



Dr. Katja Arzt, EUROPARC Germany, 25th of November 2014, Amsterdam

Save Valuable Landscapes - Buy Climate certificates: The Birth of a New Market

Nationale
Naturlandschaften



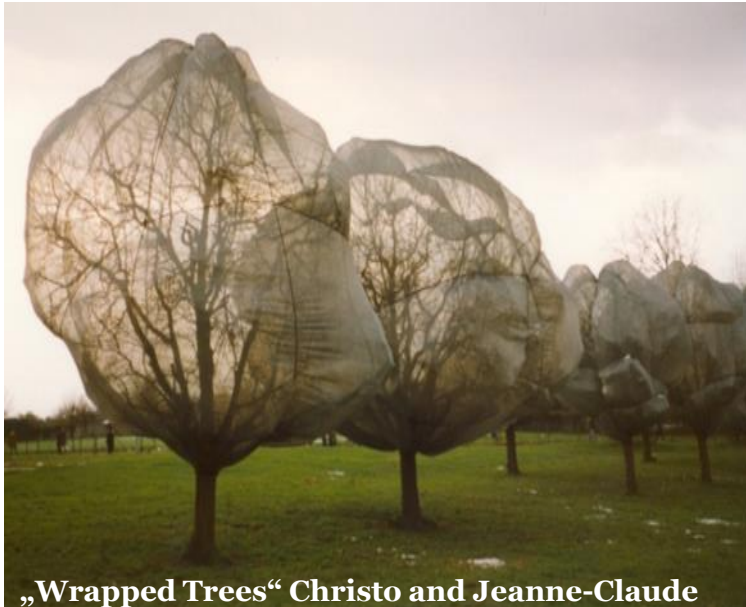


Background

EUROPARC Germany is the umbrella organisation of „Nationalen Naturlandschaften“ and the german section of EUROPARC Federation

- All parks have a positive impacts on all kinds of ecosystem services (see Job et al.).
- Most people value parks.
- **However:** A lot of effective climat- und natur-conservation-measures cannot be realized because of missing financial support.
- EUROPARC Germany and DUENE evolved ideas about some kind of instrument, that could be suitable to realize those climat and nature protection projects.
- In the Year 2011/2012 we made a pre study about selling certificates from ecosystem services made by german parks.

Ecosystem Services: Payment schemes



„Wrapped Trees“ Christo and Jeanne-Claude

In order to involve business and individuals we would like to establish payment schemes for ecosystem services, like carbon or biodiversity certificates (off-sets) on the voluntary market.

- Main question was:
- Is it worthwhile and rentable to establish an environmental „trading desk“, which will trade ecological services made by nature projects in german parks.?
- Those projects will support carbon-storage, water purification or will stop biodiversity loss.
- Result: Yes, it is worth a try.

Our vision: Companies buy certificates, made by parks. Herewith companies support regional environments and voluntarily compensate for their environmental interventions.

The pre-study was financed by the Federal Agency for Nature Conservation (BfN) in duty of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU).



What did we look at:



Product:

What do we need to develop a standard and methods for forest projects and agro-forestry project, use of the MoorFuture Standards for peat land.



Land potential:
NNL (35) like the initiative for their greenland and for forest.



