

Report on Trading of ecosystem credits platform

Carbon Credits Platforms Analysis in the Context of the Project

LIFE CO2PES&PEF

Action C5

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Summary

This deliverable has analyzed the main certification standards of carbon credits and organisms that operate on ecosystem credits at Italian and international level in order to lay a base and take inspiration for the better functioning of the carbon credit platform proposed in the CO2PES&PEF project, ECO2Care. It also includes the analysis and functioning of the ECO2Care registry.

Introduction

English Version

The Project

The LIFE CO2PES&PEF Project was created to promote and support the forestry ecosystems in the process of carbon sink and carbon stock and to prevent fire and windthrow risks through three specific and measurable objectives:

1. To identify a set of forests ecosystem services and assess their benefits on the conservation and increase in carbon fixing and carbon storage capacity and assigning them an economic value;
2. To improve the forestry and forest-based industry systems;
3. To create an ecosystem credit scheme to finance the improvement and further development of the above-mentioned ecosystem services.

The Platforms Analyzed

For the purposes of this deliverable, a total of nine carbon certification standards and entities that operate on ecosystem credits have been analyzed, specifically, five certification standards (four working at international level and one at Italian level) and four entities operating on ecosystem credits (two working at international level and two at the Italian level). The carbon certification standards are entities that issue measurable and verifiable carbon credits based on a real removal of CO₂ from the atmosphere through nature regeneration projects all over the world and that can be purchased on the voluntary carbon market. In contrast, the organisms operating on ecosystem credits do not issue carbon credits rather they gather and often manage projects on ecosystem services producing carbon credits issued by third-parties standards. Both types of entities have been considered in order to draw a more detailed and complete picture of the carbon credit system.

The standards and organizations examined do not operate only on activities linked to forestry (afforestation/reforestation) but also on other ecosystem services (e.g.: organic agriculture, energy efficiency, waste reduction etc.). This proves interesting to compare the most used ecosystem services in certified projects among the different entities and to observe the importance of forestry projects vis-à-vis projects based on other ecosystem services.

The criteria employed for the choice of the platforms to be analyzed are the following: (i) most relevant carbon credit standards or organisms at international level, such as The Gold Standard and the Verified Credit Standard (VCS) by Verra (ii) most relevant and well-structured platforms operating in Italy. The rationale behind this choice is to get as much as a detailed and precise grasp of their functioning in order to build the carbon credit platform proposed in the framework of the LIFE CO2PES&PEF project in the most accurate way and with exhaustive features.

Analyzing the platforms operating at international level serves to take as an example their enduring instruments and well-managed structure as well as their modality of functioning on a larger scale and with world-wide projects. While the Italian platforms have been useful to understand the criteria used specifically on forestry projects.

About the Selected Platform “ECO2Care”

Finally, we analyzed the platform ECO2Care which is a carbon credit registry created and developed in the context of the LIFE LAIKA project, that has been active and working for ten years. The LAIKA project aimed at supporting the experimentation, by some local authorities, of a new approach for the definition and planning of a territorial strategy intended to reduce greenhouse gas emissions. The platform was created in order to facilitate the reporting of Verified Emission Reduction (VERs) carbon credits generated by Italy-based projects aimed at reducing GHGs emissions and to promote their exchange on the carbon market. The ECO2Care registry grants access to projects certified by an independent third-party certification entity, RINA SpA, and, in particular, the registry provides the amount of non-emitted or fixed CO₂ in the form of VER credits.

ECO2Care is a platform managed by CE.SI.S.P (Interuniversity Center for the Development of Products' Sustainability), a spin-off entity the University of Genova operating in the field of applied research for the reduction of the greenhouse effect and for products' sustainability. Being managed by the spin-off of the University of Genova, a public entity, this platform has the advantage of ensuring clarity and transparency during the processes of carbon credit display, exchange and purchase, as well as in the communication of carbon credits' availabilities. Furthermore, thanks to its 10-year operation, ECO2Care has proven a reliable, robust and well-tested platform that serves as a basin to gather carbon sequestration projects favoring the carbon credit exchange.

The functionality of the registry is straightforward and easy-to-follow: there is a public area and a restricted area. The public area is accessible via the ECO2Care website (<http://www.eco2care.org/>) and presents a list of active projects and the number of VER carbon credits available in real time. The projects listed on the ECO2Care registry refer to activities of forestry, energy efficiency, CO₂ stock in lagoon valleys, waste reduction, green urban mobility and street illumination in several cities and areas in Italy. The restricted area is accessible only for parties who own the dedicated account. To access the restricted area, the interested party has to go through a subscription procedure starting with the certification by RINA, after which the party may create an account to the registry. There is a fee schedule for the creation of the account for the credits' holders, for traders and for potential

buyers. It is possible to begin the subscription process from the home page of the above-mentioned website.

From the home page of the platform, it is possible to visualize all the projects registered, with a related description and a summary table including all necessary information, such as year of inscription, type of project, country, certification standard for VERs. For each project, it is possible to visualize the total number of registered carbon credits, the total number of carbon credits that have already been bought and the credits that are available for purchase. The registered VERs are expressed in tons of CO₂ eq. per year (as declared by the project proposal and validated by RINA). In the public area, it is also possible to find, open and download all project documents, such as the PDD, the Conformity Statement etc. In the restricted area, the link to the single project is available, together with the access to the VERs availability and purchase. Another feature of the ECO2Care registry is that it allows to create reports and statistics on the credits exchanged, on the type of projects chosen for purchases and other indicators.

