The Law of the Sea in the Arctic
Uncertainties, Challenges and the Continental Shelf

Katherine Houghton
The Arctic is an Ocean...
2008 Ilulissat Declaration

• Canada, Denmark, Norway, Russia and the US legally non-binding declaration on the Arctic Ocean
• Sovereignty, sovereign rights and jurisdiction over large areas of the Arctic Ocean – interpretation of UNCLOS
• Commitment to the law of the sea to confirm rights and obligations in Arctic Ocean
• No need for a comprehensive legal regime for the Arctic Ocean beyond UNCLOS
• Coastal States are stewards of the marine environment
• Very limited mention of natural resources exploitation, no mention of sustainability
UNCLOS

• United Nations Convention on the Law of the Sea
• Adopted in 1982, entered into force 1994
• 166 parties
• Codifies customary international law of the sea and contributes to its progressive development
• Role and function of UNCLOS is to foster stability and legal certainty in all ocean-related issues and establishing a balance between activities
• Ratifications in the Arctic: Canada (2003); Denmark (2004); Iceland (1985); Norway (1996); Russia (1997); United States (not a party → customary international law)
Maritime Zones under UNCLOS

Baseline (0 nm), coastal waters (3 nm)
Territorial Sea, 12 nm (sovereignty, “maritime aquitory”)
Contiguous Zone (24 nm, enforcement zone)
Exclusive Economic Zone (EEZ), 200 nm (sovereign rights)
Continental Shelf, 200 nm (sovereign rights)
→ Extended Continental Shelf, up to 350nm (ISA)
High Seas, beyond 200 nm (freedoms)
→ The Area, beyond outer limits of CS/ECS (200/350 nm)

1 nautical mile = 1.15 miles or 1852 meters
Cross Section of Maritime Zones

Source: Geoscience Australia
Aerial View of Maritime Zones

Source: Geoscience Australia
Arctic Boundaries

Map as of 2008
Source: International Boundaries Research Unit, Durham University, UK

Extension of sea vs. land boundary
GB-RU Treaty vs. UNCLOS

Meridian/Sector principle (Antarc.)
USA-USSR Treaty (1990)

Equidistance line

Joint development zone „IS-Jan Mayen (NO)“ (1980), principles of equity and proportionality - ICJ judgments, DK-NO, IS-GN median line
NO-RU Barents Sea Treaty (2010)

Bilateral treaties = applicable to the parties
Arctic Oil and Gas Basins

IS open tender for licenses → CNOOC

RU-NO Treaty; Shtokman, Yamal, joint ventures

CLCS ECS Submission RU in Spring 2015

CLCS Submission DK 2013, consent from NO

CAN-US joint mapping expeditions

Source: Wall Street Journal
Legal continental shelf ≠ geomorphological continental shelf!
Article 76: Definition

• Continental shelf:
  – METHOD 1: Seabed and subsoils throughout the natural prolongation of land territory to the outer edge of the continental margin, OR
  – METHOD 2: Seabed and subsoils to a distance of 200 nm from the baseline
  – (Continental margin: seabed and subsoil of shelf, slope and rise, not deep ocean floor with its oceanic ridges)
Article 76: cont.

• The coastal State is **required** to establish the outer edge of its continental margin when this exceeds 200 nm (METHOD 1) ➔ CLCS

• Extended continental shelf:
  – Max. 350 nm from the baseline OR
  – Max. 100 nm from the 2500 m isobath
  – Exceptions for submarine elevations that are natural components of the continental margin, such as plateaux, capes, rises, caps, banks and spurs?
CLCS Submission Process

- Submission is not a “claim”
- ECS is an inherent right unlike the EEZ, which must be claimed
- Interpretation of a highly complex legal text
- Submissions handled in order of receipt
- Huge backlog of submissions
- Huge technical burden for States
- “Recommendation” of CLCS is binding and final

UN Doc. CLCS/22 of 22 May 2000

BASIC FLOWCHART FOR PREPARATION OF A SUBMISSION OF A COASTAL STATE TO THE COMMISSION ON THE LIMITS OF THE CONTINENTAL SHELF
Issue: Ocean Grabbing?

• Russian/Lomonosov Ridge in preparation now, will be submitted to CLCS in Spring 2015
  – Russian flag planting was not necessary to establish basis for submission
• Extended continental shelves reduce the extent of the Area (common heritage of mankind)
• Enclosure of the Global Commons
Articles 77 and 78 - Rights

- Coastal State has sovereign rights over cont. shelf to explore and exploit natural resources.
- These rights are **exclusive and inherent**: no occupation or proclamation necessary, other States require consent of coastal State.
- Resources: mineral/non-living resources and sedentary living resources
- Superjacent waters have a different legal status (EEZ or high seas) – consequences for environmental protection!
Art. 79, Cables and Pipelines

- All States have the right to lay cables and pipelines on the continental shelf („safest means of transporting oil over long distances“)
- The coastal State may not impede cables and pipelines, apart from reasonable measures to explore and exploit natural resources and to prevent, reduce and control pollution from pipelines
- The delineation is subject to the consent of the coastal State (NIMBY vs. transit fees)
- No reference to removal/decommissioning in UNCLOS
Art. 79: Cables and Offshore Pipelines

Source: http://www.extremetech.com/extreme/122989-1-5-billion-the-cost-of-cutting-london-toyko-latency-by-60ms

Source: Statoil
Article 80: Installations/Structures

- Article 60 UNCLOS (*mutatis mutandis*) when State has not declared an EEZ or its continental margin extends > EEZ
- Exclusive right of the coastal State to construct, authorize and regulate installations, structures, and artificial islands
- Abandoned or disused structures shall be removed to ensure safety of navigation, *due regard* for fishing, protection of the marine environment and the rights and obligations of other States
- Provision designed for a classic oil platform with fixed attachment to continental shelf, long-term operation
- Problem of drillships, mobile rigs and „FPSOs“ (floating production, storage and offloading units) used in extreme environments – ship or installation? Liability issue.
- Art. 208 – duty to prevent, control and reduce pollution from seabed activities: national laws, regional policy harmonization and global rules
FPSOs – Shtokman Gas Field

A floating production unit (FPU) will recover gas using a unique technology.