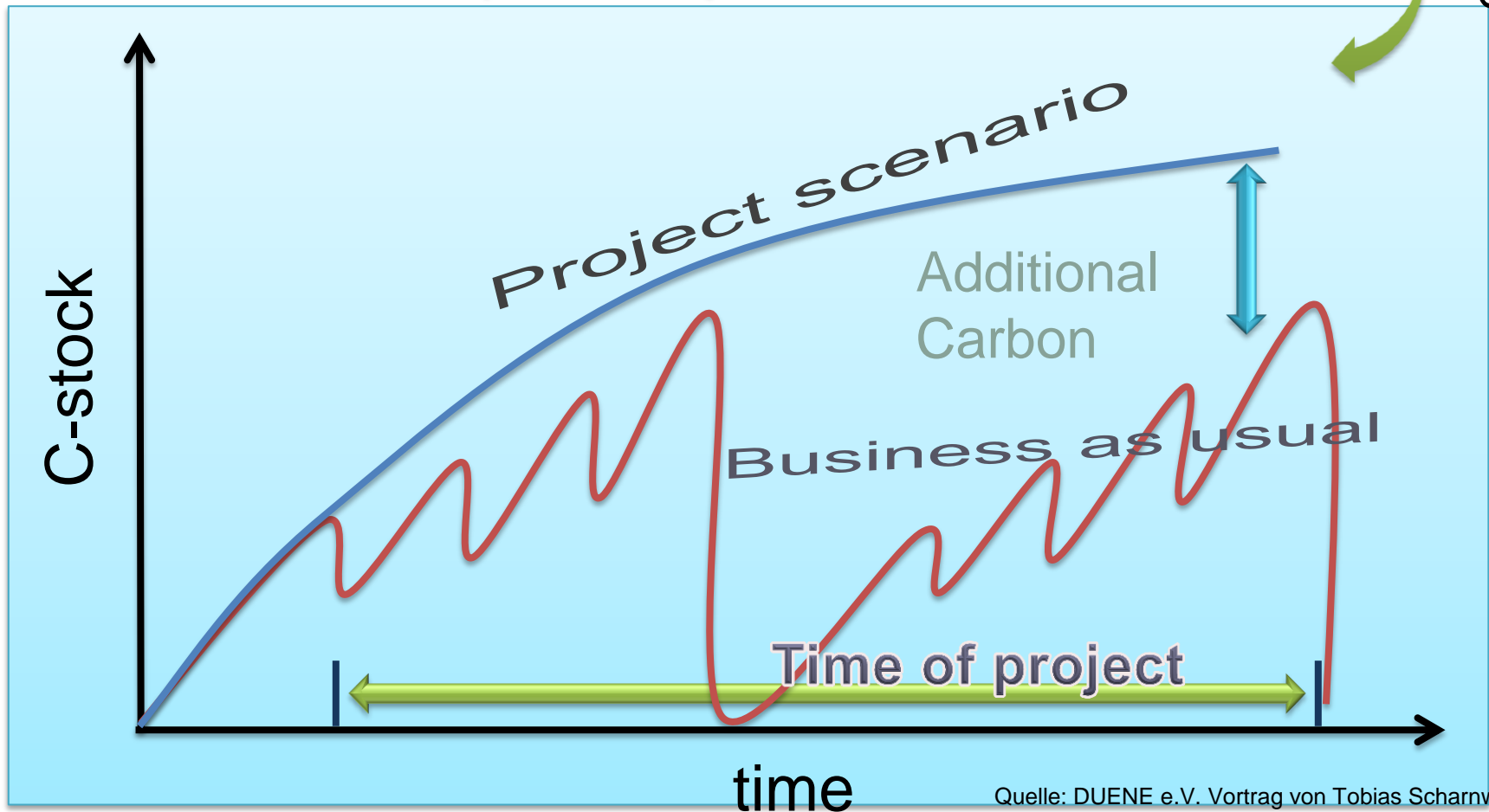
Market establishment:
legal & economic circumstances are ok.



Marketing:
demand for german projects, however marketing is a crucial aspect.

Prinzips of Ex-Ante certification:

1. Define place,
2. Define Time period,
3. Define stocks of carbon, biodiv. ...
4. Choose Standard
5. Do project scenarios:



Measures and its potenzials

	wetlands	forest	Agro-Forestry
measures	<ul style="list-style-type: none"> • Rewetting • Extensive use (Paludikultur) 	<ul style="list-style-type: none"> • Afforestation • Forest Conversion • Wildness 	<ul style="list-style-type: none"> • Preservation of mixed orchards • Tree Avenue
Aditonal CO 2	~ 10 tCO ₂ eq/ha a	~ 2-6 t CO ₂ /ha a	~ 2-5 t CO ₂ /ha a
Co-Benefits	Water, Biodiversity, microclimate, Floods protection	Water buffer, habitate, resilience for climate change,...	Cultural heritage, biodiversity

We need an accounting system for the co-benefits too!

