Balears Verd: Regenerative Credits

Balears Verd is a proposal for the regeneration of the terrestrial and marine ecosystems of the Balearic Islands. Its main objective is the planting of one million fruit trees and bushes in a Food Forest Garden, the recovery of the water cycle, the carbon cycle, the return of biodiversity and the reactivation of the primary and secondary sectors. Indirectly, recovery of Posidonia by progressively eliminating agricultural waste and reducing runoff, erosion and salinisation of our soils.

Designed and promoted by the NGO ArtifexBalear, it currently has the support of ADR (Regional Development Agency), Astilleros de Mallorca, Cetebal, Cluster Balears-T, Garden Hotels, Grupo Daphnia, LEIS UIB, Smart UIB, Permamed, Son Pou de sa Majorala and Terracor, as well as 130 firms representing Balearic civil society (businessmen, academics, artists, professionals, associations...).

How our approach works:

1. The Camvi Climàtic Law 10/2019, of 22 February, on climate change and energy transition, provides for the future offsetting of CO_2 emissions by large and medium-sized companies and the regional administration, which must present a reduction plan with a roadmap to meet European targets.

https://www.caib.es/sites/institutestudisautonomics/ca/n/llei_102019_de_22_de_febrer_de_canvi_climatic_i_transicio_energetica/

2) The Balearic carbon footprint registry orders and lists the registered projects. At this moment, Artifexbalear has presented and registered the first CO_2 offsetting project, also homologating its own calculation methodology with both the Department of Industry and Energy and the verifying entity EQA.

https://www.caib.es/sites/canviclimatic2/es/registro_balear_de_huella_de_carbono/

3) Once the Government has collected all the data, it will calculate the total Balearic CO_2 stock and allocate the corresponding percentage to companies and regional institutions. The registry is currently in the voluntary phase at the Department of Industry and Energy, at the Servei Canvi Climàtic i Atmósfera).

4) Artifexbalear is the first entity registered in the Balearic Registry of Offset Projects of the Balearic Government (File 001/2024) and also the first in Spain certified by a public administration to issue Regenerative Carbon Credits, i.e. Carbon Credits generated by the application of Regenerative Agriculture techniques, recovery of the water cycle and return of plant and animal biodiversity.

https://www.caib.es/sites/canviclimatic2/es/proyectos_de_compensacian_de_carbono/

As a pioneer in this field, Artifexbalear presents a disruptive proposal that goes far beyond the narrow framework of carbon credits, presenting a replicable and relevant model in the transition towards greener and more responsible practices.

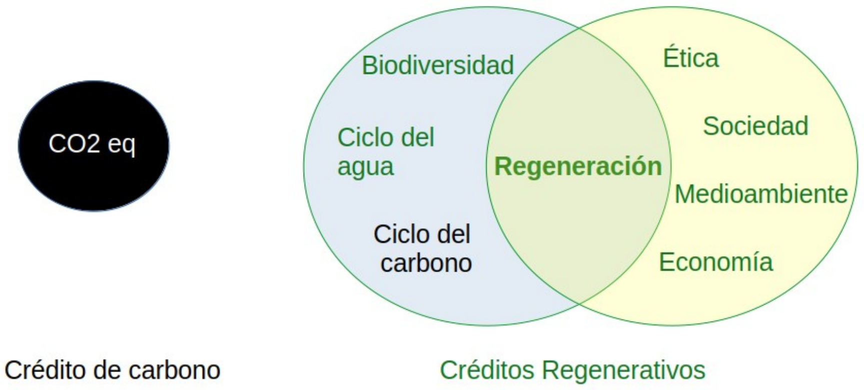
6. Planting an edible forest to offset CO_2 emissions with regenerative credits instead of carbon credits provides an important differentiating factor and, at the same time, places the Balearic Islands, last in the national R&D ranking, at the forefront of climate change adaptation and mitigation.

Additional strategic advantages of the Balears Verd proposal:

-Compliance with and anticipation of future environmental regulations.

By opting for regenerative credits, the subscribers anticipate increasingly demanding European regulations, aligning themselves with the EU Biodiversity Strategy and the Green Pact.