Introduzione

Versione italiana

Il Progetto

Il Progetto LIFE CO2PES&PEF è stato creato per promuovere e supportare gli ecosistemi forestali nel processo di stoccaggio di carbonio e per la prevenzione di incendi e schianti attraverso 3 obiettivi specifici e quantificabili:

1. L'identificazione di un set di servizi ecosistemici e la valutazione dei loro benefici per la conservazione e l'incremento della capacità di fissaggio e stoccaggio di carbonio e per assegnar loro un valore economico;
2. Il miglioramento del sistema produttivo del legno;
3. La creazione di un sistema di crediti ecosistemici per finanziare il miglioramento ed ulteriore sviluppo degli stessi servizi ecosistemici;

Le Piattaforme Analizzate

Per l'obiettivo di questo deliverable, sono state analizzate un totale di nove tra standard di certificazione e organismi che operano su crediti ecosistemici, in particolare, cinque standard di certificazione (quattro che lavorano a livello internazionale ed uno su un piano italiano) e quattro organismi che operano su crediti ecosistemici (due che lavorano nello scenario internazionale e due nello scenario italiano). Gli standard di certificazione di carbonio sono enti che rilasciano crediti di carbonio verificabili e quantificabili basandosi sulla rimozione di CO₂ dall'atmosfera attraverso progetti di rigenerazione ambientale in tutto il mondo e che possono essere acquistati sul mercato volontario di crediti di carbonio. Al contrario, gli organismi che operano su crediti ecosistemici non rilasciano crediti di carbonio, bensì, raccolgono e spesso gestiscono progetti su servizi ecosistemici che producono crediti di carbonio validati da enti terzi. Sono stati considerati entrambi i tipi di organizzazione per delineare un quadro più dettagliato e completo del sistema di scambio crediti di carbonio.

Gli standard e le organizzazioni che sono stati analizzati non operano solamente su attività forestali (forestazione/riforestazione) ma anche su altri servizi ecosistemici (ad esempio, agricoltura biologica, efficienza energetica, riduzione dei rifiuti etc.). Questa diversità nei progetti risulta interessante nel comparare i servizi ecosistemici più utilizzati in progetti certificati tra i diversi organismi e per osservare l'importanza di progetti legati ad attività forestali rispetto a quelli basati su altri servizi ecosistemici.

I criteri impiegati nella scelta delle piattaforme da analizzare sono i seguenti: (i) standard di certificazione o organismi che operano di crediti di carbonio a livello internazionale, come ad esempio The Gold Standard e Verified Credit Standard (VCS) da Verra (ii) le piattaforme più rilevanti e strutturate operanti in Italia. La ragione dietro questa scelta è stata di ottenere una comprensione più ampia e dettagliata possibile del loro funzionamento così da sviluppare la piattaforma proposta nel progetto LIFE CO2PES&PEF in maniera accurata e con le caratteristiche più esaustive. Analizzare le piattaforme che operano a livello internazionale è servito a prendere come esempio i loro strumenti

durevoli e la loro efficiente struttura così come le loro modalità di funzionamento in generale su scala mondiale. Mentre invece, le piattaforme italiane sono state utili per comprendere i criteri usati specificatamente in progetti forestali.

Riguardo la Piattaforma selezionata “ECO2Care”

Infine, è stata analizzata la piattaforma ECO2Care, un registro di crediti di carbonio creato e sviluppato nel contesto del progetto LIFE LAIKA, attiva ed in funzione da dieci anni. Il progetto LAIKA aveva l'obiettivo di supportare la sperimentazione, da parte di autorità locali, di un nuovo approccio per la definizione e la pianificazione di una strategia territoriale volta a ridurre le emissioni di gas serra. La piattaforma è stata creata con lo scopo di facilitare la presentazione di crediti di carbonio di tipo Verified Emission Reduction (VERs) generati da progetti italiani che riducono le emissioni di gas serra e promuovere il loro scambio sul mercato di crediti di carbonio. Il registro ECO2Care garantisce accesso a progetti certificati da un ente terzo certificatore, RINA S.p.A. e, in particolare, fornisce il quantitativo di CO2 non emessa o fissata nella forma di crediti VER.

ECO2Care è una piattaforma gestita da CE.SI.S.P (Centro interuniversitario per lo Sviluppo della Sostenibilità dei Prodotti), una struttura universitaria operante da anni nel campo della ricerca applicata alla riduzione dell'effetto serra ed alla sostenibilità dei prodotti. Essendo gestita da una struttura dell'Università di Genova, un ente pubblico, questa piattaforma ha il vantaggio di assicurare chiarezza e trasparenza nel processo di esposizione, scambio e acquisto dei crediti di carbonio nonché nella comunicazione di disponibilità dei crediti. Inoltre, essendo in operazione da dieci anni, ECO2Care si rende una piattaforma affidabile, robusta e rodata che raccoglie progetti certificati di sequestro di carbonio e che promuove lo scambio di crediti di carbonio nel mercato volontario.

La funzionalità di questo registro è molto semplice: vi è un'area pubblica ed una riservata. L'area pubblica è accessibile attraverso il sito di ECO2Care (<http://www.eco2care.org/>) e presenta un elenco di tutti i progetti attivi ed il numero di VERs di carbonio disponibili in tempo reale. I progetti elencati riguardano attività forestali, di efficientamento energetico, di CO2 stoccata in valli lagunari, riduzione di rifiuti, mobilità urbana sostenibile ed illuminazione stradale in varie aree d'Italia. L'area riservata è accessibile solamente per soggetti che possiedono un account. Quindi, per accedere all'area riservata, il soggetto interessato deve intraprendere un iter di iscrizione, cominciando dall'ottenimento di una certificazione da RINA S.p.A., una volta ricevuta, il soggetto può procedere con la creazione di un account per il registro. Esiste un tariffario per la creazione dell'account che varia per detentori di crediti, trader e per i potenziali acquirenti. È possibile cominciare l'iscrizione dall'home page del sito ECO2Care.