STANDARDS

The certificates have to fullfill criteria, the rules how this is done are put down in the standard.

- Additionality!
- Measurable
- Verify (externaly)
- Conservatism
- Trustable (no dobbble selling)
- sustainable (socio-economic advantages)
- The project must be permanent
- No leakage



criteria	Kyoto Protokoll	VCS	MoorFutures®
Trustable	Register UNFCCC	Register VCS	Register MLUV MV
Permanent	No	garanted (> 100 Jahr)	garanted (> 100 Jahr)
Additional	no	Has to be	Has to be
Sustainable	Little efforts	Not worser	Verbesserung
Leakage	no	Only national	minimum
Mensurable	tier 1 defaults exceded	tier 1 defaults exceded	detaillied GESTs
Verify	A bit	A bit	detaillied GESTs
Duration	2008-2012 / 2013-2017	20-100 years	50 Jahre
conservative	Use the best one!	conservativ	CO ₂ , CH ₄ , N ₂ O conservativ
Reference	1990	Ex-ante	Ex-ante
Control	outside (innerhalb KP)	outside (3 th party)	~"in house"

Quelle: Hans Joosten

Different Standards use different criteria and therefor produce different amounts of credits.



METHOD

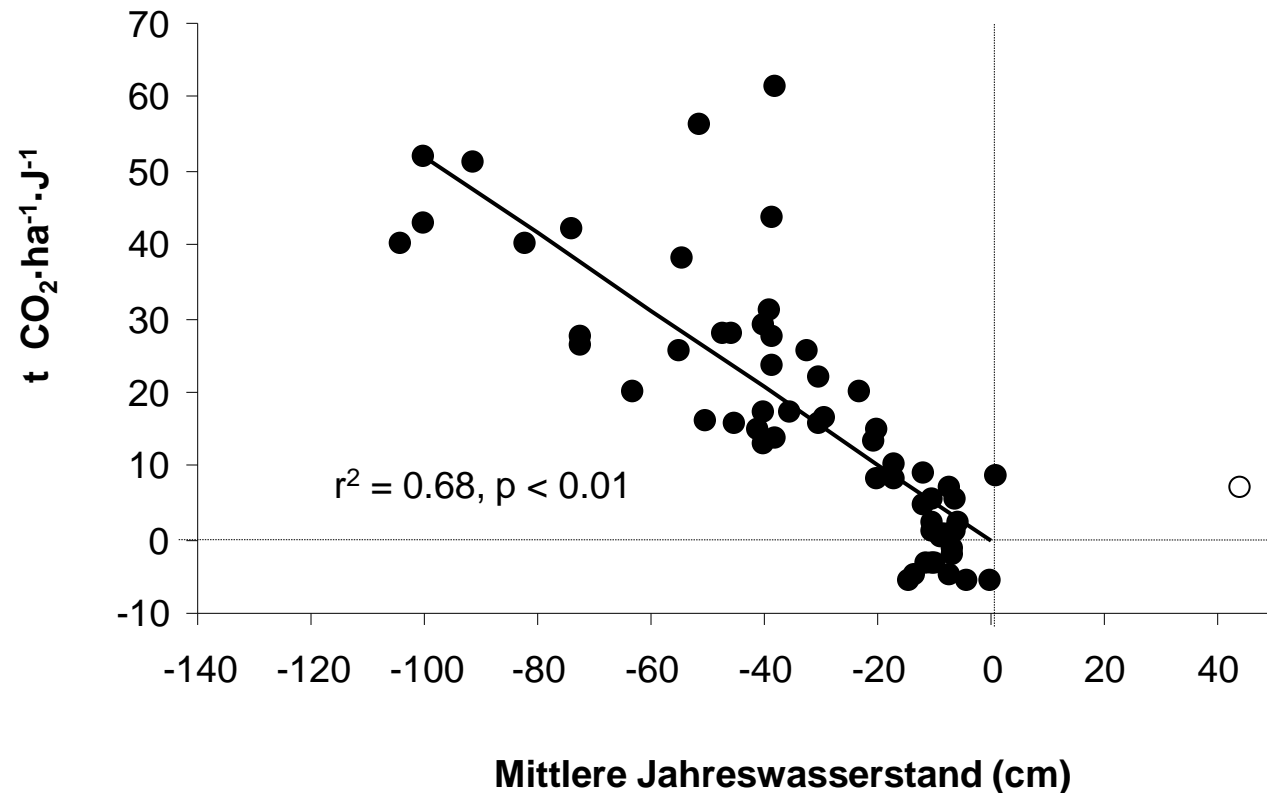
How to measure carbon in peat?

