#### IUFRO Conference

"Deal for Green? Contribution of managerial economics, accounting, and cross-sectoral policy analysis to climate neutrality and forest management" WPs 4.05 Managerial economics and accounting and 9.05.03 Cross-sectoral policy impacts on forests Ljubljana, Slovenia, 25-27.9.2023

Payments for forest ecosystem services with focus on CO<sub>2</sub> removal

**Davide Pettenella** 

TESAF Dipartimento Territorio e Sistemi Agro-Forestali

1

# **Outline**

- The background: our development path
- Policy tools to provide ES
- An example: the EU Carbon Removal Certification (CRC) Regulation
- A golden rule with 3 implementation criteria

The presentation can be downloaded from the web. Search with "pettenella"

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# The overall objectives of the present strategies

Decarbonizing our society protecting, and possibly increasing, biodiversity



4

3

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#### 15

# My impression

We are defining strategic documents, making statements, defining targets, that refer to the

#### second vision:

2030: - 55% carbon emission (in 6 years and 3 months!)2050: 0 net carbon emission

In reality, we are in a slow process of decarbonization, still consuming natural capital and reducing biodiversity (i.e. we are running along the first vision)

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# Demand for land for biomass production on the rise (dependency)







of significative changes (also considering recent extreme events) Launch of the New Green Deal 600000000 500000000 400000000 300000000 200000000 100000000 201 0 201 1 201 2 201 3 2014 201 5 2016 2017 2018 2019 2020 2021 2022 Fuelwood Ind. Roundwood Source: FAOSTAT TESAF Dipartimento Territorio e Sistemi Agro-Forestali UNIVERSITÀ DOLLI STUDI DI PLICOA

Wood harvesting in the EU-27: no signs

19



# Decarbonization could before or later be reached, but at the expenses of the natural capital and biodiversity protection

- There is very significant growth in demand not only for provisioning services (i.e. products with market prices) but also for unpriced cultural and regulatory services.
- In the case of unpriced services, suppliers are often not motivated to keep or increase the supply.
- Even in cases where the supply of unpriced services is a spillover of market ones (e.g., the protection of biodiversity as a spillover of the semi-natural forest management), the services are provided at sub-optimal levels, i.e. much less than social demand.

24

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A title for IUFRO WPs 4.05 & 9.05.03 **2031 Conference** "Deal for Green? Why we have not been able to get the 2030 decarbonization/biodiversity objectives"

And, in the case I will be wrong:

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2031 Conference "Deal for Green? How we have been able to get the 2030 decarbonization/biodiversity objectives" Padova, September 2031

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26

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# A general trend (?): from Command-and-Control (CAC) to Market Based Instruments (MBI) C&C Taxes, permits, limitations, ...

- C&C Taxes, permits, limitations, ... right/duty implementation "non to be done"
- MBI Economic tools used to drive human behavior "to be done" (on a voluntary basis)

Source: OECD 1994, Stavins 2001, Windle et al. 2005

28

# Great attention to MBI, with special focus to PES

- 4th Ministerial Conference on the Protection of Forests in Europe (Vienna, Austria, 28–30 April 2003)
- Statement of the Ministerial Meeting on forests (Rome, Italy, 14 March 2005)
- UN Commission on Sustainable Development, 13th Session on water, sanitation and human settlements (New York, 30 April 2004 and 11–22 April 2005)
- 9th Meeting of the conference of the contracting parties to the convention on wetlands (Kampala, Uganda, 8–15 November 2005) Resolution IX.3: Engagement of the Ramsar Convention on Wetlands in ongoing multilateral processes dealing with water
- International Tropical Timber Agreement (Geneva, Switzerland, 27 January 2006)

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30



# Some barriers in the development of PES initiatives

Bar	rrier category	Challenges	
Info	ormational	Lack of awareness among beneficiaries and providers	
Тес	chnical	Scientific uncertainty, Baselines, Leakage, ES valuation, Excludability and free riding, Shortage of skills and experience	
Spa	atial	Spatial variability of ES	
Ten	nporal	Permanence, Time lags, Different time horizons	
Fin	ancial	Perceived risks, High start-up and Transaction costs	
Ins	titutional	Perverse incentives, Complex policy environment	
Leg	gal	Property rights and other issues	
Cul	Itural	Aversion to paying for ES, Lack of trust, Terminology	
Equ	uity	Perceived unfairness	
		Source: modified from DEFRA, 2011	
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31

# Legal problems: cost of provision and high baselines

 The prevailing approach by State actors → cost of provision (a robust framework adopted by EU Rural Development Program); high normative baselines is often a limitation



34

### Cultural problems: "financialization" and "commodification" of natural resources

A process whereby the natural functions and processes of forests, meadows, mountains and other natural areas become treated as a range of 'ecosystem services' including biodiversity, regulation and filtration of water, carbon storage and sequestration, the economic value of which can be calculated and expressed in monetary terms.

