



Workshop

ECOSYSTEM SERVICES OF THE ALPINE FORESTS Approaches, good practices and examples

8th June 2016
Trento

THE VOLUNTARY CARBON MARKET IN EUROPE



Lucio Brotto

**Climate Change and Ecosystem Services
Director**

ETIFOR – Padova University *Spin-off*

Contents

1. Forest Carbon Markets

- Institutional/compliance carbon market
- Voluntary carbon market

2. Domestic carbon market initiatives in Europe

3. Sector innovations

4. Conclusions

Presentation available at the web-site:

www.etifor.com/en/Company-Profile/Staff/Lucio-Brotto.htm

Definitions first

- 1 credit = 1 t CO₂ eq
- eq = the global warming of all Green House Gases (CO₂, CH₄, N₂O, HFC, PFC and SF₆) are translated into CO₂ equivalent
- 1 tC = 3,66 t CO₂
- offset = implementing somewhere else the action of reducing emissions/increasing carbon stock
- methodology: way of calculating climate benefits

new commodity ➡ new rules

- **Additionality** and **baseline definition**: the project wouldn't happen without carbon payments, the with/without approach. (human induced)
- **Permanence**: ensuring long term climate benefits (pests, diseases, political instability, etc)
- **Leakage**: the increase of emissions outside the project area (e.g. due to shifting of logging activities)
- **Carbon credits property rights**: often unclear, sometimes attached to land property or in alternative to land use rights
- **Transaction costs**: expensive monitoring and verification → problem of scale (large project have less transaction costs) → importance of project aggregators

Historical Perspective

Compliance



Voluntary



1992

2002

2012

2016



Agreement Captures Essential Elements to Drive Action Forward

The Paris Agreement and the outcomes of the UN climate conference (COP21) cover all the crucial areas identified as essential for a landmark conclusion:

- Mitigation – reducing emissions fast enough to achieve the temperature goal
- A transparency system and global stock-take – accounting for climate action
- Adaptation – strengthening ability of countries to deal with climate impacts
- Loss and damage – strengthening ability to recover from climate impacts
- Support – including finance, for nations to build clean, resilient futures

PARIS agreement: in summary

- Very soft agreement: Civil Society will bring the change (Binding agreemnt
- INDC revised every 5 years
- Entering into force @ 55 countries accounting for 55% (no USA congress approval for ratification)

NEGATIVE

- Only transparency and reporting are compulsory (target are set by countries)
- No clear rules: to be decided!
- NO fines

LULUCF* leaves 2030 climate target in the l



Table 2-1: Accounting options existing under the Kyoto Protocol in Commitment Period 1 (2008-2012, CP1) and 2 (2013-2020, CP2).

Activity	Accounting in CP1	Accounting in CP2
Afforestation, Reforestation, Deforestation (AR, D)	Mandatory Gross-net, absolute yearly changes, since 1990	Mandatory Gross-net, absolute yearly changes, since 1990
Forest Management (FM)	Voluntary Gross-net, with country-specific cap	Mandatory Compared against future reference (FMRL), with cap of 3.5% of total base year emissions
Grazing Land Management (GM)	Voluntary Net-net, compared to base year (1990)	Voluntary (mandatory if elected in CP1) Net-net, compared to base year (1990)
Cropland Management (CM)	Voluntary Net-net, compared to base year (1990)	Voluntary (mandatory if elected in CP1) Net-net, compared to base year (1990)

Source: Own compilation

* LULUCF stands for Land Use, Land-Use Change, and Forestry. It includes the greenhouse gas emissions from land use, land-use change, and forestry, as well as the removals from grassland, grazing and wetland.

EU TARGET
'at least'

