Conference: "International cooperation in the forest sector: balancing education, science and industry"
Yoshkar-Ola, 2-5 June 2009

Payment for ecosystem services: problems and perspectives of forest activities in Western Europe

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Contents

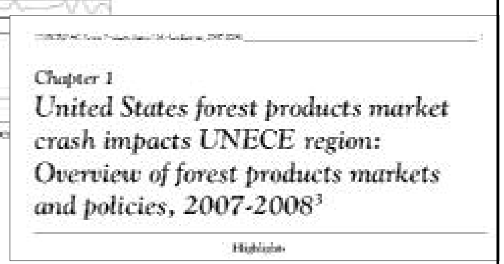
- Introduction: background context
- New tools for income generation:
  - Government mediated schemes
  - Voluntary contractual agreements
- Conclusions

1. Introduction:

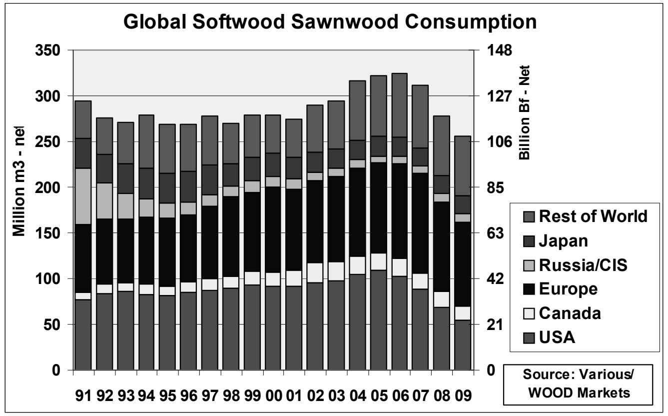
short term crises and long-term structural changes in the wood market

Sub-prime financial crises in USA

→ immediate and relevant effects on the wood market

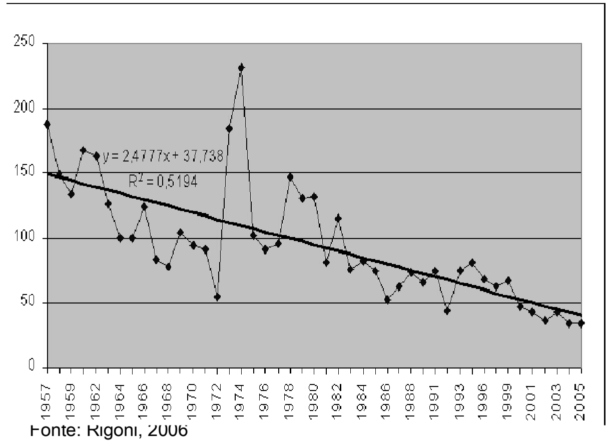


Chapter 1
United States forest products market crash impacts UNECE region: Overview of forest products markets and policies, 2007-2008[3]

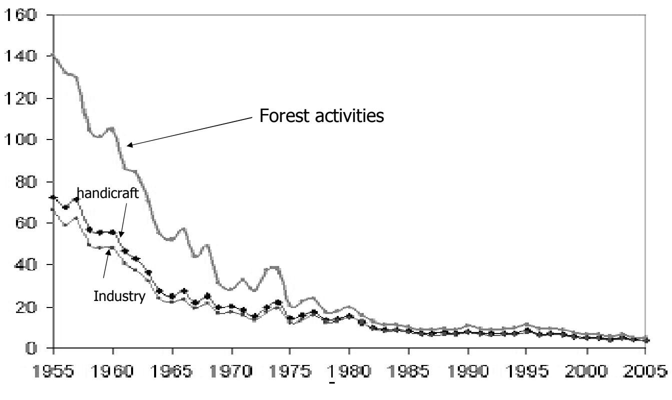


Source: International Wood Markets Group Inc. 2009, cit. da J.Tissari (FAO)

Real prices (€/cm) of standing wood from conifer highforests in the Italian Alps (Asiago 1957-2005)

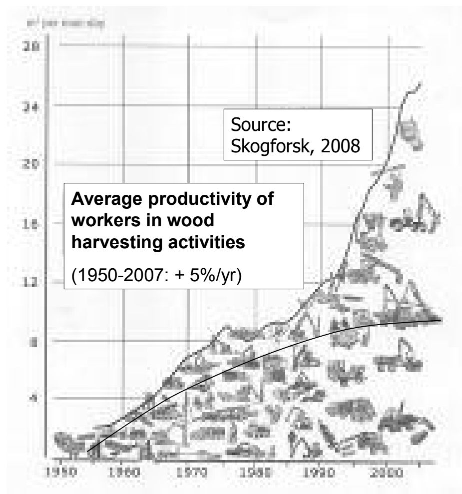


1955: value of 1 cm = costs of 141 hours of forest worker
2005: = 5.3 (-96%)



