

European Living Lakes Association - ELLA

Carbon removal methodologies for wetland management/restoration projects in the Voluntary Carbon Market

To monitor, report and verify a wetland management/restoration project, there must exist Methodologies approved in the existing Standards of the Voluntary Carbon Market. Up today, there are some methodologies approved for some kind of wetlands, mainly: seagrasses, mangroves, inter-tidal wetlands and peatlands. The following are a list of the existing methodologies and Standards for wetlands that can be found:

- At present, most wetland projects – terrestrial as well as coastal – and the greatest collection of methodologies can be found in the Voluntary Carbon Standard (VCS) of Verra. The list of methodologies covers the avoided conversion of peat swamp forests (VM0004), the REDD+ Methodology Framework (REDD+MF), which includes tidal wetland conservation and restoration activities (VM0007), coastal wetland creation (VM0024), rewetting of drained tropical peatlands (VN0027), tidal wetland and seagrass restoration (VM0033), and rewetting drained temperate peatlands (VM0036).
- Plan Vivo, a boutique international standard tailored to accommodate smaller projects (usually between 100 and 1,000 hectares) has three wetland projects in its portfolio. Both the Voluntary Carbon Standard and Plan Vivo have an international scope, permitting a priori the development of projects across the globe. The American Carbon Registry and Climate Action Reserve, by contrast, provide country-specific methodologies (US and Mexico).
- Smaller national standards can be found in Germany, Switzerland, Spain and the UK. The German MoorFutures Standard (Moor Futures 2021) has its origin in initiatives among academics, practitioners, and civil society in the Northeast of the country, and it retains elements of private stewardship, even though it is formally hosted and administered by state agencies in three different German states, Mecklenburg West Pomerania, Brandenburg, and Schleswig-Holstein.
- In Spain, the Valencian Voluntary Carbon Market and the Andalusian Emissions Offset System (SACE) have been emerging and present an interesting potential for domestic carbon projects to retail carbon credits. SACE in Andalucía has developed specific methodologies for Blue Carbon projects related to: seagrasses, Posidonia restoration and tidal wetlands. The Spanish National voluntary carbon offsetting scheme (Spanish registry of carbon footprint, compensation and absorption projects) only includes certain afforestation/reforestation projects and is of modest size, counting 63 projects with an (ex-ante) volume approximately 200,000 tCO₂e. This National Standard is open to approve new methodologies for Mediterranean Wetlands restoration under the methodologies developed by the LIFE Wetlands4Climate project. Another Spanish initiative that facilitates the acquisition of carbon credits is the Fondo de Carbono para una Economía Sostenible (FES-CO₂), which sees the government acquiring verified emission reductions from domestic climate projects through the Spanish carbon fund in order to promote private actions to reduce emissions in non-ETS sectors.

- In Switzerland, the peatland standard “max. moor” (Max Moor 2022) has been active since 2017. Designed by the Swiss Federal Institute for Forest, Snow and Landscape Research (WSL), it targets restoration activities for the country’s raised bogs which are believed to emit some 19,000 tCO₂eq each year (WSL 2017).
- The UK Peatland Carbon Code (UK Peatland Code 2021a), developed under the auspices of IUCN, certifies mitigation benefits from restoration activities. Four projects are validated so far, with six under development and more in the pipeline. The four validated projects together cover 450 hectares of peatland, which equates to an estimated GHG emissions reduction of 101,944 tonnes of CO₂eq. (UK Peatland Code 2021b).

There is still a wide range of typologies of wetlands that do not have a methodology approved in VCM that allows the registration of a management/restoration project to monitor, verify and report carbon credits removal or avoidance of carbon emissions. Some examples are: shallow lakes, Mediterranean coastal wetlands, Mediterranean saline inland wetlands, Mediterranean freshwater inland wetlands, etc.

Under the LIFE Project Wetlands4Climate, a methodology for “Mediterranean wetlands management and restoration as a projects of carbon removal and avoidance of carbon emissions” is under development in collaboration with the National Registry of CO₂ absorption projects, a National Standard that depends on the Spanish Ministry of ecological transition. The development of this methodology implies the scientific measurement of carbon balances for different management/restoration actions in the different typologies of Mediterranean wetlands (the project covers 3 typologies of wetlands). This carbon balances are different and depend on the conservation status of the wetland, and on the ecological features of the different wetlands. It’s expected that at the end of 2023 this methodology gets approved, an different projects that allow a restoration/management of this kind of Mediterranean wetlands could be approved and financed under this Standard of the Voluntary Carbon Market.

New research and methodologies under different Standards need to be approved to be able to commercialize GHG insetting or offsetting projects for the different typologies of wetlands that are covered by ELLA members.

