

INTERVIEW ARCTIC: QUESTIONS ANSWERED



Ann Pickard
Executive Vice President, Arctic and Alaska

Ann Pickard, Shell's Executive Vice President for Arctic and Alaska, answers some of the most common questions from stakeholders about Shell's Arctic exploration programme.

So why explore the Arctic at all?

Exploration of the Arctic is important as future generations may have to depend on it for a significant amount of their energy, especially as the world's population grows from seven billion today to nine billion by 2050. Today, about 10% of the world's oil and 25% of our natural gas come from Arctic regions. Since 1918, the world has consumed roughly 25 billion barrels of Arctic oil and 550 trillion cubic feet of Arctic gas. As much as a quarter of the world's remaining undiscovered energy resource remains there.

At this stage, we are taking important steps towards assuring our organisational capabilities meet the high standards we set for ourselves ahead of exploration in Alaska in 2015. This includes contingency planning in case the unexpected happens. The Arctic, for us, is an opportunity for the future, for example, if we are successful in

Alaska in 2015, development and production will be another 10 to 15 years away.

What do the Arctic nations want?

The people who live in the Arctic nations such as Canada, Greenland, Norway, Russia and the USA own these natural resources and it's their decision alone whether or not they should be developed. These nations have asked Shell and other companies to help explore this vital, long-term source of economic security.

So it is important that the focus is on how to explore the Arctic in a way that protects vital ecosystems, respects the way of life of indigenous populations, keeps people safe and encourages high standards of performance for every operator in our industry. We must operate that way every minute of every day.

These are the expectations we set at Shell everywhere we operate. We're constantly learning and improving – increasing our understanding of the unique challenges across every different type of operation and applying our global know-how, standards and values to meeting them.

How can you assure people that Shell won't spill oil on or under the ice?

We can only drill exploratory wells during the summer months in the open water season starting in July. From a technical standpoint, the wells we hope to drill in the Alaska Chukchi Sea in 2015 are straightforward and will happen in low pressure reservoirs in shallow waters less than 50 metres deep.

But of course we cannot assume that a spill can never happen. So, for example, in Alaska we have the capability to mount an effective oil spill response within 60 minutes, 24 hours a day, with a dedicated on-site fleet, near-shore barges and onshore response teams. We regularly test our plans and take part in large-scale joint exercises with other industry partners, government agencies, scientists and oil spill experts. The industry has also developed technologies that can track and remove spilled oil from solid and broken ice if an unlikely worst-case scenario took place.

It's important to mention that the permits issued by governments do not allow us to drill in ice. If an iceberg approaches, we have the ability to disconnect our rigs and move away quickly to avoid contact. We're also continuing to build new layers of protection against the possibility of oil getting into the water or onto the ice. For example, if any system or device fails, a back-up system or device immediately takes over to prevent a loss of control of a well. We're also used to working in harsh, cold climates, like the North Sea and Sakhalin in Russia.

Shell painted the hull of exploration vessels blue to reduce the impact on marine wildlife, after consulting communities in Alaska's North Slope, USA.



Ice is not the only challenge in the Arctic. Does Shell know enough about the environment and its iconic species to start drilling there?

Since 2006, Shell has invested more than \$100 million on Arctic science, primarily in Alaska.

We've developed a deep understanding of bird and mammal migration patterns, the sensitivity of aquatic species to man-made sounds, the important patterns of biodiversity and even the colours of ships' hulls that are least likely to disturb the whales. We also depend greatly on local knowledge: local residents who are trained to spot species that could be impacted by our operations are on our vessels. During operations, we speak daily with the communities to ensure subsistence hunting and fishing are not affected.

We have agreements with local governments of the North Slope and Northwest Arctic Boroughs to study science that support local communities, such as researching how potential development could impact the communities' subsistence activities.

What impact does Arctic drilling have on climate change and the melting sea ice?

The Arctic is especially vulnerable to the effects of global warming. Scientific measurements show that the thickness and extent of summer sea ice in the Arctic have declined over the past 30 years. The loss of sea ice has the potential to accelerate global warming and to change world climate patterns.