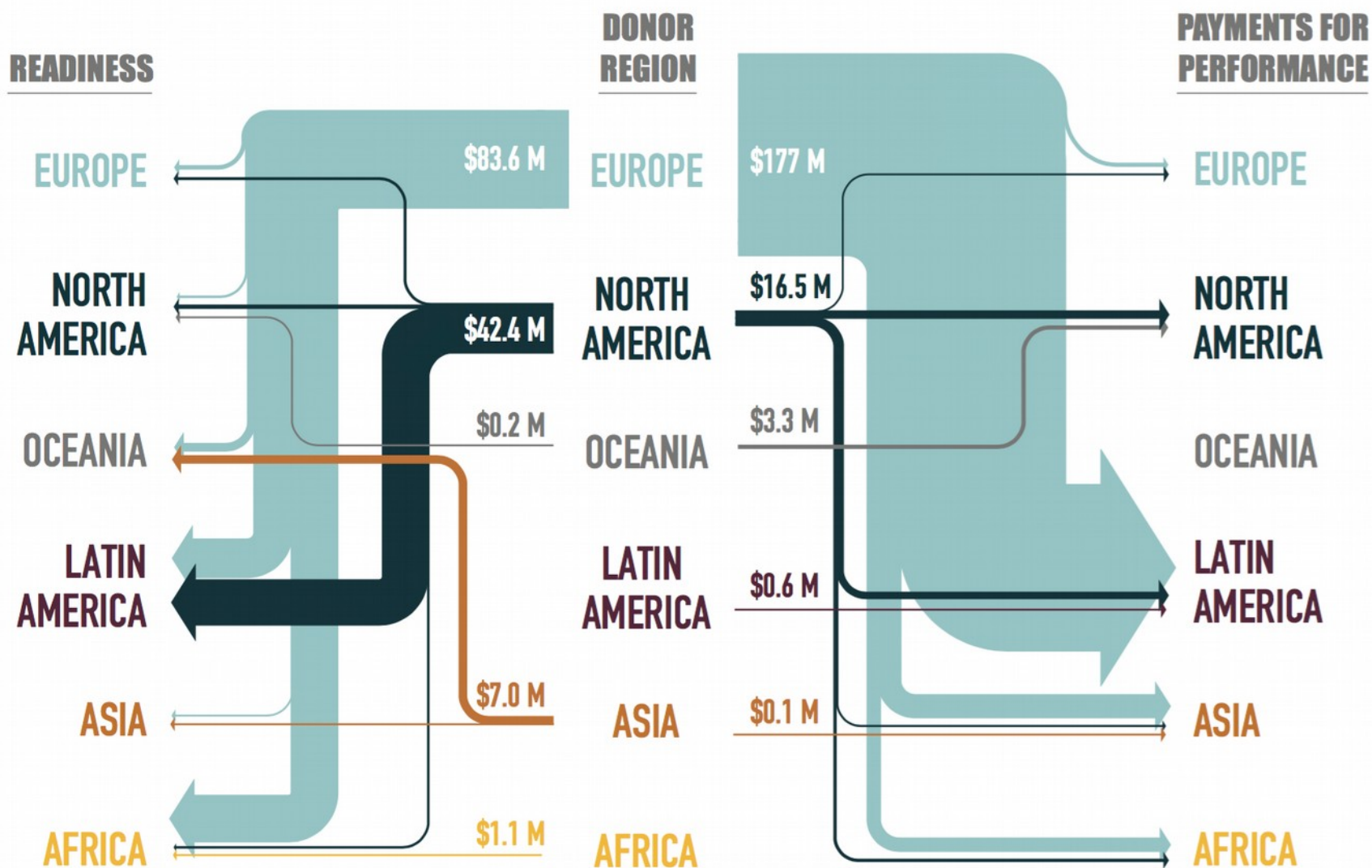
40%

If LULUCF is included in the ESD, it could drag the

33.0% on how forests are accounted

EU forests and fens could be part of the climate solution,
but only if they are in a separate pillar, with their own target.
EU farms should stay securely in the Effort Sharing Decision.

Figure 13: Flow of Finance from Donor/Buyer Region to Recipient Region, 2014



Notes: Based on \$134 M in REDD+ readiness finance associated with a donor region and \$198 M in results-based payments associated with a buyer region in 2014. Results-based payment values are conservative and based only on transactions that traced both the supplier region and the buyer region.

Source: Forest Trends' Ecosystem Marketplace, *State of Forest Carbon Finance 2015*.

HSBC bank to go carbon neutral

HSBC is the first big bank to commit to going carbon neutral as it seeks to reduce its environmental impact.


Starting in 2005, it will plant trees, reduce energy use, generate green electricity and trade carbon credits to cut carbon dioxide flows.

HSBC chief executive Green said: "In 2003, we emitted 550,000 tonnes. We now aim to reduce this to 100,000 tonnes by 2015."




The move will cost up to £100m over five years.

This represents 0.004% of HSBC's 2003 revenue of £99,331m.



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FIFA-Strasse 20 - P.O. Box - 8044 Zurich - Switzerland
Tel: +41-(0)43-222 7777 - Fax: +41-(0)43-222 7878


BRAZIL 2014


FIFA to offset all its operational carbon emissions through certified projects in Brazil




© FIFA.com

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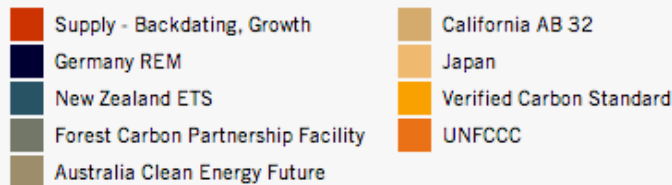
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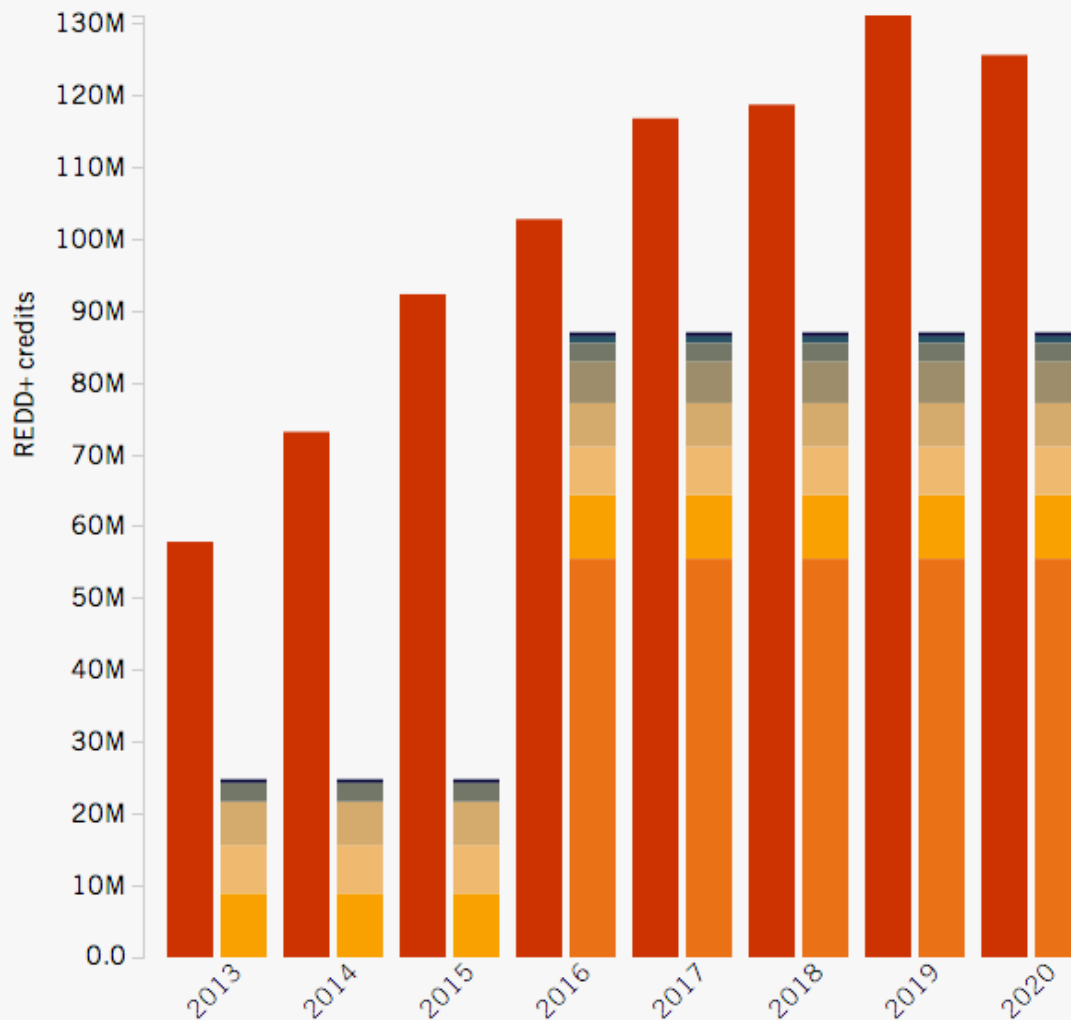
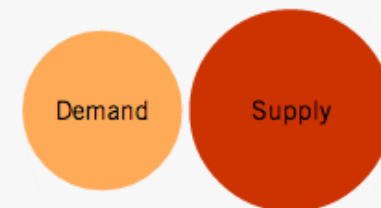
Voluntary carbon market

