Valle da Pesca

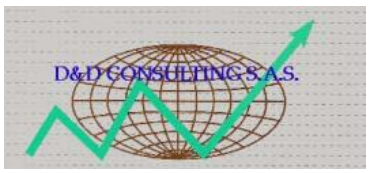
Bios srl

BNEUTRAL Project Description - assessment and demonstration of additionality and project governance

International project title: CCS (Natural Carbon Capture and Storage in wetland) Project

The concept of additionality is the basis of any certification or project that is based on the UN system **UNFCCC/CCNUCC CDM – Executive Board**

Head of research



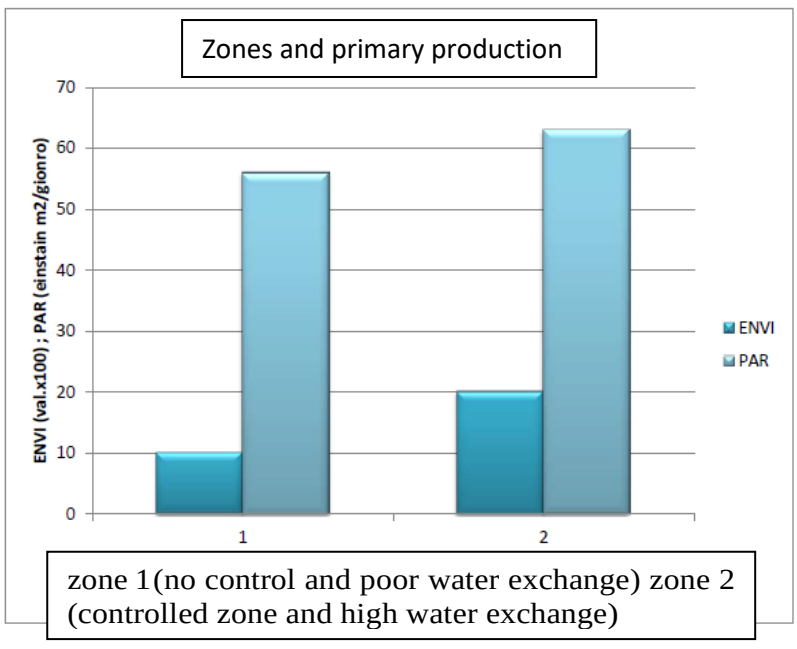
D&D CONSULTING S.A.S.

Model of wetland carbon sequestration in the Venetian Lagoon, Italy (accepted 2014, in press)

Mauro Doimi[1], Angelo Ferrari[2], Daniele DalMolin[3] and Italo Gardan[4]
1. D&D Consulting s.a.s., Department of International and Environmental Research, Mestre-Venice 30171, Italy
2. Veterinary Medical Research Institute for Piemonte, Linguria and the Valle d'Aosta (IZS), Genoa 16129, Italy
3 Bios s.r.l. Department of environmental certification BNeutral, Marostica 36063, Italy
4. Analytical Environmental Services, Lecher Research and analysis Laboratory, Salzano 30030, Italy

1. Description of how the basic scenario appears in absence of the project-related human activity (assessment and demonstration of additionality):

The human activity in the fish farm area is very important to preserve ecological vitality. No tidal flow control through the dams combined with no protection work of banks and deepening of canals leads to an environmental dystrophy with increased anaerobic catabolic processes and resulting release of CO2 and catabolic products like CH4 (anoxia reversibility). These may be easily identified from satellite analyses.
From graphic data processing of the NASA's GIOVANNI web application and coming from original images of the MODIS satellite, it is clear that there exists a clear correlation between the movement of the lagoon water and the main parameters of primary production (phytoplankton) such as P.A.R. (Photosynthetically Active Radiation), E.N.V.I. (Vegetation Index) and G.P.P. (Gross PrimaryProduction)
The chemical-physical analyses show how the fish farm areas (also known as tidal expansion areas inside the Venetian lagoon) may have different productions depending on their ability to move water due to the man-controlled tidal expansion through locks. Zones where the photosynthetic action is absent (PAR = 0) are created by no water circulation.
By comparing this data and AIRS version 5 for CO2 analysis, a relationship between "human activity-controlled production" areas (point 2) and "free uncontrolled" areas (point 1) is noted.



In post-2011 projects, air CO2 analyses inside and outside the borders of the fish farm analytically show that there is less CO2 (hence it was captured) inside than outside.

2. The additionality of the project is also confirmed by the investment made by the owner in environmental maintenance.

Please find attached the latest balance. The greater the investment the higher the additionality of the owner to the project

Step 1. Initial trial balance

Description	Inflows €	Outflows €
EMPLOYEES	Xxxxxx	
FISH SEEDING	xxxxxxx	
FISH SALE	xxxxxxx	xxxxxxx
ELECTRICITY	Xxxxxxx	
GAS	Xxxxxxx	
FUELS	Xxxxxxxxx	
FARM MAINTENANCE (additionality commitment proven by outflows)	*XXXXXX*	
SUNDRY SUPPLIES	Xxxxxxx	
MACHINERY MAINTENANCE	Xxxxxxxx	
TOTAL	xxxxxxxxxxx	xxxxxxxxx

3. Economic additionality: the company is certified for organic aquaculture under law 834/97.

The higher inflows resulting from the commercialization of credits will offset the higher costs due to fish production according to the organic and extensive mode, making the latter more competitive than the other conventional and intensive productions.

4. Emission reductions

The emission reductions during the 5 years of the project will be:

$ER_y = BE_y - PE_y$

Where: ERy = Emission reduction per year *y* (t C02e/yr); BEy = 2011 *y* emission baseline (t C02e/yr) PEy = project emissions per year *y* (t C02e/yr)

These reductions will be recorded as 1) **energy savings** (lower consumption of fuels or similar) or as the use of systems of 2) **"green" energy production** (see solar panels etc.), where possible, depending on scenic protection restrictions and 3) **by increasing the project capture performance** through seaweeds development and bottom improvement

5. Study and advice for the increase in the project performance in the years following the basic scenario:

Drawing of schematics indicating the distribution of CO2 capture of the project components.
From the observation of the satellite and on-site analyses, it appears that most carbon sink (-CO2) activities concern a particular area of the farm Val Dogà, identified in the project as point 1.

Areas 2 and 3 have a lesser activity and require an increase in water flow and maintenance of banks and canals, such as to revive them and improve the project performance.

6. Use of continuous monitoring systems that are valid for the control of the above-mentioned additionalities.

Optionally, a consistent number of monitoring units are installed in order to continuously check the improvement of the carbon sink and the corrective actions taken to reach the purpose. These units can send and publish data online in order to allow the environment manager to take rapid action and optimize the CCS process.
They shall at least record air CO2, water CO2 and potential Redox.

7. Imposition of a credit reduction for any weather fronts (buffer).

BNeutral imposes a 50% reduction in the total capture per year.