

# The Offshore Arctic under Lower Oil Prices

## PANEL DISCUSSION and questions by Jostein Dahl

Karlsen, GOT chairman

Why is government funding important? SHF: The calls by NRC give thematic direction and assures quality. Strategic R&D is important for higher education and recruitment. Gov't funding can balance funding without being too dominated by near term market, takes out some commercial risk and provides seed money. 500 MNOK from NRC is matched annually with 2500 MNOK from oil co's (50% spent internally).

How can the industry benefit more from collaboration? GHL: The industry already benefits from open collaboration, important success factor for Norwegian competitiveness. Also key to learn from other industries. Digitization, automation, robotization – the car industry, manufacturing, and process industries are world leaders which we need to learn from. Also goes for business models: Contracts for services and uptime instead of equipment. Arctic: fisheries and fishing fleet have been operating here for centuries. Should learn from Newfoundland – similar conditions. Must continue to attract world leading companies to the NCS.

Learning from others, buzzword or action? GHL: Just look at 50 years of experience in Norway, that is what we have done.

How can the industry benefit more from collaboration? AH: Harvesting large synergies from cooperations like ARCEX. «Solo» raids in the North should be avoided (one mistake will hurt many). Student recruitment is easy in Tromsø, but industry must take responsibility by hiring.

Panel:

SHF: Siri H. Friedemann, Norwegian Research Council

GHL: Gunnar H. Lille, OG21

AH: Alfred Hanssen, ARCEX

BLH: Bengt Lie Hansen, ATT

JM: Jostein Mykletun, B-M



Do we have a good business model for new investments? BLH: The Arctic contains large resources over vast areas, some being too remote to be easily harvested. Breakeven cost on J. Castberg has come down from 80 to 40 \$/bbl. 60 \$ will be a high oil price in the future. Having seen many ups and down, we will have to live with volatility but plan for low oil price. Gas has a higher hurdle in the Arctic than oil and could be stranded.

After 25% reduced CAPEX for 3rd year in a row, when can we see investments coming back? BLH: Gas: Shtokman should cost \$10 Bn, turned out to be \$ 35 Bn and 3 times the Ormen Lange gas cost. The really big projects are yet to be realized.

How can international collaboration be used to secure our role in developing oil and gas in the future? JM: Industry is in play and under severe attack (ref Jeffrey Sachs during AF opening session). The Paris summit is taken seriously. Oil & Gas will be around for a long time, but renewables will grow fast. Industry must improve fundamentally how it communicates with society. US found the gas, but we are quick learners. Now we need to learn from other industries. Ref Pumps and Pipes: XOM, NASA, + Health Industry to exchange views. Moving forward, GOT should stay on course and have even stronger focus on R&D collaboration.

Is there a role for OG21 to use technology as a playground for a new look from society? GHL: A role for us all to communicate. Energy demand, even in the 2 deg scenario, still requires major investments to develop oil & gas.

Are there any social science programs (like Petrosam) in RCN that can help? SHF: RCN plans to call for integrated projects (tech + social science, plus implementation and market penetration).

BLH: We have a problem to be heard in the public debate. How can we be more offensive. Concerned that the best students avoid the industry.

JM: imagine a global research project looking at GoM, NCS, Arctic as a lab – 3 oceans.