	2015	2014*	% CHANGE	ALL YEARS**
VOLUME:*	84 MtCO ₂ e	77 MtCO ₂ e	+10%	0.99 BtCO ₂ e
VALUE:***	\$278 M	\$298 M	-7%	\$4.6 B
AVERAGE PRICE:***	\$3.3 / tonne	\$3.8 / tonne	-14%	\$4.6 / tonne

- Decrease in value and prices (278 USD M, 3,3 USD/tCO₂ eq)
- 98% credits are third party independent certified
- Land use and forestry are preferred project types



Cumulative supply vs demand



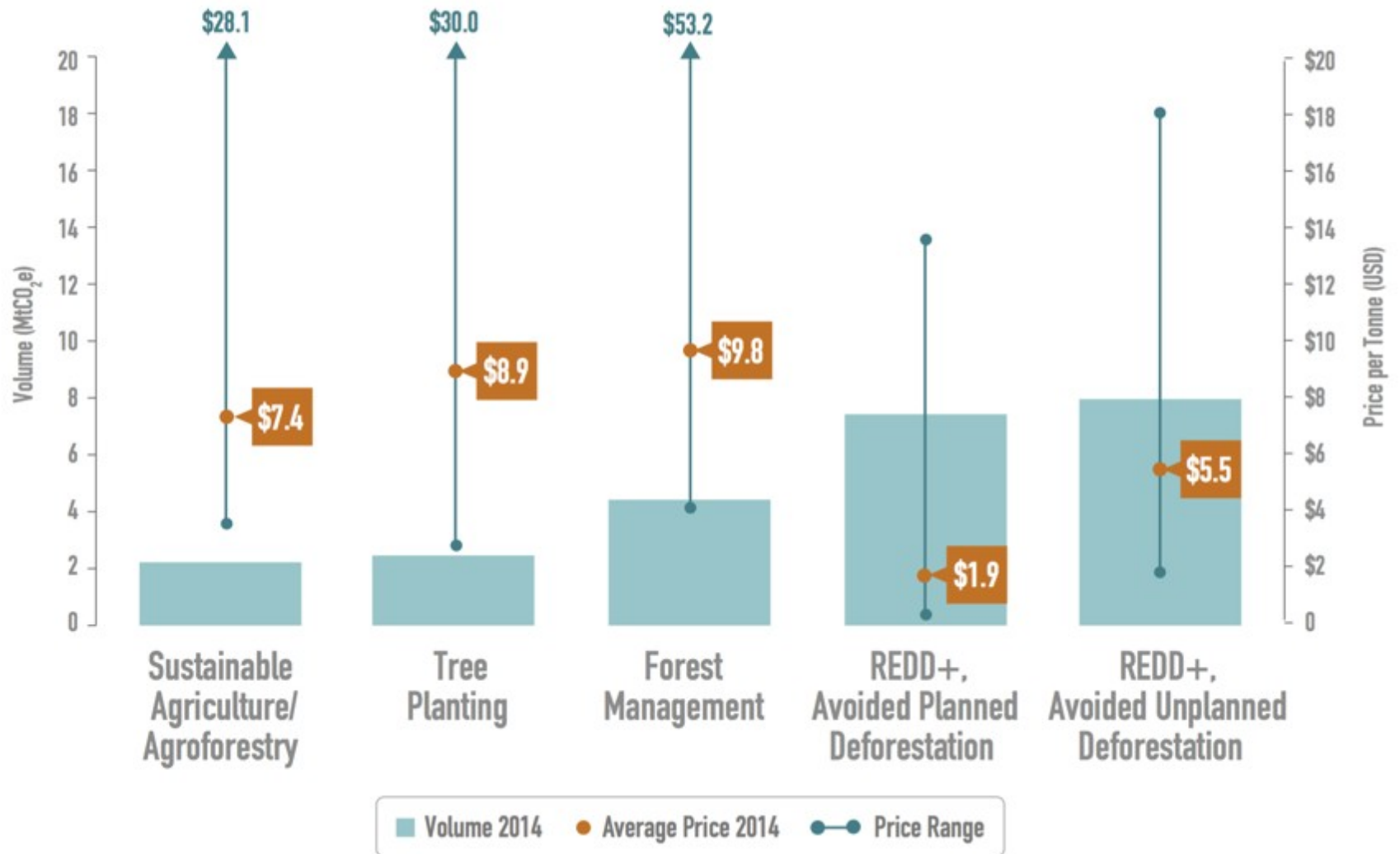
Choose a supply option

- ☐ Supply - No Backdating, Growth ?
- ☐ Supply - No Backdating, No Growth ?
- ☒ Supply - Backdating, Growth ?
- ☐ Supply - Backdating, No Growth ?

Choose demand sources Range estimate ?

