



Frequently Asked Questions (FAQ) – Education

Will solar electric power work for our school?

If you have a south-facing (or nearly south-facing) roof that is free of shade from 9 AM to 3 PM, you have a desirable site. For many schools with flat roofs, Alteris™ Renewables will orient the panels for optimum energy production.

What are the benefits of using solar electric power? Reduced Electric Bills/ Hedge Against Future Utility Increases – Minimize your electric bills and protect yourself against future utility rate increases.

Reduce Your Peak Demand – Peak electrical demand usually occurs during the school day when AC loads are at their maximum. For solar, this also happens to be the timeframe when its production is at its greatest thereby potentially reducing your most expensive utility power.

No Emissions – Electric utilities are one of the largest creators of carbon dioxide, one of the prime contributions to global warming.

Energy Independence – Solar electricity reduces your consumption of utility generated power and the foreign energy that may be generating it.

Energy Leadership – Your school's investment in a solar electric system supports an industry that is developing an elegant solution to energy alternatives that have political, security and environmental consequences.

Are There Any Specific Benefits for a Solar Electric System for a School?

In addition to providing clean energy at a stable price, a solar electric system can be coupled with a Data Acquisition System to provide weather and energy production data into the classroom and curriculum. Alteris™ Renewables has more experience with these systems and has provided them to more school systems than any other solar installation company by a wide margin.

Is solar a good investment?

Buying a solar system represents a one-time cost that will provide you with “free” electricity for 25 or more years. You will see immediate reductions to your school's monthly utility bill. The actual payback and rate of return of your system will be determined by your electric rates, state incentives and federal tax benefits. There has never been a better time to purchase a solar electric system. Alteris™ Renewables will develop a detailed after-tax financial analysis as part of our proposal.

Is there an alternative to purchasing the solar system?

Solar electricity is often purchased by commercial, educational and institutional organizations through a Power Purchase Agreement. With a PPA, a third party takes an ownership position in the solar system thereby retaining the tax benefits of ownership. In return, your school would agree to purchase 100% of the power from the array, typically at rates below current utility rates.



There are a variety of systems that Alteris™ Renewables uses to mount panels to a flat roof. Systems can either be non-penetrating meaning that they require no roof penetrations to secure or they can be tied into the support structure of the roof. Alteris™ Renewables will manage the appropriate structural and wind loading analysis to determine the optimal system for your facility.

Won't solar panels need to be angled on a flat roof to capture the most sunlight?

The mounting system for a flat roof will angle the panels from 5 degrees to 35 degrees. Because wind resistance increases as the angle increases, an engineering analysis will determine the optimal angle versus the need for increased ballast or roof penetrations at higher angles. Alteris™ Renewables has extensive experience in this area and a full range of mounting options with which to engineer a solution.

What happens to my roof warranty?

Before any system is mounted to your roof, Alteris™ Renewables will work with your roofing provider to gain their approval of the proposed system and its method of installation. Alteris™ Renewables is familiar with this process and the importance of maintaining roof integrity.

How much electricity will a photovoltaic (PV) system produce?

A 200kW PV system located in the Northeast will produce approximately 226,000 kilowatt hours of AC electricity per year. With some of the highest electric rates in the country, this production, coupled with state and Federal incentives, provide solar electric projects with excellent rates of return.

How much does a photovoltaic (PV) system cost?

The net amount that you will pay varies considerably by state based on available incentives and rebates. Alteris™ Renewables will design a system that maximizes your incentives for the state in which you reside.

Can I sell power back to my utility?

Typically businesses do not overproduce relative to their needs but this may occur on weekends or holidays. Each Northeast state has 'net metering' laws that require utilities to accept electricity that is produced by your system and not immediately used. This outflow of electricity will spin your meter backwards, which has the effect of selling your excess power to the utility at a full retail rate. On a monthly basis, you pay only the "net" of what power you used.

Are there tax credits and other financial incentives available?

Yes. Depending on the state that you live in there are varying rebate and tax incentives available. Alteris™ Renewables will assist you in maximizing incentive payments. Additionally, the Federal Government increased the Investment Tax Credit to 30% in 2006, which dramatically alters the financial picture for ownership.

Is this an asset that we can depreciate?

For tax purposes, the Federal government allows a solar electric to be depreciated on a 5 year MACRS basis even though the array has a 25+ year useful life. This accelerated depreciation greatly assists in driving the overall project return.

What is the environmental benefit of installing a photovoltaic (PV) system?

A 200 kW of photovoltaic capacity will avoid the release of 3 million tons of carbon over a 25-



year lifetime that would have occurred if had you purchased that power from your utility. This is the environmental equivalent of planting 28,000 trees.

Is there really enough sunshine in the Northeast?

Absolutely, there is plenty of sunshine; on average, we receive approximately 4.5 hours of direct sunlight a day. One factor that makes solar power make more sense here than in many other places in the US is that our power costs are significantly higher and state incentives are stronger.

Do the panels need to face south?

South is the best orientation and will produce the most electricity for you. East and West orientations are possible as well. Alteris™ Renewables will determine the energy output estimate for you based on 30 years of climate data.

What condition should my roof be in?

PV systems are designed for a 25+ year lifetime. You would want to have a relatively new underlying roof so that the system wouldn't need to be removed for roof repairs at a future date.

Does this system require servicing?

Solar electric systems need a minimal amount of attention. Alteris™ Renewables typically includes an annual inspection of the array in its proposal. 3

What happens when snow covers the PV panels?

After the storm, when the sun comes out, the solar radiation penetrates the snow and heats up the collector melting the snow from the bottom up. The melting at the surface of the collector allows the snow to slide off. Also, since the panels are usually mounted on an angle, the snow is able to slide off fairly easily.

What is a Renewable Energy Credit (REC)?

A Renewable Energy Credit is the value of the environmental attributes of the clean energy that your solar electric system will produce. These credits have an established value in an actively traded market for each state. Alteris™ Renewables will assist you in capturing the market value of your RECs should you desire to do so.

Why should I choose Alteris™ Renewables?

- Our experience of 25+ years and expertise is unequalled in the industry. Better design equates to better system performance, which provides you with a better return on your investment.
- Our engineering expertise relates specifically to the challenges of large commercial installations and the project management expertise required for these projects.
- Importantly, your system comes with a 5 year warranty from the installing company. It is best to work with a company committed to the long-term solar market should your system need support in the future.
- Our size of operations allows us to work with the manufacturers of the best equipment in the market. More efficient equipment works harder for you to produce more energy.
- Customer service and satisfaction is a hallmark of Alteris™ Renewables. We pride ourselves on being responsive and flexible to our customers needs.

How do I purchase a system?



Estimate: Contact us at www.alterisinc.com or call us 800-339-7804 x 314.

Site Visit: We'll schedule a site visit during which we determine your exact system specifications.

How do I contact Alteris™ Renewables?

You may contact us via email at info@alterisinc.com or call us at 802.223.7804 ext 314