Source: Ciotti (2006)

Innovation in Sweden

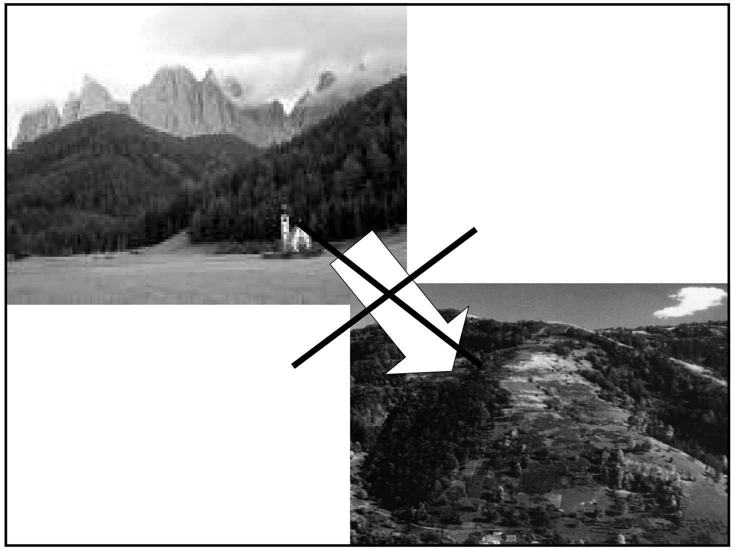


A clear trend: concentration of forest products supply

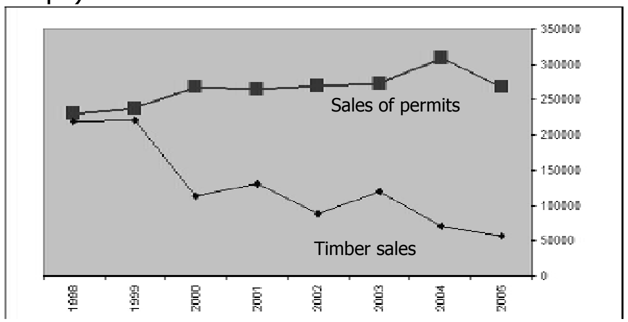
	% on the total industrial wood	
	2000	*2050*
Primary forests	22	5
Secondary forests irregularly managed	14	10
Secondary forests regularly managed	30	10
Plantations with native species	24	25
Plantations with exotic species	10	50

Source: Sedjo, 2001 – FAO study

Within 2050, 75% of the total supply of industrial timber will come from plantations (50% p. with exotic species)



... on the contrary: income deriving from timber sales and mushrooms picking permit sales in Asiago Municipality (North-east Italian Alps)



Source: Rigoni, 2006

Till the recent past

Optimization of timber production, under some constraints of env. protection

Considerando i mercati del legname da opera, la selvicoltura “vicina alla natura” delle nostre aree montane è spesso economicamente insostenibile

Command and control polices

forest abandonment (policy failures)

In the future

New markets potentials

Development of local entrepreneurship
Voluntary tools

2. New tools for income generation

PES definitions

PES: one environmental service being sold in a market, in a voluntary transition, bought by at least one consumer, sold at least by one producer, conditional to the continuity of the supply in time (Wunder, 2005)

Include:

- C-sequestration
- influence on water regimes
- landscape beauty
- biodiversity
- bundled services

A. Public Payment Schemes: direct payments to forest owners for management practices that protect water quality (EC Regulation 1698/2005 for Rural Development 2007-2013)

B. Government-mediated schemes:
- Payments for the water catchment areas
- C offset ("regulated" institutional market)
- Property rights regulation for NWFP&S

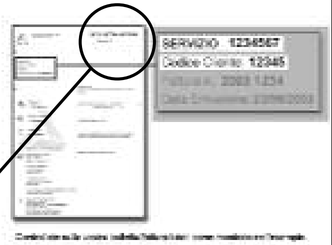
C. Voluntary contractual arrangements between private agents:
- Drinkable water supply
- C offset (voluntary market)
- Certification and labeling → premium price or stable market share

