



B Neutral BIOS/Voluntary Project Description

ABSTRACT FOR DISCLOSURE

Date: October 2013 Version: 1

D&D CONSULTING S.A.S.





1 Project description:

1.1 Project title

VALLE LAGUNARE – VAL DOGÀ, CAPOSILE-VENICE assessment of carbon credits in the lagoon environment: 1 OCTOBER 2013 Version: 1

1.2 Project category

The project consists in the assessment of CO₂ greenhouse gas production/capture in a eutrophic lagoon setting used for fishing purposes (fish farm). According to the CDM UNFCCC criteria, this project should be considered for the standard (B NEUTRAL SEC.VCS) and the voluntary assessment of carbon credits based on annex A of the Kyoto protocol that falls under the following category

- "Reduction and control of CO₂ emissions in agricultural activities"

1.3 Assessment of emission reductions in the certifiable period including a time projection:

The main in-site activity is fish valliculture with a focus on the improvement and environmental control in order to favour the development of the organic chain in water and in the emerged forest part.

SURFACES	Total: 1734.16 ha. Water (extensive fish culture): 875.77 ha. Land - shoal: 858.39 ha
VOLUME	Tidal brackish water with estimated volume of 2,470,000 m ³
FACILITIES	Big country house with shed and cold treatment of the catch. Fish weir. Manor, office, guardian's house and warehouse for tools storage, small workshop for tools repair and cabin for early unloading of fish product.

The control activity of the environmental management procedures of this eco-system generates an average capture of TONS CO₂eq per year of activity

Based on the B NEUTRAL SEC.VCS Program Guidelines 2007.1, three project groups are described:

- Micro projects: below 5,000 tCO₂ per year
- Projects: 5,000-1,000,000 tCO₂ per year
- Mega projects: above 1,000,000 tCO₂ per year

The activity described herein should be considered under type 2 project with a CO₂ reduction between 5,000 and 1,000,000 tCO₂ per year



The estimate of CO₂ capture in Val Dogà is considered for a 5 (five)-year period as shown in the following table (starting from **-443.165,82 tons CO₂eq/year**) with an expected and controlled increase due to such actions as tamarisk planting and deepening of the brackish water inlet rills (supplementary maintenance for carbon dioxide capture keeping purposes):

Year	-CO ₂ tonseq
2013	-443,165.82
2014	-443,165.82
2015	-443,165.82
2016	-443,165.82
2017	-443,165.82

1.4 Short project description:

The company Blue Valley srl Via Vespucci 1 Mestre-Venice VAT reg. no. 00264940271 ph. 041 0995850, owns the fish farm "Val Dogà" located in the municipality of Venice Laguna Nord, where it performs extensive fish culture. It borders on the north with canal SILE, east with Valle Grassabò, south and west with the Venice lagoon. The fish farm is historically active, especially on the improvement and management of valliculture.

The aquaculture activities on a production scale are carried out at the Azienda Agricola Val Dogà following a well-defined logical pathway. The fish culture is extensive and is performed in the farm lake and provides for annual seeding, generally in spring time, of wild juvenile made available by authorized specialized fishermen. The duly seeded and farmed species are gilthead bream, seabass, flathead grey mullet and thick-lip grey mullet, golden grey mullet, leaping grey mullet. Eel and various fish should be considered self-generated. Following the seeding stage is the management of growth, only based on the natural pasture activity of the animals in the environment that shall be organically balanced in order to provide for the trophic chain bacteria-phytoplankton-zooplankton-seaweeds.

Typical fish farm bordered by banks, isolated from agricultural lands, Val Dogà is located below the average sea level. The necessary sea water exchanges, that are crucial for the well-being of farmed animals, take place through the tidal flow across the San Felice canal and the main lock positioned in front of the colauro, a fish-collecting canal. Sea water enters the farm lake through the so-called "vegnua" canal, located in the proximity of the fish weir, thus reviving the farming settings. The salt characteristics of the water are typical of the lagoon with salt increases in the summer (40 ppt) and fresher water wedges during the winter (20 ppt). The other chemical-physical parameters are: Temp 28-5 °C, pH 8-8.5, O₂ 5-8 ppm. In case of overflow of the Sile River, flows of fresher water can enter the fish farm and be used for the winter surface chilling of the nurseries. A dam system allows for separation in case of adverse weather conditions.

