unlike fossil fuels, whose costs fluctuate with the market, solar energy does not rely upon market-dependent fuel costs. Such stability means there is a possibility of locking in solar energy pricing for the life of the project.

The Strong Market for Solar Energy

The solar industry has experienced exceptional growth, driven primarily by dramatic reductions in the installation cost. These price decreases have made solar energy cost competitive with traditional energy sources and is now the least expensive renewable energy resource available in many areas of the United States today.

Contrary to popular belief, while federal tax credits have helped to push the cost of solar energy down, solar energy is cost-competitive with conventional energy sources without consideration for subsidies, such as the Federal Investment Tax Credit (ITC). Lazard reported that the *unsubsidized* cost of solar photovoltaic utility-scale projects range in price from $32 to $42 per megawatt hour (MWh). Comparatively, natural gas ranged from $44 to $68/MWh, nuclear ranged from $118 to $192/ MWh, coal ranged from $66 to $152/MWh, and peaking gas ranged from $150 to $199/MWh. Additionally, solar energy is a peaking resource, which means that in general, solar's peak energy supply occurs when it's needed most. For example, on hot sunny, summer days when everyone turns on their air conditioning, solar projects are operating at their highest capacity and can best support the increased demand for electricity.

Solar Energy is a Stable Investment

Unlike fossil fuels, whose costs fluctuate with the market, solar energy does not rely upon market-dependent fuel costs. Such stability means there is a possibility of locking in solar energy pricing for the life of the project. Furthermore, because of the recent significant technological advancements, solar energy has seen a steady decrease in its cost to produce energy, so today's fixed price is significantly less than the fixed prices of years past.

Solar Projects are Popular and Lucrative for Farmers

Solar projects are popular with farmers because solar projects provide an additional revenue source for their family. Geronimo Energy calls this supplemental revenue "Extraordinary Seed Crop".

Extraordinary Seed Crop is guaranteed revenue provided by hosting a Geronimo Energy solar project. In uncertain times, our operating solar projects provide farmers and landowners with income certainty. As we all know, the commodity markets fluctuate up and down and are unpredictable. Solar energy provides income certainty, diversified revenue streams, and decreased risk.No other "seed crop" can promise that kind of certainty.

Solar energy brings substantial money to local communities

Solar projects bring significant economic impact on their host communities throughout the development, construction and operation phases. During the development phase, solar projects bring an influx of spending to the host and surrounding communities in the form of sponsorships, travel, lodging, meals, and legal and recording fees. Throughout development, Geronimo Energy may bring construction companies, power purchasers and other solar industry constituents into the local area to survey the project location, which puts money back into the community's pocket via restaurants, gas stations, hotels and retail shops.

During the construction phase, solar project communities experience another boom in all of the above mentioned spending categories, but this time, multiplied by the dozens. Solar projects cause an influx of new construction jobs in the local area, which means even more revenue for local shops, restaurants and hotels, plus a boost to the local economy in the form of increased resident income.

Once a solar project is operational, it contributes to the local tax base, which can include increased income for local school districts, fire and police departments, counties and townships. These additional revenue streams afford communities the ability to build and improve schools, roads, bridges and other infrastructure items.

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The Life of a Solar Project

Construction of a Solar Project

Construction of larger solar projects (100+ MW) typically takes eight months from commencement of construction to commercial operation. Smaller projects (less than 100 MW) typically take up to 6 months to reach commercial operation. As you can imagine, a lot goes into the construction of a solar project, but the process always includes: civil preparation (including clearing and grubbing of the property), fence installation, structural work such as the installation of steel piers and the racking system on which the modules sit, electrical cable installation and trenching, and module and inverter installation. After equipment installation is complete, the property will be seeded into a stable low growing seed mix. Testing and commissioning are the final stages of construction, which include utility testing to ensure safe and effective delivery of electricity to the grid.

After construction, property that has been disturbed will be restored. Landowners will be compensated for crop damages incurred during development and construction. Geronimo Energy's agreements provide many protections for landowners to ensure that they don't incur costs or risks during development and construction.