Alternatives for ways of financing the restoration of wetlands

Compensation of Water Footprints

Water Footprint is an environmental indicator that measures the volume of fresh water (in litres or cubic metres) used throughout the entire production chain of a consumer item or service. According to the Water Footprint Network, a water footprint is made up of three things depending on where the water comes from:

Green water footprint: Water from precipitation (rain or snow) that is stored in the root zone of the soil and evaporated, transpired or incorporated by plants. It is particularly relevant for agricultural, horticultural and forestry products.

Blue water footprint: Water that has been sourced from surface or groundwater resources and is either evaporated, incorporated into a product or tipped into the sea. Irrigated agriculture, industry and domestic water use can each have a blue water footprint.

Grey water footprint: The amount of fresh water required to assimilate pollutants in the production process to meet water quality standards.

These water sources are directly related to ecosystems and the services they provide:

Green water - provided by

Ecosystem soil: fertility and other functions depending on soil biodiversity and vegetation.

Ecosystem forest: Contributes to hydrological balance

Blue water - provided by Aquatic ecosystems and ground water sources delivering water, avoiding /reducing floods, improving water quality

Grey water - provided by aquatic ecosystems and ground water sources

Currently, the management, protection and restoration of the (aquatic)ecosystems providing water and hydrological balance is not considered in the methodologies to calculate the water footprint of a company. Advanced companies apply the **Alliance for Water Stewardship AWS Standard 2.0** which is a

- globally applicable framework
- understand water use and impacts
- work collaboratively and transparently for sustainable water management within a catchment context.

Recently, the **Act4Water Standard** has been presented. It is a standard for the compensation of the water footprint providing projects for the WF compensation and four different standards for companies: water committed, water active, water positive and water neutral for products. Act4Water sells also "Créditos de Agua Positiva (CAPs)", water footprinting credits.

Unsustainable use of water sources is considered as a risk in the ISO 14001 (Water), Corporate Sustainability Reporting Directive, Sustainable Financial Disclosure Regulation (SFDR), EU Supply Chain Directive (SCDD) and other pieces of legislation in preparation by the EU Commission.

All these are good arguments for companies, to reduce the water footprint of the company including their supply chains and to compensate the remaining footprint. Companies such as Nestlé Waters or the beverage company Diageo are aiming at a positive or at least neutral impact on water. One of the measures to achieve this goal is the restoration of water sources,

e.g. wetlands. It is even more attractive for a company, if the wetland to restore is within the catchment area of the company or the supply chains.

More than 90 investors have committed to engage more than 70 focus companies with large water footprints through the **Valuing Water Finance Initiative**, making the business case for companies to elevate water risk to the forefront of risk management and planning. These investors, who collectively manage more than \$17 trillion in assets, have laid out a set of six corporate water expectations for companies to meet in order to address their broad water impacts by 2030.

The results of a benchmark analysis, slated to be made public later this year, uses existing publicly available company disclosures to assess water commitments and practices across the six corporate expectations for large companies from four water-intensive industries — food, beverage, apparel and tech. The benchmark will inform investors' engagements with the companies, and help companies identify areas of strength and where more urgent attention is needed.

Biodiversity Footprint

In 2022, the GBF (Global Biodiversity Framework) has been adopted during the COP15 in Montreal, Canada. The framework incorporates various targets, such as target 15, which directly mandates companies to disclose their biodiversity footprint, identify the primary drivers contributing to it, and outline their remedial actions to address the issue.

For companies operating in the European Union, the EU Taxonomy and Due Diligence legislation will also require biodiversity-related disclosures.

Biodiversity footprinting serves as a valuable tool for organizations, companies and financial institutions enabling them to comprehend and quantify the environmental impacts resulting from their activities on biodiversity.

A footprint starts with a model of all emissions and resources used in the supply chain of a company, project, product or service. Scientific models are used to calculate the impact on biodiversity resulting from all emissions and resources used in the supply chain. There are several methodologies to calculate the biodiversity footprint and the methodology used most often Life Cycle Assessment (LCA). LCA is an established, science-based method to assess the environmental impacts related to a product or service.

Biodiversity footprints provide insight in the environmental hotspots of products, services, organisations, or entire portfolios. This means that the results can be used to understand the environmental impacts of activities on biodiversity. The results of biodiversity footprints can be used to improve internal structures, such as reducing the use of fossil energy sources towards renewables, or switching from animal-based inputs towards plant-based inputs. They can act as guiding compasses to reduce the impacts on biodiversity.

Since 2022, various initiatives are promoting "nature positive" as "the" objective for companies. To achieve being "nature positive" is impossible - always companies and other organisations as well as individuals will have a remaining biodiversity footprint which should be compensated. This is a chance for the restoration of ecosystems such as wetlands.

Lessons learned for the ELLA project:

Capacity building will focus on Water Footprint and the potential to obtain financing from private sources – especially companies - for the compensation of the remaining water footprint.

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