An increasing role of public regulation

B. Government-mediated schemes

– Payments for drinkable water provision
– C offset ("regulated" C credit market)
– Property rights regulation for NWFPs

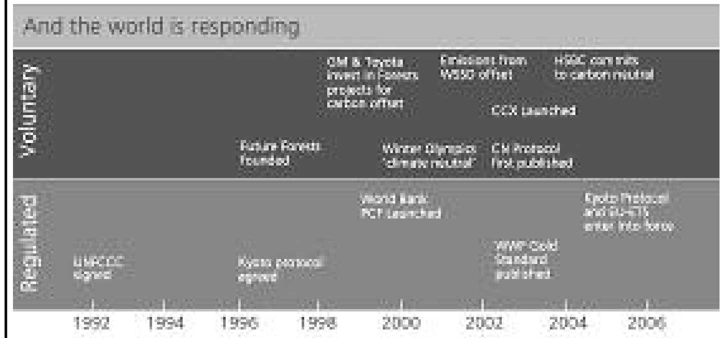
National Frame Law on Water provision in Italy



Law 36/1994 establishing the right by the Regions to define a fixed compensation (till 6% of the water tariff paid by final consumers) for the management cost of the water catchment areas.

The law has been applied in two Regions (Piedmont and Emilia Romagna)

Two Carbon credits markets



The "regulated" Carbon credit market

3 "mechanisms":

Only 3 forest investments approved till now!

- Clean Development Mechanism (**CDM**): *forest investments in LDCs*
- Joint Implementation (JI)
- Emission Trading (ET) → **in EU = ETS (ET Scheme)**: *forest and farm activities have been excluded (Dir. 87/2003)*

NWFPs property rights regulations

NWFPs: a relevant (annual) source of income

notizia del 22/11/2004

Barberino di Mugello. (Firenze).
Tartufo bianco battuto all'asta per 52mila euro, nuovo record

NWFPs = *imago* products for a territory (”Territorial marketing”)

- Environmentally friendly products
- Strong link with local culture and traditions
- New “Slow food” culture

Chestnut: *networking*

CASTAGNO ASSOCIAZIONE NAZIONALE CITTÀ DEL CASTAGNO NEWS

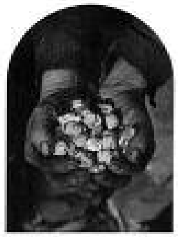
Törggelen Holidays South Tyrol (*target*: retired German-speaking persons):
- roasted chestnut +
- nuts +
- new wine (“vino novello”) +
- speck

http://www.wanderhoteleuropa.com/it/wandern/angebot_05.html

(Italia)

Adotta un castagno
Garfagnana

← **Adoption of a chestnut**

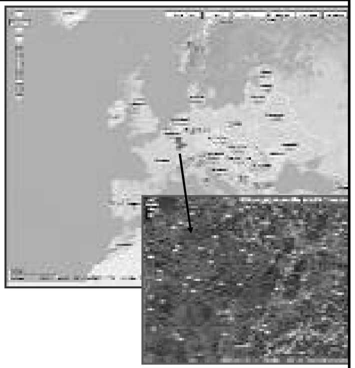


Fonte: Wiesinger, 2009

C. Voluntary contractual arrangements between private agents (normally innovative services)

– Drinkable water supply
– C offset (voluntary market)
– Certification and labeling → premium price or stable market share
– Many other innovative investments

Mineral water Vittel (Vosges, North-east France)



Agreements (30 yrs) with land owners to reduce the use of Nitrogen fertilizers and to respect best management practices

25 M € payment by Vittel:

1) 200 €/ha/yr to the land owners as compensation of mised income
2) Technical assistance (free of charge)
3) Other financial incentives for structural investments by land owners

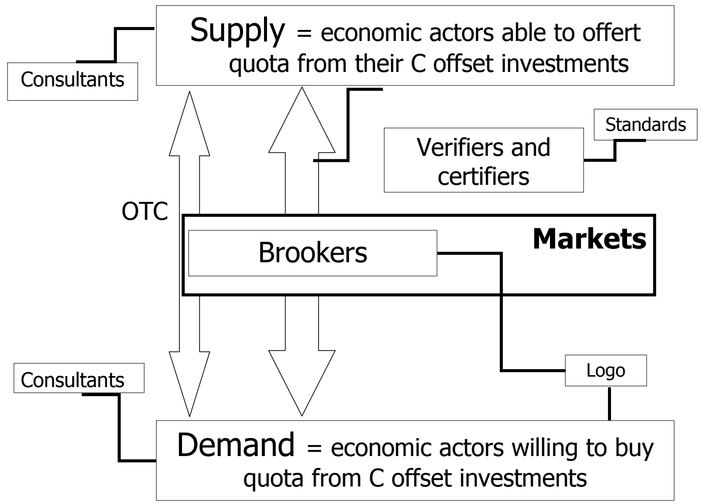
Development of forestry investments for carbon markets in the voluntary market