1. Gas is produced by twin four-slot templates.
2. Produced gas is conveyed by flexible production risers (vertical pipes) from a template to the FPU.
3. Mid-water arches support risers before hydrocarbons are supplied to the FPU.
4. Gas and condensate separation, and gas processing operations are performed aboard the FPU.
5. Processed gas is exported from the FPU by flexible risers.
6. A special device connects risers to the trunkline.
7. Two trunklines carry gas to onshore facilities.

(Joint venture with Total and Statoil)

Source: Gazprom

Source: Moscow Times
Article 81: Drilling

• “The coastal State shall have the exclusive right to authorize and regulate drilling on the CS for all purposes.”

• “Drilling” : taking something out of the Earth. Does it also include putting something in?

• Is there a corresponding duty to monitor all boreholes?
Ultra-deep water drill ship

**Noble Globetrotter II**

<table>
<thead>
<tr>
<th>General</th>
<th>Noble Corp</th>
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<tbody>
<tr>
<td>Rig Type</td>
<td>Drilling ship</td>
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<tr>
<td>Rig Design</td>
<td>Globetrotter Class</td>
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<tr>
<td>Builder</td>
<td>STX Shipbuilding &amp; Huisman</td>
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<tr>
<td>Year Built/Upgraded</td>
<td>2013</td>
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<tr>
<td>Classification</td>
<td>ABS + A1, Drilling Uni + Ice Class IA, (I), +AMS, +ACCU, +DPS-3, RW</td>
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<td>MODU Code</td>
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<td>Drilling Depth</td>
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<td>Variable Deck Load</td>
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<tr>
<td>Setback Capacity</td>
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<tr>
<td>Quarters Capacity</td>
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<tr>
<td>Draft (Operating/Transit)</td>
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<tr>
<td>Depth</td>
<td>62 ft</td>
</tr>
<tr>
<td>Moonpool</td>
<td>89 ft x 37 ft</td>
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<tr>
<td>Length</td>
<td>620 ft</td>
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<tr>
<td>Breadth</td>
<td>105 ft</td>
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**Equipment**

- Derrick: Huisman Multi Purpose Tower
- Drawworks: Huisman dual drum, heave compensated
- Top Drive: NOV TDS-1000
- Rotary: NOV D-605
- Iron Roughneck: NOV AR-5000
- Motion Compensator: Huisman Passive Heave Compensator, 39 ft stroke
- Riser Tensioner/Stoke: (8) Huisman Marine Riser Tensioners; 450 kips ea.; 50 ft stroke
- Riser Details: Shaffer Type FT-H
- LMRP: (1) NOV Shaffer Spherical Slimline 18-3/4 in x 10 psi annular

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- Extreme ice!
- Flag of convenience!
- 12 km!
CCS

• Snøhvit, NO – submarine gas installation with carbon capture and storage (CCS) system
• Does CO$_2$ injection constitute “drilling”?  
• On the one hand: important bridging technology to manage CO$_2$ emissions but is only ancillary to resource exploitation
• Addresses CO$_2$ from gas extraction at source  
•Leaks difficult to detect, cause ocean acidification (one problem CCS is intended to resolve) 
• Pockmarks widespread (seafloor settling)  
• Transboundary management of boreholes
• Unconventional energy source with the potential to contribute to emissions reductions **ONLY** if it is coupled with CCS or methane cracking (breakdown into usable parts) („bridging“)
• Otherwise methane is **even more potent** greenhouse gas than CO₂!
• Particular issues in Arctic environment
• Extraction most likely where it is least stable (shallow Arctic shelf)
• Gas leaks into atmosphere
• Slope destabilization: tsunami
• Emissions from exploration are not being tracked!
• Climate: common concern vs. sovereign rights of States
Article 82: Extended Cont. Shelf

- Beyond 200 nm, annual payments and contributions after the first 5 years of production at a site (1% of value, increasing by year 12 to 7%), administered by ISA
- No definition of what a „site“ is or whether „production“ is net or gross
- Idea to recoup investment costs
- Negative incentive for long-term, more stable forms of production, leads to smaller parcels, reduced EIA scope
- Good luck trying to collect money from multinational corporations! (ISA administrative budget $14 m – 2013/14; Shell Global revenues $450 billion in 2013)
Article 83: Delimitation

• Delimitation of continental shelf between States with opposite or adjacent coasts
• Seek an equitable solution on the basis of IL
• Pending agreement: „provisional arrangements of a practical nature without prejudice to the final delimitation.‟
• Purpose: deescalate conflict
Joint Cooperation Zones: Another Threat to the Arctic?

• First developed for fisheries – Jan Mayen (profit sharing)
• Reality: separates natural resources from ongoing territorial disputes in order to expedite exploration/exploitation.
• Deescalates conflict, accelerates exploitation, helps multinational corporation pool costs, diversify risk
• Reality: “stranded assets” (Shell); “green paradox” (H.W. Sinn)
• Need to regulate supply rather than demand, find incentives to keep fossil fuels in the ground
1989 Exxon Valdez, Prince Edward Island, Alaska
2012 Shell Kulluk, Alaska: Have We Learned Anything?

Winter harbor: Seattle

Source: NPR, Shell Oil „Kulluk” rig near Kodiak Island, AK
Thank you for listening – please ask questions!

katherine.houghton@iass-potsdam.de