Dall'home page della piattaforma, è possibile visualizzare tutti i progetti registrati, con la relativa descrizione ed una tabella riassuntiva che include tutte le informazioni, come l'anno di registrazione, tipo di progetto, Paese e standard di certificazione dei VERs. Per ogni progetto, è possibile visualizzare il numero totale di crediti di carbonio registrati, il numero totale dei crediti che sono già stati acquistati e i crediti disponibili per l'acquisto. I VERs registrati sono espressi in tonnellate di CO2 equivalenti (così come sono dichiarati dalla proposta di progetto e certificati da RINA). Nell'area pubblica, è inoltre possibile trovare e scaricare tutti i documenti del singolo progetto, come il PDD, Conformity Statement ecc. Nell'area riservata, è possibile trovare il link al singolo progetto ed ai crediti disponibili relativi. Un'altra caratteristica del registro ECO2Care è che permette di creare report e statistiche sulla base dei crediti scambiati, sul tipo di progetto scelto e su altri indicatori.

Certification Standards

Each standard has its own objectives and methodologies for issuing the carbon credits, however, they have many similarities. They all issue carbon credits on the basis of projects (either international or Italian) that have removed a measurable quantity of carbon from the atmosphere. While The Gold Standard, Plan Vivo and the Italian Bosco Amico issue credits only for land use and forestry related project, VCS presents a more extended list of projects from which it certifies carbon credits, such as the manufacturing, chemical and transport industries). Bosco Amico only certifies forestry-related projects. The Gold Standard does not certify credits coming from REDD+ project while Plan Vivo does. The Climate Bond is not exactly a certification standard because it is an NGO that gathers projects that advance the Paris Agreement commitments as a pool in which investors from all over the world can source green projects to support.

International Standards

The Gold Standard

Analysis of credit exchange platforms	
The Gold Standard	
Name	The Gold Standard
Year of Activation	2003
Geographical Scope	World
Credit's object and contingent cost (where applicable) 1 credito= 1 ton di CO2	Several types of projects: <ul style="list-style-type: none"> - Community-based energy efficiency - Land use activities and nature-based solutions - Renewable energy - Waste management - Water benefit Examples of projects (forestry): Planting Biodiverse Forests in Panama – 18.00\$/ton
Number of credits exchanged (if possible); alternatively, indicate the number of projects linked to forestry activities and	Value of afforestation and reforestation projects: \$242 Number of projects: impact registry > project status: certified and designed project AND project type: other. Result: 34 projects

the value of such projects.	Afforestation and reforestation projects have been found by checking the category "OTHER" and not "A/R" (Afforestation/Reforestation), as this last one results empty.
Brief description of objectives	<p>ITA: The Gold Standard adotta un approccio particolare per le attività di "land use" che sequestrano o evitano emissioni di gas serra, concentrandosi unicamente su meccanismi che possano fornire un elevato livello di integrità ambientale. Per questo, non emettono crediti per progetti REDD+ a causa delle preoccupazioni riguardo la loro integrità ambientale, inclusa l'abilità di tali progetti di controllare eventuali dispersioni (quando le attività di deforestazione vengono semplicemente trasferite in un'altra area) e a causa dei rischi della sopravvalutazione dei crediti dovuta ad un'incerta baseline.</p> <p>ENG: The Gold Standard adopts a particular approach for the "land use" activities that sequester or avoid greenhouse gas emissions, focusing exclusively on mechanism that can provide a high level of environmental integrity. For this reason, it does not issue credits for REDD+ projects because of the concerns regarding their environmental integrity, including the capacity of these projects to control potential dispersion (when deforestation activities are simply moved into another area) caused by risks due to a overevaluation of credits.</p>
Who can access and purchase credits	<p>Both individuals and businesses can purchase carbon credits, after having calculated their own carbon footprint. A couple of calculators are made available for both categories.</p> <p>Offset your emissions: https://marketplace.goldstandard.org/collections/projects#market-place Guide: https://goldstandardhelp.freshdesk.com/support/solutions/44000810922</p>
Indicate if there is a reference fee on the website and an exchange area	Yes, every project has a specific reference fee, and it concerns a specific geographical area.
Types of non-forestry purchasable projects	<ul style="list-style-type: none"> - Community-based energy efficiency - Fairtrade projects - Renewable energy - Waste management - Water benefits
Types of projects specifically linked to forestry activities or ecosystem services activities	<ul style="list-style-type: none"> - Land use activities and nature-based solutions <p>https://www.goldstandard.org/our-story/gold-standard-featured-projects</p>

<p>Description of the standard functioning (Standardized Methods for Baselines and Additionality) Indicate:</p> <ol style="list-style-type: none"> 1) The methodological standards used for reference (e.g.: CDM, IPCC others); 2) If they have regulatory frameworks at national, international or supranational level; 3) Attach the document that identifies the standard (if applicable) 	<p>Example: Reforestation Sierra Piura (Peru) https://registry.goldstandard.org/projects/details/1800</p> <ol style="list-style-type: none"> 1) Other (thus, not specified) or different depending on the projects (e.g.: GS GHG A.R GHG Emissions Reduction Sequestration v1) 2) Not indicated 3) Available here: https://www.goldstandard.org/project-developers/standard-documents
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Verified Carbon Standard