- ☒ UNFCCC Mid-range ▼
- ☒ Verified Carbon Standard Mid-range ▼
- ☒ Japan Mid-range ▼
- ☒ California AB 32 Mid-range ▼
- ☒ Australia Clean Energy Future Mid-range ▼
- ☒ Forest Carbon Partnership Facility Mid-range ▼
- ☒ New Zealand ETS Mid-range ▼
- ☒ Germany REM Mid-range ▼

Figure 4: Transacted Volume and Average Price by Project Type, 2014



Over-estimation of carbon credits

Greenwash

Exposing false environmental claims



Noel Kempff project is 'saving the forest' by forcing destruction elsewhere

Forest conservation project in Bolivia proves that unless a nation as a whole cuts deforestation, individual carbon offset schemes are worthless

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Fred Pearce

[guardian.co.uk](#), Thursday 11 March 2010 11.49 GMT

[Article history](#)



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The rainforest in the Noel Kempff Mercado National Park, Bolivia. Photograph: Pablo Corral Vega/Corbis

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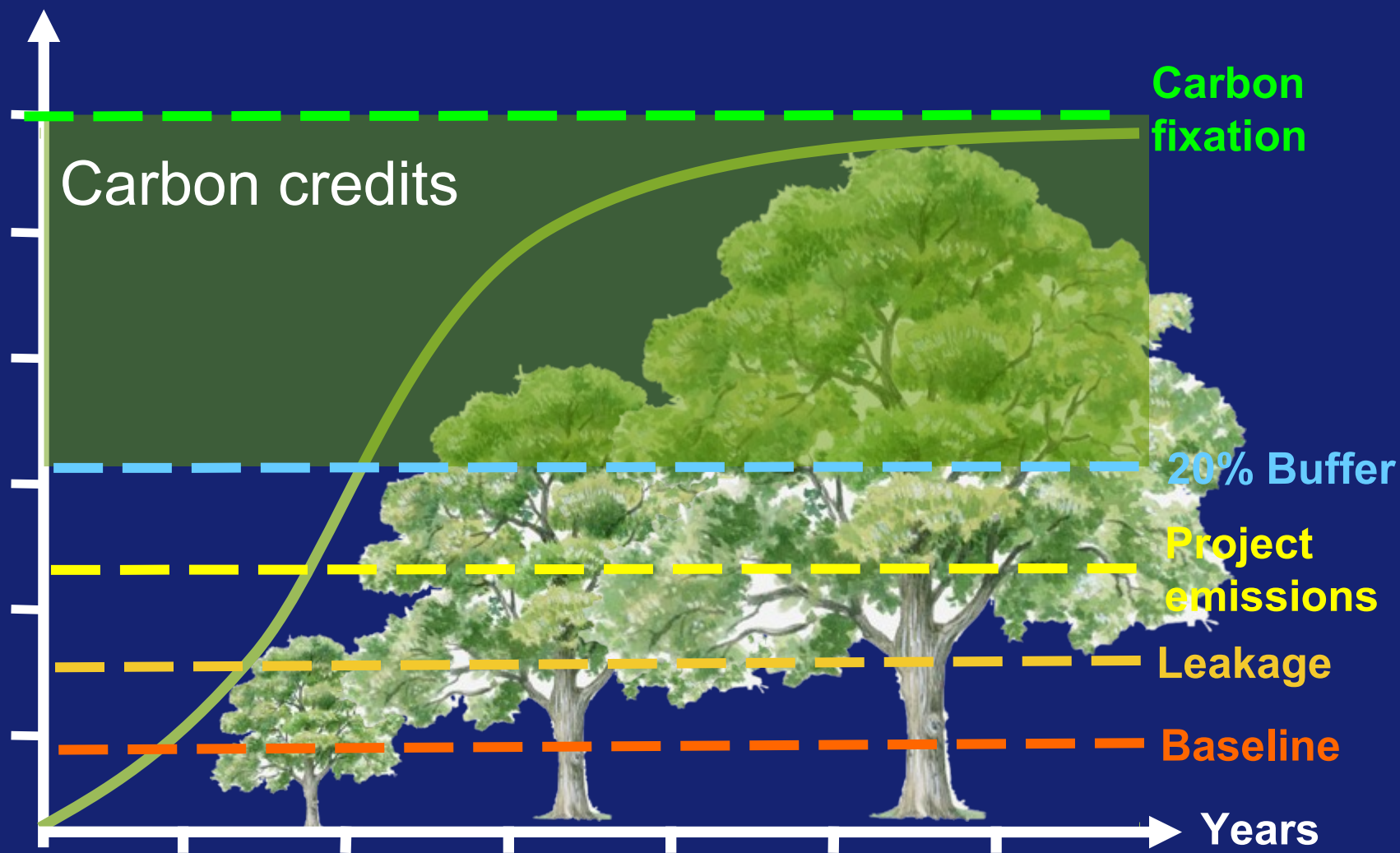
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tCO₂



Encroachment & Land grabbing



The New York Times

Africa

MORE SLIDE SHOWS ▾

In Uganda, Losing Land to Planted Trees

◀ 1 of 8 ▶



According to a report released by the aid group Oxfam on Wednesday, more than 20,000 people say they were evicted from their homes here in recent years to make way for a tree plantation run by New Forests Company, emblematic of a global scramble for arable land.

A mother lives with her family in a grass thatched hut, overlooking the hills they once lived on as profitable farmers.

Credit: Sven Torfinn for The New York Times

RELATED

• **Article:** In Scramble for Land, Group Says, Company Pushed Ugandans Out

Fig.
Base
circle

(Rulli et al. 2012)

Our projects

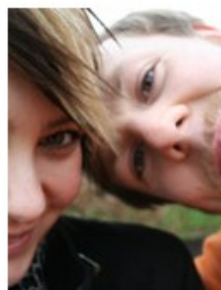
We at Cheatneutral are committed to saving relationships, promoting fidelity, and making people feel good about themselves. Our projects have a great success rate.



Steve and Lisa

Steve and Lisa met while on holiday in Spain, and quickly fell head over heels for each other. That Christmas, at his office party, Steve got drunk and unavoidably repeatedly cheated on Lisa with Cheri, a co-worker. He paid Cheatneutral just £2.50 and we invested his money in Alex, a single man with no prospect of finding a partner. In return for the payments, Alex agreed to remain single.

Thanks to Cheatneutral, Steve was able to come clean about his cheating to Lisa, and when he presented her with the Cheatneutral certificate they realised they wanted to get married. Their wedding is taking place in the summer. Steve continues to regularly cheat on Lisa and Cheatneutral continues to fund projects like Alex with his offset payments.



