CELTIC CRUISES

NATURAL BEAUTY
HERITAGE - WILDLIFE

INVESTMENT OPPORTUNITY

Cross Channel Freight & Passenger Service - Emissions Free, Green Transport

We are seeking funding, a minimum of EUR60,000 for an emissions free, green transport mode project which is partly financed by the EU.

» **Transition -** all sectors of the economy are moving towards a zero-carbon/zero-emissions and transport is a critical component. A Sail & Hydrogen (H_2) vessel will deliver cargos on a regular, liner service.

» **Transform -** we aim to transform the way that break-bulk cargo is moved cost effectively across the Channel and later on other key routes around the North Sea, Baltic and the Med.

» **Trade -** companies will finally have a reliable, fossil fuel free and cost competitive means of transporting goods between the EU and UK

In order to achieve this goal, we need to refurbish our existing specifically designed and tested cargo sailing vessel to increase its capacity and regenerate the equipment to ensure easy operation.

Transport Emissions (grams CO_2 per tonne-km)

Source: Guidelines for Measuring and Managing CO_2 Emission from Freight Transport Operations; Issue 1 March 2011, pg13 Table 10

***NOTE:** With renewable energy generated hydrogen these emissions will be Zero.

The EU PROJECT

As part of the extended 3-year Interreg Dual Ports Project https://www.dualports.eu/sailcargo-testing/

Our role is to prove that wind propelled cargo transport, via a sailing cargo vessel, is cost effective and viable. On paper, our business plan says it is viable and lucrative, but the proof will be in the doing. We believe we can favorably compete with both road transport (trucks) as well as with Ro Ro Ferries at certain distances.

The FUTURE

Onboard Renewable Energy: Once the route and business model has been proved our secondary goal is to develop a range of renewable energy sources onboard the vessel; hydro, solar, wind and wave technologies. These will produce and store hydrogen for the vessel's energy needs making the vessel a fully independent, fuel and emissions free freight transport mode. The ramifications of achieving this option whilst remaining a competitive cost option with road and other transport modes could be widespread.

Additional Routes: There are many viable routes between smaller ports in the North Sea, Baltic and Med. Once the business model and vessel operations are validated, there is great potential to explore those.

Model Designs & Fleet Development: We aim to add to the fleet of vessels, first adding reliability and resilience to this first established route, but then to expand to other routes. The vessel designs will also be available to adapt, improve on and build very competitively.

The OPPORTUNITY

For a comparatively small capital outlay, this project and its goals should be worthy of support from anyone who is excited to play a role in finding alternatives to our carbon-based economy. A small but vital step forward. The business is expected to break even within the first 12 months and then make a profit within the first two years of operation.

We are interested in investors, small and large, also in terms of guarantors and lending options, should you wish to know more, please contact Geoff Boerne at loentropy@gmail.com.

The COMPANY

Celtic Cruises Ltd., the owner and operator of SV Lo Entropy was established in 2001. This small, family run, limited company has operated the vessel both as a cargo and charter vessel in Europe and overseas markets over the past 18 years. Captain Geoff Boerne is a qualified and highly experienced sailor and sail cargo operator and holds the necessary legal competency certification. For many years Geoff worked as a UK small vessel marine coding surveyor. The Company will recruit a further legally competent Skipper and four crew to operate this liner service. http://lo-entropy.weebly.com/

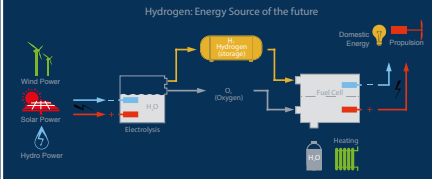
Celtic Cruises is a full partner on the EU Interreg Dual Ports project and is supported by the UK-based International Windship Association.

The SHIP

SV Lo Entropy
dimensions - steel hulled, 23.9M length overall, 6M beam and 1.8M draft, commercially registered 2001

Sail
The ship is a primary wind vessel with 760 m² of sail

Hydrogen
The production of hydrogen using the onboard renewable energy sources, (wind, wave, solar and hydro) whilst under sail, which is then stored onboard to be used via a fuel cell configuration supplying all auxiliary propulsion and the vessels domestic energy requirements



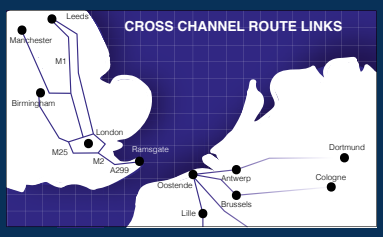
Crew
The operation of the vessel will require two sets of 3 person crew working all year round

Cargo Capacity
76 Euro pallets or 50 tons (equals 2 of the largest capacity EU truck loads - 38 Euro pallets/24 tons per vehicle)

Ability to undertake 468 voyages per year (234 voyages in each direction) carrying at full capacity, a total of 23, 400 tons or 35, 568 Euro pallets (120 cm X 80 cm X 120cm high). Each voyage cycle, loading, sailing and off-loading will be of an 18-hour duration, allowing for 36 voyages per 4 week month.

Passengers
12 passengers in shared cabin/berths

The ROUTE



» Regular, reliable alternating daily liner service between Ramsgate & Ostend

» Ease of access to facilities at both ports.

» Far less congested road links for onward transport

» Great connectivity for UK & EU clients

» EU project lead Port of Ostend supporting route.

The MARKET

The potential market is substantial, especially with the growth of companies working to decarbonize their supply chains and the key benefits of using an underutilized freight route, high quality port handling facilities, the support of the Port of Ostend and with minimal potential disruption and a regular, predictable liner service.

The marketing benefits for companies using the Lo Entropy freight service are obvious and added significant value to the green, CSR boosting credentials of all engaging with the business.

Port of Dover
Freight haulage vehicles: 2,497,804 (2018)

Port of Ramsgate
no ferry service since 2013 but facilities to handle 1.4m tonnes of freight per year + 2 mill passengers

Growth of Wind Propulsion Technology
UK Maritime Plan 2019 – estimates growth of wind propulsion technology from £300mill (2020's) to a £2bill market (2050s) worldwide and for alternative fuels (such as Hydrogen) up to £10 bill over the same period

Sail Cargo Interest
International Windship Association www.wind-ship.org