

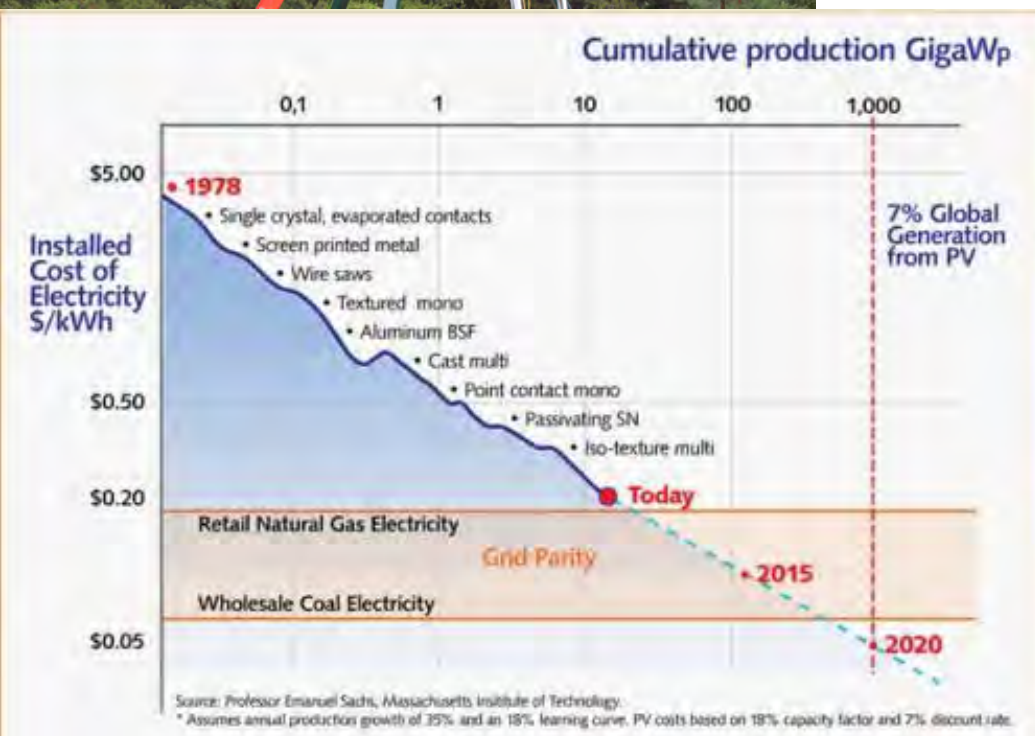
renewable energy [solar pv]



At the heart of the Net-Zero claim is the solar photovoltaic system. We chose to use solar PV rather than some of the alternative renewable energy technologies due to relatively low cost and simplicity of the overall system.

Panel Price

Originally the home was designed to use a combination of solar thermal collection and solar PV. In 2008 when we created the early revisions of the home drawings the cost of solar PV was significantly higher than it is today. The higher cost in 2008 persuaded us to use a combination of solar thermal and PV. As the design progressed the price of PV system installs dropped due to increased supply in the world. The economics of our project changed and we changed the energy production to straight PV.



Several factors influenced us to go with the 2-axis tracking system. First, the panels are higher off the ground than a conventional fixed ground-mount and thereby reduces the amount of shading from the surrounding forest. Second, by moving the panels with the sun we gain an additional 40% production (or a 29% reduction in PV panels). In 2010, the differential cost between the tracking system install and a fixed install was of the

Why Track?

trackers was close enough to validate purchasing the trackers. I have caught myself on many occasions just watching and waiting for the next move.



System Components

The install we selected was a very basic grid-tie system. All of the electricity is converted to A/C at the array and then sent back to the house main panel for use in the home or distribution to the grid. A detailed component and line diagram is located inside the door of the inverter house. Thanks again to all those who volunteered and helped!