Analysis of credit exchange platforms	
VCS	
Name	Verified Carbon Standard (VCS) by Verra
Year of Activation	2007
Geographical Scope	World
Credit's object and contingent cost (where applicable)	<p>Several types of projects (15 sectoral scopes):</p> <ol style="list-style-type: none"> 1. Energy (renewable/non-renewable) 2. Energy distribution 3. Energy demand 4. Manufacturing industries 5. Chemical industry 6. Construction 7. Transport 8. Mining/Mineral production 9. Metal production 10. Fugitive emissions – from fuels (solid, oil and gas) 11. Fugitive emissions – from Industrial gases (halocarbons and sulfur hexafluoride) 12. Solvents use 13. Waste handling and disposal 14. Agriculture Forestry and Other Land Use (AFOLU) 15. Livestock and manure management <p>In particular, the AFOLU projects are divided as follows:</p> <ul style="list-style-type: none"> - Afforestation - Reforestation and revegetation (ARR) - Agricultural land management (ALM) - Improved forest management (IFM) - Reduced emissions from deforestation and degradation (REDD) - Avoided conversion of grasslands and shrublands (ACoGS) - Wetland restoration and conservation (WRC).

<p>Number of credits exchanged (if possible); alternatively, indicate the number of projects linked to forestry activities and the value of such projects.</p>	<p>Registered projects for Agriculture and Forestry = 237 It is not possible to only filter for "Forestry"</p>																		
<p>Brief description of objectives</p>	<p>ITA: VCS è leader nello sviluppo di quadri di riferimento per sfruttare il potenziale di carbon reduction dei progetti AFOLU. Al momento, i progetti AFOLU coprono una vasta rosa di tipi di progetto, da Improved Forest Management e REDD to Wetlands Restoration and Conservation fino a Avoided Conversion of Grasslands and Shrublands. Molti progetti AFOLU raggiungono benefici che vanno oltre la riduzione dei gas serra come ad esempio, proteggere la biodiversità, supportare comunità locali, ridurre la povertà nelle aree rurali e generare altri benefici fondamentali. supportare la riduzione di carbonio</p> <p>ENG: VCS leads the way in developing frameworks to unlock the carbon reduction power of AFOLU projects. Currently, AFOLU requirements cover a wide range of project types, from Improved Forest Management and REDD to Wetlands Restoration and Conservation as well as the Avoided Conversion of Grasslands and Shrublands. Many AFOLU projects achieve benefits beyond reducing GHG emissions by protecting biodiversity, supporting local communities, reducing rural poverty and generating other important benefits.</p>																		
<p>Who can access and purchase credits</p>	<p>Both individuals and businesses</p>																		
<p>Indicate if there is a reference fee on the website and an exchange area</p>	<p>VCU issuance levy</p> <p>For cumulative VCU issuances from a project occurring within a calendar year¹:</p> <table border="1"> <thead> <tr> <th># of VCUs issued</th> <th>USD / VCU</th> </tr> </thead> <tbody> <tr> <td>1 - 10,000</td> <td>USD 0.05</td> </tr> <tr> <td>10,001-1,000,000</td> <td>USD 0.14</td> </tr> <tr> <td>1,000,001-2,000,000</td> <td>USD 0.12</td> </tr> <tr> <td>2,000,001-4,000,000</td> <td>USD 0.105</td> </tr> <tr> <td>4,000,001-6,000,000</td> <td>USD 0.085</td> </tr> <tr> <td>6,000,001-8,000,000</td> <td>USD 0.06</td> </tr> <tr> <td>8,000,001-10,000,000</td> <td>USD 0.04</td> </tr> <tr> <td>>10,000,000</td> <td>USD 0.025</td> </tr> </tbody> </table> <p>VCU issuance levy, conversion of GHG USD 0.05 per VCU</p> <p>Fees for the purchase of carbon credits. Other info on the document concerning fee schedule.</p>	# of VCUs issued	USD / VCU	1 - 10,000	USD 0.05	10,001-1,000,000	USD 0.14	1,000,001-2,000,000	USD 0.12	2,000,001-4,000,000	USD 0.105	4,000,001-6,000,000	USD 0.085	6,000,001-8,000,000	USD 0.06	8,000,001-10,000,000	USD 0.04	>10,000,000	USD 0.025
# of VCUs issued	USD / VCU																		
1 - 10,000	USD 0.05																		
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6,000,001-8,000,000	USD 0.06																		
8,000,001-10,000,000	USD 0.04																		
>10,000,000	USD 0.025																		
<p>Types of non-forestry purchasable projects</p>	<ol style="list-style-type: none"> 1. Energy (renewable/non-renewable) 2. Energy distribution 3. Energy demand 4. Manufacturing industries 5. Chemical industry 6. Construction 7. Transport 8. Mining/Mineral production 9. Metal production 																		

	<p>10. Fugitive emissions – from fuels (solid, oil and gas) 11. Fugitive emissions – from Industrial gases (halocarbons and sulfur hexafluoride) 12. Solvents use 13. Waste handling and disposal 14. Livestock and manure management</p>
<p>Types of projects specifically linked to forestry activities or ecosystem services activities</p>	<ul style="list-style-type: none"> - Afforestation - Reforestation and revegetation (ARR) - Agricultural land management (ALM) - Improved forest management (IFM) - Reduced emissions from deforestation and degradation (REDD) - Avoided conversion of grasslands and shrublands (ACoGS) - Wetland restoration and conservation (WRC).
<p>Description of the standard functioning (Standardized Methods for Baselines and Additionality) Indicate:</p> <ol style="list-style-type: none"> 1) The methodological standards used for reference (e.g.: CDM, IPCC others); 2) If they have regulatory frameworks at national, international or supranational level; 3) Attach the document that identifies the standard (if applicable) 	<ol style="list-style-type: none"> 1) All methodologies approved by the United Nations Clean Development Mechanisms (list here) and those developed by Climate Action Reserve Some of those listed: VM0003, VM0004, VM0005, VM0006, VM0007, VM0009, VM0010, VM0011, VM0012, VM0015, VM0029, VM0034, VM0035, VM0037. Web page for reference 2) It is mentioned the VCS Jurisdictional and Nested REDD (JNR) which provides a global framework for accounting and validate the emission reductions among different jurisdictions. This provides a link between REDD+ projects and other initiative promoted by individual governments to reduce GHGs emissions at national level. Other info here 3) Not identified

