# Muscat green electricity

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Green Energy"s unique coastal desert sites are both very sunny during the day, and very windy at night. This means low cost clean energy 24/7, allowing the projects to run processing equipment day and night, maximizing their usage. The large size of our projects provides economies of scale and lower variability of power, further reducing the cost of green hydrogen for customers.

To extract hydrogen from seawater, it must first be desalinated. Reverse osmosis ("RO") is the most widespread technology. It is well understood, creates negligible environmental impact, and has a long track record. As such, the project will utilize RO desalination. In addition, the project can overproduce fresh water to feed into local communities and create new collocated business opportunities.

Electrolysis technology has existed for over a century, but the pace of development and cost reduction has accelerated in recent years thanks to growing interest in green hydrogen. Electrolysis works by mixing water with an electrolyte, running an electric current through the mixture, and capturing the separated hydrogen and oxygen at the cathode and anode, respectively.

Green methanol and synfuels are derived from hydrogen and captured carbon emissions. CO2 can be captured as a waste gas from carbon-intensive industries, such as steel, chemicals, and cement or through a process of direct air capture.

Green Ammonia is made by reacting green hydrogen with nitrogen (taken from the air) in the presence of heat and metal catalysts via the Haber-Bosch process. There are ammonia production facilities using it all over the world, but their hydrogen comes from pollutive fossil fuels. Taking nitrogen from the air and then making green ammonia doesn"t create any emissions or pollution as the entire process is a closed system.

Green ammonia is easily transported by sea or road. Ammonia is transported at negative 33?C. This compares favorably to transporting LNG at negative 160?C, and pure liquid hydrogen at negative 252?C. GEO project is coastal, so transport vessels can be easily filled at ports or via small footprint offshore loading towers.

OQ is a global integrated energy company with roots in Oman. OQ has operations across 17 countries, that covers the entire value chain from exploration and production of oil and gas, refineries and petrochemicals to marketing and distribution of end-user products reaching more than 60 countries worldwide. OQ Alternative Energy focuses on investments in renewables and green hydrogen in Oman.

As the leading dedicated green fuel developer, InterContinental Energy is committed to driving the renewable energy revolution beyond green electricity to green fuels. Using only wind, sun, and water, our portfolio will produce clean fuels at a scale that is cost competitive with fossil fuels, significantly reducing global greenhouse gas emissions. We prioritize environmental and social considerations for the projects we develop

in addition to financial criteria, creating positive returns for all stakeholders.

Established in 2012, EnerTech is a subsidiary of the Kuwait Investment Authority-owned National Technology Enterprises Company. EnerTech"s mandate is to be the leading platform for clean energy in Kuwait and the broader Gulf region. Our businesses include renewable energy development (solar, wind, CSP), clean technology investment, water desalination and treatment, energy efficiency solutions and advisory, and green molecules investment and development.

Shell is an international energy company with expertise in the exploration, production, refining and marketing of oil and natural gas, and the manufacturing and marketing of chemicals. We use advanced technologies and take an innovative approach to help build a sustainable energy future. We also invest in power, including from low-carbon sources such as wind and solar; and new fuels for transport, such as advanced biofuels and hydrogen.

An international consortium comprised of OQ, the Sultanate of Oman"s global integrated energy company, InterContinental Energy, the leading dedicated green fuels developer, and EnerTech, a Kuwait government-backed clean energy investor and developer, today announces further progress on the development of "GEO" the Green Energy Oman integrated green fuels mega project.

The consortium is collaborating on the project, which will consist of approximately 25 gigawatts (GW) of renewable solar and wind energy producing over 1.8 million tons of zero-carbon green hydrogen per annum.

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