Star Scientific Limited's cutting-edge hydrogen innovation to help drive Philippines sustainable economic development

The Department of Energy of the Republic of the Philippines to utilise award-winning Australian green hydrogen technology to drive the abundant clean energy and desalinated water foundations of its economic growth.

(Sydney, Australia) Leading hydrogen research, development and deployment company, Star Scientific Limited, has signed a Memorandum of Understanding (MoU) with the Department of Energy of the Republic of the Philippines to help drive the country's energy self-sufficiency and economic development through green hydrogen as a fuel source. At the heart of the MOU is Star Scientific Limited's breakthrough technology, the Hydrogen Energy Release Optimizer or HERO®. The S&P Platts award-winning HERO® technology is a true catalyst that converts hydrogen and oxygen into heat and water, without degrading the catalyst. There is no combustion, and the only outputs are heat and pure water. The HERO® can generate temperatures beyond 700 degrees Celsius in just over three minutes, and it is being used as the heat source in the HERO® heat exchanger system. For the Philippines, which is largely reliant on imported fossil fuels, HERO® heralds the hydrogen revolution and provides an opportunity for energy as well as water security and self-sufficiency in an environmentally sustainable and responsible way. The objectives of the MoU will see Star Scientific Limited and the Department of Energy of the Republic of the Philippines to study retro-fitting existing coal-fired power plants to run on the HERO® system powered by green hydrogen. They will also work together to explore the utilization of green hydrogen production in the Philippines using an abundance of offshore wind resources. Additionally, the parties will investigate decentralised scalable power systems for all of the Philippines' inhabited islands utilising green hydrogen, HERO® and the new breed of supercritical CO2 turbines. The parties also aim to use the HERO® system for decentralised desalination of ocean water. The aim of the working relationship is to bring abundant clean energy and desalinated water to the people of the Philippines. Additionally, the Philippines will have the opportunity to offer global companies zero emissions manufacturing capability. As part of the MoU, the Star Group will assist the Philippine Department of Energy with the development and implementation of funding models to attract global financing for the different aspects of all the projects as they develop. Global Group Chairman of Star Scientific Limited, Andrew Horvath, said he was proud that an Australian innovation had captured the attention of a national government that wanted to drive its economic development through an environmentally sustainable energy source for power generation and water desalination. "This agreement with the Department of Energy of the Republic of the Philippines represents a significant milestone in the development of the global hydrogen economy. Thanks to this bold and visionary step by the Philippines, we can begin to see the reality of whole economies turning over to hydrogen and a rapid acceleration to sustainable energy on a global scale. This is just the start," Mr Horvath said. "This will represent the largest single boost to Australia's role in developing the global hydrogen economy, heralding a new era of research, development and deployment in the manufacture and installation of all parts of the hydrogen supply chain. We are particularly grateful and excited to be part of the next phase of the Philippines' economic growth." ENDS About Star Scientific Limited Star Scientific Limited is a leading hydrogen research, development and deployment company based in Australia, with a global reach and scope. Star Scientific Limited discovered and developed a breakthrough technology for converting hydrogen into heat without combustion – the Hydrogen Energy Release Optimiser, or HERO®. HERO® is unique. It has been patented globally and has no competitor. While hydrogen - particularly green hydrogen - is enjoying significant global attention at present, there is a gap in its deployment for industrial purposes. Star Scientific Limited believes this is where HERO® will allow hydrogen to achieve its full potential, whilst simultaneously enabling supercritical CO2 turbines to also achieve their full potential. HERO®, which won the S&P Platts Global Energy Award for Emerging Technology of the Year 2020, has been designed to begin its commercial deployment through retrofitting coal-fired power stations, which will ensure the ongoing life of the industrial infrastructure associated with power generation whilst making it zero emissions. HERO® will be deployable for decentralised small-scale power solutions in remote locations or for large scale legacy power generation and industrial heat production. HERO® will also be deployable for highly efficient decentralised ocean water desalination at a large or small-scale.

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