Plan Vivo

Analysis of credit exchange platforms	
PLAN VIVO	
Name	Plan Vivo (certification entity) Plan Vivo Standard Plan Vivo Certificates - PVC (certified credits). 1 PVC = 1 ton of CO2 eq. sequestered
Year of Activation	1994: Plan Vivo was born 1997: Activation of first credits
Geographical Scope	World
Credit's object and contingent cost (where applicable)	Several types of projects: <ul style="list-style-type: none"> - REDD - Afforestation/Reforestation - Assisted natural regeneration - Improved land management - Agroforestry Costs are not identified on the website
Number of credits exchanged (if possible); alternatively, indicate the number of projects linked to forestry activities and the value of such projects	Number of projects for Afforestation/Reforestation: 11 – REDD projects: 14 – projects for Agroforestry: 10 (by 31.01.2022). Often projects fall in more than one category. Number of issued credits (PVCs) are available for each project. Example: Communitree project in Nicaragua – PVCs available and up-to-date: 894.170.
Brief description of objectives	ITA: Crediamo che azioni concrete siano necessario per supportare le comunità che affrontano la crisi climatica. Questo obiettivo si può raggiungere applicando il concept "Plan Vivo": <ol style="list-style-type: none"> 1. Ridurre la povertà offrendo forme di sostentamento sostenibile per le comunità il cui ambiente naturale è stato deteriorato. 2. Risanare e proteggere gli ambienti naturali per proteggere le comunità contro il cambiamento climatico e fornire una varietà di benefici sostenibili. 3. Costruire la capacity locale attraverso un trasferimento di conoscenze, competenze e risorse ai paesi in via di sviluppo. In questo processo, i nostri progetti catturano carbonio dall'atmosfera. Ciò può essere rivendicato dai singoli progetti come Plan Vivo Certificates, che possono essere venduti dai progetti per finanziare le proprie operazioni e

	<p>coinvolgere nuovi partecipanti. 60% del profitto proveniente dalla vendita dei Plan Vivo Certificates arriva direttamente ai partecipanti.</p> <p>ENG: We believe that action should be taken to aid communities on the forefront of the climate crisis. This is achieved by applying the "Plan Vivo" concept of:</p> <ol style="list-style-type: none"> 1. Relieving poverty by offering sustainable livelihoods for communities whose environments have been degraded. 2. Restoring and protecting environments so to help protect communities against climate change and provide a variety of sustainable development benefits. 3. Building local capacity through the transfer of knowledge, skills and resources to developing countries. <p>In this process, our projects capture carbon from the atmosphere. This can be claimed by projects as Plan Vivo Certificates, which can be sold by projects to help fund their operations and bring on new participants. 60% of income from the sale of Plan Vivo Certificates goes directly to the participants.</p>
Who can access and purchase credits	Not indicated
Indicate if there is a reference fee on the website and an exchange area	A reference price is not indicated on the website. It is possible to purchase credits directly by contacting the project reference contact through reseller platforms listed here
Type of non-forestry purchasable projects	<ul style="list-style-type: none"> - Assisted natural regeneration - Improved land management
Types of projects specifically linked to forestry activities or ecosystem services activities	<p>All of them:</p> <ul style="list-style-type: none"> - REDD - Afforestation/Reforestation - Assisted natural regeneration - Improved land management - Agroforestry
<p>Description of the standard functioning (Standardized Methods for Baselines and Additionality)</p> <p>Indicate:</p> <ol style="list-style-type: none"> 1) The methodological 	<ol style="list-style-type: none"> 1) It depends on the project. The majority follows the Plan Vivo Standards. Some of them follow the IPCC standard. 2) Not identified 3) Link to the document that identifies the standard

<p>standards used for reference (e.g.: CDM, IPCC others);</p> <p>2) If they have regulatory frameworks at national, international or supranational level;</p> <p>3) Attach the document that identifies the standard (if applicable)</p>	
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Climate Bond

Analysis of credit exchange platforms	
CLIMATE BOND	
Name	Climate Bond
Year of Activation	2010
Geographical Scope	World
Credit's object and contingent cost (where applicable)	<p>The object the scheme are all the bonds and investments that follow the line of the Paris Agreement in order to grant investors the green label of the investments.</p> <ul style="list-style-type: none"> - Minimum certification cost for developed countries : 2.000 USD - Minimum cost for developing countries: 1.000USD
Number of credits exchanged (if possible); alternatively, indicate the number of projects linked to forestry activities and the value of such projects	<p>Certified bonds linked to forestry activities: 3</p> <ul style="list-style-type: none"> - Ecoagro - Eco Securitizadora de Direitos Creditórios do Agronegócio S.A. (Brazile) – value 1.540,040 USD - PTT Public Company (Tailandia) – value 65.000.000 USD - FIRA (Messico) – value 129.000.000 USD
Brief description of objectives	<p>ITA: Climate Bond è uno schema di standard e di certificazione per bond, non una piattaforma di scambio per crediti di carbonio. Climate Bond Initiative è un'organizzazione internazionale no profit col fine di indirizzare investitori e governi verso investimenti green.</p> <p>ENG: Climate Bond is a scheme for standard and certification for bonds, not a carbon credit exchange platform. The Climate Bonds Initiative is an international not-for-profit organization aimed at channeling investors and governments towards green investments.</p>
Who can access and purchase credits	<p>It is not specified, but these are the requirements:</p> <ul style="list-style-type: none"> - the Issuer has established appropriate internal processes and controls prior to issuance or closing of the bond, loan or other debt instrument; and - these internal processes and controls are sufficient to enable conformance with the Climate Bonds Standard after the bond, loan or other debt instrument has been issued or has closed, and allocation of the proceeds is underway. - the Issuer has provided a Green Bond Framework document which confirms its conformance with the Pre-Issuance Requirements of the Climate Bonds Standard

