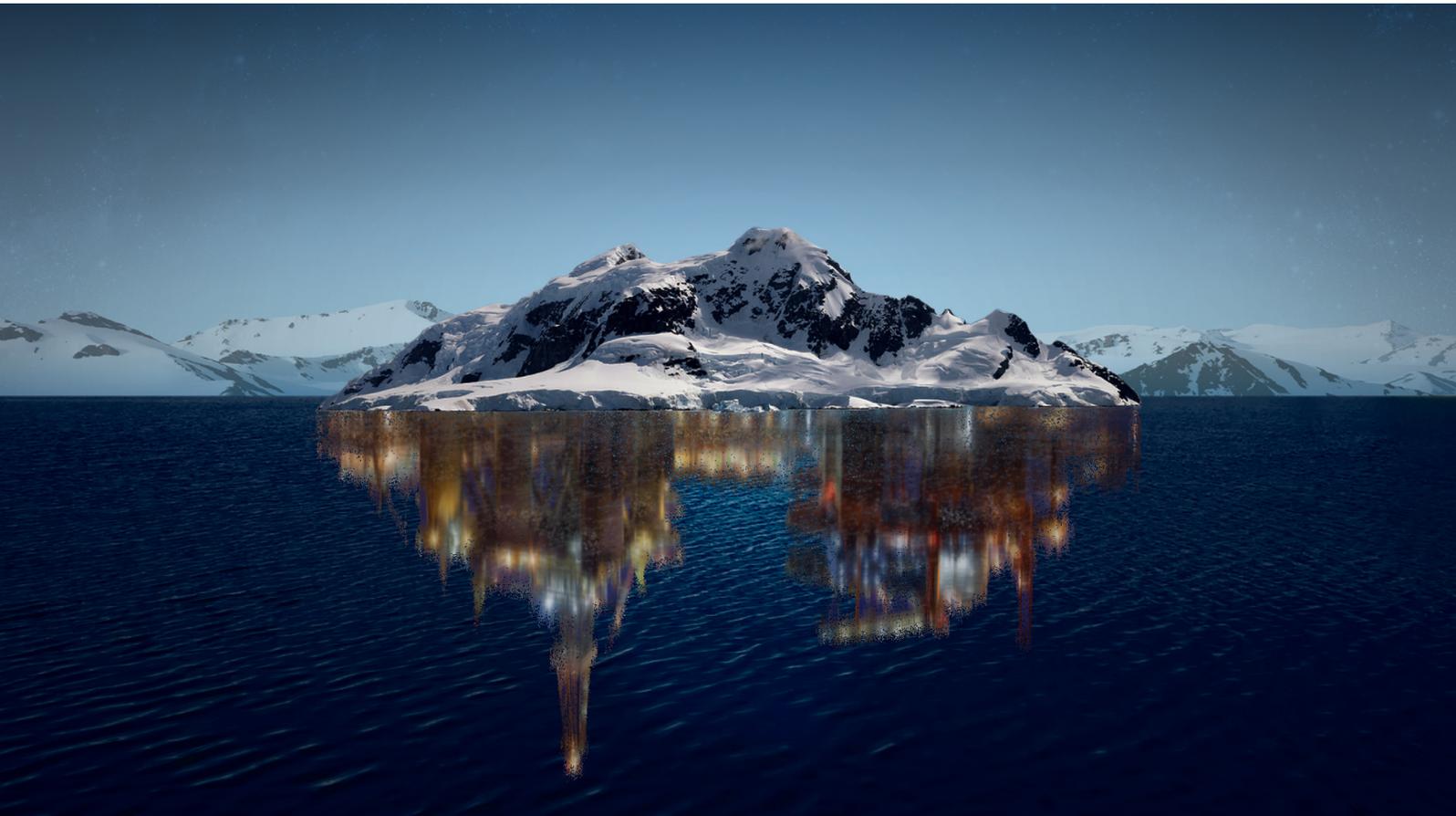


The
Economist

ARCTIC SUMMIT

A NEW VISTA FOR
TRADE, ENERGY AND THE ENVIRONMENT



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THE ARCTIC CHALLENGE

THE ARCTIC SUMMIT

A new vista for trade,
energy and the environment

March 12th 2013, Hotel Bristol, Oslo



With global demand for resources growing, many eyes are on the potential of the Arctic. It has been estimated that the region holds 22% of the world's undiscovered oil and gas, and it is rich in rare earth minerals. Meanwhile, receding sea ice is opening up possibilities for increased shipping activity. But both set alarm bells ringing among environmentalists about what this means for an already fragile environment. The development of the Arctic will have global consequences.