Positive aspects:

- active role of civil society
- the flexibility of the investments (avoided deforestation – REDD projects)
- the leading position played by the forest sector
- setting the stage for future developments in the regulated markets


Impatto Zero
Elisa Negrini


futureforests
THE DAY AFTER TOMORROW


Supply = economic actors able to offert quota from their C offset investments
Consultants
Standards
Verifiers and certifiers
OTC
Markets
Brookers
Logo
Consultants
Demand = economic actors willing to buy quota from C offset investments

Voluntary carbon market

Chicago Climate Exchange (CCX)	Over-the-counter (OTC) market

CCX is a structured and closely monitored cap-and-trade system that organizations join voluntarily.

Outside of CCX, one finds a wide range of voluntary transactions that are not driven by an emissions cap, and do not, for the most part, trade on a formal exchange. This mass of transactions is referred as the over-the-counter (OTC) market.
Because this OTC market transacts on a highly fragmented deal-by-deal basis, it is extremely difficult for stakeholders to both track and navigate.

http://www.chicagoclimatex.com/

VERs

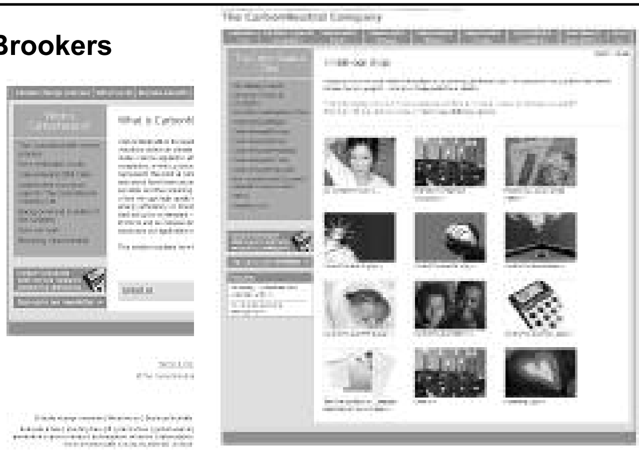
- **VERs (*Verified Emission Reductions*).**
  1 t CO_2 = 1 VER.

Largest VERs market: **Chicago Climate Exchage** (**CCX**).
1 VER = **5 $** (**3.2 €**)
(1 **ETS = 35 $; 22.1 €**)

Prices and volumes (US$) of VERs in the *Chicago Climate Exchange*

http://www.chicagoclimatex.com/market/data/summary.jsf

Brookers



Carbon Neutral Company

(ex Future Forests)

http://www.carbonneutral.com/

Problems

For forest C offset investments there are some serious problems related to:

- Non-permanence
- Baseline and C sinks monitoring, verification
- Leakage
- Additionality

(moreover: problem of scale – large project have less transaction costs)

Certification and labelling

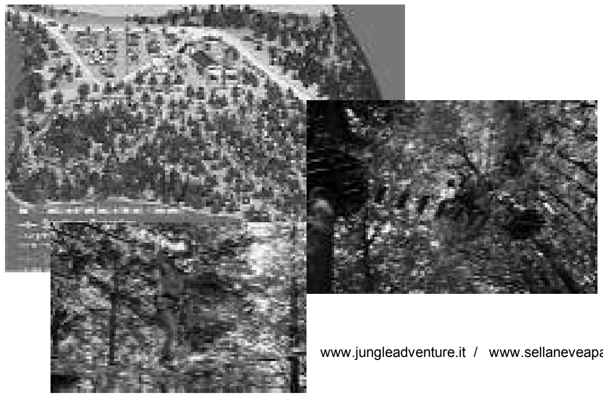
Advantages:

product differentiation

(= stable market share) & premium price (?)