James and Jo

James and Jo have been together since they met at school. They cheat on each other regularly – James with an ex-girlfriend he can't let go of, and Jo with a man who delivers stationary to her office who's name she doesn't know. To offset their cheating they fund Chris and Mim through Cheatneutral. In return for the payments from Cheatneutral Chris and Mim promise to remain loyal and faithful to each other so that James and Jo can carry on cheating.

James said about the scheme "Cheatneutral gave us advice on how to reduce our cheating first. We try to spend more quality time together now. And then we offset the remaining, unavoidable cheating from times when we're drunk or feeling low, by funding projects like Chris and Mim."

**Do you have to cheat
because of work?**

Contact us now

to discuss group business offset rates.

Forest or agriculture land

Supply: economic actors able to offer quota from their C offset investments

Project developers/consultants

Project offset standards

Certification body

retailers/wholesalers/brokers/aggregators

Registries/database

Offset Provider Quality Program

Carbon Footprint Standards

Consultants

Demand: economic actors willing to buy carbon credits from offset investments

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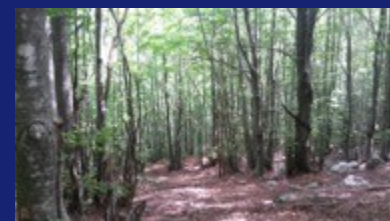
REDD, 300-500 credits/ha 900-1500€ VERs → 5000+ ha



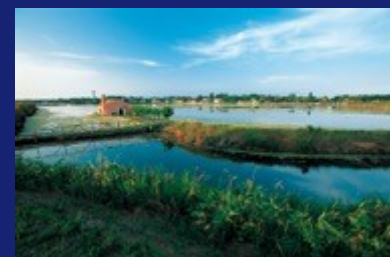
GI, 200-300 credits/ha 2000-3000€ VERs → 500+ ha



A/R, 200-300 credits/ha 2000-3000€ VERs → 500+ ha



IFM, 10-80 credits/ha 150-1200€ VERs → 10000+ ha



BC, 600-900 credits/ha ???? € VERs → ???? ha

ALM, 1-20 credits/ha ???? € VERs → ???? ha

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DOMESTIC CARBON INITIATIVES IN EUROPE – EXPERIENCES AND OPPORTUNITIES

What is the potential for domestic offset systems within member states of the European Union? Gold Standard teamed up with the German government to host an event on 19th June that explored this question at “Domestic Carbon Initiatives in Europe – Experiences and Opportunities”. Representatives from Austria, Belgium, France, Germany, the Netherlands, Switzerland, and the United Kingdom shared their goals, visions, progress and challenges. It is clear that domestic markets are moving forward in various stages of progress.

Some common themes arose during the discussions:

- How to avoid double monetization of emission reductions?
- How to ensure positive impacts beyond carbon reductions to make funding accomplish more, especially in areas like health and biodiversity.
- How to keep this conversation alive for greater collaboration and synchronization where possible?

We are currently in the follow-up phase to explore further opportunities to enhance cooperation among these domestic initiatives and to delve more deeply into topics such as:

- Technical issues like additionality and permanence within Land Use & Forests projects
- Strategies to link voluntary initiatives to the EU-ETS
- How to support regional initiatives to develop their infrastructure
- Further analysis of market potentials and supply and demand by sector

We will announce any further events as planning moves forward. If you would like to consider sponsoring one of these events, please send an email to sarah.leugers@goldstandard.org.

Our sincere thanks to the German Emissions Trading Authority (DEHSt) at the Federal Environment Agency (UBA) and the event's sponsors:

An European approach?

- **Austria:** 2013 monitoring project VCM-AT, biomass projects since 2007 with Climate Austria and *Ökoregion Kaindorf*
- **Belgium:** only explorative studies, differences among regions
- **France:** projects since 2006 then into ETS, now issues with small scale and methodologies for agriculture
- **Germany:** in 2012 3.3 M tCO₂e retired of which 10% generated in Germany. *Moor Futures* for peat lands
- **Netherlands:** in 2012 the Green Deal purposed by Gov, ok IFM and A/R, no certification because of small scale
- **UK:** WCC since 2011, certification, so far 199 projects, Markit
(Ivleva et al, 2015)

An European approach?

- **Spain:** Spanish Carbon Initiative, 5 A/R for non ETS companies. Since 2011 also *Fondo de Carbono para una Economía Sostenible* with Gov buying spanish projects
- **Switzerland:** domestic market with Swiss Attestations payed by fossil fuel importers, projects with CDM methodologies (e.g. biofuels)

ECOSTAR Project

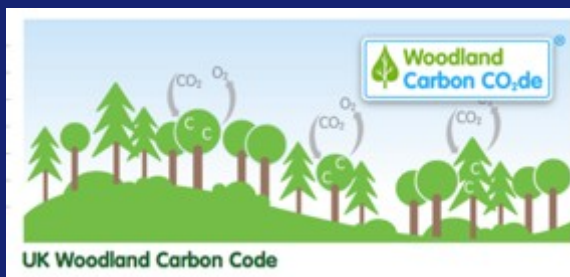
UK, Italy, USA, Spain, Romania

2016-2019

- Analysis of European initiatives for market of CO₂, water and biodiversity
- Market studies in collaboration with Ecosystem Marketplace

Italian Forest Carbon Code

- Good Practices guideline, NO standard. Only for Italy
- 3 years consultation with 400 participants
- **CURRENTLY:** waiting for Italian Ministry of Environment



