



SOLAR FAQs

How does solar work?

Photon particles in the sun’s rays knock loose unstable elements in the silicon panels. This sends them on a journey. Like a river flowing past a mill drives the wheel, flowing electrons go through the inverter where they are converted to the AC energy we use in our houses. Spent electrons journey back to the array where they await another photon’s energy.

For a specific explanation see: <https://www.youtube.com/watch?v=1gta2ICarDw>

For a general explanation see: <http://www.solar-videos.com/portfolio/how-solar-works-aus/>

Is solar reliable?

As long as we can depend on the sun, we can depend on solar. In reality, solar is a very simple technology, which is why it has been used for decades by NASA to power satellites in outer space. They sure don’t want to have to go out there and fix it! If undisturbed by natural disasters and kept clear of shade and dirt, solar can operate nearly indefinitely.

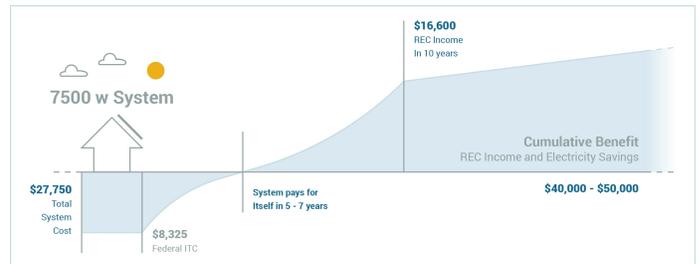
Is solar durable?

How often do you replace the wires in your home? In reality, your solar array will get less use than your home wiring. It will not be constantly switched on and off like your lights or have plugs forced into it like your receptacles. Your solar array may well outlast most other components of your home.

ICE CREAM	CLOTHES	CAR	SOLAR
1-5 Minutes	2-4 Years	5-10 Years	30-50 Years

How expensive is solar?

Solar has been perceived as expensive for a couple of reasons. First – it has dropped to less than a third of what it was in 2007. Many estimations of its cost have not caught up with the current reality. Second – solar requires an up-front investment for a lifetime long return. After initial set-up, no fuel, or further significant expense is required. Today’s solar financing has solved this problem. You can now go solar for no money down, start saving from day one compared to staying with the utility, and pay off



your loan in a few short years. The average lifetime cost for solar ranges between \$.02 and \$.08 cents per kWh. Utility rates are already much higher than that and only expected to go higher.

How will solar affect my home value?

A recent Berkeley Labs study of over 150,000 homes with solar revealed that when solar is owned, a solar home will sell 17% faster and will most often recover the full solar investment in the increased purchase price of the home. Putting solar on your home adds an asset that will repay anyone owning that home for decades.

Won't solar be cheaper later on?

While solar construction costs may yet drop another 30% over the next five years, they are at a price point today where the steep cost drop curve has slowed and even disappeared in some cases. What we do know for sure is that many of the major incentives are disappearing. With the 30% federal

ITC and local and state incentives, 60-100% of an array's cost can be eliminated. Even if solar gets a little cheaper over the next few years it will actually cost more, because you will be buying it without the added value of the incentives.

Why don't you promote fossil fuels?

There are plenty of cheerleaders for fossil fuels, but here are a few reasons we are stuck on Solar!

1. Solar is a fuel whose cost never goes up and is endless is supply – not so with fossil fuels.
2. Solar generates ultra-local prosperity when deployed correctly – fossil fuel is often foreign fuel and rarely local fuel.
3. While solar requires some carbon expenditure for the initial manufacturing process, it is made almost entirely of recycled materials and is 100% carbon free after deployment. Fossil fuels require lifetimes of environmental harm, constant mining and well expansions, and eternal transportation and generation pollution producing events.
4. Solar – at today's prices when properly calculated against fossil fuels is actually cheaper. Until recently all solar was required to be calculated with a 20 year lifespan (that of a natural gas or nuclear plant). Studies confirm that solar should be given a lifespan of 40-50 years. When spreading the initial investment over that term, it beats almost any fuel hands down with no incentives.
5. Our customers are homeowners and businesses wanting energy independence and financial strength. How would you like me to sell you a natural gas or nuclear plant?!

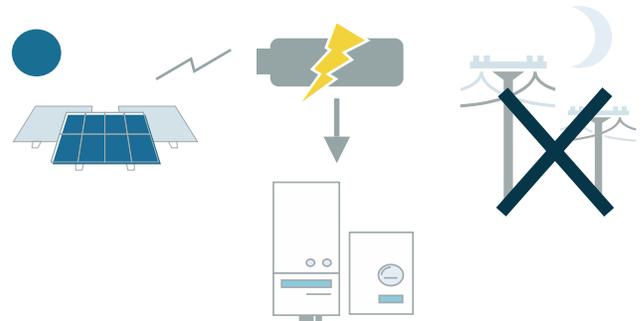
Why do we have incentives?

Incentives help scaling markets with promising products get past the initial cost of doing business in a modern economy without going bankrupt or being run out by the competition. New ideas cannot achieve true cost levels until they reach scale and scale is not possible without volume

which incentives help produce. If we were in the economy of 150 years ago, solar could be instantly competitive with other fuels. Back then, these conditions existed:

1. Wages were low and benefits were not offered
2. Land was cheap – in many cases the government made massive grants for mining and pipelines
3. Today's business requirements were non-existent. Few taxes, no insurance, no codes or working conditions requirements, paperwork was at a minimum.

These represent just a few of the differences between "back then" and now. When you count these with the continued billions per year in energy incentives for fossil fuels, you see that solar and renewables in general are less subsidized than their predecessors.



Will my home have power when the grid is down?

In most settings it will not. Code requires that your solar is shut down when the grid fails to avoid dangerous back-feeding onto lines when workers are restoring them.

The good news is that Intelligen has a solution for that. With battery backup and energy management solutions offered by our partners, we can help you source the right equipment so that when the grid goes down, your solar array can automatically disconnect from the grid while still powering your home and storing excess energy in your battery backup.

Go to intelligen.energy for a solar evaluation today!