

## Scarcity and ocean space - Case-study Barents Sea, Norway

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### Abstract

*Urban systems operate at a multitude of scales, densities and levels of specialization over vast areas of the planet, as has been pointed out by Lefebvre in The Production of Space and The Urban Revolution and more recently by Neil Brenner and Christian Schmid in their essay Planetary Urbanization. Pressure on ocean space for energy production, extraction of resources, infrastructural and logistical development is steadily increasing, making the ocean a site of spatial and environmental convergence, a type of urban “hinterland”. While ephemeral in relative dimensions over time, critical nodes are beginning to emerge where the vast scale of the ocean is confined by physical limits. The first part of this paper examines ocean space in terms of scarcity within this context.*

*Scarcity has been discussed as a relational term, relative to need or demand (Samuel and Robert, 2010) and in fact as a condition produced by ever-changing and newly created “needs” (Luks, 2010). In spite of market dynamics, some commodities have a stable and absolute quantity. “[...] the total quantity of the stuff named H<sub>2</sub>O remains unchanged through the hydrological cycle, neither created nor destroyed” (Samuel and Robert, 2010, p. 110).*

*The limitedness of ocean space completes the conception of a finite world. It also highlights the inherent problematic of measurable quantities and boundaries in relation to scarcity, both of which pose challenges to current design vocabulary and planning methods. Marine resources are considered a common heritage of mankind. The UN supports the “Marine Spatial Planning” (MSP) initiative, currently being carried out by a handful of countries and ideally aimed at a balance of both use and protection of marine resources. Examples of MSP demonstrate, however, the strong link between economic priorities and ocean planning. This point will be illustrated by spatial plans for the German EEZs in the North Sea, since MSP is well advanced in Germany. Limits to conventional planning, and the need for a new form of design when dealing with a complex, three-dimensional ecosystem such as the ocean, become apparent. Part one concludes with selected theoretical positions, which can serve to inform spatial conceptualizations better adapted to ocean conditions.*

*This discussion draws on a case-study carried out by the EPFL laboratoire Bâle (Iaba) on the Barents Sea- a resource-rich territory four times the size of Norway. Here, for the first time, the receding ice-front has made both the vast oil and gas reserves more readily accessible and the Northern Sea Route commercially viable, posing a critical environmental dilemma. The design research resulted in both long-term development plans, called ‘Territorial Constitutions’ - consisting of a plan and written articles of constitution- followed by architectural projects anchored within this framework. Selected projects, which illustrate innovative ways of designing with the specific characteristics of the ocean, will be discussed in the second part of this paper.*

### Keywords

Ocean space; resources; complexity; scale; flux.