

# Melting Arctic ice called 'economic time bomb'

**Researchers put cost at \$60 trillion over 10 years, almost equal to entire world economy in 2012**

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The rapidly melting Arctic is an “economic time bomb” that will cost \$60 trillion or more over the next 10 years, say a group of European economic and science researchers.

That staggering number approaches the \$70 trillion value of the entire world economy in 2012, the scientists say in a comment in the journal Nature.

The researchers — Gail Whiteman, of the Rotterdam School of Management at Erasmus University in the Netherlands, Chris Hope of the Cambridge Judge Business School and Peter Wadhams, a professor of ocean physics at University of Cambridge, both in Britain — are urging creation of an economic model for the impact of climate change.

- [Greenland's massive ice sheet melting](#)
- [Sea ice loss in Canada's north, 1968-2010](#)

Such a model is long overdue in the absence of an effective world plan to lower greenhouse gas emissions, they argue.

“The imminent disappearance of the [summer sea ice in the Arctic](#) will have enormous implications for both the acceleration of climate change, and the release of methane from offshore waters which are now able to warm up in the summer. This massive methane boost will have major implications for global economies and societies,” Wadhams says.

## Opens shipping channels

The decline in Arctic sea ice has been widely seen as economically beneficial because it opens up more shipping and drilling in a region thought to contain 30 per cent of the world’s undiscovered gas and 13 per cent of its undiscovered oil.

But melting ice is releasing plumes of methane into the Earth’s atmosphere, speeding up the pace of global warming, Wadhams says.

For the Nature article, the researchers calculated the global consequences of the release of 50 gigatonnes of methane over a decade from thawing permafrost beneath the East Siberian Sea and concluded there will be a \$60 trillion economic impact resulting from more extreme weather, flooding, drought and poor health.

That’s a preliminary estimate because it doesn’t factor in ocean acidification or potential changes in atmospheric circulation that are not yet fully understood. Nor does it calculate the cost of greenhouse gases released by melting permafrost on land.

## Developing countries to be hardest hit

Much of the cost – about 80 per cent — will hit developing nations, who don’t have the infrastructure to deal with natural disasters, Hope said.

He called on world leaders to “kick-start investment in rigorous economic modelling” that calculates the impact of a changing Arctic landscape.

The economic damage all nations face will outweigh any “short-term gains from shipping and extraction” even if the pace of emissions is slowed, the article says.

“In all of these cases, there is a steep global price tag attached to physical changes in the Arctic, notwithstanding the short-term economic gains for Arctic nations and some industries,” the researchers write.

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