The keeping of this balance that is CRITICAL FOR THE DEVELOPMENT OF A GREENHOUSE GAS CAPTURE EFFECT, takes place through proper man-operated tidal seawater exchanges through special shifting board locks. This operation, together with the excavation of water-moving canals, favours a eutrophic status both of the bottom and of the water that we will prove to be the main player of the greenhouse gas capture from air.

During 2013 we started a periodic testing of the farm and bottom brackish water. Four homogeneous areas were identified in which analysing stations were placed. The samples were collected following a seasonality that was mainly linked to the thermal situation and analysed by the accredited lab Lecher of Salzano (VE). Please find below the tested chemical-physical parameters:



IN WATER

Test	U.M.	Method	Result	Limit
Total alkalinity (CaCO ₃)	mg/L	APAT CNR IRSA 2010 Man 29 2003	154.0	
Total nitrogen (TKN)	mg/L	APAT CNR IRSA 5030 Man 29 2003	4.1	
Ammonia nitrogen (NH ₄)	mg/L	APAT CNR IRSA 4030 Man 29 2003	<0.5	
Nitric nitrogen (N)	mg/L	APAT CNR IRSA 4020 Man 29 2003	0.4	
Nitrous nitrogen (N)	mg/L	APAT CNR IRSA 4050 Man 29 2003	<0.02	
Organic carbon from zooplankton	mg/L	(*) Internal method	0.35	
Organic carbon from phytoplankton	mg/L	(*) Internal method	1.6	
Free carbon dioxide	mg/L	APAT CNR IRSA 4010 Man 29 2003	<0.5	
TOC (after separation of zoo- and phytoplankton)	mg/L	APHA Standard Methods Ed 22st 2012, 5310B	5.39	
TIC (after separation of zoo- and phytoplankton)	mg/L	APHA Standard Methods Ed 22st 2012, 5310B	45.8	

IN MUD (bottom)

Test	U.M.	Method	Result
Humidity	% mass	Ministerial Decree 13/09/1999 SO no. 185 OG no. 248 21/10/1999 Met. II.2	4.2
pH reaction	pH	Ministerial Decree 13/09/1999 SO no. 185 OG no. 248 21/10/1999 Met. III.1	7.63
Total nitrogen (TKN)	mg/kg ss	Ministerial Decree 13/09/1999 SO no. 185 OG no. 248 21/10/1999 Met. XIV.2 – Ministerial Decree 25/03/2002 OG no. 84 10/04/2002	2400
Ammonia nitrogen (N)	mg/kg ss	(*) MA 1179 2010	89
Nitrous nitrogen (N)	mg/kg ss	(*) MA 1179 2010	42
Nitric nitrogen (N)	mg/kg ss	(*) MA 1179 2010	<1
Cation exchange capacity	meq/100 g ss	Ministerial Decree 13/09/1999 SO no. 185 OG no. 248 21/10/1999 Met. XIII.2	13.6
Potassium exchangeable with BaC12/TEA	meq/100 g ss	Ministerial Decree 13/09/1999 SO no. 185 OG no. 248 21/10/1999 Met. XIII.5	0.07
Magnesium exchangeable with BaC12/TEA	meq/100 g ss	Ministerial Decree 13/09/1999 SO no. 185 OG no. 248 21/10/1999 Met. XIII.5	1.5
Sodium exchangeable with BaC12/TEA	meq/100 g ss	Ministerial Decree 13/09/1999 SO no. 185 OG no. 248 21/10/1999 Met. XIII.5	11.5
Calcium exchangeable with BaC12/TEA	meq/100 g ss	Ministerial Decree 13/09/1999 SO no. 185 OG no. 248 21/10/1999 Met. XIII.5	0.48
% basic saturation	%	(*) Internal method	99.6
Apparent density	kg/L	(*) MA 1057:2007	0.5
Texture	-	Ministerial Decree 13/09/1999 SO no. 185 OG no. 248 21/10/1999 Met. XIII.2	
Sand	% ss	Ministerial Decree 13/09/1999 SO no. 185 OG no. 248 21/10/1999 Met. XIII.2	55.4
Thin silt	% ss	Ministerial Decree 13/09/1999 SO no. 185 OG no. 248 21/10/1999 Met. XIII.2	35.1
Clay	% ss	Ministerial Decree 13/09/1999 SO no. 185 OG no. 248 21/10/1999 Met. XIII.2	9.5
Total organic carbon	% ss	UNI EN 13137:2002	3.15
Total inorganic carbon	% ss	(*) UNI EN 13137:2002	9.31