The Economist's Arctic Summit brought together scientists and stakeholders to debate the issues. We bring you some of the highlights...

“ *Observer status at the Arctic Council is not a ticket to the Arctic.* ”

Anton Vasiliev, *Ambassador at large, Arctic Cooperation, Ministry of Foreign Affairs of the Russian Federation*

MistraArctic: @MistraArctic: Can Arctic risk be managed? Good question by @DNV_ #arcticsummit



THE BIG MELT

The Arctic ice is disappearing bringing extreme weather and ecological mayhem

There is nothing like a major weather event to make people sit up and take notice of what the changing climate might actually mean, from the storms in New York to the devastating heatwave in Russia. Such extreme conditions can be traced back to the loss of sea ice in the Arctic, experts say, and it is happening far quicker than anticipated.

Jan-Gunnar Winther, director of the Norwegian Polar Institute, told delegates at The Arctic Summit that the rapidity and scale of change in the Arctic has taken people by surprise, and we have been underestimating the impact. "When we have heatwaves and floods globally, this can be traced back to the Arctic," Mr Winther said.

Although estimates vary as to how quickly the ice is disappearing, the consequences are grave. Stefan Rahmstorf, professor of Physics of the Oceans at Potsdam University, said: "Global temperatures are rising. The ice is shrinking and getting thinner. Thick ice has been decimated. Research shows that loss of sea ice is disturbing weather patterns and we are seeing more unprecedented weather events such as the Russian heatwave." The world should be taking notice – the melting of the Greenland ice sheet is contributing to sea level rises. If it melted completely, it contains enough ice to raise global sea levels by seven metres.

Ellen Baum, senior scientist for the Clean Air Task Force, said the world needs to act now on climate change. Reducing short-lived climate pollutants such as methane and black carbon is important, she added, but the real issue is to address CO₂. While she is sceptical about geo-engineering solutions, they may offer a short-term solution: "Until we figure out what we're going to do about CO₂, we need to at least do something," she said.

Clearly, the pace of research needs to step up a gear, and fast. The extreme weather events that we have witnessed could spur that change: "The storm in New York caught people's attention. A lot more people are talking about climate change. The popular opinion will drive the interests of science," said Rear Admiral

Jonathan White, an oceanographer and navigator and director of the Task Force Climate Change for the US Navy. He called for global co-operation so more data can be gathered from the Arctic.

Mr Winther cited examples such as The International Polar Year, which brought together scientists and, crucially, funding agencies. The success of that should be repeated, he argued.

He said: "This unique laboratory of the Arctic should be used more intensively for knowledge, research, and science. Arctic research has global relevance."

Not only is the big melt having a dramatic impact on the world's weather, but so too its ecosystems. Environmentalists are hugely concerned. Frederic Hauge, president of The Bellona Foundation, said dramatic changes have taken place along the Arctic coasts during the last few decades such as the migration patterns of whales and seabirds. "This is an unknown field for science. We've only seen the beginning of the consequences of global warming for the Arctic. Nature is able to adjust itself but it needs time, and we have never seen such rapid change before."

While the Arctic is indeed home to unique wildlife, Pano Kroko, chairman of the Environmental Parliament, pointed out that the view of the Arctic as some untouched wilderness is a fallacy. "Developments are not going to happen in the Arctic in the future, they are already taking place. There are a lot of industrial activities going on. But the question is: is it a good investment to invest in the Arctic?"

Exploiting oil and gas in the region can be dangerous and expensive – Mr Kroko reckons solar-powered energy offers a far better alternative; Mr Hauge pointed to the potential of sea-water based biofuels.

