SHIPPING AND THE ENVIRONMENT - From Regional to Global Perspectives
2nd BONUS Symposium

Gothenburg, 24-25 October 2017
SHEBA Objectives and Structure

**Objectives**

The aim of Sheba is to provide an integrated and in-depth analysis of:

- the environmental,
- economic
- and social impacts

of shipping in the Baltic Sea and to support development of the related policies on EU, regional, national and local levels.

**Runtime**

SHEBA is running from April 1\textsuperscript{st} 2015 to March 31\textsuperscript{st} 2018.

### SHEBA’s research and coordination is structured into 7 working packages (WPs):

<table>
<thead>
<tr>
<th>WP 1 Policies, scenarios and activity data</th>
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<tbody>
<tr>
<td>- Drivers (policies, economy, regulations)</td>
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<tr>
<td>- Scenarios (Technology, fuel, modal shift)</td>
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<td>- Shipping activity data</td>
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<tr>
<th>WP 2 Air Pollution</th>
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<tbody>
<tr>
<td>- Air pollutant sources</td>
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<tr>
<td>- Transport and transformation, deposition maps</td>
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<td>- Effects on human health and land ecosystems</td>
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<tr>
<th>WP 3 Water Pollution</th>
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<tr>
<td>- Line emissions sources (antifouling, open-loop scrubbers)</td>
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<tr>
<td>- Point emission sources (Litter, sewage, bilge &amp; ballast water, closed loop scrubber sludge)</td>
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<tr>
<td>- Fate of pollutants in the Baltic Sea</td>
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<tr>
<td>- Effects of pollutants on the Baltic Sea ecosystem</td>
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<th>WP 4 Noise</th>
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<tr>
<td>- Noise sources</td>
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<td>- Noise propagation</td>
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<td>- Noise effects and conflict maps</td>
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<th>WP 5 Assessments</th>
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<tr>
<td>- Good environmental status descriptors</td>
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<tr>
<td>- Integrated assessment of economic, societal and ecological impacts</td>
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<td>- Ecosystem services</td>
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<th>WP 6 Interaction with stakeholders</th>
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<td>- Data products and their dissemination</td>
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<td>- Dissemination, education</td>
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<th>WP 7 Coordination</th>
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<tr>
<td>- Data products</td>
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<td>- Dissemination, education</td>
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SOLAS overview 2004-2014

SOLAS overview 2015-2025

an important addition!
During its first 10 years, SOLAS was essentially a natural science project sponsored by the International Geosphere Biosphere Programme (IGBP).

In 2015 three major global research programmes joined forces to create Future Earth, an interdisciplinary global change programme.

The SOLAS project contributes to Future Earth: shipping provides a natural focus for interdisciplinary developments.
Shipping and the environment
From regional to global perspectives
2nd BONUS symposium
Opening words by the BONUS Programme Manager
Andris Andrusaitis
• Snoeijs-Leijonmalm et al. 2017: Towards better integration of environmental science in society: lessons from BONUS, the joint Baltic Sea environmental research and development programme. Environmental Science and Policy 78: 193-209
Island A: ‘Coastal biogeochemistry processes and indicators’

Island B: ‘Spatial patterns of marine biological diversity’

Island C: ‘Combating nutrient loads from the drainage’

Island D: ‘Clean and safe shipping’

*blue circles denote research projects and orange circles - innovation projects*
Baltic Sea Shipping Visualized
Date: 3 October 2012. Time: 22:08 hrs
BONUS whishing to all participants a great Symposium!