



The rush for resources prompted by an apparent acceleration in sea ice melt calls for caution and effective governance to avoid damage to the fragile Arctic environment, according to the [UN Environment Programme's Year Book 2013](#)

A reduction in Arctic summer ice cover has become more intense in recent years, culminating in a record low of 3.4 million square kilometres in 2012 – 18 per cent below the previous recorded minimum in 2007 and 50 per cent below the average in the 1980s and 1990s. Land ice is also retreating and permafrost is melting.

The retreating ice brings easier access to natural resources such as gas and oil, thus prompting increased human activity that may threaten the already fragile ecosystems and wildlife, the report says.

"What we are seeing is that the melting of ice is prompting a rush for exactly the fossil fuel resources that fuelled the melt in the first place," Achim Steiner, the UNEP Executive Director

The US Geological Survey estimates that 30 per cent of the world's undiscovered natural gas is in the Arctic, largely on the continental shelves beneath the Arctic Ocean.

Receding sea ice is also opening up the Northern Sea Route and the Northwest Passage for shipping for parts of the year. Some countries have estimated that the Northern Sea Route would be turned into a shipping highway "of global importance", with a 40-fold increase in shipping by 2020. The Arctic could be ice-free by 2100, but the most-common prediction today

is that this could come to pass by 2035.

Additionally, there is likely to be a boom in fisheries, as a widely predicted northward shift in subarctic fish species, including Atlantic and Pacific cod, is now being detected. One study predicts that by 2055 fish catches in the high latitudes, including the Arctic, could increase by 30 to 70 per cent.

The Arctic Council – the core of which is formed by Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the United States – has a crucial role to play in ensuring any resource exploitation is done responsibly.

The largest long-term concern is Greenland, which could raise sea-level by an eventual seven metres if it all melted. While this not imminent as it would take several hundred years at current rates of warming, melting has recently accelerated and current predictions on snow and ice cover on Greenland could be conservative.

Lost Greenland ice, along with runoff to the ocean from permafrost thawing and melting of small glaciers, contributes to changes in global ocean circulation, with possible major consequences for weather systems globally.