POPLAR

The tree of the 21\textsuperscript{st} century!
POPLAR

The tree of the 21\textsuperscript{st} century!
TABLE OF CONTENTS

INTRODUCTION

KEY FIGURES
Introduction
Area of poplars in Europe and in the world
Use of poplar wood in Europe
Uncertain future

ECONOMIC DEVELOPMENT
A low carbon economy
A sustainable growth
A green raw material
Endless possibilities

SOCIAL DEVELOPMENT
A local tradition
A driving force for job creation
A provider of local welfare

ENVIRONMENTAL PROTECTION
Climate change reduction and carbon storage
A source of renewable energies
A protective function

CONCLUSIONS

RECOMMENDATIONS
Regulation
Information
Image

PRO-POPULUS
History
Goals
Founding members
Board of Directors
Contacts

MORE INFORMATION
In a time when economic difficulties come alongside ecological requirements, it is more than ever time to look into our future and our environment. To this end, poplar represents an interesting alternative to be developed at the European level.

The use of wood as an ecological material and in particular of poplar, which is characterized by its rapid growth and relative facility of production, makes it possible to meet many expectations of our society.

Today, important environmental decisions and commitments are taken. In this context, poplar offers many favourable opportunities benefitting each and every actor of the wood sector.

Moreover, poplar undoubtedly shows unique characteristics which make it the ideal transversal element supporting many fields of activities of the European Union.

For example:
- contribution to a greener and more durable economy,
- tackling climate change,
- raw material availability,
- renewable energy use,
- rural development,
- etc.

In the different Member States, we note with concern that the political sphere knows very little of this reality and is far from supporting the plantations of poplar as they should be.

This is the reason why in the following pages we invite policymakers to become acquainted with the indisputable advantages poplar has to offer. We hope that this publication will lead to a better understanding of the European poplar sector and to a closer cooperation with the European institutions.
KEY FIGURES

OVERVIEW

- In 2050, 75% of industrial wood will come from plantations

- The total area of planted poplar reported in 2012 is 8.6 million

- The area of planted poplar in China is 18 times larger than in France

- General wood demand becomes largely superior to available volumes
Introduction

According to the Food and Agriculture Organization of the United Nations (FAO), by 2020, 44% of the global forests will be cultivated plantations. In 2050, 75% of industrial wood will come from plantations. Half of the demand will be covered by so-called “short rotation” plantations, such as poplar plantations.

It is therefore not surprising that both vast countries with large forest resources, such as Canada and the USA, and countries with more limited forest resources, like China and India, invest in the development of poplar plantations projects directed to wood production and protection of the environment.

Area of poplars in Europe and in the world

In 2011, the overall global area of poplars is estimated at 87 million ha (78.5 million ha in 2007). 88% consists of natural poplar forests, 9% of planted poplars and 3% in agroforestry projects or trees outside forests.

Indigenous poplar forests cover significant areas in Canada (30.3 million ha), the Russian Federation (24.7 million ha), the United States of America (17.7 million ha) and China (2.5 million ha).
As far as poplar plantations are concerned, China is the major country (7.6 million ha), followed by France (236,000 ha), Turkey (125,000 ha), Spain (105,000 ha), and Italy (101,430 ha).

China also accounts for the largest area of poplars used in agroforestry systems and trees outside forests (2.8 million ha in 2011, compared to 2.5 million in 2007 and 1 million in 2004).

These areas are just waiting to be increased and transposed to other Member States in order to better respond to the expectations and requirements which will rise from the challenges posed by climate change. This is even more true, as poplar plantations show a negative trend in eight country, including Belgium, Croatia, Italy, France and Romania.

* The latest official figures available for France are those of 2007.
Use of poplar wood in Europe

According to the data presented in the “Synthesis of country progress reports on the activities related to poplar cultivation and utilization from 2004 through 2007” of the International Poplar Commission (23rd session in Beijing, China), forest products remain the main purpose for poplar cultivation, with 52.7 million ha globally. Some 21 million ha of poplars are moreover being used for various protective systems.

Uncertain future

Expectations in terms of wood demand within the European Union in the coming decades confirm that the actual surfaces shall be increased quickly and significantly. Indeed, the projections carried out at European level (EFSOS) indicate that the demand for wood is largely higher than the available volumes. These prospects contrast with the suspension or the reduction in the production of raw material.

