

**FSC SUSTAINABLE INTENSIFICATION  
SOLUTIONS FORUM (SISF)**  
Bonn 26 June, 2019

**Sustainable intensification in  
forestry: an economic prospective**

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**TESAF** Dipartimento Territorio  
e Sistemi Agro-Forestali



**Outline**

Sustainable intensification (SI):

- at FMU level: a tentative definition
- at landscape level: a case study
- at macro level: SI in action

A final remark

**TESAF** Dipartimento Territorio  
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## A tentative definition

SI = Increased value creation

(“value” in the double meaning: financial values  
and ethical values)

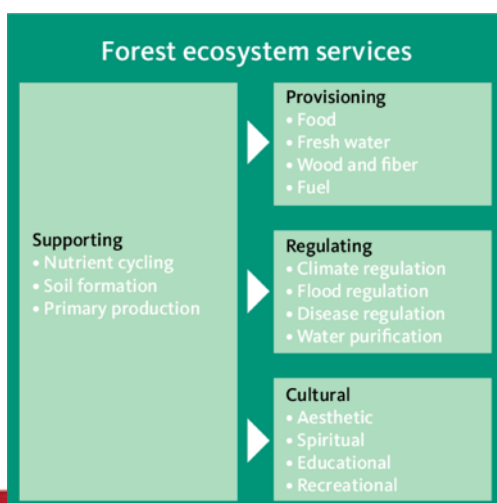
SI is much related to the concept of **efficiency**  
(and effectiveness), but is not directly connected  
to another topical issue: **risk management**. As  
a matter of fact, often intensification brings up  
more risk.

## A tentative definition

From an economic point of view sustainable intensification in forest management can be defined as an **increase in ecosystem services** production **per unit of inputs** which may be:

- Labour
- Land (e.g.: land restoration)
- Other inputs (improved seedlings, fertilizers, ... but also managerial innovations; e.g.: changing from highforest to coppice mngmnt system)
- Time (shorter rotation periods)

## ... an increase in ecosystem services ...



SI  $\neq$  specialisation

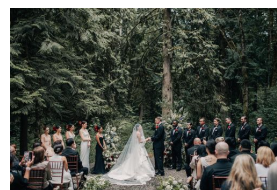
Trade off among ES  
(intensification for more wood production → reduction of biodiversity protection)

ES: not only wood, but also cultural services, increasing at very fast rate in Western economies

From the cradle ....



Cultural services along all the steps of the human life cycle!



.... to the grave

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Penn Forest  
Natural Burial Park

**Note a discrepancy between ES as defined by FSC (wood, NWFP + ES) and international classification (MAE and CICES: all ES)**

## CICES

Towards a common classification of ecosystem services

European Environment Agency



Hosted on Behalf of the EEA

[Home](#) [Revision Highlights](#) [Structure of CICES](#) [Supporting Services & Functions](#) [Applications of CICES](#) [Resources](#) [Contacts](#)

## CICES Version 5.1 now available

### News

CICES V5.1 which updates and extends V4.3 is now available. The new version and the associated technical guidance can be downloaded [here](#).

<https://cices.eu/resources/>

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e Sistemas Agro-Forestal



Extremadura  
2012-2018  
14 Puntos

## Private vs. public perspective (financial vs. economic analysis)

**More costs → Proportionally  
more income**

Private perspective

**More social costs → Proportionally  
more benefits**

Social perspective

Quite frequently a SI process from a private perspective is not as such from a public perspective (e.g.: land grabbing for flower production in Ethiopia)

## 2 sub-cases

**Same → More income  
costs (or benefits)**

Non-line timber auctions

**Less → Same income  
costs (or benefits)**

New varieties pest-resistant

## Some SI-associated key concepts

- Wood waste reduction
- Cascade approach
- Less Known Species valorization

**SI: only those changes in (forest) land use connected with explicit initiatives of the forest owner**

Why?

