

Invited speaker: Prof. Sami Souissi

University of Lille (temporally leave since 1st May 2023), France & SIMARIS Advisory, Dubai, UAE

Title: Role of the Ocean in Carbon Dioxide Removal for climate mitigation: gaps between scientific research and sustainable finance solutions

Abstract

In order to keep the global climate mitigation ambitions under Paris Agreement (i.e., below 2°C by 2100) all IPCC (Intergovernmental Panel on Climate Change) climate scenarios underlined the need of massive CDR (Carbon Dioxide Removal) deployment. The CDR methods require a long-term storage of CO₂ after its removal. Because the Ocean has been playing a major role in global temperature and climate regulation on earth, it is crucial to understand how scientific research and innovations on ocean based CDR are crucial nowadays.

First a brief mapping of the different nature-based and engineered based solutions of CDR will be presented. The link between CDR and other engineered solutions to capture CO₂ at source emission and sequester it such as CCS (Carbon Capture and Storage) or CCUS (Carbon Capture, Usage and Storage) will be discussed. Then all nature-based solutions in coastal and ocean zones will be discussed under the blue carbon framework.

The scientific research is active in blue carbon and several biogeochemical budgets of organic and inorganic carbon have been published. However, a still accurate calculation of the Ocean nature-based CDR role is needed at global scale. Although we need strong scientific-based approaches in promoting the role of ocean in the big challenges such as the role in CDR, there is still some gaps to draw a clear roadmap from research to decision makers.

I will develop the gap between the way the sustainable finance solutions are accounting or monetising nature based solutions such as carbon credits and the scientific approach. I will use few examples of known blue carbon methodologies to illustrate this framework and underline the need to fill the gap between science, finance and policy makers. I will conclude this conference by the key role of interdisciplinary education and research around the ocean and how the academia community should be more engaged on CDR global framework.