- Direct impact on the territory and local economy



Differences between carbon credits and regenerative credits

Carbon credits make it possible to offset CO_2 emissions through sustainable projects (renewable energies, reforestation...) But carbon is just one more element in a much more complex system that integrates economic, social and environmental considerations, making ecosystem services invisible, i.e. all the environmental services that are systematically excluded from the valuation of projects.

Regenerative credits are carbon credits obtained with techniques and methodologies that guarantee and certify the care and improvement of ecosystem services:

-The water cycle: hydrological cycle, short water cycle, curbing pollution of aquifers, discharges into streams and possibly affecting posidonia.

-The carbon cycle. Carbon cannot be ‘compensated’ or ‘stored’ indefinitely. Carbon is cycled, i.e. it moves within a dynamic cycle of a circular bio-economy.

The return of biodiversity: The non-use of pesticides or chemical fertilisers is combined with a strategy of recovery of local species (flora and fauna), arranged in an analogous arrangement to the natural forest, which generates its own fertility and tends to improve its parameters and health indices with minimal human intervention.

-The return of the soil's natural fertility: measurable with measurements of CO_2 increase, water infiltration capacity in the soil, erosion indicators, salinisation, nutrient retention...

-Sustainable agroforestry production (edible forests), consisting of trees and shrubs producing fruit, nuts, food, fodder, aromatic, medicinal, wood, dyes... which provides work in the primary and secondary sector.

Intangible assets:

-Being a pioneer implies a better image, reputation and is an example and inspiration for other companies and administrations. Alignment with the Sustainable Development Goals (SDGs) and differentiation.

Integration and alignment with local communities and with sustainable and eco-conscious tourism that values green destinations.

-Educational space and contribution to the environmental improvement of our landscapes.

-A proposal for the regeneration of terrestrial and marine ecosystems reminds us that our marine ecosystem extends as far as posidonia grows, i.e. it has no defined border, and can not only stop declining, but reverse its current deterioration.

In short, the regenerative approach does not simply focus on emissions, but redefines our role and involvement in ecological and socio-economic regeneration, positioning us as a national benchmark.

Aspects included in the Balears Verd proposal:

Return of Mediterranean summer storms and hydrological cycle

The IPCC informs us of the foreseeable increase in climatic events in the coming years (Rissagas, Medicanes, fires, floods...) Both the proponents of the Biotic Bomb theory and Dr Millán Millán, former director of CEAM, explain that the increasing difficulty of clouds to discharge is the cause of the disappearance of summer storms and both agree that the situation is reversible: the increase in vegetation mass cools the ground, stops the emission of hot air and allows the return of the short water cycle.

Both also point to the disappearance of the short water cycle as an essential cause of the creation of cold and medicane drops. The increase in forest mass thanks to the planting of 1 M trees and associated shrubs is amply justified by the CO_2 cycling it generates, but it also represents an unprecedented climate challenge: reversing the current climate drift and providing a solution to slow down climate change in the Balearic Islands that can eventually restore its hydrological cycle.

To this end, Balears Verd has designed its own methodology certified by EQA and the Ministry of Industry and Energy to calculate CO_2 and regenerative parameters, including the monitoring of the short water cycle. It has also registered the first CO_2 Offset project in the Balearic Islands. in December 2024.

- **Digital Twin**:

The verification of the hypotheses of Millán Millán and the group of scientists of the Bomba biótica can be tested with a Digital Twin, which integrates the parameters of the Artifexbalear methodology, combined with the data collected by apps (citizen science), satellites, weather stations, terrestrial and marine probes.

In a first phase, the first objective is to identify the number of trees needed to increase 1 gram of water x Kg of air. According to Millán Millán's calculations, in the case of Valencia, it would be necessary to plant a rectangle of 170 km2 of forest to obtain the 7 grams needed to trigger summer storms. With this we can make a tentative hypothesis of planting 24 km2 to achieve an increase of 1 gram per kilo of air. Since Mallorca already has 50% of its territory with green cover, the area is reduced to 12 km^2 (1200 ha).

