

Marine-i Case Study: Mevagissey Harbour

Helping Mevagissey Harbour plan for the future

A unique, historic port

Mevagissey Harbour is the second largest fishing port in Cornwall. As well as having a thriving fishing industry, this historic harbour attracts thousands of visitors each year. The ancient quays stand in vivid contrast to Mevagissey's highly modernised fishing industry. The fleet is committed to sustainable fishing, with landings being made for home consumption and for export – all of the highest quality.

Mevagissey Harbour Trustees have owned and managed the port since 1774. In 1988 the Trust became a charity and Mevagissey is now one of only three such Trust Ports in this country. The harbour is a national asset with a long and fascinating history but with global warming and more severe storms, it does face an uncertain future as funding for repairs and protection is hard to come by.

Mevagissey Harbour Trustees engaged with the Marine-i project in order to gain some vital information to assist with their strategic planning and to explore how innovation and new technology could support this. The trustees were interested in a number of issues around contribution to net zero, including their own energy use and potential for low carbon fuels in vessels. They were also keen to understand the local effects of climate change and the impact on their sea defence infrastructure.

Delivering the key insights

The project was delivered by Marine-i partners, Offshore Renewable Energy Catapult (ORE Catapult) and University of Plymouth. There were four key components to the work:

1. ORE Catapult analysed current energy consumption at the port, based on figures supplied by Mevagissey Harbour. The analysis then laid out some options for renewable energy generation that could be adopted for future use. Solar Photovoltaic (PV) generation was identified the most viable short term option for the Mevagissey Harbour sites and seven potential sites where these could be located were assessed for their viability.
2. ORE Catapult submitted a report to the trustees on the emerging commercial opportunities presented by the development of Floating Offshore Wind (FLOW) in the Celtic Sea. The report highlighted the potential for Operations and Maintenance vessels to operate out of ports such as Mevagissey, the scale of the opportunity, and the implications for port development.
3. University of Plymouth provided projections for potential future high water levels at Mevagissey Harbour, based on data from the Met Office. This information can be used to inform future planning for sea defences. The report explored potential scenarios for sea level rises at Mevagissey for the years 2035, 20250 and 2100, depending on the overall impact of global warming.
4. University of Plymouth also provided information on the decarbonisation of small vessels and some of the innovative propulsion methods that will shape the future, such as battery power,

biofuels and natural gas. They also provided details on the marine e-charging project in Plymouth and the marine hydrogen project being carried out at the University of Exeter Cornwall Campus.

Moving forward with confidence

Alex Whatley, Knowledge Exchange Officer at University of Plymouth, says:

“Using the expertise and knowledge of the Marine-i partners, we were able to quickly deliver the key information that Mevagissey Harbour Trustees required for their strategic planning. This is a great example of using research and development to guide the strategic growth of the port and to help the trustees move forward with confidence.”

Speaking on behalf of Mevagissey Harbour Trustees, John Hughes says:

“We are very grateful to have access to the world-class marine expertise that is available through the Marine-i project. We really appreciate all the hard work that the team have done for us.

“The information that has been provided is already having an impact on our activities. The project has enabled the Board to agree to install solar panels and move to green energy as part of our drive to be carbon neutral.

“It is vital that we understand the impact of rising sea levels over the next 80 years. This, along with the impact of storms, is going to put a great strain on the harbour infrastructure. The Marine-i report will be very useful in determining a course of action for us and in helping us obtain the funding to support our plans.

“As trustees, we are committed to doing all we can to ensure that Mevagissey Harbour has a very bright future, and the support from Marine-i has provided an important boost to our plans.”

Prof Lars Johanning, Programme Director for Marine-i, says:

“We are delighted to have been able to support the trustees of Mevagissey Harbour in their important work to preserve all that is unique about the port, while also grasping important new opportunities for the future. It is vital that projects like this succeed, in order to provide long-term economic growth for Cornwall.”