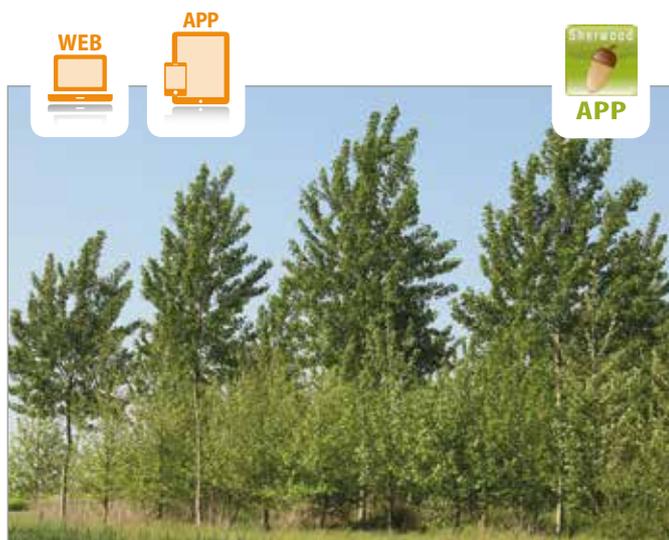## SPECIALE | LIFE+ InBioWood

WOOD & ENVIRONMENT
Web application to design 3P Tree Farms

InBioWood
increasing biodiversity through wood production
LIFE12 ENV/IT/000153

The idea

The InBiowood LIFE+ Project (LIFE12 ENV/IT/000153), which started in 2013 and is currently nearing completion, and whose objective was to **realize and promote Potentially Permanent Polycyclic (3P) tree farms**, an innovative type of Tree Farm, that combines forest-like environmental benefits with the productive benefits of artificial Tree Farms. To promote the diffusion of these Tree Farms, **demonstration areas and various types of information materials** have been created by the project partners, such as a technical manual and several videos, all available for free on the *www.inbiowood.eu* website. However, a simple and operational tool, able to effectively help technicians in planning 3P Tree farms - a crucial, but at the same time very delicate phase for the success of a tree farm, given the many factors involved - was lacking. In this way, **a web application - to automatically generate project models** according to specific requests from the technical designer and the owner - was thought of.

The tool

The name of the tool is Wood & Environment. It is a free web application that can be used both through a **computer desktop**, visiting the website *www.inbiowood.eu/webapp*, and through an APP for Apple and Android **smartphones and tablets**, searching "Wood & Environment" on the APP or Play Stores. The app is made up of three main sections and a series of useful links. The first section, "Create a new tree farm", represents the core of the tool.

It is possible **to automatically generate a tree farm project** through five simple questions. The five questions start from the type of desired tree farm (in an open field or in rows) and continue by determining the types of Main Trees that have to be planted (trees with medium-long, short and/or very short rotation cycle) and in what percentages. The questions then arrive at the request of the desired diameter for the Main Trees with a longer rotation cycle and at the choice of adding, or not, dual-role trees or only accessory trees. By answering all the questions in series, **the tool is able to extract a pre-compiled project from a database of as many as 116 possible solutions**.

The choice of the species to be planted remains the only aspect deliberately left in the hands of designers, who can be supported both by their experience in the knowledge of the area and the plot of land where the tree farm will be implemented and by specific tables, viewable through an in-depth documentation made available.

Customizations and useful links

The second section of the tool, "My projects", contains **all the projects generated and saved by the user**, exported in PDF format and named accordingly. Each project, in addition to the layout, is supported by a **Tree farm plan**, with the description of the necessary implementation and management techniques and by an indicative **financial evaluation of costs** and revenues, which is very useful especially to the owner to consciously choose whether to plant a Tree farm, or not. The basic economic data are pre-set by the developers based on average values and direct experiences. However, the resulting estimate, which is valid in general terms, may not be for individual realities, since it depends on factors that are not always common to all areas, such as the value of wood assortments or land-use costs. Therefore, the third section of the application, "Set costs and revenues", becomes fundamental: **designers and owners can set and save the typical parameters of their area**, thus arriving at a financial assessment that is closer to reality.

Finally, the application is supported by numerous in-depth links, which refer both to specific sections in the Project website, and to fundamental documents to fully understand the 3P Tree farms, the opportunities they are able to generate and the underlying technical-scientific bases.