Codice Forestale del Carbonio

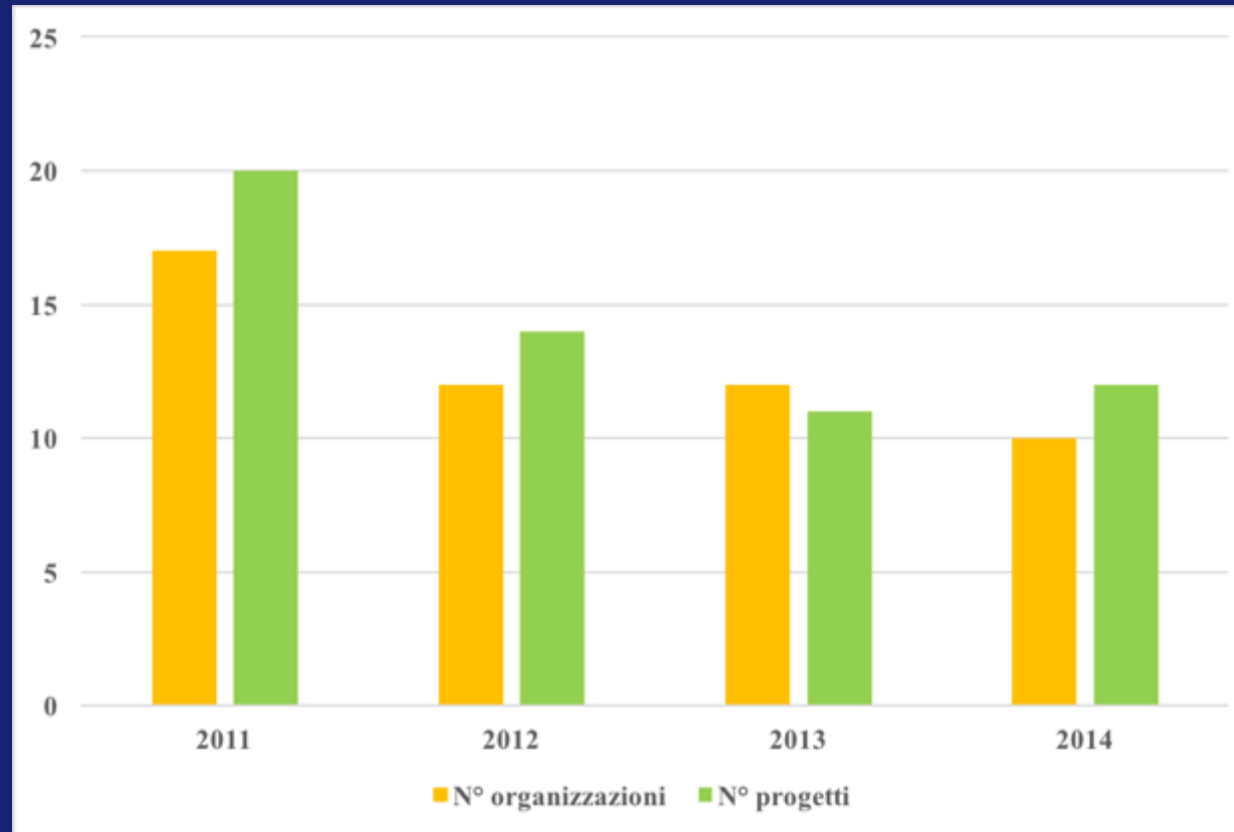
Requisiti per progetti volontari di sequestro del carbonio

BOZZA IN CONSULTAZIONE
Versione 1.0

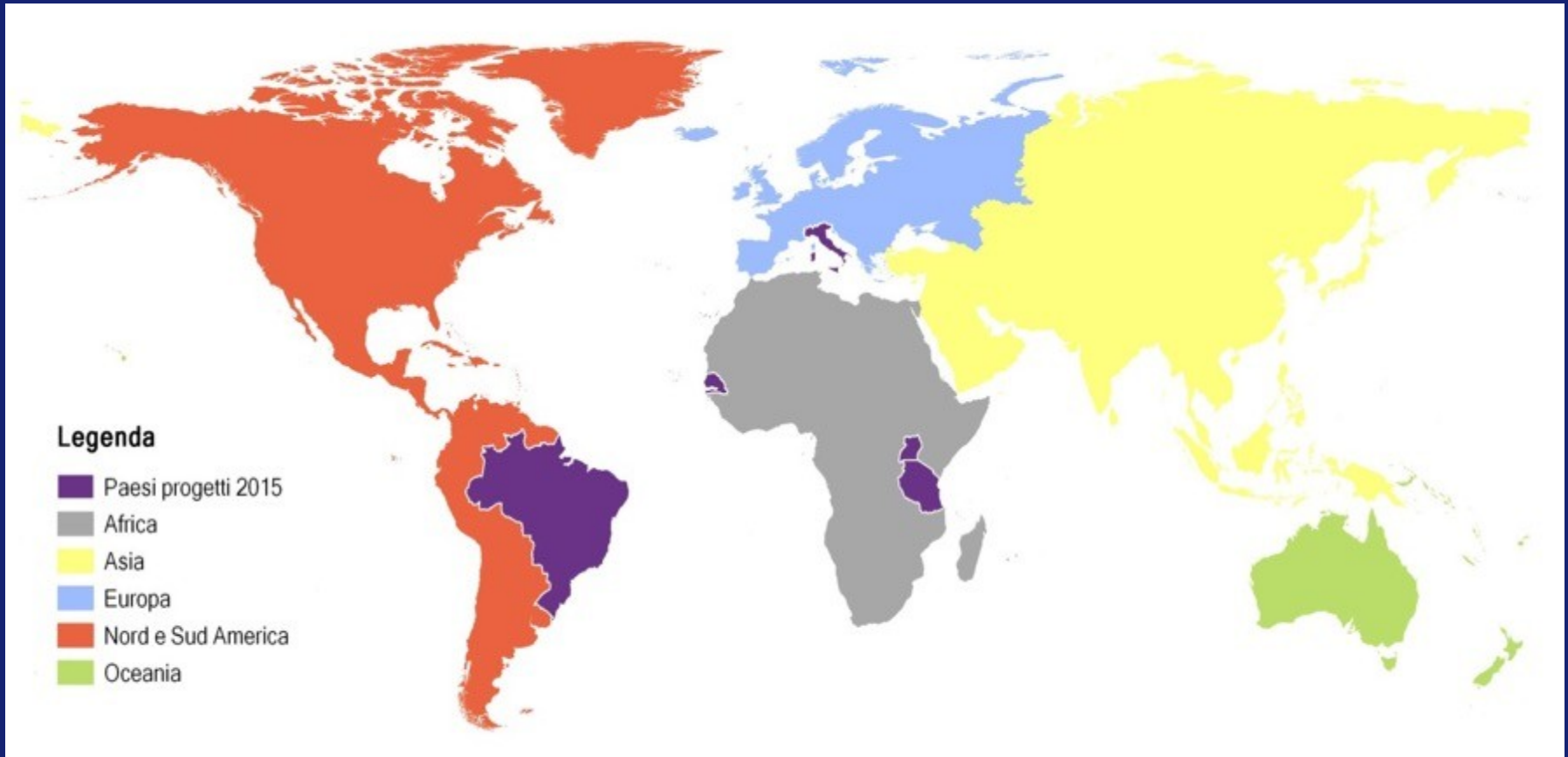


Projects

- 57 active projects
- 12 projects detected in 2014
- forest area impacted in 2014: 16.000 ha
- mostly micro = less than 5.000 tCO₂e/y
- NGO lead sector
- Private UP
- Public DOWN