Financialization transforms both everyday perceptions and policy, and involves not only the framing and valuation of these natural spaces in economic terms via commodification, monetization, commercialisation, but also their integration into financial markets as a tradable asset (Kill, 2014) Financialization of Nature





35

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#### **"The devil is in the details"...** Minimum criteria for sustainable finance in forestry (first draft forest Taxonomy – not approved)

	FMA 1: Close to Nature	FMA 2: Intensive even-aged mixed	FMA 3: Intensive even-aged
		native species	monocultures
Set-aside	10%	20%	30% (if 20% also put under FMA 1 or FMA 2). If not, 50%
Age structure	Uneven, all age classes	N/A	N/A
Retention trees	30 / 10% (largest)	30 / 10% (largest)	N/A
Max harvest /	0.3 Ha	1 Ha (broadleaf/mixed)	
clear cut area		3 Ha (conifer)	N/A
	+ 100m gaps between	+ 100m gaps between	
Deadwood	No extraction of deadwood		
	Min. 20 m <sup>3</sup> in conifer forest /	Min. 20 m <sup>3</sup> in conifer forest / 30 m <sup>3</sup>	N/A
	30 m <sup>3</sup> in broadleaf or mixed	in broadleaf or mixed	
	Salvage harvesting fallback		
Tree species	All local species at viable populations	90% + native	
			N/A
		3+ native species (unless naturally less)	
Regeneration	Natural regeneration only	Local genotypes	N/A
Degradation	No degradation / simplification of the	No degradation / simplification of	N/A
	composition, structure & function of	the composition, structure &	
	utilised forests	function of utilised forests	
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	stemi Agro-Forestali DI Puton		

41



Area of policy action	The regulatory initiatives by the EU	Private initiatives that have previously covered the area of EU' policy action	
Legal origin of the wood products and their CoC and criteria for SFM	EUTR – European Union Timber Regulation	CoC standards by FSC, PEFC, Naturaland, Plockhugget,	
Sustainable finance	Taxonomy	GABV, FEBEA and INAISE networks' activities	
Sustainable use of wood biomass	REDII and REDIII (draft)	Better Biomass, ISCC, SBP, (see https://energy.ec.europa.eu/topics/renewable- energy/bioenergy/voluntary-schemes_en)	
Legal origin of 7 rough natural products and their CoC	EUDR – European Union Deforestation and forest degradation Regulation	GFP, Rainforest Alliance, RTRS, RSB, RSPO, SAN, SBP + already mentioned forest related organizations	
Sustainability reporting	CSRD (Corporate Sustainability Reporting Directive) and NFRD (Non- Financial Reporting Directive)	GRI, CDP, SASB, ISO 14001 EMS, SASCB, Carbon Trust Standard, Greenhouse Gas Protocol by the WRI and WBCSD,	
Carbon credits generation	CRC – Carbon Removal Certification Regulation	National Schemes and private certification schemes and standards	
CDP: Carbon Disclosure Proje Platform, GRI: Global Reporti Sustainable Biomaterials, RTF Oil, SAN: Sustainable Agricult Board, SASCB: Sustainability Sustainable Develooment, WR	ect, CoC: Chain of Custody, EMS: Enviro ing Initiative, ISCC: International Sustain RS: Round Table on Responsible Soy As ure Network, SBP: Sustainable Biomass Accounting, Standards and Certification RI: World Research Institute.	nmental Management System, GCP: Global Coffee ability and Carbon Certification, RSB: Roundtable on sociation, RSPO: Roundtable on Sustainable Palm Program, SASB: Sustainability Accounting Standards Board, WBCSD: World Business Council for	

