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

<table>
<thead>
<tr>
<th>Product:</th>
<th>Land potential: NNL (35) like the initiative for their greenland and for forest.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market establishment: legal &amp; economic circumstances are ok.</td>
<td></td>
</tr>
<tr>
<td>Marketing: demand for german projects, however marketing is a crucial aspect.</td>
<td></td>
</tr>
</tbody>
</table>
Principals of Ex-Ante certification:

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

Quelle: DUENE e.V. Vortrag von Tobias Scharnweber
# Measures and its potentials

<table>
<thead>
<tr>
<th></th>
<th>wetlands</th>
<th>forest</th>
<th>Agro-Forestry</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>measures</strong></td>
<td>• Rewetting</td>
<td>• Afforestation</td>
<td>• Preservation of mixed orchards</td>
</tr>
<tr>
<td></td>
<td>• Extensive use (Paludikultur)</td>
<td>• Forest Conversion</td>
<td>• Tree Avenue</td>
</tr>
<tr>
<td><strong>additional CO₂</strong></td>
<td>~ 10 tCO₂eq/ha a</td>
<td>~ 2-6 t CO₂/ha a</td>
<td>~ 2-5 t CO₂/ha a</td>
</tr>
<tr>
<td><strong>Co-Benefits</strong></td>
<td>Water, Biodiversity, microclimate, Floods protection</td>
<td>Water buffer, habitat, resilience for climate change,...</td>
<td>Cultural heritage, biodiversity</td>
</tr>
</tbody>
</table>

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

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

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

At a swamp project in the Republic of Belarus the chef was happy: “it is nice that we rewet our land, because now we can use the pumps to drain other parts…!”. That’s not the idea…
<table>
<thead>
<tr>
<th>criteria</th>
<th>Kyoto Protokoll</th>
<th>VCS</th>
<th>MoorFutures®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trustable</td>
<td>Register UNFCCC</td>
<td>Register VCS</td>
<td>Register MLUV MV</td>
</tr>
<tr>
<td>Permanent</td>
<td>No</td>
<td>garanted (&gt; 100 Jahr)</td>
<td>garanted (&gt; 100 Jahr)</td>
</tr>
<tr>
<td>Additional</td>
<td>no</td>
<td>Has to be</td>
<td>Has to be</td>
</tr>
<tr>
<td>Sustainable</td>
<td>Little efforts</td>
<td>Not worser</td>
<td>Verbesserung</td>
</tr>
<tr>
<td>Leakage</td>
<td>no</td>
<td>Only national</td>
<td>minimum</td>
</tr>
<tr>
<td>Mensurable</td>
<td>tier 1 defaults excepted</td>
<td>tier 1 defaults excepted</td>
<td>detailllied GESTs</td>
</tr>
<tr>
<td>Verify</td>
<td>A bit</td>
<td>A bit</td>
<td>detailllied GESTs</td>
</tr>
<tr>
<td>Duration</td>
<td>2008-2012 / 2013-2017</td>
<td>20-100 years</td>
<td>50 Jahre</td>
</tr>
<tr>
<td>conservative</td>
<td>Use the best one!</td>
<td>conservativ</td>
<td>CO₂, CH₄, N₂O conservativ</td>
</tr>
<tr>
<td>Reference</td>
<td>1990</td>
<td>Ex-ante</td>
<td>Ex-ante</td>
</tr>
<tr>
<td>Control</td>
<td>outside (innerhalb KP)</td>
<td>outside (3th party)</td>
<td>~“in house“</td>
</tr>
</tbody>
</table>

**Different Standards use different criteria and therefore produce different amounts of credits.**

Quelle: Hans Joosten
METHOD

How to measure carbon in peat?
(Following information about measurement of peat Carbon are based on the work of John Crouwenberg (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, O 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**

<table>
<thead>
<tr>
<th>PRO</th>
<th>Con</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Strong relation towards water levels over years.</td>
<td>• Reaction is very slowly</td>
</tr>
<tr>
<td>• Dependent on other criteria e.g. ph</td>
<td>• GEST must be callibrate for different climats and phyto-</td>
</tr>
<tr>
<td>• Vegetation it selves has influence on Co2 Flux</td>
<td>- geografic circumstances.</td>
</tr>
<tr>
<td>• Easy to carry out (1:2,500 – 1:10,000)</td>
<td>- Not useable if not plants exist</td>
</tr>
<tr>
<td>• Remote sensing possible ( €)</td>
<td></td>
</tr>
</tbody>
</table>
In MoorFutures they use the GEST Method to elaborate CO2 eq

Information about MoorFutures

www.moorfutures.de

An english description you will find here:

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:
   – orcards
   – Alleen
   → Still existent but less every year

Integration of genetically old species, valuable wood, seldom trees.
## How much CO2 in AFS?

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

* in Nair 2009
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 communicatability of the project.

**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.

- **1** what do we sell?
- **2** how do we sell it?
- **3** how do we control it?
- **4** who buys?
- **5** who sells?
- **6** who acts as an agent?

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.

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 spent on control. This can have negative impact on project costs.
- There are no blueprints for payment schemes.
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