Use of poplar wood in 7 european countries (2007)
The most important impact of harvested forests for wood production is the possibility to limit removals from natural or primary forests. This both contributes to their conservation and helps meeting the global demand for wood. The goal of a harvested forest is to produce enough wood to meet an increasing global demand in line with the principles of sustainable management from an economic, social and environmental point of view. Against this background, the development of poplar cultivation is a major element. Moreover, it falls within the “political guidelines for the next Commission” of Mr Barroso and the “EU 2020” strategy. It also offers many answers to the various European policies in terms of sustainable development, in particular as regards:

- economic development,
- social development,
- environmental protection.

Source: AITIM
OVERVIEW

- Poplar uses and produces environmental-friendly technologies and therefore plays a key role in ensuring sustainable growth in Europe.

- Poplar is a powerful ally to reduce CO₂ emissions in transports

- Poplar paves the way for smarter, greener and more sustainable growth
A low carbon economy

Not only is the production, processing and transportation of wood highly energy-efficient, but wood can often be used to substitute for materials like steel, aluminum, concrete or plastics, which require large amounts of energy to produce. The more wood products replace other materials, the more the so-called ‘substitution effect’ further reduces CO₂ in the atmosphere.

“Poplar is a strategic species which can offer products that fulfil the expectations of our society: job creation, wood for the industry, biomass for energy, etc.”

Every cubic meter of wood used as a substitute for other building materials reduces CO₂ emissions to the atmosphere by an average of 1.1 t CO₂. If this is added to the 0.9 t of CO₂ stored in wood, each cubic meter of wood saves a total of 2 t CO₂.

Wood products extend the period that the CO₂ captured by the forests is kept out of the atmosphere. The longer the life of wood products is, the better for the environment, not least because it makes better use of forest resources, but also because it reduces the energy necessary for replacing the products concerned.

The rapid growth of poplars makes it one of the most efficient species in capturing CO₂, with an average of 11 tons per ha/year, or 165 CO₂ tons/ha per rotation of 15 years. The reductions achieved thanks to poplar products enable Europe to reduce its emissions faster and meet the targets set in the Kyoto Protocol.
A sustainable growth

In the past, growth sometimes pushed aside environmental questions in an attempt to achieving economic profit. However, sustainable development plays a key role in economic growth: growth and sustainability go hand in hand.

An increased use of poplar and of wood products in general should reduce the pressure on non-renewable and energy intensive resources, what would enable Europe to meet more easily its commitments in terms of fight against climate change. Moreover, a greener and smarter economy will provide more stable jobs while safeguarding the future of generations to come.

A green raw material

The poplar industries play a central role in the creation of a competitive and green economy. Indeed, they use the most sustainable and natural resource: wood.

All by-products are used, whether as a raw material, or as an energy source. On average, 60% of the tree is used during the manufacturing of timber and wood-based products while the remaining 40% is used to produce energy, pulp for paper, etc. The production and transformation of poplar does not generate any waste.

Endless possibilities

Thanks to its particularly rapid growth and grounds adapted to its development, poplar is able to produce large volumes of wood in a limited time span. The wood produced is largely used by farmers, craftsmen and the forest industry. For more than 20 years, diversified plantations have been developed in terms of cultivars in order to meet the different needs: sliced or peeled veneer, panels, sawn wood, wooden boxes and crates, pallets, matches, beams, furniture, pulp and paper, energy, etc.

The production potential can be increased further as there is sufficient land available within the EU to quickly provide the volumes expected by the Member States. The recognition and political will of the EU are a prerequisite to start this forestry.
OVERVIEW

- Poplar largely contributes to rural economy and local development
- Poplar helps create more and better jobs for European citizens
- Poplar provide goods and services that benefit the well-being of communities
- In many areas, the cultivation of poplars is part of the social and cultural landscape
**A local tradition**

Poplar cultivation results from a long tradition. For many communities it is an inherent part of their social and cultural landscape. The culture of the poplar was often a complementary agro-forestry activity aiming at medium and long-term yields in grounds where profitable agriculture practices were not possible, as a result of the poor agronomic quality of the grounds or its partial flooding during exceptional floods.

**A driving force for job creation**

Poplar became an important resource which generates employment and contributes to the socio-economic development and livelihood in many parts of the European Union and of the world, in particular in the rural areas.

