

## Utility-Scale SSAS NH<sub>3</sub> Production

The world needs to move to a carbon-free economy through the generation of electrical power from renewable energy. The main issue with renewable power generation is that the supply very rarely matches electrical demand and this power needs to be stored until it is needed. Since passenger vehicles spend most of the parked, the batteries in electric vehicles can be used to balance electrical energy in the grid. However, there will NOT be enough of these batteries to effectively balance the grid. Furthermore, there are vast renewable energy resources in places (like Canada's North) that very remote from where there is a high demand for electricity (like large cities in the USA).

Hydrofuel Inc believes in that green ammonia is the ideal energy currency because it can be efficiently manufactured from green electricity, easily transported to where it is needed, and then converted back into electricity. We define "green" to mean originating from renewable energy as opposed to "brown" to mean originating from fossil fuels.

In collaboration with UOIT, Hydrofuel Inc is developing a process to efficiently manufacture anhydrous ammonia on a utility-scale using the solid state ammonia synthesis (SSAS) process. That is, our ammonia manufacturing process uses the economies of scale to absorb the surplus power generated by large solar, wind, and hydroelectric utilities. Depending upon the location of the plant, other high-value commodities are manufactured with synergistic processes. This green ammonia will be transported via pipeline, train, or ship as most economically appropriate.

At this time, our Haber-Bosch technology is farther along than our SSAS technology.