Millán Millán's calculations correspond to Valencia, at the same latitude as the Balearic Islands. The first area selected, between Algaida and Puig de Randa, offers an even more favourable ratio of green cover (Puig des Tudons, Puig de ses Bruixes, Puig de Randa, almond, carob and wild olive plantations. Planting has already begun on two farms in the area.

Why a Forest Garden? Why Regenerative Agriculture?

The Cartesian approach of looking at the world in watertight compartments has come to the end of its cycle. The evidence of the real implications of the butterfly effect on the planet is undeniable. Everything is interrelated, and the rate of environmental deterioration and loss of biodiversity is such that the scientists of the IPCC, Intergovernmental Panel on Climate Change, warn us that we must preserve 30% of terrestrial and marine spaces as a point of no return due to the deterioration and irreparable genetic loss that the current 6th mass extinction of species represents (150 species disappear daily from the genetic library of the planet).

The Edible Forest and Regenerative Agriculture provide an answer and a brake on the deterioration of the planet, climate change, water cycle, carbon cycle, halting and reversing the loss of biodiversity, salinisation, erosion and desertification. On the other hand, agriculture and the primary and secondary sectors in the Balearic Islands are also at a pivotal moment, as can be seen in the rural abandonment and the lack of generational replacement, the progressive asphyxia of agricultural policies for small producers and the impossibility of articulating an attractive and financially viable proposal for new vocations.

The Islands are fragile ecosystems, and the success of the tourist economy in the Balearics makes invisible the extreme danger of betting everything on a single card.The reactivation of the agricultural economy, the generation of locally produced products and the development of new products and services should be a strategic priority.Transforming the Balearic Islands into an extensive campus with specific training in Regenerative Agriculture and Regeneration of terrestrial and marine ecosystems is another of the objectives of the Balears Verd proposal. This cannot be developed with our backs to the sea, re-establishing what has always been a unit.The true wealth of the Balearic Islands is not in what is exploited, but in what is regenerated and allowed to grow for the future.

Decrease in Temperature:

The last few years have been the warmest in the entire historical series and the forecasts are not encouraging. Green corridor projects in Medellín, Colombia, have managed to reverse the 'heat island' effect (estimated at +2ºC), due to the passive inertia of hard surfaces (roofs, asphalt, pavements, packed squares ....) by -2ºC on average in the city, but no less than -4ºC in the green corridors.On another continent, Dr. Rajendra Singh's experience in Rajasthan, India, has also succeeded in reversing drought and enabling dozens of villages to return to farming, also lowering the region's temperature by 2°C.As if this were not enough, it has managed to revive five rivers that had dried up.

These examples have aroused the enthusiasm of cities all over the world, which are working on their own green corridors and temperature reduction projects (in Spain, Benidorm, Las Palmas and Barcelona).

Land and Sea, closing the circle

In the local gastronomy, sea and mountain dishes have a perfectly defined space, which was reflected in the traditional use of Posidonia as fertiliser for crops. Sea water contains all the minerals of the periodic table, and farmers have known this intuitively, incorporating it as an amendment, aseptic bedding for animals and even for roof insulation in Ibiza and the seaside neighbourhood of San Pere in Palma.

The use of posidonia and seawater as a basis for exploiting the minerals they contain represents a unique opportunity for the Balearic Islands:On the one hand, to recover and update traditional agricultural procedures, and on the other, to promote R&D projects to develop local, economic and sustainable alternatives to synthetic fertilisers that cause the contamination of aquifers and reach the sea, creating the so-called 'dead zones' (Gulf of Mexico, Ebro Delta, Mar Menor...) At Artifexbalear we have been experimenting with posidonia and seawater for years and we have a solid knowledge base to produce biofertilisers with technologically simple processes and without the need for large infrastructures if we have the appropriate funding.

The project of planting edible forests in the Balearic Islands contributes to the Balearic Government's CO_2 offset project, but also represents an R&D proposal focused on mitigating the effects of climate change, regeneration of the primary and secondary sector and sustainable tourism.

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