The new Green Energy Hub at Shoreham Port brings together a few strategic partners to design and deliver upon their shared ambitions. Together, they are looking to build a hub that can produce, store and distribute green hydrogen fuel for locally based heavy transport fleets.

Green hydrogen is set to be a key fuel for commercial vehicles, acting as the catalyst for change to lead the future of decarbonisation for fleet-based businesses. Combining renewable onshore wind and solar power generation to produce the hydrogen on site, the Green Energy hub at Shoreham Port will be drive sustainable fuel consumption throughout the south-east of England.

Delivering decarbonisation
Shoreham Port is a thriving commercial trust port on the south coast of England. Its heritage can be traced back to 1760 and the success and growth of the communities that surround it have always been at the heart of everything it does.

Green hydrogen has a significant part to play in delivering decarbonisation. There is an emerging market for the clean fuel that is set to shift heavy fleets towards hydrogen, especially HGVs and refuse vehicles, as well as some public transport.

While smaller fleets are likely to be electrified, electrifying the entire energy system would prove difficult and far more expensive than combining renewable generation with low-carbon fuels. As more businesses, industries and councils are looking to develop green hydrogen production areas and convert fleets to run on the fuel, the pipeline of projects in the UK for green hydrogen plants has grown in recent years.

At Shoreham Port there are unique opportunities to produce renewables in an urban setting, which enables the production of green hydrogen to address grid balancing and storage of surplus energy more easily. The port’s largely back-to-base fleets and short-travel plant movements provide the ideal environment to make a shift in fuel use without requiring massive infrastructure spread across the region and the production process is almost silent, produces no waste and emits no pollutants.

The port is amongst the most sustainable in the UK and have been certified as an EcoPort for the last eight years, working with their partners to develop the Green Energy Hub is the next giant leap in Shoreham Port’s ambitious sustainability commitment.

Positioning these plans within the wider national and international sustainability landscapes, the Green Energy Hub
At Shoreham Port there are unique opportunities to produce renewables in an urban setting, which enables the production of green hydrogen to address grid balancing and storage of surplus energy more easily.

Hydrogen plans
Shoreham Port has brought together a collective of industry experts to develop a Green Energy Hub on the port estate, sourcing the fuel through a scalable green hydrogen production, storage and refuelling facility. The partners consist of H2 Green, which specialises in establishing green hydrogen networks and fuel production, Ricardo, which imparts its engineering experience and pioneering leadership in hydrogen conversions and Local Fuels, which is bringing its fuelling infrastructure and distribution expertise to the project.

- **H2 Green** is a green hydrogen developer focused on building a network of hydrogen hubs. Founded in 2020, the company has since been acquired by the AIM-listed Getech Group Plc in an endeavour to accelerate the path to global net-zero.
- **Ricardo**, an international engineering and environmental consultancy which specialises in the transport, energy and scarce resources sectors, is already applying their expertise across the hydrogen value chain to support customers around the globe with the decarbonisation of transport and energy for land, sea and air.
- **Local Fuel** will leverage its knowledge and expertise in downstream fuel distribution to explore and implement opportunities to deliver green hydrogen to the local market. In addition, it will play their part in the energy transition through the importation and storage of synthetic zero carbon fuels.

Under plans submitted by H2 Green to Shoreham Port, the first phase of the Hub will focus on the provision of green hydrogen and renewable electricity to the port’s current fleet of 39 heavy forklift trucks and 12 heavy goods vehicles. 800 HGVs enter the port each day, with the long-term ambition to scale up production to power these vehicles as well, reducing emissions and noise. Decarbonisation of the HGVs and forklift trucks entering and using the port will save around 45,000 tonnes of CO2 each year.

The long-term plan is for H2 Green to facilitate the importation of ammonia, a practical hydrogen energy vector which is used to carry hydrogen, increase capacity and connecting to green energy projects worldwide, delivering lower cost green fuel to benefit local users.

Following finalisation of engineering designs and receipt of planning approvals, the partnership is aiming for a full investment decision in second half of 2022. In the meantime, the port is planning to significantly increase its renewable energy generation capacity, exploring all the latest technologies.

- The port continues to engage with community groups and local councillors to share news of the project and answer any questions raised about the development of the Hub. So far, conversations have been incredibly positive, locals are impressed and encouraged by the scale of ambition and the potential benefits the Green Energy Hub may bring to their communities and businesses.

Environmental strategy
Shoreham Port’s investment in the Green Energy Hub is specifically listed within the port’s ten-point Masterplan.

- The annual Masterplan sets out a series of prioritised intentions for Shoreham Port, guiding decision-making and investment. Commitment to the Green Energy Hub complements the port’s desire to push forward with innovation and new technologies and to give precedent to the urgent sustainability mission.

These innovations are designed to ensure that Shoreham Port achieve its own net zero ambitions, improving air quality emissions, as well as being a huge step towards decarbonising the south-east England region.

- In addition to the environmental benefits and sustainability, the Green Energy Hub at Shoreham Port will create a significant economic uplift for the area, both in the build phase and in operations as more businesses choose their own greener future.

The idea of providing local jobs for local people has underpinned much of the port’s work over the years. Recent research looking into the role and value of ports within a city environment found that deliberate and strategic engagement with local stakeholders is paramount to the ongoing success, growth and viability of a thriving, modern-day port.

- The team at Shoreham Port team is excited about the employment, economic, engineering and innovation opportunities the development of the Green Energy Hub will bring to the area. The port’s ambitions are strongly aligned with the Government’s hydrogen strategy and green job creation initiatives.

As a community organisation, the port intends to work with all of its stakeholders to make this new stage of Shoreham Port’s development a success.