Drain Tile

In addition to crop damage payments, it is part of Geronimo Energy's core development philosophy to consider drain tile when designing solar projects. For every solar project we develop, we analyze the location of existing drain tile and try our best to design project layouts around it. If for some reason, we are unable to design around drain tile, we take great care when cutting into the tile in order to minimize impacts. Just like our crop damage clause, Geronimo Energy offers drain tile damage payments, which ensures that drain tile is restored to it original state after project construction is complete.

Solar Project Layout Design

Throughout the development process, Geronimo will remain open and honest – we will work with you to make sure you are comfortable with the proposed project layout and will answer any questions you may have regarding the locations of panels.

Solar equipment has a life span that extends for decades - sometimes up to 50 years. Modules will continue to produce electricity well past their warranties. At the end of the life of the project, solar equipment can be removed, recycled and salvaged for additional value. Because solar energy projects are considered low impact development, solar projects allow for flexibility in regards to the land use of after its removal. Some solar project lands are even returned to their original agricultural use.

If at any time during the life of the project new module technology would be further boost the economics of the project, the project may be repowered with new modules.

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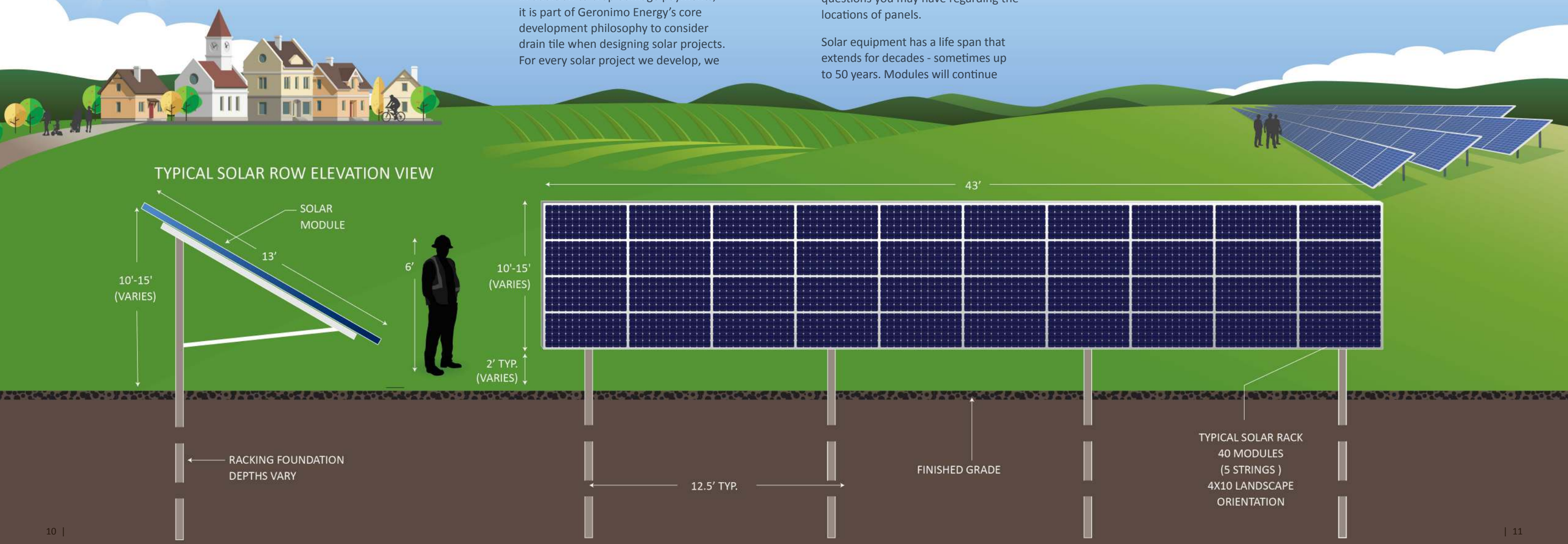

What Does a Solar Project Look Like?

Racking

Fixed Panels

Tracking Panels

Inverters

Communications and Technical Equipment

Fencing

We would love to show you around!

If you are interested in visiting one of our operating solar projects, or to learn more about Geronimo Energy, visit any one of our office locations or call us at 952.988.9000. You can also email your questions and comments to info@geronimoenergy.com, or visit us on the web at www.geronimoenergy.com.

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