The relevant documents are filed and stored at the Company's office located in via Vespucci 1 Mestre-Venice.



The gathered data will be analysed by the staff of D&D Consulting s.a.s. that will analyse the main parameters, the listed indexes of ambient CO2 capture:

Parameter	Method
Water temperature	Electronic thermometer
Air temperature	Electronic thermometer
Wind direction	View
Air pressure	Electronic pressure sensor
pH	pH meter
Oxygen	Oximeter
Air CO2	Specific sensor
Water CO2	Specific thermocouple sensor
Cloudiness	Electronic turbidimeter
Salinity	Refractometer
Seed biomass	Weighing scale

This data will be extended to the entire environment, both horizontally (year 2012-2013) and vertically (year 2002-2012) thanks to the use of a set of **satellite data and images** supplied by the NASA and others.

On-site data gathered from satellite analysis was analysed by D&D Consulting s.a.s. di Doimi Mauro, via Montenero 90, 30171 Mestre-VE, an expert biologist in ecology and management of the fish farm.

The main project key is to contribute to the reduction of air CO2 greenhouse gas through the correct human management of the lagoon setting under review.

Annual energy consumption (year 2012-13 data) in the production phase is

Type of fuel	Unit	Consumption	Unit	CO2 emission
LPG gas	LT	11,200	KG	16,128.00
Pellets	Tons	4.2	KG	554.4
Car diesel oil	LT	910	KG	2,366
Engine diesel oil	LT	3336.78	KG	8675.628
Truck diesel oil	LT	984.54	KG	2559.82
Working machine diesel oil	LT	61048.00	KG	158724.8
Electricity	kWh	56639	KG	3354,59
TOTAL			KG	192.363,238

The above-described agricultural activity has an annual production due to human action equal to kg CO2= 192,363.268



1.5 Localization of the project including the identification geographical and physical information:

The localization is

45°34'05.74"N	45°32'25.54"N	45°33'04.61"N	45°34'37.41"N
12°30'12.97"E	12°31'34.68" E	12°34'24.10"E	12°32'53.20"E





VAL DOGA' - BLUE VALLEY -











1.6 Project length for the obtainment of the credits:

The project start date is when we started monitoring human and environmental activity for GHG emissions. The operations started in February 2013 so the project start date of the is February 2013.

The accreditation period starts on the following date: January 2013. The accreditation period: 5 years from January 2013 to December 2018.

1.7 Conditions before the project start:

Part-controlled family-run and traditional environmental management. Conventional fish production.

1.8 Description of how the project will reduce the air concentration of CO₂:

The project uses the fish farm for a sustainable production of fish product. The owners intend to work in order to ensure and improve the input of brackish water from the outer environment favouring the biological balance of the farm ecosystem. The presence of man-controlled shifting locks makes it possible to control the quality of the input water, excluding from the circuit (locks) such lagoon water with a poor oxygen content and rich of metabolites. Additional actions will include the deepening of the inlet rills that, similar to blood vessels, create the basis for the correct environmental vivification. Additionally, the natural and massive presence of nutrients (iron and nitrogenous matters) in the organic bottom of the farm favours the blooming of phytoplankton that captures carbon (and CO₂) from the air during the photosynthesis and carries it to the bottom after death; where it may not be recycled reducing it in air. Based on this principle, the correct “green” management of the farm can reduce the CO₂ impact on the greenhouse effect and its impact on the global climate change.

