

## Moore's Law Misapplied

It won't be long now before fossil fuels are finished! They've had a good run, but we are rapidly moving into a high-tech future where we just won't need them. Once our computerized smarts are fully applied to our energy needs, it's all going to be different, right?

Actually, no. Renewable energy will absolutely not make the same leaps and bounds as computing technology has. The physics of nature are fundamentally different than the storage and processing of information. Everything in the physical world is subject to the laws set by gravity, friction, inertia, mass, and thermodynamics. Computers process information. They don't physically move things.

It's easy to see why people believe in a soon-to-arrive high-tech nirvana. We've seen astonishing technological progress in the past half-century. The driving force is Moore's Law, a doubling of transistors on integrated circuits every two years. Gordon Moore, co-founder of Intel Corporation, predicted this would happen decades ago, and he was right. The result has been phenomenal growth in computing power, which has given us every kind of high-tech gadget imaginable.

But, computing power and energy are two very different things. Just for fun, let's enter fantasyland and consider what misapplying Moore's Law would do for energy. You know, the kind of non-thinking that inspires people who support ideas like the Green New Deal.

We thank Mark Mills, a senior fellow at the Manhattan Institute for providing these examples. If your car was part of Moore's Fantasy World, it would generate a thousand times more horsepower than a model built in 1971 and it would shrink to the size of an ant. Your car, if you could fit into it, would actually fly, super fast.

Let's imagine solar power in Moore's Fantasyland. A postage-stamp-sized solar array would power the Empire State Building.

How about batteries? In Moore's Realm, a battery the size of a book would power an A380 Airbus from the United States to Asia. This amazing battery would cost only three cents.

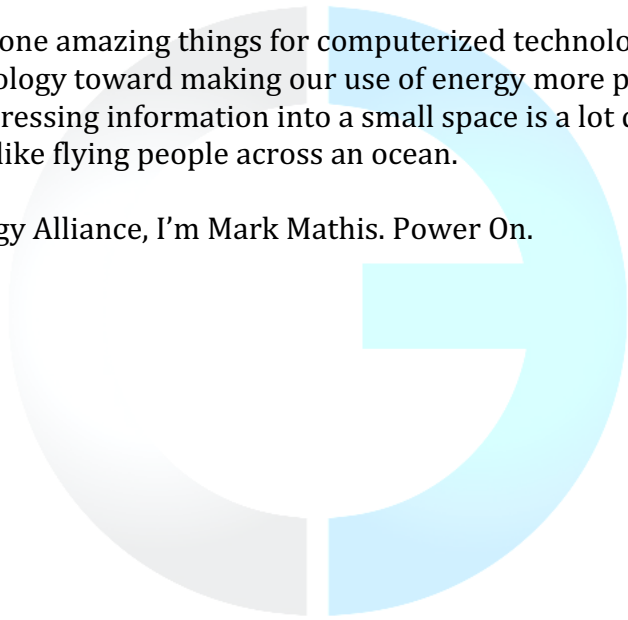
Wow, if Moore's Law applied to the physical world all of our energy needs could easily be met, with lots to spare. But, back in reality-land, increasing speed or carrying capacity causes hardware to expand, not shrink.

Let's go back to our A380 example. If we tried to replace the energy equivalent of the jet fuel in the plane, we would need \$60 million in Tesla-type batteries. And the batteries would weigh five times more than the plane itself.

Look, energy and technology are complicated things, so it's easy to see how everyday people could conflate the two. However, public officials are paid to know better. Politicians who endorse Green New Deal type fantasies shouldn't be in office if they don't bother to know the truth. Misleading the public the way they do is highly unethical and extremely dangerous.

Moore's Law has done amazing things for computerized technology. And we've applied that technology toward making our use of energy more powerful and efficient. But compressing information into a small space is a lot different than doing real-world things, like flying people across an ocean.

For the Clear Energy Alliance, I'm Mark Mathis. Power On.



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