

# The seabed mining as an emerging sector of the Sustainable Blue Economy concept.

PROF. FANI SAKELLARIADOU, PHD

University of Piraeus

Presenting Author: fsakelar@unipi.gr

The global ocean is regarded as offering a new frontier for economic development. The blue capital is vital for delivering sustainable ecosystem services. The use of the untapped potential of the ocean will request responsible and sustainable approaches.

The global demand for REEs, and other rare and critical metals, concurrent with the rapidly diminishing quality and quantity of land-based mined deposits, has situated the seafloor as a promising new frontier for the exploration of mineral resources. The most promising marine mineral deposits are found mostly in the deep sea, like polymetallic sulfides, polymetallic nodules, Co-rich crusts, phosphorites, and REE-rich muds [1]. In some cases, important marine sources occur in shallow waters.

ISA has entered 15-year contracts for exploration for polymetallic nodules, polymetallic sulphides and Co-rich ferromanganese crusts in the deep seabed in the Clarion-Clipperton Fracture Zone, the Central Indian Ocean Basin, the Western Pacific Ocean, the SW Indian Ridge, the Central Indian Ridge, and the Mid-Atlantic Ridge.

The deep seabed mining may cause severe environmental risks. Since the knowledge about deep sea bio communities is quite limited, it is rather difficult to estimate the ecological impacts on deep-sea ecosystems and the time needed for recovery. The potential environmental risks include effects to the seabed, the seawater column, the atmospheric and the terrestrial environment. Mining strategies should incorporate activities to support the restoration of disturbed ecosystems [2].

Additionally, socioeconomic impacts may occur. The deterioration of environmental health will lead to conflicts with fishing and tourism. There will be new opportunities for labor, promoting the increase of wealth and well-being.

At the beginning of a new era, we should apply a holistic and interdisciplinary approach where blue growth and ocean-based economic development does not undermine the environmental health and cause social injustices.

Keywords: blue economy, impact, seabed mining.

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## References

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[2] Collins P C *et al.* (2012), *Mar. Ecol* 452, 89.