We exclude intensification connected to prices development (exogenous factors)

or to fast-growing invasive species bringing about high level of biomass production

## Outline

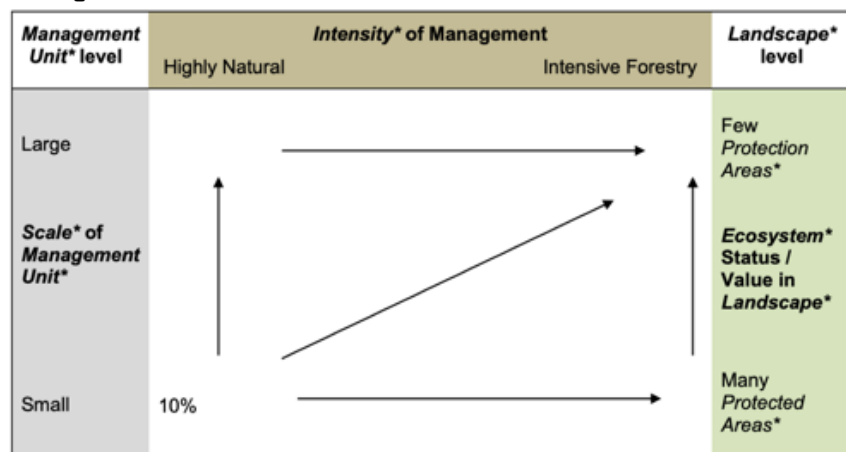
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## Linking FMU to the landscape level

Principle 6, Annex D: *Conservation Area Network\** Conceptual Diagram.



<https://ca.fsc.org/preview.fsc-std-60-004-international-generic-indicators.a-1011.pdf>

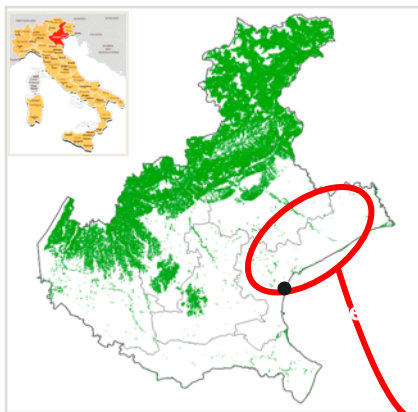
## What do we mean for «landscape»?

We have large FMU that are working at landscape level, so the two terms (FMU and landscape) are not mutually excludible)