Climate change is a key issue for Shell. The scientific evidence shows that the rising CO₂ levels in the atmosphere is the main cause of climate change. It is the effect of cumulative emissions around the world, rather than being caused by Arctic drilling. (See [page 16](#)).

OUR WORK IN ALASKA

Shell has a long history in Alaska: we operated continuously in Alaska for almost 50 years until 1998. We are responsible for safely drilling many of the wells in the Beaufort and Chukchi Seas in the 1980s and 1990s. Shell returned to Alaska in 2005 after acquiring lease blocks in the Beaufort Sea. Three years later, Shell bought leases for the Chukchi Sea.

How do the indigenous peoples in Alaska feel about exploration?

About four million people live in Arctic regions. Around 10% are indigenous peoples from a mosaic of diverse cultures, with many people living in areas their ancestors have inhabited for thousands of years. On Alaska's North Slope which is the nearest populated region to the Chukchi Sea, people at Shell have spent years understanding the culture and subsistence lifestyle of the Iñupiat as well as their views about future development scenarios. It's important to Shell and to the communities that we listen, engage and work

with people as partners. In Alaska, we've had 600 community meetings in the last five years. This helps us to understand what matters most to people in Alaska.

The Iñupiat communities treasure their heritage and values and they view the sea around them as their garden because it is so critical to their subsistence. However, they have also expressed that preserving the most important threads of their culture may mean helping to shape the development of resources in their sea. In some cases, we have partnered with the community in support of future production: in 2014, we signed an agreement with a newly formed Alaskan company called Arctic Iñupiat Offshore (AIO) granting them an option to acquire an equity interest in Shell's acreage and activities in the Chukchi Sea if we continue our offshore drilling programme in Alaska. AIO's members are the Arctic Slope Regional Corporation (ASRC) and six North Slope village corporations.

We are also working with communities to train and hire local people, using local suppliers and contractors, and supporting education projects for the indigenous communities.

Shell's 2012 exploration programme in Alaska did not go well. What has Shell learned?

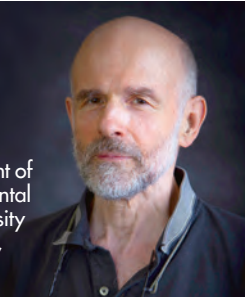
We have learned a lot as an organisation. Our actual drilling operations went very well, but that success was overshadowed. There were delays in the delivery of a newly designed and built oil-containment system, marine issues with the Noble Discoverer drilling rig which are now resolved and the grounding of the Kulluk drilling rig, which was decommissioned and recycled in 2014.

From these experiences, we have improved our planning, processes and strengthened our Arctic organisation within Shell and among our contractors. For example, we have more experienced contract managers overseeing fewer contractors to ensure our high standards for safety and care are followed more closely than in previous exploration programmes. We are also making better, more effective use of our global capability and subject matter experts: Shell's shipping team from London is working more closely with us now to improve upon our marine logistic capabilities, as this was a challenge in the 2012 season.

What are Shell's plans for 2015?

We are undertaking activities to preserve the option of a 2015 season. Any final decision to go forward will depend on successful permitting, clearing any legal obstacles and on our own assessment that we are prepared to explore safely and successfully. The communities want us there and we're preparing to go, but with great caution and great care.

Dr Robert Perkins
Professor, Department of
Civil and Environmental
Engineering, University
of Alaska Fairbanks,
Alaska, USA



External opinion

"It is particularly difficult to obtain data for risk analysis in cold regions. For the last four years, our team has performed some fundamental research work into the toxicity and biodegradation of oil – and dispersed oil – in the Arctic.

We looked at the potential risks that an unlikely event of an oil spill could have on Arctic marine organisms. We tested copepods and Arctic cod and found that they were no more sensitive to oil and dispersed oil than typical warm water species. We also found that indigenous Arctic microbes biodegrade oil and that oil dispersants do not hinder this biodegradation process.

Shell was a leader in the joint industry programme that funded the research and participated in our technical advisory committee. The programme aimed to improve the industry's response capabilities to an oil spill."