FuelPositive commences production of its first commercial systems in the multi-billion dollar green ammonia industry

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FuelPositive Corporation (TSXV: NHHH | OTCQB: NHHHF) is a Canadian company that has developed a 'green ammonia' production system that does not produce harmful emissions to the environment. 'Green ammonia' is the result of using both an emissions free system and an emissions free energy source such as hydro, solar, or wind.

Ammonia is a chemical mostly used globally for fertilizer, but current production methods produce 'grey ammonia' with harmful emissions for the environment. Ammonia can also be used as a fuel for vehicles instead of gasoline or hydrogen fuels and it can even be used for stationary energy storage. Green ammonia can also be considered a key enabler of the hydrogen economy.

More about Ammonia…

Ammonia is one of the most produced chemicals on the planet, with 200 million tonnes consumed annually. It is used in a wide range of industries, but most notably in the agricultural industry as a fertilizer. FuelPositive describes its importance stating:

> *"It is considered to be one of the four building blocks of modern society along with steel, cement and plastic.…..The*

> *problem is that the Haber-Bosch method, still used in massive fossil fuel-powered refineries, is one of the most emissions intensive manufacturing processes in the world. For every single metric tonne of traditional or grey ammonia produced globally, almost three metric tonnes of greenhouse gases are emitted.“*

The number one use for green ammonia would be the agricultural industry as farmers use 80% of the traditional grey ammonia produced today as fertilizer. If farmers moved across to using green ammonia the climate benefits would be enormous. Farmers could use the FuelPositive green ammonia production system to produce their own fuel for their vehicles and machinery as well as to produce their own ammonia fertilizer.

FuelPositive’s green ammonia production system

FuelPositive’s green ammonia production system is an onsite, containerized system that takes air, water, and sustainable electricity and converts it into green ammonia. Importantly, FuelPositive uses green energy sources in their process. FuelPositive state:

> *“The system includes an electrolyzer to produce hydrogen from water, a nitrogen generator to produce the nitrogen from air, and a novel, patent-pending ammonia synthesis converter to produce Green Ammonia from the nitrogen and hydrogen.“*

As long as there is a sustainable source of green electricity, a FuelPositive green ammonia production system can produce green ammonia 24 hours a day at any location. By building transportable systems using shipping container configurations,

FuelPositive's production systems can be set up on site.

FuelPositive's green ammonia production system showing the three chambers (hydrogen separation, nitrogen extraction, ammonia synthesis reactor)

Source: FuelPositive Fact Sheet
The initial base price of a system is C$950,000; however, this varies depending upon the customized system needed. Operating costs are expected to be approximately $560/tonne, depending on electricity costs. This compares favorably to grey ammonia prices.

FuelPositive's estimated comparison of their green ammonia operating expenses ("OPEX") compared to regular grey ammonia

Source: Source: FuelPositive Fact Sheet

FuelPositive's engineering team has "kicked off the production of its first commercial systems" (source)

As announced on May 2, 2023, FuelPositive has been running the final commissioning, along with process optimization, of its FP300 system at its facility in Waterloo, Canada. FuelPositive also launched its latest model, the FP1500. It is a turnkey system that consists of a stack of FP300s in one solution, providing 1,500 kg per day of green ammonia.

Regarding sales FuelPositive states:

> *"Multiple end-users in various sectors, including farms of 10,000+ acres, have indicated the immediate need of*

> *FuelPositive systems of this scale and configuration. The FP1500 will answer this larger scale, on-site need……**The Company has successfully met its planned pre-sales capacity of 30 units and plans to deliver the first batch of commercial systems beginning in 2024.** FuelPositive has already begun working with suppliers to ensure they are ready to scale up for the first production batch. This is expected to be the beginning of many announcements leading to revenue and profit generation within the first year of commercial production."*
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> *Note: Bold emphasis by the author.*

In more recent news FuelPositive announced a $7.5 million raise. FuelPositive Chairman and CEO, Ian Clifford, stated:

> *The Company's pioneering green ammonia technology and decentralized business model holds immense potential to reshape the ammonia industry, fostering a greener future for generations to come. The net proceeds from this financing will help ensure FuelPositive's leadership and "first-mover" position in the multi-billion dollar sustainable and green ammonia industry."*

Key advantages of FuelPositive's green ammonia production system over traditional grey ammonia production

Source: FuelPositive website

Closing remarks

Green ammonia makes a lot of sense. As a starting point, the chemicals sector is ripe for change from century old practices to produce ammonia that produce significant emissions. The

agricultural sector can now take control by using FuelPositive's green ammonia production system and depending on their energy source and cost, save on their operating expenses. Sounds like a win-win for the farmer and the environment!

FuelPositive trades on a market cap of C$34 million. Definitely, one to watch in 2023.