Source: <https://www.rezatec.com/tag/forestry-commission/>



## A case-study of SI at landscape level

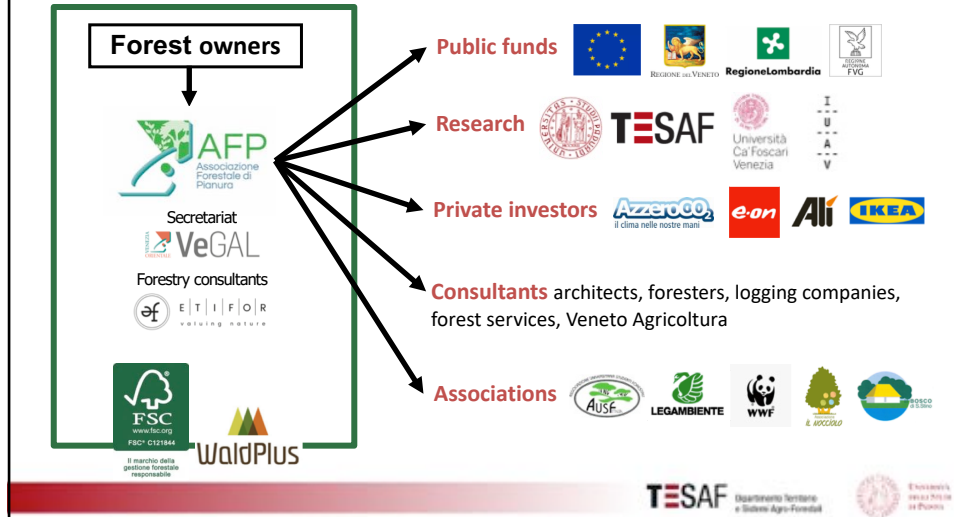


H2020 ALTEFOR PROJECT  
<https://alterfor-project.eu/>

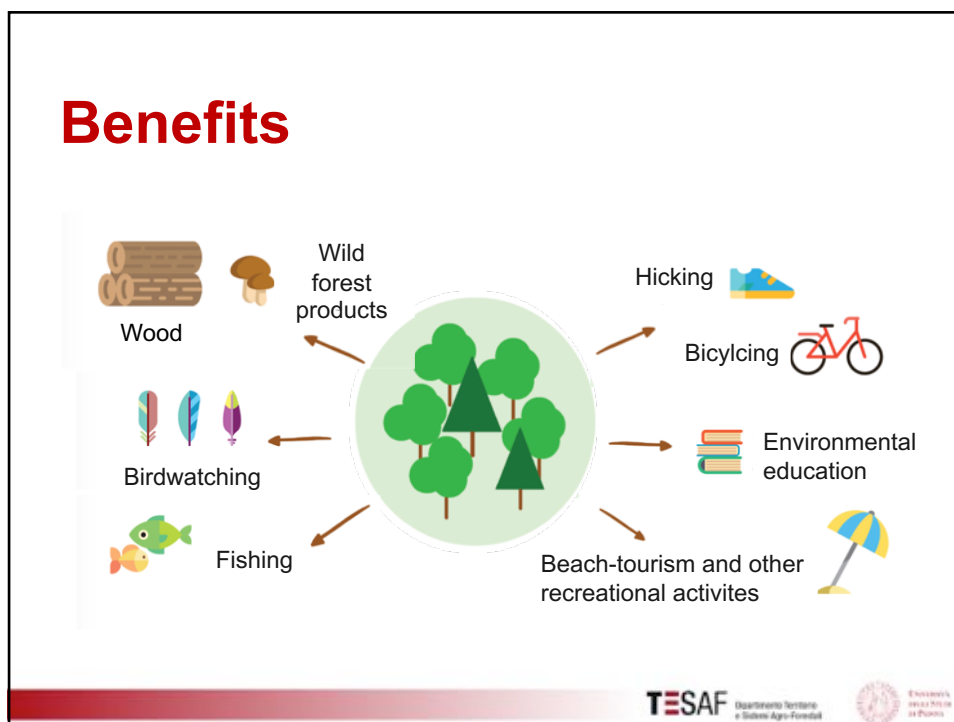
**ALTERFOR Case-study:** Lowland Forest Association  
(Associazione Forestale di Pianura, AFP)