Nina Jensen, chief executive officer and secretary general for WWF-Norway, believes it is not about saying no to development but we need more knowledge: "We need to have the science in place before we say yes to large-scale commercial activities. There are lots of opportunities for green development."

The area of Arctic land covered by snow in early summer has shrunk by almost a fifth since 1966

ArcticNet:
There seem to be agreement between NGOs and Industry at Oslo Arctic conference: increasing Arctic knowledge is key. #arcticssummit



“If the Arctic sea ice goes, the world as we know it will be a thing of the past”

Nina Jensen, chief executive officer and secretary general, WWF-Norway

CONFLICT IN THE ARCTIC

Is there a race for the North Pole's resources?

The untapped resources of the Arctic promise a lucrative bounty for those who can claim a stake on them. So much so that some believe that it could lead to wide-scale conflict, and that the increasing presence of navies in the region is an attempt to 'militarise' the Arctic.

Nonsense, says Anton Vasiliev, ambassador at large for Arctic Cooperation, Ministry of Foreign Affairs of the Russian Federation, who reckons that this idea of war over Arctic resources is down to media hype. "The rules of the game on the continental shelf are crystal clear, we have a sound legal basis for problem solving in the Arctic," he told delegates at the Arctic Summit.

Torgeir Larsen, state secretary for the Ministry of Foreign Affairs, Government of Norway, concurred: "The race for the Pole and its resources is a myth. There are less border disputes in the Arctic than in many other places in the world. The potential for conflict, given that the resources and activities being carried out are within national boundaries, is much lower than in many other regions."

Nevertheless, military activity is stepping up. This is common sense, Mr Vasiliev said. Given the increase in activity in the area, navies are crucial for safety in terms of supporting search and rescue operations. Oil rigs could also be a target for terrorists. Borders, too, need protecting. Climate change has opened up Russia's Northern borders, whereas before they were naturally protected by ice and harsh conditions. "Every country is paying attention and catching up with the need. We are not destabilising or challenging anyone."

Rear Admiral Jonathan White, director of the Task Force Climate Change for the US Navy, said there is no agenda to militarise the Arctic. "We operate in every ocean of the world. Security at sea deters bad behaviour. The presence of well-meaning navies is a force for good."

Since **1951** the Arctic has warmed roughly **twice** as much as the global average

Mr Vasiliev added that with an increase in military presence comes a greater need for international transparency and cooperation. Security is outside of the remit of the Arctic Council – although its role is expanding.

Gustaf Lind, chair of the Arctic Council and Swedish ambassador for the Arctic, said that the council has evolved from a decision-shaping forum to a policy-making body. Given its increasing power – and what is at stake in the Arctic – it has now received 14 additional applications for observer status on the council from countries such as India that are many thousands of miles from the region.

Progress in terms of cooperation between council member states is good, reckons Mr Vasiliev, who added that there is a strong commitment to finding solutions to problems and delivering on them. Many are already in the pipeline, he pointed out, such as an agreement on oil spill preparedness and response. He believes that Arctic states all have a similar vision such as finding the right balance between economic development and protecting the Arctic ecosystem, developing knowledge and science, as well as maintaining sovereignty. Only by working together will countries be able to achieve their ambitions in the region. "The national interests of Arctic states can be met in full only in cooperation," he said.

benayliffe: DNV
CEO Henrik
Madsen:
consequences of
#Arctic accident
more serious than
elsewhere. Need
tech & regulations
to lower risk
#ArcticSummit



“Fishing has completely collapsed and so the economy of Inuit communities is very problematic.”

Aqqluk Lyngø, Inuit Circumpolar Council

SEA CHANGE

Will Northern Sea Route be the new Suez?



The melting of the Arctic's ice has opened up the potential of a new shipping route from Europe to Asia along the coast of Siberia. Vladimir Putin has predicted that the Northern Sea Route, as the Russians have so named it, will one day rival the Suez Canal. Many dispute his grand assertion but given it can cut the distance between Western Europe and East Asia by around a third, it's potential is clearly great.