<p>Indicate if there is a reference fee on the website and an exchange area</p>	<p>Here it is possible to access the database that contains all certified bonds that have been issued. The certification costs depend on the type of investment and are discussed individually.</p>
<p>Types of non-forestry purchasable projects</p>	<ul style="list-style-type: none"> - Agriculture - Protected Agriculture - Bioenergy - Buildings - Electrical Grids and Storage - Land Conservation and Restoration - Geothermal Energy - Hydropower - Low Carbon Transport - Marine Renewable Energy - Solar Energy - Shipping - Wind Energy - Waste Management - Water Infrastructure
<p>Types of projects specifically linked to forestry activities or ecosystem services activities</p>	<ul style="list-style-type: none"> - Afforestation and reforestation
<p>Description of the standard functioning (Standardized Methods for Baselines and Additionality) Indicate:</p> <ol style="list-style-type: none"> 1) The methodological standards used for reference (e.g.: CDM, IPCC others); 2) If they have regulatory frameworks at national, international or supranational level; 3) Attach the document that identifies the standard (if applicable) 	<ol style="list-style-type: none"> 1) The reference standard is prescribed by the Climate Bond initiative. The requirements are described in this document 2) Not indicated 3) Refer to the same document as point 1)

Italian Standards

Bosco Amico

Analysis of credit exchange platforms	
BOSCO AMICO	
Name	Bosco Amico
Year of Activation	Not indicated. Expiry year: 2028
Geographical Scope	Valle del Tirino, Comune di Bussi (PE), Italy
Credit's object and contingent cost (where applicable)	<p>4 types of projects in forestry (price for 1 credit):</p> <ul style="list-style-type: none"> - Carbon Credits (CO2) – Subscription: 4,00€ - Carbon Credits (CO2) – Fire-prevention activities: €8,00 - Carbon Credits (CO2) -100% Salto del Turno Alto Fusto di Faggio: €8,00 - Carbon Credits (CO2) -20% Prelievo Ceduo Matricinato: €25,00 <p>For the area of 1 acre, 164 carbon credits have been estimated. It is possible to purchase just 1 credit or all the credits relative to one project.</p>
Number of credits exchanged (if possible); alternatively, indicate the number of projects linked to forestry activities and the value of such projects	<p>4 projects connected to forestry activities .</p> <p>3835 available credits by 20/01/2022.</p>
Brief description of objectives	<p>ITA: Le misure di forestazione sono quelle che sfruttano il meccanismo della fotosintesi per assorbire CO2 dall'atmosfera. Tali misure perseguono l'obiettivo ambientale Kyoto 2020 promuovendo l'aumento di biomassa legnosa al cui interno viene stoccato il carbonio.</p> <p>La Piattaforma BOSCO AMICO si pone come luogo di incontro e scambio tra domanda ed offerta: da un lato aziende emettitrici di CO2, i fruitori dei servizi e dei beni offerti dall'ecosistema "BOSCO", dall'altro i Gestori Forestali.</p> <p>ENG: the forestry measures take advantage of the photosynthesis mechanism to absorb CO2 from the atmosphere. Such measures pursue the</p>

	<p>environmental objective of Kyoto 2020 promoting the increase of wooden biomass in which carbon is stored.</p> <p>The Platform BOSCO AMICO is a place of encounter between supply and demand: on one hand, there are the CO2 emitting businesses, the users of goods and services offered by the ecosystem “BOSCO”, on the other, the Forest Managers.</p>
Who can access and purchase credits	CO2 emitting businesses. It does not indicate if also individuals can access the credits.
Indicate if there is a reference fee on the website and an exchange area	Yes, it exists. The online shop to purchase credits is available here
Types of non-forestry purchasable projects	None
Types of projects specifically linked to forestry activities or ecosystem services activities	<p>4 (as follows):</p> <ul style="list-style-type: none"> - Carbon Credits (CO2) – Subscription - Carbon Credits (CO2) – Fire-prevention activities - Carbon Credits (CO2) -100% Beech Tree (100% Salto del Turno Alto Fusto di Faggio) - Carbon Credits (CO2) -20% Coppice Withdrawal (20% Prelievo Ceduo Matricinato)
<p>Description of the standard functioning (Standardized Methods for Baselines and Additionality)</p> <p>Indicate:</p> <ol style="list-style-type: none"> 1) The methodological standards used for reference (e.g.: CDM, IPCC others); 2) If they have regulatory frameworks at national, international or supranational level; 3) Attach the document that 	<ol style="list-style-type: none"> 1) Use of the following methodological standards: <ol style="list-style-type: none"> a) NCC “Clean Development Mechanism in the Kyoto Protocol – certified emission reduction (CER) credits“ b) Principles of ISO 1406x series – for assessing and verifying GHG emissions c) CREA Codice Forestale del Carbonio (CFC) – “Registro nazionale dei crediti di carbonio generati da progetti forestali ed agricoli” 2) UE Directive 2018/410 received with D. Lgs. 9 June 2020, n. 47

identifies the standard (if applicable)

3) Certification of the standard:



Organisms operating on ecosystem services

The organisms that operate on ecosystems services analyzed in this document present several differences, such as location of action and types of projects proposed for support. The Forest Carbon Group manages only one project aimed at protecting peatland areas in Thailand for carbon reduction, it uses the VCS standard. The ESMC works mainly in the United States and aims at promoting the ecosystem services market for improve the environmental and economic performances of American farmers. AzzeroCO2 works primarily in Italy and proposes a series of projects to enhance ecosystem services to be financially supported. Finally, ECO2Care, the core platform for this project, has been analyzed according to the same information.