1.9 Products of the project activity:

The fish culture activities were duly carried out for many years in Val Dogà with a focus on the extensive fish culture of gilthead breams (*Sparus aurata*), seabasses (*Dicentrarchus labrax*), mullets (*Mugile* and *Liza*) and eels (*Anguilla anguilla*) and recently the collection of the spontaneous seaweeds of the species *Salicornia* sp. (glasswort). The aquaculture activities on a production scale are carried out at Val Dogà following a well-defined logical pathway. The fish culture is extensive and is carried out in the farm lake and provides for the annual seeding, generally in spring time, of wild juvenile made available by specialized fishermen. Any certifications and authorizations are filed at the operating office in Val Dogà. The duly seeded and farmed species are gilthead bream, seabass, flathead grey mullet and thick-lip grey mullet, golden grey mullet, leaping grey mullet. Eel and various fish should be considered self-generated. Following the seeding stage is the management of growth, only based on the natural pasture activity of the animals. The periodic vivification of the farming environments is guaranteed through proper seawater exchanges. With the coming of winter temperatures, fish is traditionally called to the fish weir, for centuries. The called fish is then fished and selected. If its size is insufficient for the market, the fish is placed in the winter nurseries from which it will go out the next spring for another growing season. As an alternative, the fish is processed for sale in the fish markets.

1.10 Project compliance with local laws:

The project is compliant with all local laws and regulations of the Italian government and Veneto Region. The activity that is described in this project is a voluntary action that was not imposed by the Italian government.

1.11 Risk identification:

Val Dogà is already authorized for aquaculture. The air reduction of CO₂ may suffer the following risks:

1 Supply of low-quality brackish water that does not just depend on the season but also on the climate change.

2 Natural disasters such as frost and heavy and long-lasting rain with resulting reduction in salinity to even lower levels than 10 ppt that may alter the carbon capture process.



1.12 Demonstration that the activity in Val Dogà did not generate particular CO2 emissions before the project start

The fish farm is a traditional fish-farming environment where fish is farmed according to a tradition that comes from the 1500 Venice Republic. The keeping of the environmental quality as well as the desire of the owners to preserve its facilities for integrated fishing and non-intensive fish production (also see the organic certification) is a guarantee of continuity with the low-environmental impact agricultural tradition. It is clear that the proposer started this project in order to preserve the environment and not to create CO2 emissions and then study their removal.

1.13 Demonstration that the project doesn't have another environmental credit module (for example renewable energy certificates)

The owners did not ask for any other certification for the obtainment of environmental credits.

1.14 The project was not refused by other CO2 certification programmes:

The project was not refused by any other GHG certification programme (CO2 credits)

1.15 Information on the proposer and credit owner:

The proposer as well as carbon credit owner is

- **Blue Valley s.r.l. Via Vespucci, 130173 Mestre-Venice VAT reg. no. 00264940271**

1.16 Any information concerning the eligibility of the project including site-specific legislative, technical, economic, sector-related, social, environmental, geographical information:

The project contributes to the sustainable development of the Venice lagoon according to:

- Sustainability
- sales price and also benefiting the local population.
- The preservation of the rural safeguarding tradition favours the planting of trees and contributes to the reduction of greenhouse gases (GHG) coming from other neighbouring industries.

In the light of the above, the project participants consider that this activity deeply contributes to the local sustainable development.

1.17 List of commercially sensitive information (if applicable):

All the information included in this document and the supporting Excel sheets may only be published after request to the principal (Ing. Gianni Zacchello, director of B Neutral/B NEUTRAL SEC.VCS) and D&D Consulting s.a.s. that is the sole repository of the method



2 BNEUTRAL SEC. VCS Methodology:

2.1 Title and reference of the BNEUTRAL SEC. VCS methodology applied to the project and clarification of the choices:

The project is part of the voluntary assessment of carbon credits based on annex A of the Kyoto protocol that includes the following types/categories

"Reduction and control of CO₂ emissions in agricultural activities"

The methodology is varied and is selected based on the two lagoon ecological areas – land and water

Emission reductions

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

$$ER_y = BE_y - PE_y$$

Where: ER_y = Emission reduction per year y (t CO₂e/yr); BE_y = 2013 emission baseline (t CO₂e/yr) PE_y = project emissions per year y (t CO₂e/yr)