However, it is a challenging route, and one that is currently only open for four to five months of the year. Some fear that as the area opens up, less experienced crew using vessels unsuited to such conditions will attempt the passage, increasing the potential for environmentally damaging shipping disasters and endangering lives. Furthermore, there is little in the way of infrastructure to support the increase in traffic.

"For the first time in modern history a new sea route is opening up. This has global implications," said Sturla Henriksen, director general of the Norwegian Shipowners' Association. "But we need to have an infrastructure in place before we can reap the opportunities." Mr Henriksen added that an international framework under the auspices of the International Maritime Organisation is needed, as well as better weather forecasting on ice drifting, contingencies for oil spills and bases for support and maintenance. "We need a common understanding of the realities here," he added.

The shorter route would mean that ships need less fuel to get from Europe to Asia and so it is argued that the NSR would be better for the environment.

But this assertion is not without controversy. An increase in shipping in the Arctic could raise the levels of local pollution, in particular black carbon, which can accelerate the melting of ice and snow. Using liquefied natural gas instead of conventional marine fuels could be a possible solution.

Henrik O. Madsen, group chief executive officer at DNV, said that while LNG would be a much better alternative, it is more costly, and shipping businesses may be unwilling to make the change. Politicians would have to enforce it – with the result that it could push shipping back to the Suez to the detriment of the potential of the NSR.

The potential is still being debated. Christian Bonfils, partner and managing director for Nordic Bulk Carriers A/S, said it would not be the new Suez. He pointed to the fact that 18,000 ships transited the Suez Canal last year compared to 46 on the NSR. "There has been talk of billion dollar investments in iceclass 1 ships, which are yet to materialise," he added. The season is just too short for a boom.

Sergey Frank, president and CEO of Sovcomflot, added that although the numbers of iceclass 1 ships may still be small, those that are in the waters will be there as a result of serious investment. "You see a boom when you have speculators but a lot of orders are project driven and based on many years of research."

As to unescorted and inexperienced voyages in the region, he called for more regulations. "We ask everyone to be responsible in the area," he added.

In 2012,
46 vessels
crossed the
Arctic by the
Northern Sea
Route compared
to only two in
2010

EG_Enviro:
Huigen Yang:
The Northern Sea
Route will mean
shorter distances
to Chinese ports
and lower CO2
emissions.
#arcticsummit



MINING FOR RESOURCES

A call for collaboration

As the Arctic Summit took place, a highly charged election was about to be decided in Greenland that hinged on the future of mining in the country. Indigenous populations fear that their natural resources may be exploited by foreign businesses and bring little economic benefit, as well as causing untold damage to the environment. Furthermore, one controversial scheme would bring in workers from China rather than employing local people.

“Many mining projects around the Arctic are problematic, not just for the environment but in making sure that indigenous people’s interests are met,” said Aqqaluk Lyngø, chair of the Inuit Circumpolar Council. The Arctic’s resources are increasingly important to its indigenous people, given the decline of the fishing industry. Mr Lyngø added that even the growing tourist business in the Arctic is not contributing to their economy. Given that many small indigenous communities are enduring harsh living conditions, it is no wonder they too see the colour of money in mining.

Whatever their motives, ignoring those who have lived there for generations is not an option. Mr Lyngø pointed out that it is not the ‘final frontier’. “We are already there. The Arctic is our home. People need to remember that the Inuit and other indigenous people are the only guardians of the Arctic.”

Some mining companies are working with indigenous groups. Tom Paddon, president and chief executive officer for Baffinland Iron Mines Corporation, pointed out that the company spends a lot of time engaging with the local community and provides them with jobs. “It is important for us to ensure we have beneficial long-term local

relationships,” he said. The company is building an open pit iron ore mine in Baffinland. While the investment has been welcomed by many, there are those who fear it will have an impact on the wildlife – the railroad the project will require could disrupt the patterns of migrating caribou.

