

The Challenges of Renewable Energy

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It would seem like renewable energy is in a civil war with old-school energy production in the public eye. Forget about the debate on climate change, this is something completely different. Whether you believe the Earth is warming up or not is half of the issue along with whether renewable energy is the right solution.

It may seem like this is a given. After all, anything that is renewable is generally considered good. It's obvious that other sources like oil and coal are eventually going to run out, so how can solar, wind, and hydroelectric power be bad?

Like all things, however, there's more complexity than most people realize. The idea of renewable energy being our saving grace from global warming is true, in part, but has a few hitches along the way. Here's a look at some of those potential pitfalls.

Is Renewable Energy Dominance Possible?

The overall dream of renewable energy is complete self-sufficiency. Decades from now, most governments and individuals would like to be completely free from nonrenewable sources. This isn't only good for the environment, but also good for other things like national security and sovereignty. A country that produces its own power can protect itself compared to those who rely on others for fuel supplies.

But is this dream possible?

Back in June, the Chinese province of Qinghai decided to [put this to the test](#). For seven whole days, they ran completely on a combination of solar, hydroelectric, and wind power. During that time, the province supplied over 1 billion kW of energy per hour to its 5 million residents. That saved about 535,000 tons of coal.

The experiment is widely considered a success and falls in line with [China's plans](#) for increased renewable energy production. By 2030, the country hopes to be meeting 20% of its energy needs through renewable resources.

Powering an entire province is no small feat. Many opponents of renewable energy have long doubted the true potential of the technology. In truth, that technology still has a way to go. With solar power, for example, efficiency needs to improve to make it more cost-effective.

China's success was more of a proof of concept than anything. Others who have implemented more long-term applications have proved the need for more technological development.

California's Issue

California is another major player in the renewable energy game. Among other things, the state has turned its sights to solar power. In April, solar production officially reached 50% of the overall energy demands.

In recent years, the state has discovered the negative side of supply and demand economics. For the first time, their solar power capacity is more than enough for the decreased demands for energy. Since residents are taking more energy saving measures, they don't need as much energy.

This might sound like a good thing, but the limits of the technology have presented a challenge for California. The energy they produce needs to be stored or used. Batteries aren't efficient enough to meet the demand, so they are having to pay neighboring states like Arizona to use the energy. That's right, it's cost-effective for them to pay others to use the energy. Unfortunately, these extra costs go down the line to the consumer.

Renewable energy technologies have to face a multitude of demands ranging from the environment to economics. California's example is just one where the promise of the tech isn't as high as it could be. The tech is helping the environment, but not necessarily people's wallets.

Renewable energy is still the future. The industry continues to expand and overtake old school energy production. But it's important to recognize these growing pains to help the process along. The technology will improve. There is no question about that. It's only a matter of how long will it take.