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B9 Shipping pledges technology behind renewable powered cargo ship to Small Island States.

- **Fossil fuel free sailing cargo ship augmented by biogas engine**
- **Regional Regeneration – ships built locally**
- **B9 Ships provide vital carbon neutral trading link for small island developing states**

B9 Shipping has developed 100% renewable powered cargo ships bringing proven technologies together in an innovative way to address the growing problem of emissions in shipping. Designed by Rob Humphreys, the naval architect responsible for Dame Ellen MacArthur's record breaking yacht Kingfisher, B9 Shipping has collaborated with Rolls Royce, Graig Investments, Corus Steel, International Paints, Southampton University's Wolfson Unit and the Met Office to develop the new vessel. About 60 per cent of the thrust comes from conventional soft sails and, in calm conditions or to manoeuvre in port, a carbon neutral bio-methane engine is used.

The design of the sail powered cargo ships, the lean manufacturing technology employed to ensure efficient, rapid ship build at any suitably sized yard worldwide and the anaerobic digestion technology that provides the bio-methane to power the engine will be part of a technology transfer package B9 Shipping will make available to small island states. B9's renewable powered cargo ships mitigate against continued growth in CO_2 emissions produced by comparably sized conventional ships, each of which emit up to 16 tonnes per day of carbon. B9 Ships are straightforward to build and operate and will create local jobs in small island states both in construction and maintenance as well as in crewing and operations.

B9 Ships will stimulate increased economic development in small islands. As conventional ships have increased in size, to improve economies of scale and to amortize ever more unpredictable fossil fuel prices, small islands have become increasingly isolated. B9 Ships, being powered 60% by wind, for which there is no cost, can operate economically on a smaller scale. Once a cost effective, reliable transport infrastructure is in place small islands will be better placed to engage in increased levels of economic activity and so stimulate sustainable development.

B9 Ships can be adapted to carry both refrigerated cargo and passengers, improving sustainable tourism offerings in small islands states.

David Surplus, MD B9 Shipping and Chair of the B9 Energy Group said: "*In light of events in Copenhagen where it is clear that the small island communities need urgent support and there is a struggle around the issue of bunker fuel, B9 Shipping want to underline how businesses can and are developing cohesive global solutions to help ensure a smooth and rapid transition to a low carbon economy*."

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NOTES

The B9 Energy Group was founded by David and Norman Surplus in 1992 and operates from carbon neutral offices in Larne, Northern Ireland. B9 has 83 employees in offices across the UK, Ireland and in the USA and Canada.

The company manages, operates and maintains 45 wind farms comprising 650 turbines at sites across the UK and Ireland partnering with Scottish Power, EOn and NPower.

Having pioneered the use of wind turbines onshore The B9 Energy Group and partners are developing:

- offshore wind power generation,
- are key collaborators in developing tidal and wave generation solutions in marine renewables
- B9 Organic Energy, leading the field in anaerobic digestion (AD) as a means of making vehicle fuel from food waste – biogas. B9 generated biogas provides non fossil fuel for marine engines. Biogas (approximately 60% methane) is one of the main products of the anaerobic digestion of organic materials, including animal manures, sewage, food wastes and more recently energy crops. This biogas is normally used to fuel a combined heat and power (CHP) unit on site, producing electricity and heat, but it can also be used for transport fuels. To do so the biogas has to be upgraded to at least 95% methane by removing impurities such as carbon dioxide, hydrogen sulphide, siloxanes and water to produce Biomethane. This biomethane is chemically very similar to natural gas, but is completely renewable. When produced from organic waste biomethane has the lowest greenhouse gas emissions of any biofuel. Using it as a fuel produces a net saving of greenhouse gas emissions, rather than simply reducing them, as decomposing organic waste in landfill would otherwise emit methane into the atmosphere. Methane is 23 times more potent as a greenhouse gas than carbon dioxide. In transport applications biomethane burns more quietly and cleanly than liquid biofuels, helping to improve air quality. Using biomethane as a fuel for ships can therefore help to meet both greenhouse gas and air quality strategy objectives.www.b9organicenergy.co.uk