Mr Paddon pointed out that the project has been through a four-year environmental assessment run by the Inuit, which makes sure that their interests are taken into account, both legal and societal. The process came out with over 180 further instructions that the company must act upon on top of the original plan. He says that such a thorough approach should be applied across other Arctic territories.

Rúni Hansen, head of the Arctic Unit at Statoil agreed that engaging with local communities is a key part of the equation for companies working in the Arctic: “There are around 4.5 million people living in the Arctic, many of which live in small societies dependent on fishing and natural resources and who would like a more diversified economy. We need to offer a shared value with these local communities.”

The companies see it as a two-way street – local people benefit through employment, the business benefits from their knowledge of the harsh climate.

Indeed, its extreme conditions have done much to deter the casual investor. “The advantage of the location is that it only attracts the serious players who are willing to take the time and invest in knowledge so they can protect their investment,” said Mr Paddon. How that will play out as the ice melts remains to be seen.

Parts of Alaska are receding at **14 metres (45 feet) a year**

hsbyhringUiT: RT @EG_Enviro: Aqqaluk Lyngø, Inuit Circumpolar Council: The activities in the Arctic are very important to indigenous people. #arcticssummit

“ *The Arctic is not forgiving of complacency.* ”

James Astill, political editor, *The Economist*

ARCTIC OPPORTUNITY

The potential and the perils



Climate change: A
Moderator: James Astill
 Political Editor, *The Economist*

Confirmed panelists:
Armond Cohen
 Executive Director, *Clean Air*
Stefan Rahmstorf
 Professor of Physics of the Oc
Rear Admiral Jonathan White
 Oceanographer and Navigator
Jan-Gunnar Winther
 Director, *Norwegian Polar Inst*

In a bid to pump up the world's energy reserves, oil and gas companies are exploring all avenues. The Arctic is one of them. While oil and gas production in the Arctic is nothing new, it has mostly been on-shore. It is the potential off-shore, and increasingly in more inaccessible areas, that is being investigated.

It is not without substantial risk. If something were to go wrong, such harsh conditions make rescue operations exceedingly difficult. The Deepwater Horizon spill in the Gulf of Mexico saw 46,000 people involved in the clean-up operations. An oil spill in the Arctic could be hard to contain given the icy seas and the long periods of darkness that the region experiences in the winter. Progress is being made in terms of research – burning the oil or using environmentally sensitive chemicals, for example. But there is still some way to go.

“Prevention is everything for us and especially in the Arctic because there is no room for errors,” said Rúni Hansen, head of the Arctic Unit for Statoil. The company is working with universities and other industry collaborators to further knowledge into the likes of oil spills on ice. “When we are going to the Arctic we need the best of the best,” he said.

Henrik Madsen of DNV noted that all industrial activity carries some degree of risk but the consequences if something goes wrong are more severe in the Arctic

than in other places so an assessment needs to be made as to what level of risk is acceptable. But it is complex. Not only does the Arctic change dramatically between seasons but also it is not one homogenous area – quite simply, some parts pose more risks than others. The many stakeholders also have different levels of risk they are prepared to accept in return for reward. Mr Madsen said that extensive collaboration is needed between stakeholders, sharing knowledge on how to mitigate risk.

Statoil makes the distinction between the workable Arctic, where there is no ice, the stretch Arctic, where there is ice for part of the year, and the extreme Arctic such as north-east Greenland that is extremely hostile and is a long-term prospect. “We need this stepwise approach. We will not go faster than the technology allows,” said Mr Hansen.

So are the potential resources worth it? It is argued that as renewables come increasingly to the fore there will be less demand for oil. The emergence of shale gas, too, is changing the picture on the world's energy resources. But as James Astill, political editor of *The Economist*, noted the demand from India alone, given the size of its population, its burgeoning economy and the fact that it has virtually no renewables, will be stratospheric. Oil prices are high and supplies in more accessible places are dwindling, all of which make the Arctic a tempting proposition in spite of its challenges.

Greenland is six times the size of Germany but has a population of just 57,000

“*Climate science is grossly underfunded given the scale of the problem.*”

Stefan Rahmstorf,
 professor of
 Physics of the
 Oceans, **Potsdam University**