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Written by **Selwyn Duke** on August 3, 2022

Fusion, Not Green Confusion, Can Fuel World of Tomorrow

When hearing the term “fusion” today, many people may first think of Asian restaurants. Yet this is only because fusion power technology — which holds the promise of delivering clean, abundant energy *forever* — is ignored amid continual talk about wind and solar. This is a shame because while the latter two technologies are wholly unworkable, fusion’s practicality has a basis in science and, claim some, is fairly close to no longer being science fiction.

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Aside from the fact that the wind doesn’t always blow and the sun ever shine (not to mention cloudy regions), a major problem with wind and solar is that they’re extreme low-intensity energy sources; meaning, they don’t produce many watts per square meter of land devoted to the technology. As an example, meeting the United States’ energy needs with wind would require an area *three times* the size of California.

This makes it not only unrealistic, but also environmentally perilous. Consider that in Germany, authorities are preparing to destroy 20 million square meters of a rare pre-Columbian forest to make room for a *wind farm* (which will never provide reliable energy). How “green” is that?

In contrast, nuclear is our most high-intensity energy source by far. Yet the issue is that our atomic power plants use the decades-old technology called fission. In this process, an atom is split, which produces a tremendous amount of energy — it also, however, creates waste that can take millennia to cease being dangerously radioactive. (E.g., plutonium-239 has a half-life of 24,000 years.)

Fusion is different; it’s what occurs in our Sun and involves not the splitting of atoms, but the *combining* of them. This also yields great energy, but without the radioactive byproducts.

Another difference is that fission has long been feasible because once an atom splits, the process easily perpetuates itself. (In fact, I once read that some scientists feared that upon testing the first atomic bomb in 1945, atoms everywhere would continue splitting and destroy the world.) In fusion, however, it’s difficult keeping the atom-combination reaction going; in fact, doing so currently requires using more energy than the fusion process itself produces.

Yet some experts believe we’re close to overcoming this hurdle. One of them, Michl Binderbauer, CEO of TAE Technologies, was recently interviewed on CNBC International. He pointed out that energy usage is poised to double over the next 20 years; moreover, conservation efforts in the West won’t change this because most of the increase will occur in Asia.

Binderbauer said he believes his company will develop fusion that’s “practically translatable and scalable into what the demand is going to require” and that it will also be beneficial and feasible in “resource or infrastructure scarce parts of the world.” He furthermore stated that they hoped to be “able to do that by sometime, starting commercially, in the 2030s.”

Binderbauer also mentioned that “hydrogen-boron [fusion] in particular is interesting” because it it is ubiquitous in the world.” Hydrogen is in seawater and boron is abundant as well. Moreover, “when you

burn it you get helium," he added. "There's no radioactivity involved; there's no resource constrained. It really is the Nirvana of energy" (video below).

Where Binderbauer perhaps overstated matters was in calling fission "a pact with the Devil," referencing how the reaction is hard to stop once it has started. In contrast, the fact that fusion is hard to maintain, he said, makes it safer.

The reality is that despite its faults (and everything has a downside), fission is perhaps the best practical energy source in the world today. The problem is that people find the term "nuclear" frightening. (Thus was the name of Nuclear Magnetic Resonance changed, for marketing reasons, to Magnetic Resonance Imaging — the MRI!)

Of course, there are those who'll say, as a commenter under the above video did, "that fusion has been 20 years away for at least 50 years." And Binderbauer may not be considered an unimpeachable source because he has a vested interest in pushing the technology. Yet even the federal government cites his endeavors.

Binderbauer's "company is working to develop the world's first fusion device that can generate electricity and is commercially viable," the website Energy.gov writes. "TAE is using a unique machine to research fusion called a field-reversed configuration (FRC) device. This study used computer models to understand how plasma loses heat in this type of device." (Video below)

A short video in which Binderbauer outlines his company's endeavors is below.

Of course, cynics may wonder how many "greenies" really would want a cheap, reliable, clean form of abundant energy. After all, there's a lot of money in the current greentopian wind, solar, and carbon-collection schemes (Al Gore didn't make $100-plus million because he's so brilliant). I suspect, however, that some countries would quickly embrace workable fusion regardless of what monkey wrenches the Western powers-that-be threw into the works.

Whatever the case, doomsayers such as Thomas Malthus and Paul Ehrlich were egregiously wrong in their starvation predictions because, not being able to see the future, all they could do was project their present into it. Wide-scale better living and cleaner environments are only possible through technological advancements.

So workable fusion may be nigh or predictions of such naïve, but for sure is that technology *will* eventually deliver for us superior energy sources — as long as we maintain the healthy market systems that incentivize invention and innovation.

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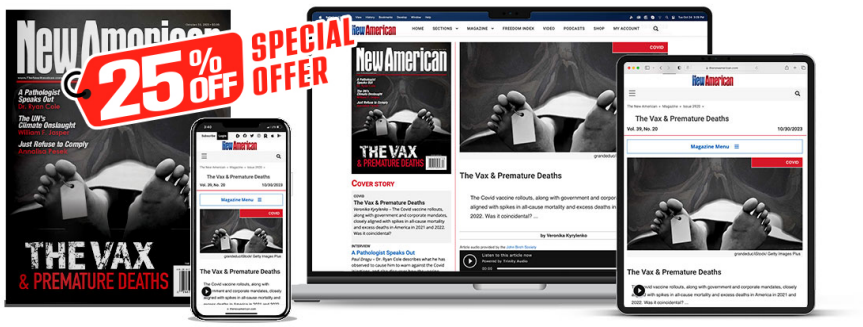

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