## AFP Governance model



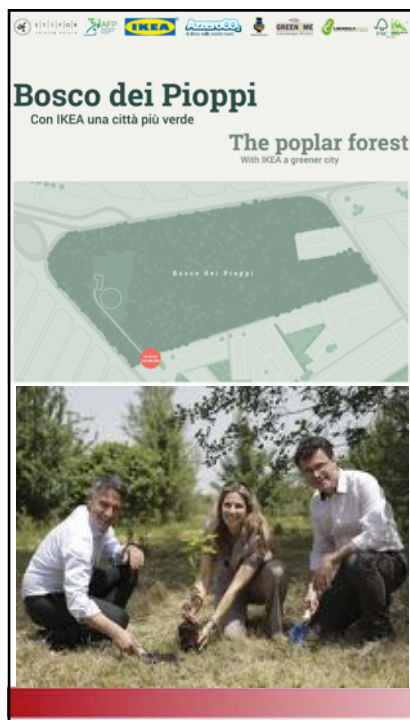
## Benefits



## What about the costs for covering this SI?

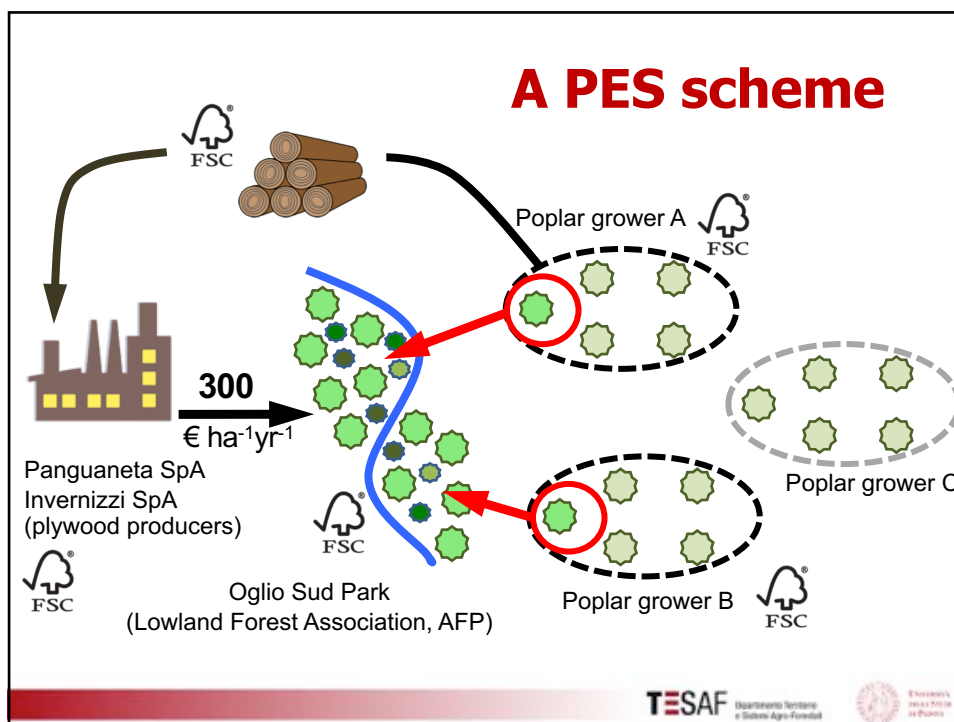
- Sponsors (C offset investments)
- Associations and Municipalities (hotels & camping: demand for green areas)
- Some voluntary work by local associations
- 2 plywood companies + Regional Park for covering the 10% of reserved areas (PES scheme)

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Reforestation activities on public land financed by/in cooperation with private businesses → co-benefits





## FSC Ecosystem services certification

- FSC certified since 2017
- Includes the Lowland Forestry Association (AFP)
- More than **70 forests** in Northern Italy
- More than **1,000 hectares**
- Conservation forests & productive forests (timber, firewood + wild forest-products, tourism/recreation, biodiversity conservation, water-related services, soil protection)
- Public and private owners



