



## INDIVIDUAL LEADERSHIP

# Tony Pan, Modern Hydrogen

**D**ecarbonizing heavy industry is going to require technological breakthroughs, but Tony Pan doesn't think it should require all-new infrastructure.

The company he co-founded in 2015, Modern Hydrogen, plans to deploy its first utility-scale device in 2025, using methane pyrolysis technology to separate natural gas into hydrogen for sustainable energy and solid carbon, rather than allowing it to be released into the atmosphere. And its secret sauce — it plugs directly into its customers' existing networks of natural gas pipelines.

"This is a pivotal step in our mission to make a significant impact on climate change, proving that sustainable solutions can be practical and transformative," Pan told the Business Journal.

**Why is sustainability important to you?** Two reasons. One is: deep in the fiber of my being, I'm a huge nature person. Protecting the biodiversity of the planet and making sure the awe and grandeur of nature is there for future generations to enjoy is one my most cherished beliefs. The other is that energy is the foundation of human civilization. I'm a physics person by background. The whole point of the industrial revolution, where lifespans and education increased tenfold, it's because energy production increased 100-fold. It's the basis for modern life. We can't go back on that. We need all this energy to make sure we can keep advancing human civilization. A lot of the world still doesn't have access to what we have in the U.S., but at the same time we're baking the planet. It was very clear to me from a decade ago, if you study physics and history like I have that one of the most important things for the advancement of human civilization is tackling sustainability and climate change. Modern Hydrogen was born from the idea that we can provide both clean hydrogen and clean solid carbon to be used in industry. We achieve this by decarbonizing natural gas at the customer site, leveraging the millions of miles of gas infrastructure already in the ground, avoiding the need for society to spend trillions on new infrastructure and reducing CO2 emissions on a massive scale.



ANTHONY BOLANTE | PSBJ

## About Tony

**Title:** Founder and CEO

**Company:** Modern Hydrogen

**Headquarters:** Woodinville

**Washington employees:** 100

### Select sustainability stats:

**250+:** patents submitted by Pan for energy, climate, nanotechnology and biomedical devices.

**500:** kilograms of hydrogen each MH500 device can produce per day

**What innovative solutions has the company developed to tackle sustainability challenges?** Modern Hydrogen plans to expand its decentralized hydrogen systems, which are crucial for utilities. This localized production eliminates costly, energy-intensive hydrogen transportation, making it a game-changer for industries and heavy transport that struggle to decarbonize. There is a set of problems for energy you can solve with renewable electricity. Solar panels are more than 50 years old and they're cheap enough to be deployed for lots of use cases. If it can use renewable

electricity or nuclear, people have figured it out. Since electricity has been solved in mass manufacturing, what's the next thing to be solved? There are things that are hard to electrify. ... You need to add new technologies that can tackle things that can't be electrified. Hydrogen is the holy grail for replacing traditional combustion fuel. This is about skating to where the puck is. That's going to leave a huge swathe of need and opportunity, and hydrogen is a good candidate. The innovation is driven by lots of smart people at Modern, supported by brilliant and — frankly — patient investors like Bill Gates and NextEra who took a leap of faith to try a new technology with us.

— Marissa Nall, associate editor

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