*“Poplar cultivation preserves the rural environment and makes it possible to decrease wood imports from primary forests”*

The full cycle of wood cultivation, use and transformation produces great economic and social benefits for the rural communities. It is estimated that every hectare of planted poplars generates an average of 5 days of forestry work each year. Moreover, the transformation of wood into wood-based products used by consumers requires 110 additional working days. It is commonly recognized that the harvest of two hectares generate a full-time job in the poplar processing industry.
A provider of local welfare

Poplar can provide valuable investments for government, private sector, corporate and smallholder owners that provide goods and services that benefit the well-being of communities in their environments.

Operators active from the plantation to the harvesting, including maintenance and trimming operations, are mainly local economic actors. Moreover, the majority of the processing sites are located in the direct vicinity of the plantations and their customers, which often plays an important human role.

The poplar industry is hence a major driver for employment in remote, less industrialized or developed areas. It makes an important contribution to the rural economy, to the creation of more and better jobs for our citizens and to the sustainable development for local communities.
OVERVIEW

- Poplar enables Europe to keep world leadership in fighting climate change and in the development of a low carbon economy

- Poplar promotes energy security and sustainable energy policies

- Poplar stimulates higher social and environmental standards

- Poplar brings numerous environmental benefits to local communities
Climate change reduction and carbon storage

It is common knowledge that wood and wood-based products coming from sustainably managed forests help fighting in an optimal way against the effects of climate change. These products do not only prolong the carbon cycle, by keeping carbon out of the atmosphere throughout their entire life, but they also offer a valuable alternative to more carbon and energy intensive products.

“Thanks to its important ability to capture carbon and to its great regeneration capacity, poplar is one key element for the European Union to comply with its environmental commitments”

Harvesting poplars as they mature allows much of their carbon to be stored throughout the life of the resulting wood products, while at same the time giving the industry an incentive to plant new trees in their place. Managed forests are more efficient carbon sinks than forests which are left in a natural state.
Rate measurements carried out on poplar show that it ranks among the highest in any tree species. As they are characterised by a fast growing ability, the best in Europe and one of the best in the world, poplars capture CO2 from the atmosphere and convert it into carbon.

While this carbon is stored, oxygen is released. In the atmosphere This makes it an ideal species in the fight against climate change. It is estimated that 1 hectare of poplars captures an average of 11 tonnes of CO2 annually.
A source of renewable energies

In the future plantation-grown poplars may be an important source of bioenergy. Through an increased use of poplar as well as of wood and wood products in general the pressure on non renewable and energy intensive resources can be reduced, allowing Europe to better comply with its commitments in the fight against climate change.

The use of poplar should primarily aim at the production of wood-based products. Indeed, this usage delivers better environmental results than a direct use for energy or biofuel production.

At the end of its first life, poplar wood or poplar-based products can be re-used, recycled or used as a carbon-neutral source of energy. The carbon cycle is beneficial not only because of the longer period of carbon storage, but also because of the energy and finite resources that were saved from the production of alternative fossil-based materials. When wood cannot be re-used or recycled, it can still produce energy through combustion.
**A protective function**

Poplar plantations act as ground purification systems as they capture pesticides and fertilisers from neighbouring agricultural cultures. Indeed, poplar plantations capture pollutants from surface flow water before it reaches the river.

Plantations have always played a role in the diversity of the landscapes and provided various environmental benefits as they contribute to stabilising river banks, reducing erosion and removal of surface soil by exceptional river flood.

Poplar plantations protect cultures in high-wind zones, act as green filters, prevent the removal of other natural species and absorb CO2 from the atmosphere, thereby contributing to the fight against climate change.

The biodiversity of poplar plantations is not the same as the one of meadows. Poplar plantations can also accommodate either habitats of community interest such as tall herbs or heritage species. In general, the adaptation of cultivation methods on these sites helps preserving this biodiversity, while optimising the effectiveness of the production.

Poplar plantations are particularly well-suited for the inherent conditions of floodplains and make it possible to add an economic value to these protected areas.

Sources:
NELSON, 1984
HAYCOK et PINAY, 1993
CONCLUSIONS

European poplar wood offers the best quality in the world. However, the industry is facing an alarming, continuous and gradual decrease of planted areas.