International Organisms

Forest Carbon Group

Analysis of credit exchange platforms	
Forest Carbon Group	
Name	Forest Carbon Group
Year of Activation	Not indicated
Geographical Scope	Mainly Asia
Main Project	Sumantra Merang Peatland Project
Number of credits exchanged (if possible); alternatively, indicate the number of projects linked to forestry activities and the value of such projects	A reduction of about 1.300.000 CO2 eq. Tons yearly
Brief description of objectives	ITA: il Progetto protegge una delle aree torbose thailandese, parte di una più grande area torbosa e foresta del Sembilang National Park nell'est del Paese.

	ENG: The project is protecting one of these key peatland areas, part of a larger peat swamp forest zone linked to Sembilang National Park in the east.
Who can access and purchase credits	This platform does not work on carbon credit exchange
Indicate if there is a reference fee on the website and an exchange area	No
Project's benefits not connected to forestry activities	<ul style="list-style-type: none"> - Education and employment - Health - Partnerships with local communities
Types of projects specifically linked to forestry activities or ecosystem services activities	<ul style="list-style-type: none"> - Restore peatlands - Restore natural waterflows - Reduce risks of fires through the creation of dams to always maintain peatlands moist - Monitor water quantity through distance sensors - Create safe corridors for biodiversity protection
<p>Description of the standard functioning (Standardized Methods for Baselines and Additionality)</p> <p>Indicate:</p> <ol style="list-style-type: none"> 1) The methodological standards used for reference (e.g.: CDM, IPCC others); 2) If they have regulatory frameworks at national, international or supranational level; 3) Attach the document that identifies the standard (if applicable) 	<ol style="list-style-type: none"> 1) Project that has been validated with the following standards: VCS standard e Climate, Community and Biodiversity Standard (CCB) 2) Not indicated 3) Not present

Ecosystem Services Market Consortium

Analysis of credit exchange platforms	
Ecosystem Services Market Consortium	
Name	Ecosystem Services Market Consortium (ESMC)
Year of Activation	2019
Geographical Scope	Mainly United States of America
Credit's object and contingent cost (where applicable)	Several types of projects: <ul style="list-style-type: none"> - Soil health - Water quality and quantity - Carbon sequestration - GHGs emissions reduction
Number of credits exchanged (if possible); alternatively, indicate the number of projects linked to forestry activities and the value of such projects	There are not projects linked to forestry activities
Brief description of objectives	<p>ITA: Il nostro obiettivo è di promuovere un mercato per i servizi ecosistemici che incentivi gli agricoltori e allevatori a migliorare la salute del terreno per apportare benefici sistemici. ESMC ha lanciato un programma nazionale per il mercato di servizi ecosistemici riguardanti l'agricoltura che riconosce e premia agricoltori e allevatori per i loro servizi ambientali verso la società. ESMC misura, e presto metterà sul mercato, asset di servizi ecosistemici mirati a incrementare la riserva di carbonio organico nel terreno, ridurre emissioni di gas serra, riduzione di fuoriuscita di liquidi agricoli che impattino la qualità dell'acqua (inclusi azoto, fosforo e sedimenti) e la conservazione dell'acqua.</p> <p>ENG: Our mission is to advance ecosystem service markets that incentivize farmers and ranchers to improve soil health systems that benefit society. ESMC is launching a national scale ecosystem services market program for agriculture to recognize and reward farmers and ranchers for their environmental services to society. ESMC measures, and soon will market, ecosystem service assets that reflect real increases in soil organic carbon, reductions of greenhouse gases, reductions of agricultural run-off that impact water quality (including nitrogen, phosphorus, and sediment), as well as improved water conservation</p>

Who can access and purchase credits	It is not specified since credits are not yet on the market
Indicate if there is a reference fee on the website and an exchange area	It is not specified since credits are not yet on the market
Types of non-forestry purchasable projects	<ul style="list-style-type: none"> - Carbon sequestration in soil - Water quality and conservation - GHGs emissions from agriculture reduction
Types of projects specifically linked to forestry activities or ecosystem services activities	<p>There are no projects connected to forestry activities.</p> <p>Projects connected to ecosystem activities:</p> <ul style="list-style-type: none"> - Carbon sequestration in soil - Water quality and conservation - GHGs emissions from agriculture reduction
<p>Description of the standard functioning (Standardized Methods for Baselines and Additionality)</p> <p>Indicate:</p> <ol style="list-style-type: none"> 1) The methodological standards used for reference (e.g.: CDM, IPCC others); 2) If they have regulatory frameworks at national, international or supranational level; 3) Attach the document that identifies the standard (if applicable) 	<ol style="list-style-type: none"> 1. Methodologies employed for carbon sequestration and for GHGs emissions reductions and relative protocols: <ol style="list-style-type: none"> a. <u>Avoided conversion of grassland</u> – Methodology from VCS (VM0009) b. <u>Conservation tillage or no-till</u> – the mostly employed protocol is the Alberta’s Quantification Protocol for Conservation Cropping c. <u>Compost Additions</u> – Employed methodologies are CDM’s AMSIII.F & ACR (American Carbon Registry)’s Compost Additions to Grazed Grasslands d. <u>Whole farm approaches</u> – Employed methodologies are VM0017 and ACR Grazing Lands and Livestock Management (GLLM) e. Nitrogen Management Practices <p>All protocols are listed in page 12 of the Protocol Assessment document.</p> <p>Further, all GHG programs in North America follow the ISO 14064-2 methodology and can incorporate components from the ISO 14064-1:2006 methodology.</p> 2. Not indicated 3. Not indicated