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44

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Standard	Web site	Logo
VCS-Verra	https:/cosystem /verra.org/ > 80% of the market	VOLUNTARY CARBON STANDARD
The Gold Standard	https://www.goldstandard.org/	Gold Standard
ССВ	www.climate-standard.org	The Climate, Community & Biodiversity Alliance
Plan Vivo	www.planvivo.org	×.
Carbon Fix	www.carbonfix.org	Critbon Fits Strind and
Social Carbon	www.socialcarbon.org	socialcarbon
Climate action reserve	www.climateactionreserve.org	CLIMATE ACTION RESERVE

## The main driver: the commitments towards zero net C emissions of the companies

**5,900 companies** reporting their Carbon commitments (2020), a figure rapidly increasing.

Almost 2,000 companies have adopted or are adopting an internal pricing systems of their Carbon emissions (median internal price: 25 US\$/tCO<sub>2</sub> eq) Source: Putting a price on carbon. The state of internal carbon pricing by corporate globally -CDP Report 2021

 $\rightarrow$  Demand for Carbon offset is potentially higher than supply

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# National schemes (cont.)

- 6 out of 10 of the European schemes concern the forestry sector
- Plantations are the most frequent investment
- Different definitions of additionality, but no support for the maintenance (or prevention of degradation processes) of the existing forests
- Still a long way from a common market!

	market (2017)		
Average price	4.6	2.7	13
Range	from 2 to 72	from 0.4 to 72	from 6 to 110
Fonte: Domestic	carbon standards in E	urope https://www.i4ce.o	rg/wp-core/wp-

54



### In this context, for a smooth development of the market there is a need for common, transparent, rigorous, shared rules.

- A task that several national and regional public bodies, in partnership with private individuals, have set themselves in recent years the development of voluntary national schemes
- These developments have made central coordination even more necessary: Carbon Removal Certification initiative (draft Regulation approved at the end of November 2022)

57

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some contrasting aims put together in the

same frame of rules

Source: EC DGEnv

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### CRC contents

- Regulation will be **operational in 2024** (before the election?)
- The EU standard and certification system will work like other schemes (third-party audits of accredited bodies)
- Not a single binding system for the EU market (as in the case of organic products) but coexistence of different certification schemes in the voluntary market. The EU will strong support its adoption in line with other tools (Environmental Claims, Taxonomy, RDP measures, ...)
- Until 2030 no hypothesis of possibility of selling credits in the ETS market. Possible further development of a parallel market similar to the ETS reserved for landuse sector credits



61

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## A golden rule

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70

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- The market and the voluntary instruments (MBI) whenever possible,
- The regulative instruments only when absolutely needed

But which operational criteria for defining the limits and functions of public authorities, the interaction between State and civil society?

69

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Vertical subsidiarity (Art.5(3) EU Treaty)

Policy matters should be handled by the smallest, lowest or least centralized competent authority

 $\rightarrow$  a central authority should perform

performed effectively at a more local

only those tasks which cannot be

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level.

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72



### Horizontal subsidiarity

It addresses the specific **question of choices at the same level**: whether the allocation and exercise of competences by public institutions or by the social partners is preferable, **granting the preference to individuals and private organizations** and legitimizing their actions when directed towards accomplishing the same ends with higher efficiency or effectiveness



#### **Circular subsidiarity**

Circular s.: the idea that action for public goods is the responsibility not only of public bodies, but is based on the **mutual recognition of responsibilities**, skills and operational capabilities between the various subjects, public and private

→ Actions not only promoted through the contribution of civil society, but together with it = sharing of policies and related processes of co-programming, cocreation and co-management (PPP public-private partnership)



74

# Take home message

"What has been will be again, what has been done will be done again; there is nothing new under the sun" (Ecclesiastes 1:9)

- Pure PES are not able to activate all the non-priced ES
  needed by society
- We need regulative public interventions, but we run some risks when they are not limited to soft tools like monitoring, valuation, and information actions: non adequate thresholds, bureaucratic controls that are increasing the transaction costs, displacement of civil society's initiative, dissatisfaction by operators, ...
- This is the ongoing risks that we are facing in this moment of active role of European public institutions
- This new role of public institutions seems to **re-creating** in a different version the **traditional role of a strong State** that regulates and manages the market, reducing the role and responsibility of civil society.

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