**2018 - 2019: world-first application of the FSC Ecosystem Services Procedure for a full set of 5 ecosystem services**



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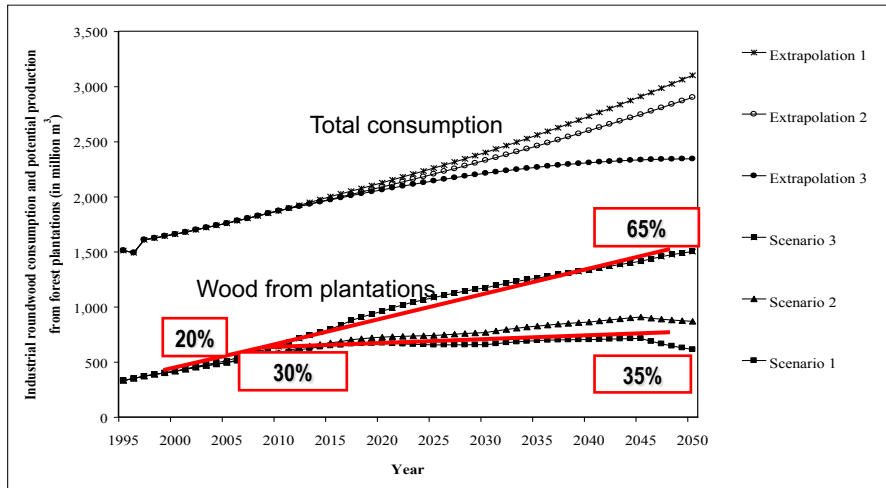
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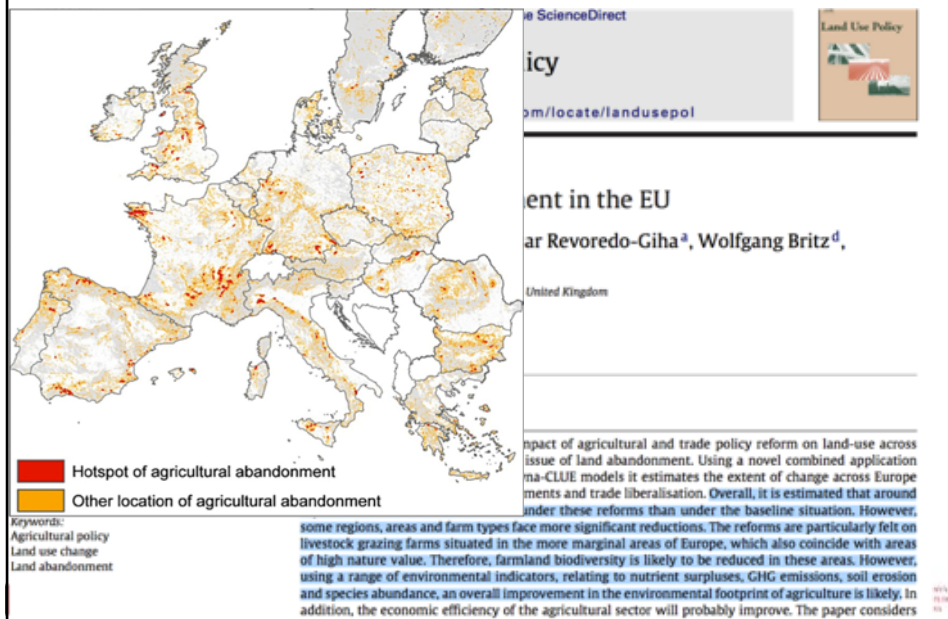
A clear trend towards SI, that will be reinforced as a consequence of:

- Increased demand (not only of wood products)
- Constraints in land (and on some other inputs?)

## Forecast of industrial roundwood consumption from forest plantations (Source: FAO)



## More farmland available in the future?

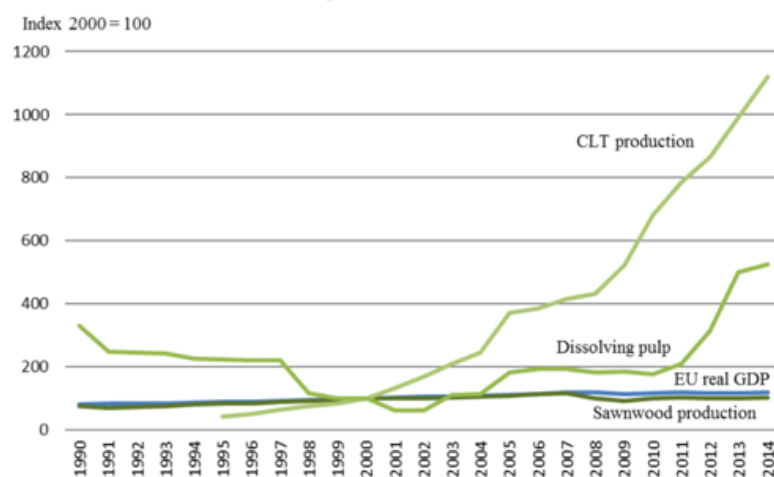


**Sustainable intensification**  
**= “domestication” of forests**  
**= segregative approach and strong landuse specialization: already a reality in Europe**

- ES and PT: **75%** of total wood production from pines and eucalyptus plantations (Martinez de Arano and Lasgourgues, 2014)
- FR: **42%** of softwood production only from maritime pine plantation
- IT: **>50%** of domestic industrial roundwood from poplar plantations (50-70,000 ha out of 12 M ha of forests) (Assopannelli, 2012)

Non mentioning UK and Ireland!