(Following information about measurement of peat Carbon are based on the work of John Crowenberg (DUENE e.V.)

Proxies for THG-Flux:

- **Waterlevel**
 - **Peat level**
 - **Vegetation**
-

Water level: Good Proxy für CO₂



Couwenberg et al. (2011), ● direkte Flussmessung + standortspez. Sackung, ○ geflutet



Negative aspects of Proxy: Water level

- **lots of data needed**
 - **a lot to measure**
 - **modelling with weather data**
-



Pros and cons for **Proxy-Vegetation**

PRO

- **Strong relation towards water levels over years.**
- **Dependent on other criteria e.g. pH**
- **Vegetation itself has influence on CO₂ Flux**
- **Easy to carry out (1:2,500 – 1:10,000)**
- **Remote sensing possible (€)**

Con

- **Reaction is very slowly**
- **GEST must be calibrated for different climates and phyto-geographic circumstances.**
- **Not useable if not plants exist**



In MoorFutures they use the GEST Method to elaborate CO2 eq

Information about MoorFutures

www.moorfutures.de

An english description you will find here:

<http://www.co2ol.de/en/our-projects/moorfutures/>



Agro-forestry-systems are suitable for carbon storage and biodiversity:

(Following information are based on the work of Achim Schäfer, DUENE e.V.)

Combination of trees with ...

a) Field crops

in Germany:

- „Streuobstäcker“
- Hauberg-System

→ Not existent any more

b) Greenland

in Germany:

- orchards
- Alleen

→ Still existent but less every year

Integration of genetically old species, valuable wood, seldom trees.



How much CO2 in AFS?

Autor	Region		Einheit	Baumart	Zeithorizont
Palma (2007)	Spanien	05-12-29	tC/ha	Steineiche und Pinie	60 a
Palma (2007)	Frankreich	32-43-54	tC/ha	Vogelkirsche und Walnuss	60 a
Schroeder (1993)	temperat	63	tC/ha	k.A.	30 a
Dixon (1993)	temperat	ca. 25-65	tC/ha		
Dixon (1994)	USA, humides Tiefland	104-198	tC/ha		50 a
Dixon (1994)	USA, trockenes Tiefland	90-175	tC/ha		50 a
Peichl (2006)*	Kanada	0,83	tC/ha a	k.A.	
Sharrox und Ismail (2004)*	Oregon	1,11	tC/ha a	k.A.	