Private innovative initiatives:

Forest adventure parks

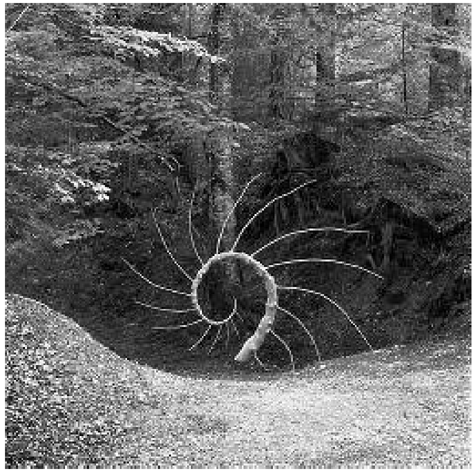


www.jungleadventure.it / www.sellaneveaparco.it

Canopy forests for bird watching and other env. education activities

percorsi aerei di osservazione naturalistica o per attività sportive


Hübner, L.; Lässig, R., 2005: Im Erlebnispark Wald die Vielfalt von Holz und Natur erfahren. - Wald Holz 86, 10: 45-48



Art exibitions in the forest

Arte Sella (www.artesella.it)

100,000 visitors/year

Forest Concerts

Concerti di musica classica, etnica, jazz, ecc. in Trentino, Veneto,…


www.isuonidelledolomiti.it

Educational centers, forest schools, thematic amusement parks






Holzpark in Austria (apertura nel 2007, 6.000 visitatori)

Fonte: Wiesinger, 2009

Eselabenteuer (Austria)

Source: Wiesinger, 2009

Bruno’s Bogenparcours (Austria)

Source: Wiesinger, 2009

Wildpark Buchenberg (Austria)

Source: Wiesinger, 2009

Forest kindergartens

In the ’50s in DK Mrs Flautau organizes the first “*Wood Kindergarten*”

15 in CH.

First experience also in Italy - Povo
www.asilonelbosco.it

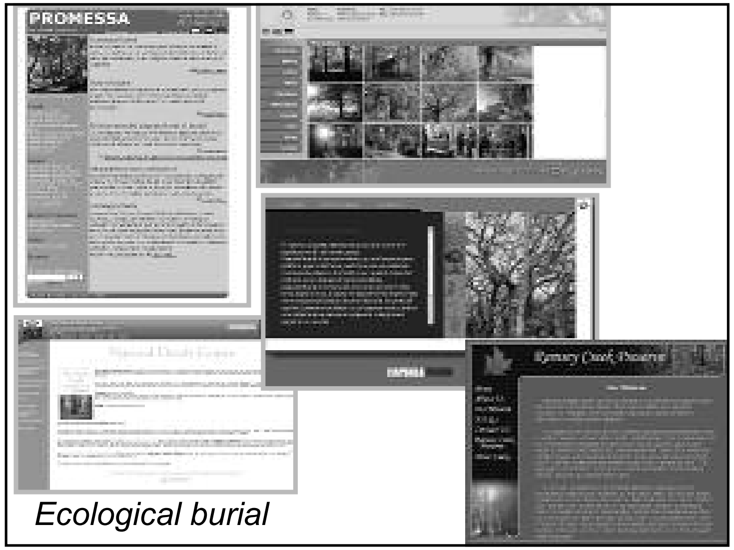
Forest hotels and restaurants

Baumkronenweg e Baumhotel (A)

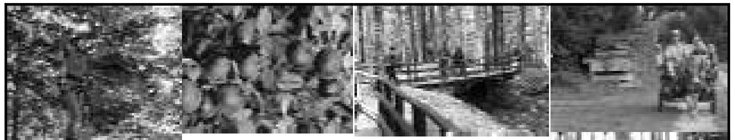
Fonte: Wiesinger, 2009

Hotel room on a oak (Italy)

Source:: Wiesinger, 2009



Ecological burial



3. Conclusions

- **Size of market varies largely**
- Niche/medium for recreational products, large for water services
- Synergies are possible with other services/products. e.g. specialty goods, links with other products and services of the territory

- **Markets are at different level of maturity**
  - Recreational products: good market stability, low risks, but allocation of property rights sometime problematic
  - Water: pilot experiences, but developing new opportunities for private actors

- **High potential, provided that (but general rules!):**
  - There is an entrepreneurial attitude (other policy tools are needed such as information, financing, …)
  - Cause-effect relationships have been fully clarified (different scales of problems need different approaches).
  - New inventory and silvicultural treatments to optimize services supply are available (e.g. NWFPs)
  - Form forest management plans at single management unit to meso-scale planning
  - Transaction costs are minimised

There is the need for changing the rules and re-distributing the responsibilities of SFM