NOBEL - Novel business models and mechanisms for the sustainable supply of and payment for forest ecosystem services

ForestValue

ERA-NET Cofund – Innovating the forest-based bioeconomy

Project NOBEL is supported under the umbrella of ERA-NET Cofund ForestValue by BMLFUW (AT), ANR (FR), FNR (DE), Vinnova/Formas/SWEA (SE), MINECO-AEI (ES), RCN (NO) and FCT (PT).

ForestValue has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement №773324.
Challenges in Forest Management for Providing Forest Ecosystem Services

- Demand for timber, non-timber products, and ecosystem services is increasing due to growing populations and socio-economic changes.
- Many important services have no direct monetary value.
- Forest management often favour timber production over other services.
- Changing environmental and socio-economic conditions cause uncertainties.
- Need for policy recommendation and economic incentives.

Keywords: protection, recreation, biomass, timber, services, biodiversity.
Project objectives of NOBEL

- Design **innovative methodologies** for assessing the economic, social and environmental **values of forest products and services** at regional and national scale
- **develop business models, mechanisms** and **novel public policies** to internalise the socio-economic value of non-market forest ecosystem services
- combine business models with public policy instruments for **implementing PES** and deduct trade-offs in pilot demonstrations
- demonstrate and **compare alternative PES schemes**, including an innovative **web-based auction platform**
### Pilot demonstrations

<table>
<thead>
<tr>
<th>Nr.</th>
<th>Region</th>
<th>Short characterisation</th>
<th>FES considered</th>
<th>Business Modell</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD1</td>
<td>ZIF_VS Northwest Portugal</td>
<td>pure and mixed mediterranean forests of eucalypt (<em>E. globulus</em>) and maritime pine (<em>P. pinaster</em>), land owned by communities, private and non-industrial owners</td>
<td>TB, CB, BD, RC, NHR</td>
<td>BM1, BM2, BM3, BM4</td>
</tr>
<tr>
<td>PD2</td>
<td>Käringberget, Västerbotten, Boreal zone, Sweden</td>
<td>Boreal forest dominated by Scots pine (<em>Pinus sylvestris</em>) and Norway spruce (<em>Picea abies</em>), forest land owned by state-owned company</td>
<td>TB, NTFP, RC, CB</td>
<td>BM1, BM2, BM3, BM4</td>
</tr>
<tr>
<td>PD3</td>
<td>Cerdanya, Pyrenees, Catalonia in northeast Spain</td>
<td>mixed mediterranean forests of Pine (<em>Pinus uncinata</em>) and fir (<em>Abies alba</em>) forests owned by municipalities</td>
<td>TB, NTFP, RC, CB, BM1, BM2, BM4</td>
<td>BM1, BM2, BM4</td>
</tr>
<tr>
<td>PD4</td>
<td>Ennstaler Alpen, Styria, Austria</td>
<td>Montane to subalpine mixed forests of N. Spruce (<em>Picea abies</em>), E. Beech (<em>Fagus sylvatica</em>), Silver Fir (<em>Abies alba</em>) and E. Larch (<em>Larix decidua</em>) private and state-owned</td>
<td>TB, NTFP, RC, CB, BM1, BM2, BM3, BM4</td>
<td>BM1, BM2, BM3, BM4</td>
</tr>
<tr>
<td>PD5</td>
<td>Lorraine, Northeast France,</td>
<td>Forests are dominated by sessile oak (<em>Quercus petrea</em>), and E. beech (<em>Fagus silvatica</em>), forests are mostly privately owned, a third is owned by municipalities</td>
<td>TB, CB, RC</td>
<td>BM1, BM2, BM3, BM4</td>
</tr>
</tbody>
</table>

**Forest ecosystem services:**
- **TP:** timber production
- **NTFP:** non-timber forest products
- **CB:** carbon sequestration
- **RC:** recreation (sports, hunting)
- **BD:** biodiversity conservation
- **WSR:** water, soil and nutrient regulation
- **NHR:** natural hazard regulation

**Business Models:**
- **BM 1 Value-Added Goods and Services:** Private households or business companies directly pay for goods and services that have ecosystem services embedded (e.g. ecotourism, certified wood products)
- **BM 2 Voluntary PES:** Voluntary payments of private households or business companies, companies may pass the costs to their clients
- **BM 3 Selling ES to Government Agencies:** Local / national government pays FES providers for the service and pass the costs to consumers via taxes or fees
- **BM 4 Business as usual:** FES providers are selling timber and non timber forest products on the market
Identify business relations

Predict effects of forest management with ecosystem models

Design innovative forest management plans

Quantification of FES with indicators

Assess economic value of FES

Quantify acceptable value trade-offs with optimization tools

Methods and mechanisms for web-based auctioning

Implement business models
Partners

- Forest Sciences and Technology Centre of Catalonia, Spain (Jordi Garcia)
- French National Institute for Agricultural Research, France (Anne Stenger-Letheux, Jens Abildtrup)
- Norwegian University of Life Sciences, Norway (Terje Gobakken)
- School of Agriculture / Instituto Superior de Agronomia, Portugal (Jose Borges)
- Swedish University of Agricultural Sciences, Sweden (Tomas Lämås, Jeannette Eggers, Per Sandström, Stefan Sandström)
- Technische Universität München, Germany (Thomas Knoke, Mengistie Kindu)
- University of Natural Resources and Life Sciences Vienna, Austria (Harald Vacik, Manfred Lexer, Bernhard Wolfslehner, Helga Pülzl, Y. Dorfstetter)
Contact information:
Dr. Harald Vacik
Institute of Silviculture - Department of Forest and Soil Sciences
University of Natural Resources and Life Sciences, Vienna
Peter Jordanstraße 82, 1190 Wien
E-Mail: harald.vacik@boku.ac.at | Telefon: +43-1-47654-91312

ForestValue
ERA-NET Cofund – Innovating the forest-based bioeconomy

Project NOBEL is supported under the umbrella of ERA-NET Cofund ForestValue by BMLFUW (AT), ANR (FR), FNR (DE), Vinnova/Formas/SWEA (SE), MINECO-AEI (ES), RCN (NO) and FCT (PT).

ForestValue has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N°773324.