Italian Organisms

AzzeroCO2

Analysis of credit exchange platforms	
AZZEROCO2	
Name	AzzeroCO2
Year of Activation	Not indicated
Geographical Scope	Italy
Types of projects	<ul style="list-style-type: none"> - Fairtrade vegetable garden and orchard (Orto frutteto solidale) - Green mosaic (Mosaico verde) - Energy efficiency (Efficienza energetica) - Eternit free - Renewable sources infrastructure (Impianti per fonti rinnovabili) - Efficiency support for local municipalities (Supporto efficienza ai comuni)
Number of credits exchanged (if possible); alternatively, indicate the number of projects linked to forestry activities and the value of such projects	1 activity is connected to forestry activities
Brief description of objectives (Specifically of the forestry activity)	<p>ITA: Grazie a Mosaico Verde le aziende possono investire in un progetto di tutela e promuove il recupero di boschi in stato di abbandono o danneggiati da calamità naturali, scegliendo di sostenere una o più attività di gestione, a seconda delle necessità dell'area</p> <p>ENG: Thanks to Mosaico Verde (Green Mosaic), businesses can invest in a project that protects and promotes the recovery of forests that are in a state of neglect od that have been damaged by natural catastrophes, choosing to support one or more managing activities, depending on the area's necessities.</p>
Who can access and purchase credits	This platform does not sell credits.
Indicate if there is a reference fee on the website and an exchange area	Not present

<p>Types of non-forestry purchasable projects</p>	<ul style="list-style-type: none"> - Fairtrade vegetable garden and orchard (Orto frutteto solidale) - Energy efficiency (Efficienza energetica) - Eternit free - Renewable sources infrastructure (Impianti per fonti rinnovabili) - Efficiency support for local municipalities (Supporto efficienza ai comuni)
<p>Types of projects specifically linked to forestry activities or ecosystem services activities</p>	<p>Mosaico Verde provides the following activities:</p> <ul style="list-style-type: none"> - Forest cleaning - Recovery of forest trails - Soil stabilization - Natural renovation - Anti-fire measures - Maintenance of several cultures.
<p>Description of the standard functioning (Standardized Methods for Baselines and Additionality) Indicate:</p> <ol style="list-style-type: none"> 1) The methodological standards used for reference (e.g.: CDM, IPCC others); 2) If they have regulatory frameworks at national, international or supranational level; 3) Attach the document that identifies the standard (if applicable) 	<p>Not present</p>

ECO2Care

Analysis of credit exchange platforms	
ECO2Care	
Name	ECO2Care
Year of Activation	2011
Geographical Scope	Italy
Credit's object and contingent cost (where applicable)	<p>Several types of projects (depending on the specific place):</p> <ul style="list-style-type: none"> - Lagoon valley - Reforestation - Public transport energy efficiency - Public illumination efficiency - Waste tariff based on CO2 emissions <p>Cost: available upon subscription</p>
Number of credits exchanged (if possible); alternatively, indicate the number of projects linked to forestry activities and the value of such projects	<p>Number of projects connected to forestry activities: 4 For a total of 677.413 available credits by 31.01.2022</p>
Brief description of objectives	<p>ITA: Il Registro VER fornisce l'accesso ai progetti certificati da RINA SpA in materia di riduzione delle emissioni di CO2 ed in particolare fornisce il quantitativo di CO2 non emessa o fissata, legata alla contabilità e registrazione dei crediti di tipo VER. Tale quantitativo costituisce un credito di CO2 certificato dal RINA.</p> <p>ENG: The VER Registry provides access to projects certified by RINA SpA regarding CO2 emissions reduction and, in particular, it provides the quantity of not emitted or fixed CO2, connected to the accounting and the registration of VER credits. Such quantity represents one CO2 credit certified by RINA.</p>
Who can access and purchase credits	<p>The subscription to the registry allows to create an account, however, such subscription can be requested only after having received a certification by RINA. There is a fee schedule for the subscription for both the owners of credits, the traders and the potential buyers.</p>

Indicate if there is a reference fee on the website and an exchange area	The exchange area is private and only accessible upon subscription to the registry
Types of non-forestry purchasable projects	<ul style="list-style-type: none"> - Lagoon valley - Public transport energy efficiency - Building's energy efficiency - Public illumination efficiency - Waste tariff based on CO2 emissions
Tipologie di progetti acquistabili specificamente connessi ad attività forestali e attività ecosistemiche	<ul style="list-style-type: none"> - Bamboo Monte Milone - Bamboo in San Giovanni in Fiore and Belvedere Marittimo - Progetto Derovere - San Giovanni in Fiore Belvedere (activated in 2022)
<p>Description of the standard functioning (Standardized Methods for Baselines and Additionality)</p> <p>Indicate:</p> <ol style="list-style-type: none"> 1) The methodological standards used for reference (e.g.: CDM, IPCC others); 2) If they have regulatory frameworks at national, international or supranational level; 3) Attach the document that identifies the standard (if applicable) 	<ol style="list-style-type: none"> 1) Methodological references: UNI EN ISO 14064-2:2006 2) EU Directive 2018/410 received with D. Lgs. 9 June 2020, n. 47 3) Each project has a verification certificate. Every project has a different standard. Is a registry for carbon credits and it is not a standard.