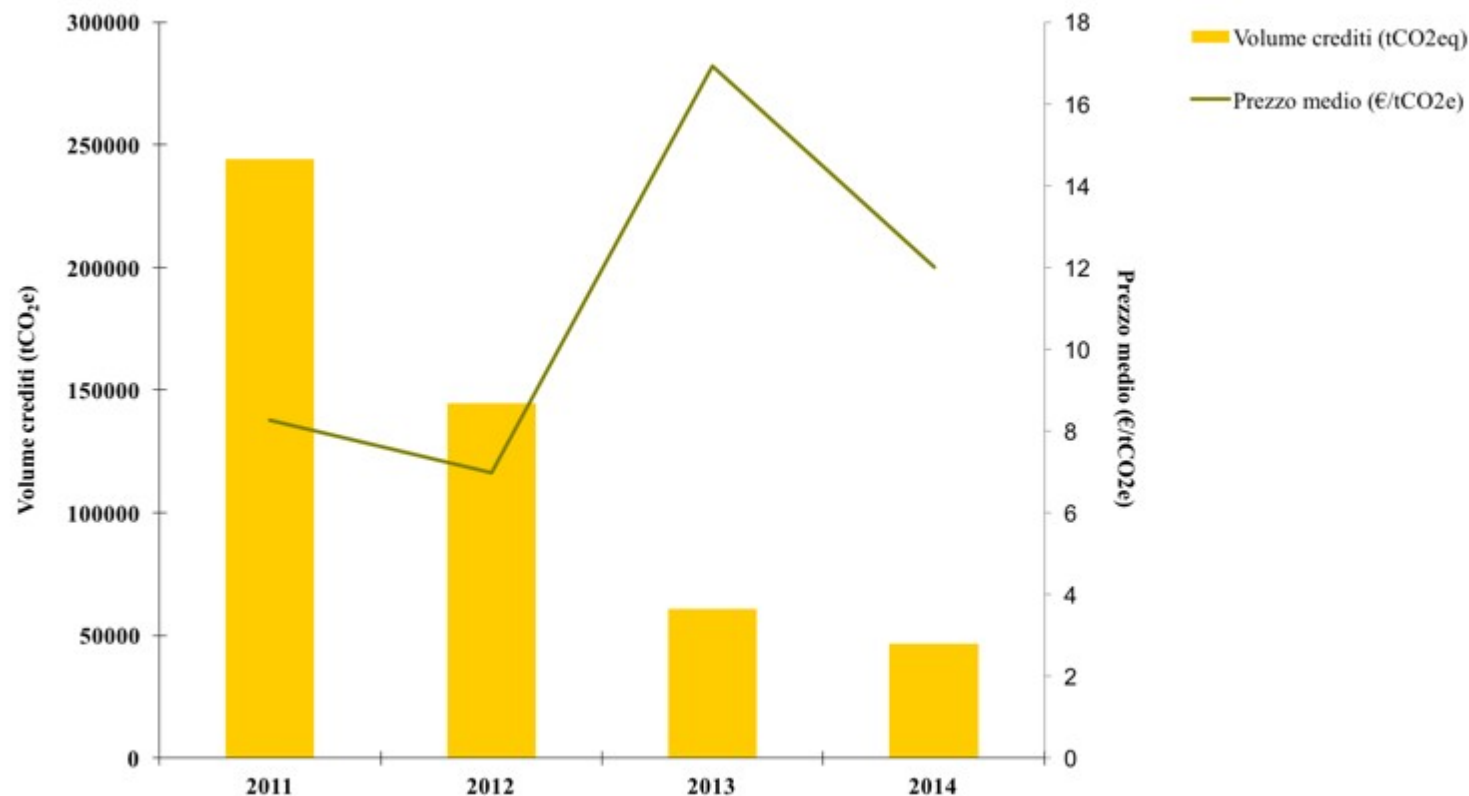


Location in 2014



- Projects in: Italy, Senegal, Uganda, Tanzania and Brazil
- Mostly in Italy BUT small size
- Africa and South America: few project but larger size

Volumes, values and prices



- volume sold in 2014: 46.720 tCO₂e
- value sold: 560.643 €
- average price: 12 €/tCO₂e (2.6 - 67 €/tCO₂e)
- 2% of the value of European Voluntary Forest Carbon Market

A sample of projects



POSTED ON: 27 NOV 2009

The **Jatropha Agroforestry** project is aimed at restoring degraded cultivated lands, by developing agroforestry practices.

are foreseen to cover a total area of 1411 hectares of degraded soils mainly in the surroundings of the cities of Ourour and Kaffrine. The plantations will be located near villages around these cities to limit the transport and facilitate the access of inhabitants hired for the project implementation. Local workers will be trained also for sustainable agricultural and forestry practices during the project.

aziende a un **progetto di gestione forestale** di alcune aree piemontesi. Lo scopo è quello di avviare una gestione attiva delle aree boschive e accrescere gli assorbimenti di carbonio, consentendo al contempo un **flusso di reddito aggiuntivo attraverso la vendita dei crediti di CO₂**.

satellite images.

