Decarbonization by SMR & the SULFUR MAGNET™

Hydrogen is the solution to stop global climate change via CO_2 avoidance. Standard H_2, Inc. has the inexpensive solution to make the highest purity hydrogen from water & methane without CO_2 production.

The hydrocarbon refining industry already makes the most hydrogen and does it cheaply by reacting H_2O (water) with CH_4 (methane) making 3 molecules of H_2 and one of CO. This process known as Steam Reforming, or the Steam Methane Reforming (SMR) process makes no CO_2. This is not high grade H_2 because their need is to hydrogenate crude oil, make urea, and make ammonia, which do not require pure H_2.

However, they could produce vast amounts of ultra-high purity hydrogen by using the SULFUR MAGNET™ to polish their production of H_2. With the largest methane reserve in the World, the USA could easily become the World's #1 source for clean hydrogen.

H2 Fuel Cells rely on efficient operation and ultra-high purity hydrogen for a high ROI. Catalysts used in fuel cells are expensive and easily damaged by volatile sulfur compounds such as hydrogen sulfide (H_2S). Unfortunately, the current paradigm uses electrolysis to produce hydrogen with by-products that can contaminate the integrity of the H2 Fuel Cell, which reduces their total lifetime.

Fortunately, the SULFUR MAGNET™ is the most tenacious absorbent of contaminants for cleaning hydrogen and other fluids. An independent third party found it reduced H_2S from 1.902 ppm to under 200 ppt, the limit of detection. This is much cleaner than the current World standard of 4 ppb and would dramatically raise the ROI of H2 Fuel Cell ownership.