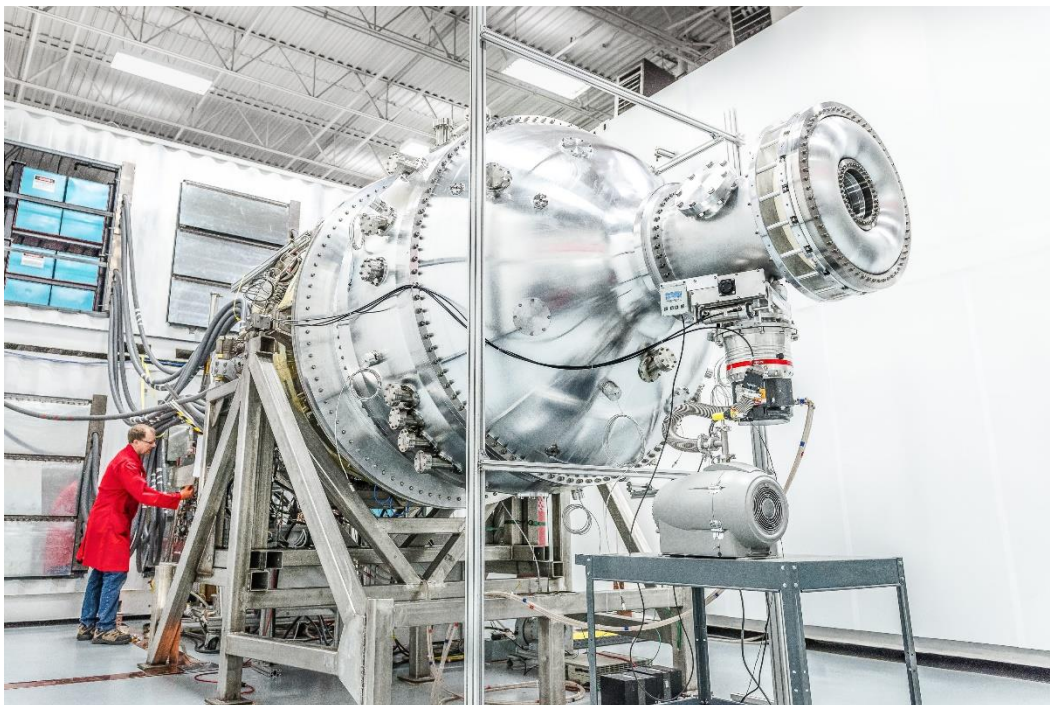


World's Largest Plasma Injector Brings Commercial Fusion Energy a Step Closer

General Fusion achieves first plasma in new machine - a milestone for private fusion venture

December 21, 2017 – Ten times more powerful than its predecessor, the world's largest and most powerful plasma injector has begun operation at General Fusion's facilities in Vancouver, Canada. This new machine (PI3) recently generated its first plasma, marking a significant step forward in the commercialization of the company's technology – a technology that will transform the global energy industry. General Fusion's commercialization program has moved forward rapidly, building on plasma performance milestones achieved in its smaller plasma injectors. The company has developed and tested 18 increasingly sophisticated plasma injectors over the past decade, culminating in PI3, which is the largest and most powerful such machine ever developed.

“This is an important milestone for the company, successfully translating the knowledge gained and technology developed from over 150,000 plasma experiments into a machine that is of comparable scale to what is needed for a commercial fusion power plant,” said General Fusion CEO Chris Mowry.



The PI3 plasma injector at General Fusion's facility in Vancouver, Canada

“Our PI3 test program takes the record-breaking performance achieved on our smaller plasma injectors and scales it up to a size and power similar to that which we’ll be deploying as part of our fusion demonstration plant,” said Chief Technology Officer Michael Delage. “General Fusion’s plasma injector technology will deliver plasma fuel into a compression chamber where it can be rapidly heated to ignition conditions, releasing energy. This is analogous to a diesel engine, but in our case, the hydrogen fuel coming out of the injector is 5 million degrees Celsius and will be heated by compression to 150 million degrees Celsius, the temperature required for plasma to burn in a fusion reaction.” PI3 will demonstrate the plasma injection part of the process, and its performance will be fine-tuned over the coming months to meet the specifications required for the demonstration facility.

Industry leading General Fusion is the only company currently developing a facility to demonstrate the complete end-to-end capability to produce electricity from fusion energy. This machine will be power plant size in order to confirm technology performance at commercial scale, but without the complexity of being a power generation facility. The company’s demonstration plant will combine both the plasma injection and the compression aspects of General Fusion’s unique technology solution. The facility is intended to demonstrate fusion energy conditions and refine the economics of overall power production using the company’s technology – the critical transition milestones to full commercialization.

Plasma, a superheated and ionized gas, is what gives neon signs and fluorescent light bulbs their glow. The unique properties of plasma enable it to be efficiently heated to extremely high temperatures and harnessed to produce fusion energy.

Fusion energy has the potential to safely provide carbon-free and economically competitive electricity, on-demand, anywhere in the world. Once commercialized, fusion power plants will play a vital role in meeting the need for new energy generation over the coming decades – a need which is forecast to increase 45% and constrained by global commitments to mitigate the impact of climate change.

About General Fusion

General Fusion is pursuing the fastest and most practical path to commercial fusion energy, and is based in Vancouver, B.C., Canada and Washington D.C., USA. The company was established in 2002 and is funded by a global syndicate of leading energy venture capital firms, industry leaders, and technology pioneers, including: Chrysalix Energy Venture Capital, Bezos Expeditions, Khazanah Nasional Berhad, Cenovus Energy, Growthworks, Braemar Energy Ventures, BDC, Entrepreneurs Fund, SET Ventures, and Sustainable Development Technology Canada. Learn more at www.generalfusion.com

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