

Taylor Wilson: Yup, I built a nuclear fusion reactor

So my name is Taylor Wilson. I am 17 years old and I am a nuclear physicist, which may be a little hard to believe, but I am. And I would like to make the case that nuclear fusion will be that point, that the bridge that T. Boone Pickens talked about will get us to. So nuclear fusion is our energy future. And the second point, making the case that kids can really change the world.

So you may ask -- (Applause) You may ask me, well how do you know what our energy future is? Well I built a fusion reactor when I was 14 years old. That is the inside of my nuclear fusion reactor. I started building this project when I was about 12 or 13 years old. I decided I wanted to make a star.

Now most of you are probably saying, well there's no such thing as nuclear fusion. I don't see any nuclear power plants with fusion energy. Well it doesn't break even. It doesn't produce more energy out than I put in, but it still does some pretty cool stuff. And I assembled this in my garage, and it now lives in the physics department of the University of Nevada, Reno. And it slams together deuterium, which is just hydrogen with an extra neutron in it. So this is similar to the reaction of the proton chain that's going on inside the Sun. And I'm slamming it together so hard that that hydrogen fuses together, and in the process it has some byproducts, and I utilize those byproducts.

So this previous year, I won the Intel International Science and Engineering Fair. I developed a detector that replaces the current detectors that Homeland Security has. For hundreds of dollars, I've developed a system that exceeds the sensitivity of detectors that are hundreds of thousands of dollars. I built this in my garage.

(Applause)

And I've developed a system to produce medical isotopes. Instead of requiring multi-million-dollar facilities I've developed a device that, on a very small scale, can produce these isotopes.

So that's my fusion reactor in the background there. That is me at the control panel of my fusion reactor. Oh, by the way, I make yellowcake in my garage, so my nuclear program is as advanced as the Iranians. So maybe I don't want to admit to that. This is me at CERN in Geneva, Switzerland, which is the preeminent particle physics laboratory in the world. And this is me with President Obama, showing him my Homeland Security research.

(Applause)

So in about seven years of doing nuclear research, I started out with a dream to make a "star in a jar," a star in my garage, and I ended up meeting the president and developing things that I think can change the world, and I think other kids can too. So thank you very much.

(Applause)