Blue Carbon: opportunities for restoring wetlands and estuaries in Europe

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The need to mitigate climate change as well as to protect and restore threatened wetland ecosystems has prompted interest in a new way of funding conservation: Blue Carbon. Blue Carbon ecosystems are distinguished by their ability to sequester large amounts of CO_2 from the atmosphere mainly by sedimentation and to store it in the soil for centuries.

Anthropogenic pressures such as encroaching development and sea level rise threaten Blue Carbon habitats, such as salt marshes, seagrass beds, mangroves and peatlands. Wetland degradation causes them to emit stored carbon from the soil back into the atmosphere. However, restoring these ecosystems is difficult and usually restricted by lack of funding.

Blue Carbon programs can provide a new business model to attract investors, and connect them with conservation organisations to facilitate wetlands restoration. First, Blue Carbon project areas are investigated and monitored to estimate their carbon sequestration rate. Then, the amount of carbon stored annually in the project area is converted to carbon credits. These carbon credits are registered on the voluntary carbon market and purchased by parties interested in mitigating their emissions, thereby generating funding for the restoration of the Blue Carbon project area.

Blue Carbon projects are underway in the United States but potential opportunities in Europe are still unused. In the present study, we investigate the feasibility of restoring an estuarine habitat as Blue Carbon project in The Netherlands to identify the success factors. The main technical challenge is developing a methodology for calculating the carbon sequestration rate; identifying and connecting stakeholders and investors is also crucial for success.