This decline is primarily due to the numerous restrictions affecting poplar cultivation, which is in turn considered as agriculture or as forestry, never well-defined in environmental and landscape regulations in place or being developed.

Clear regulations from the European institutions regarding forests in general and poplar plantations in particular are absolutely needed as soon as possible, for the survival of many rural and industrial actors are at stake. In the absence of a swift action the European Union would moreover have no other alternative than importing more wood, in spite of the current uncertainties, while large areas are available and can become productive in less than two decades if an adapted poplar culture is put in place.

Through a clear regulation in favour of the forest, the European Union will enable Member States to move beyond national, regional or local constraints, which are now hampering the development of an industry striving for its existence and development.

As we have demonstrated in this publication, poplar offers many economic, social and environmental advantages needed for the creation of a competitive, connected and greener economy. It would therefore be regrettable to neglect such a resource!
Recommendations

Regulation

- Achieving coherence and transparency in regulations, as forest requirements are too diverse within the EU
- Recognising the environmental benefits of poplar
- Supporting the economic development of fast-growing species
- Setting the example in public procurement, both at EU and MS level

Information

- Presenting consistent information, which requires reliable and solid statistics
- Developing R&D at all levels
- Informing about poplar cultivation, sensitising policy-makers
- Communicating with one voice

Image

- Raising awareness on the necessity of planted forests
- Considering poplar as a European species
- Creating a stable network between the European stakeholders
OVERVIEW

- European poplar association created in 2008

- Gathering the entire industry: forest owners, producers, promoters and industrial users

- Created out of the will of four major poplar-oriented countries: Belgium, Spain, France and Italy
History
Created in 2008, Pro-Populus, the “European poplar association”, is unique in the sense that, for the first time, it gathers growers, promoters and industrial users of poplar for the variety of uses it offers (panels, packaging, energy etc.).

The creation of the new association was supported by CEI-Bois, the European Confederation of Woodworking Industries, where the association has its legal seat.

Founding members
The founding members of Pro-Populus are:
- Associazione Pioppicoltori Italiani asbl (Italy)
- Centre de populiculture du Hainaut asbl (Belgium)
- Chambre Syndicale du Peuplier de France (France)
- FEDEMAR asbl (Belgium)
- Fédération nationale des Scieries (Belgium)
- Federlegno-Arredo asbl (Italy)
- Unie Vlaamse Bosbouw vzw (Belgium)
- Pedro Garnica Ortiz (Spain)

Goals
The overall goals of Pro-Populus are to:
- Position poplar as a strategic raw material;
- Gather, promote, defend and represent the production and use of poplar;
- Present a platform for information exchange;
- Study any question of interest to the poplar sector.

All founders are convinced that poplar presents unique features rendering it ideal in supporting many transversal policy areas within the European Union, such as e.g. raw material availability, climate change mitigation, renewable energy use, development of territories.
**Board of Directors**
In December 2011, Nicoletta Azzi (IT) replaced Bernard Mourlan (FR) as President of Pro-Populus. The new President is assisted by vice-presidents Fabio Boccalari (IT), Pedro Garnica (ES) and Bernard Mourlan (FR) as well as board members Marc De Bock (BE), André Deterck (BE) and Hervé Drouin (FR).

“Pro-Populus represents the interests of poplar, a strategic species for Europe”

**Contacts**
Pro-Populus asbl
Rue Montoyer 24/20, BE-1000 Bruxelles
T: +32 2 556 25 85
F: +32 2 287 08 75
E: info@pro-populus.eu

Nicoletta Azzi
President

Fabio Boccalari
Vice-president

Pedro Garnica
Vice-president

Bernard Mourlan
Vice-president

François Sougnez
Secretary general
MORE INFORMATION

Associazione Pioppicoltori Italiani
www.confagricolturalombardia.it

CEI-Bois
www.cei-bois.org

Centre de Populiculture du Hainaut
www.cph-populiculture.be

Confemadera
www.confemadera.es

Federlegno-Arredo
www.federlegno.it

Hout Info Bois
www.houtinfobois.be

Peupliers de France
www.peupliersdefrance.org

Unie Vlaamse Bosbouw
www.uvb.be
POPLAR
The tree of the 21st century!

© Pro-Populus, 2013
Responsible editor: François Sougnez, Secretary general
Pro-Populus asbl
c/o CEI-Bois
Rue Montoyer 24/20
B-1000 Brussels