

## The ticking time bomb of climate change

*New European Marine Board Science Commentary questions the over-emphasis in global policy discussions on 21<sup>st</sup> Century impacts of climate change.*

03/03/2017 - Ostend, Belgium

Global policy discussions and agreements on climate change have a tendency to focus on the impacts that will happen during this century. The European Marine Board has published a Science Commentary entitled, 'The ticking time bomb of climate change and sea-level rise,' which questions this overemphasis on climate change as a 21<sup>st</sup> century phenomenon.

The short policy paper is based largely on an article published in Nature Climate Change in February 2016 by a group of scientists led by Peter U. Clark of Oregon State University, USA. The authors argue that carbon dioxide (CO<sub>2</sub>) emissions from human activity will remain in the atmosphere and continue to affect the Earth's climate for tens to hundreds of thousands of years. Many of the resulting long-term impacts are now unavoidable. Sea level, in particular, exhibits a much slower response time than rises in air temperature. If we look 10,000 years into the future, it is proposed that even a modest emissions scenario will result in a global mean sea-level of rise of 28 m, causing inundation of many of the world's most densely populated coastal cities and regions and displacing billions of people.

Advances in ocean and climate modelling make it possible to look much further into the future and the picture that emerges for future generations is one of catastrophic climate change. This longer-term perspective tells us that we urgently need to move towards complete decarbonisation of the world's energy systems. It places a much greater onus on policy makers to react to the threat of climate change, starting with meeting the ambitious targets set out in the Paris Climate Agreement. Put another way, the decisions we make in the next 10 years could profoundly affect the next 10,000.

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### Notes to editors

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The European Marine Board (EMB) is a leading European think tank in marine science policy. EMB is a network with a membership comprising major national marine/oceanographic institutes, research funding agencies and national networks of universities from countries across Europe. The Board provides a platform for its member organizations to develop common priorities, to advance marine research, and to bridge the gap between science and policy to meet future marine science challenges and opportunities.

Citation: European Marine Board. The ticking time bomb of climate change: why human actions in the next 10 years can profoundly influence the next 10,000. Science Commentary No. 2, February 2017. ISSN: 2565-6899