## Cross Laminated Timber (CLT) and Dissolving paper EU production 1990-2014



Source: Hetemäki & Hurmekoski (2016)

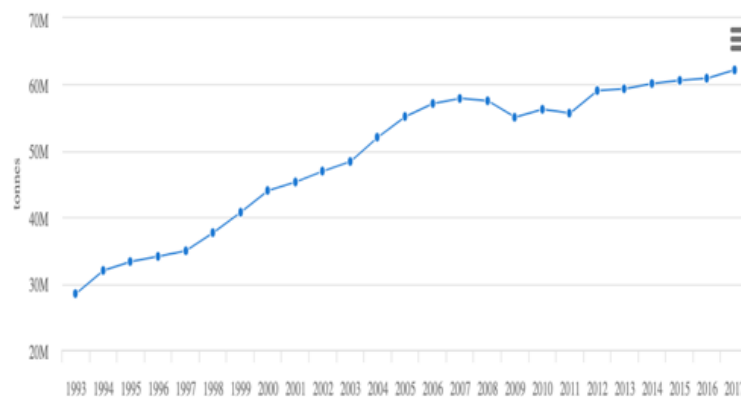
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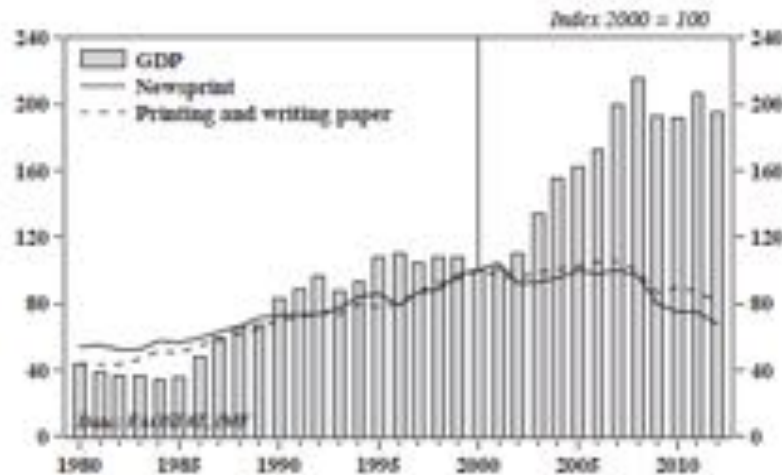
**Do you fully agree on this statement?**

**An interesting point of consideration:  
SI in the forest sector is not strictly  
linked to SI in the wood industrial sector**

Recovered paper "production" in Europe (tons; 1993-2017)



## Reduced consumption of pulp and paper (EU market)



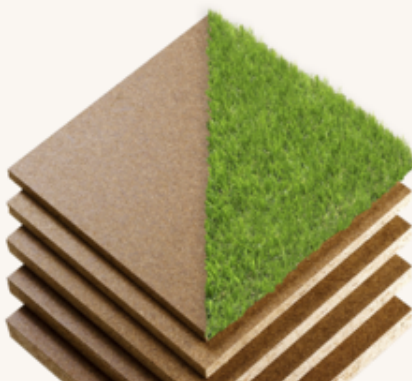
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The Eco-Ethical Company

**FSC has to support such development, even if it reduces the demand for vergin fibres (and the need for SI) ... and it does! (Saviola Group is FSC certified)**

THE GROUP + ECO-ETHICAL CAREERS NEWS



Since 1997 we have been producing particleboard panels with 100% recycled wood

We are the only ones in the world who enjoy FSC® 100% recycled wood certification

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## A final remark

Market driven.  
No much policy  
action needed

SI development paths:

- Managerial-technological solutions driven by income generation motivations
- Social innovations solutions driven by shared values of different stakeholders

A field of policy action, useful and needed