Project Status	operational
Location	Kaffrine, Fatick and Kaolack Regions in Senegal
Project Starting Date	June 3rd, 2009
Crediting Period	24,5 years
Project Type	Carbon Sequestration / Local Development Cooperation
Project Standard	VCS Grouped Project (Verified Carbon Standard)
Project Developer	The African National Oil Corporation (ANOC) s.a.r.l
Contact Person	Mr. Alessandro Milani
E-Mail	studio_milani@libero.it
Total Emissions Reduction	52,700 ton/CO ₂
Carbon Credits	VCUs

5
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tc



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- Integration with Common Agriculture Policy funds for 2014-2020
- Integration with voluntary forest certification standards (FSC)



Landscape Approach: horizontal + vertical

CSA



A/R



IFM



Sustainable Responsible Investments

Sustainable Responsible Investments (SRI) is a generic term covering any type of investment process that combines investors' financial objectives with their concern about Environmental, Social and Governance (ESG) issues.

Norway fund drops 11 firms over deforestation



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ST VIDI



Supply chain: Carbon Disclosure Project www.cdp.net

- Over 780 companies globally have been asked to report on deforestation risk through CDP this year;
- 139 companies disclose to CDP to enable effective management of five key forest risk commodities;
- This is a 39% increase in the number of companies using CDP to communicate their management efforts to investors since last year.

The forest risk commodities

Forest risk commodity	Explanation
	Timber: this includes all solid timber as well as products made from processed wood fibre such as paper, cardboard and specialty fibres such as viscose.
	Palm Oil: this includes crude palm oil, and all of its chemical derivatives. It also includes palm kernel oil and its derivatives. Please note that palm oil used for biofuel production is to be reported as 'Biofuels'.
	Cattle Products: this includes all food products containing beef, all clothing, furniture and accessories that are made of leather, tallow and all other products derived from cattle.
	Soy: this includes all meal or oil containing soy and any derivatives that are obtained from soy.
	Biofuels: this includes all biofuels that are produced from biodiesel made from oils such as palm and soy. Companies should not report on biofuels produced from crops such as corn or wheat, algae, or on biofuels blended with publicly available gasoline due to regulatory requirements and consumed for transportation.

Supply chain



GOOD PROGRESS TRACKING PALM OIL TO PLANTATIONS.
REASONABLE PROGRESS ON TRANSPARENCY. STRONG ADVOCATE
FOR INDUSTRY CHANGE.



HIGH STANDARDS AND MAKING REAL PROGRESS TOWARDS TRACING
ITS PALM OIL. GOOD PROGRESS IN ENSURING SUPPLIERS ARE NOT
DESTROYING RAINFORESTS.



GOOD PROGRESS TOWARDS CLEAN PALM OIL SUPPLY AND PUSHING
FOR INDUSTRY REFORM. REFUSES TO REVEAL SUPPLIERS.



Italy: supply chain approach

The advertisement features a yellow header with the Sgambaro logo and navigation links. Below is a large image of a wheat field under a blue sky with the text '100%' in large white font. At the bottom, there are three icons: a footprint for 'LIGHT ECOLOGICAL FOOTPRINT', a wheat stalk for '100% ITALIAN WHEAT', and a circular icon with an 'i'.

Spaghetti al naturale? La Sgambaro adotta un bosco.

Publicato Giovedì, 20 Febbraio 2014 14:50

Ambiente, Italia, notizie, green, sostenibilità



L' impegno economico assunto dal patron di Sgambaro per ridurre l' impatto ambientale, consentirà a oltre quarantamila alberi di continuare ad immagazzinare Co2 e rilasciare ossigeno, e al pastificio di ridurre l' impatto ambientale causato dall' emissione di anidride carbonica durante il processo di produzione. A salvare una superficie di quasi 700 ettari, insieme al numero uno della storica azienda trevigiana Pierantonio Sgambaro, è intervenuto anche il gruppo GiPlanet di Piove di Sacco (Padova). La cordata imprenditoriale ha sottoscritto ufficialmente l' intesa, sotto la vigilanza dalle Regioni Veneto e Friuli Venezia Giulia attraverso 'Carbomark', durante la conferenza stampa del 19 febbraio a Venezia.

"E' solo la ciliegina sulla torta di un percorso iniziato più di dieci anni fa, guidato dalla consapevolezza che senza rispetto per l' ambiente non c' è futuro." Questo ci ha detto Pierantonio Sgambaro, all' indomani dell' accordo con i comuni alpini di Lusiana (Vicenza) e Mel (Belluno) per mantenere lo stato di conservazione delle aree comunali boschive più vetuste.

Pierantonio Sgambaro, terza generazione alla guida di un' azienda che, pur contando 20 milioni di euro di fatturato e 42 dipendenti, si mantiene ancora familiare e quanto mai ancorata al territorio d' origine, continua così: "Abbiamo cominciato a parlare e "fare" filiera corta nel 2003, quando ancora non era una moda, acquistando grano duro da produttori di Ferrara, Rovigo, Bologna, Mantova. La nostra materia prima proviene da un raggio massimo di 160 km e ne deriva una pasta italiana in ogni passaggio della filiera, della quale conosciamo ogni caratteristica qualitativa. L' investimento successivo è stato in energia verde: tutta l'energia elettrica utilizzata per i nostri processi produttivi deriva da fonti rinnovabili e in particolare dall' idroelettrica, grazie anche ad un accordo con la centrale di Trento. Con queste misure di tutela dell' ambiente, siamo arrivati nel settembre scorso, alla certificazione EPD per la linea "Sgambaro Etichetta Gialla". Letteralmente significa "dichiarazione ambientale di prodotto" e non fa altro che riportare le emissioni di gas serra del nostro processo produttivo, espresse in kg di CO2-equivalenti: 800 grammi di CO2 per kilopasta è il nostro impatto ambientale."

E conclude: Grazie a quest' ultimo accordo, non quantificato nella certificazione EPD, e ad un impegno continuo, il mio obiettivo è raggiungere emissioni di anidride carbonica pari a zero."

Commenta questo articolo!

Conclusions

1. From OFFSET to SUPPLY CHAIN
2. From EU Funds & Public interventions to Public sector guiding and advising
3. From science to cost reduction and marketing
4. From forest to landscape
5. From single to multifunctional forests
6. Zero Emission Trento Province?

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Viale dell'Università 16, c/o Dip. TESAF Università di Padova,
35020 Legnaro (PD), Italia
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