

First Place 2009 SACP High School Contest winner

Looking to the Sun

While alternative energy sources such as biomass, geothermal, and wind power should be pursued to diversify our energy supply, they are not suitable for large-scale energy production. One type of alternative energy, however, stands out from the rest. New technological advances in the way the sun's energy is captured have made solar power a viable solution. That is why I, as the president's energy policy advisor, recommend the creation of an extensive solar array that would provide the United States with nearly 70 percent of its electricity.

The project I have put forward is based on a plan devised by the authors of "A Solar Grand Plan," (*Scientific American*, January 2008). The solar array would cover large tracts of land in the American southwest where solar radiation is at its highest. During the day, a vast array of photovoltaic cells and parabolic mirrors would convert sunlight to electricity, which would then be delivered directly to the power grid. Since batteries are impractical for storing massive amounts of electricity, excess energy would be stored using alternate methods including compressed air and newly developed molten salt heat energy storage.

The project's cost would be enormous, almost 420 billion dollars; but over the long term, the gains would outweigh the price. The virtually pollution-free array would replace hundreds of CO₂-belching fossil-fueled power plants, reducing our greenhouse gas emissions by 62 percent. The construction of the array and the infrastructure needed to support it would create a large number of domestic jobs. And if plug-in electric cars began to replace gasoline powered vehicles, solar electricity would eventually supplant gasoline, drastically reducing our country's dependence on foreign oil. Best of all, the sun's energy is unlimited, making the solar array an exceptionally sustainable form of generating electricity.

Our President needs a bold, audacious plan to lead our country in the pursuit of alternative, clean, sustainable energy. Using the sun to power America could very well be that plan.

Ryan Zahalka
Ms Jane Larke

Morgantown High School
Faculty Sponsor