Ecosystem services in Orchards

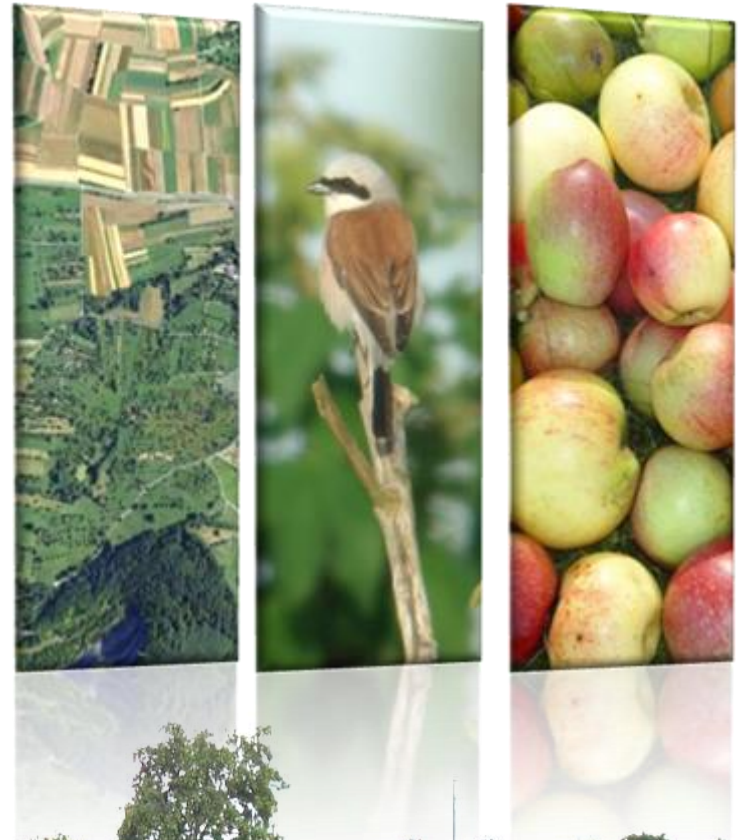
BIODIVERSITY!

→ Biodiversity credits instead of carbon credits?

Cultural heritage: Asthetic of landscape

-> Methods have to be yet developed!

Quelle: Achim Schäfer, DUENE e.V





Selling certificates means:

Companies / Individuals caring for nature. Price is not the only selling argument, also regionality and communicability of the project.

The Evaluation has to be done externally when trust is a problem. **TRUST** is very important- if buyers feel betrayed all future projects have to bear negative effects. However external evaluation is expensive.

Body running the project (this can be the owner of the land or others), however **all** stakeholders have to participate. In case of conflicts transaction cost can be very high. In Germany land is rare (opportunity costs can be very high!) and climate projects can be in conflict with some EU agricultural subsidies.

We will sell **certificates** with high-standards.

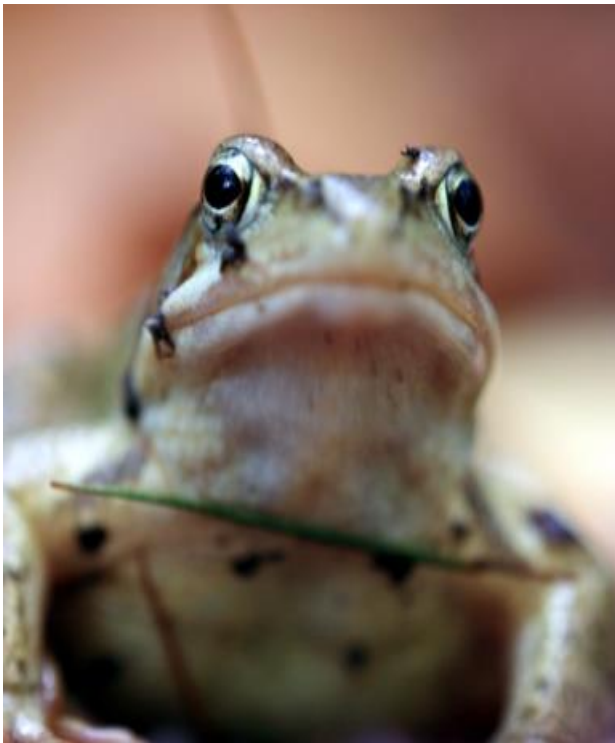


A **promise**, that we will implement a project over a defined time period and that it will bind a defined volume of carbon and save biodiversity.

EUROPARC Germany - but it is a **Multi- Partnership** business!

No profit for the agent - but long lasting cooperation between companies and natural agents- be clear about: Transparency, rules and communication!

Innovation of selling “certificates” made by parks



- Ecosystem services out of nature-project become countable.
- Parks get power because they can **count** what they achieve.
- With a trading desk for ecosystem services – parks can play in the same league like business companies.
- Responsibility becomes regional instead of antonym.
- Selling a homemade “certificate” is a question of trust – if applied in a country with high corruption rate, more money has to be spend on control. This can have negative impact on project costs.
- There are no blueprints for payment schemes.



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