



# Electrification of marine

The electrification of land transport is becoming a reality worldwide, driven by advances in technology, the need to reduce pollution, and to tackle climate change; electrification of the marine industry is rapidly following suit.

Due to pressure on ports to reduce air and water pollution, rapid advances in electrification and automation technology, and the prevalence of diesel-electric propulsion systems, ships are moving toward electric. Hybrid and electric ferries are operating in Norway and Scotland. The Netherlands is supporting electric and fuel cell driven tour vessels. Norway, Alaska and Canada are investigating hybrid and electric fishing boats. Canada, Denmark and Germany have recreational electric boats commercially available to purchase. Experimental boats are being designed that run entirely on solar.

The interest is there and the time is now.

National and international regulations are both driving the industry – which are needed by industry to manage this change. The International Maritime Organization has brought in limits on sulphur emissions, for example, that can be reduced through the hybridization or electrification of marine; however, the regulations and certifications for safely integrating components such as lithium batteries are lagging. Tools for measuring and modelling are being developed and safety guidelines are required.

With this electrification, there is also an opportunity for marine operators to reduce the amount of fuel being burned and inadvertently spilled in our waters; the potential for improving the health of our marine environment is significant. Additionally, LED lights and heat-pumps used in the marine environment are freeing up electric capacity for other uses and the industry is exploring all these options in depth.

The summer 2018 issue of the Journal of Ocean Technology – with guest editor Dr. Sue Molloy – is focused on the electrification projects that are underway; concepts being explored; control systems that enable; measurement tools that have been developed; modelling systems that support; safety rules and guidelines; and drivers that push this forward.

Would you like to share your research and experiences in this area with our readers? We are inviting the submission of technical papers, essays, and short articles for this issue.

## Important deadlines

Technical paper submission deadline:

**February 23, 2018**

Expressions of interest for essays and short articles: **March 9, 2018**

## For more information

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