3.1 Monitoring:

3.1 B Neutral methodology according to BNEUTRAL SEC. VCS applied to the project and explanation of the choices:

The project uses a combined control system with on-site chemical-physical analyses and remote satellite analyses. The methodology is valid for the following reasons:

- The activity concerns a lagoon area with mixed characteristics (water and land);
- The proposed project is not an activity that involves a switch from fossil fuels to renewable energy,
- It is a “green” activity that improves the initial and natural condition of the area. Or it is connected with a production of food, fish, in a sustainable way

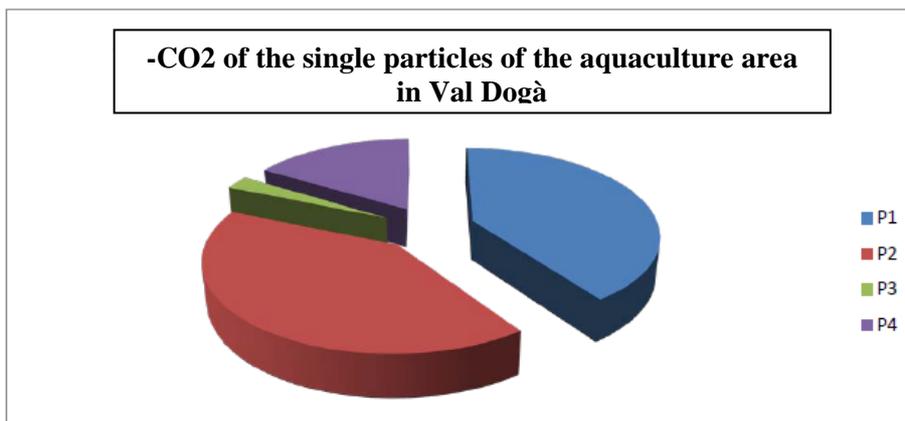
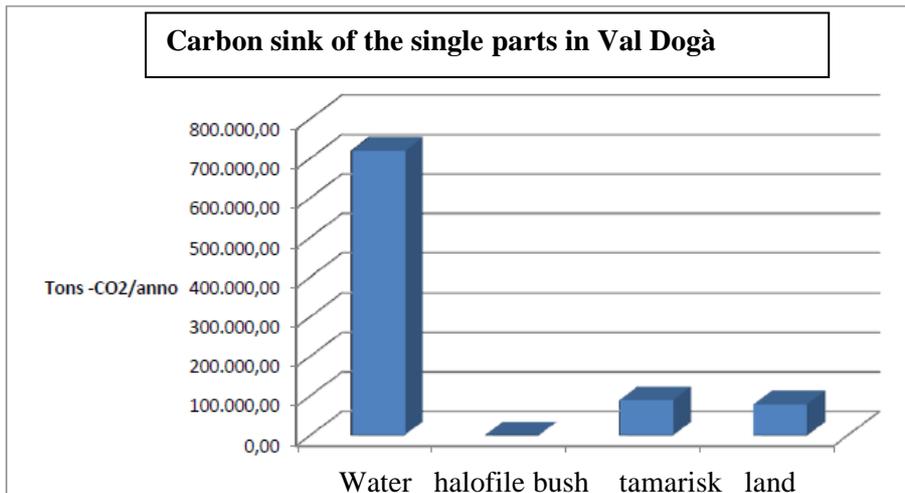
4.2 Quantification of CO₂ removal from the project start:

The following procedure will be used as a basic scenario to determine capture for the project activity:

Baseline (2013)

General (average) CO₂ capture per year from water setting + general (average) CO₂ capture per year from land setting – CO₂ emission due to the farmed product (fish) – Emission due to human activity

CO ₂ emission from product (fish)	11.20
CO ₂ emission from human activity Tons/year	192.36
CO ₂ capture from water setting Tons/year	-359,816.57
CO ₂ capture from land setting Tons/year	-83,552.81
TOTAL Carbon Sink-CO₂ Tons/year	-443,165.82



From the observation of satellite and on-site analyses, most carbon sink (-CO₂) activities concern some particular areas of Valle Dogà (1 and 2)

Areas 3 and 4 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.

On dry land, we advise to plant a higher number of Tamerix gallica (tamarisk)



5 Organization chart of the B Neutral team

