

# National Research Agenda (NRA)

– for the Swedish forest-based sector

“The way forward for the Swedish forest-based sector lies in developing products with a higher added value and in finding new business opportunities based on the forest as a natural resource.”



Extensive work has gone into formulating this Strategic Research Agenda (SRA). Stakeholders from all areas, including researchers and public bodies, have taken an active part in the process with representatives from the European Commission observing. Effectively, more than 700 forest-based sector representatives in some 20 European countries have been actively engaged in the process, which has already generated a pool of more than 700 proposals. These proposals have been condensed into the SRA presented here, which is designed to help create a more efficient, competitive and sustainable sector.

However, we need to ensure that forest-based products are competitive at a global level. Otherwise, the infrastructure and investment will simply not be available to ensure that Europe can enjoy the many other benefits that come from the sector such as economic growth, rural jobs and the sustainable forest management that will help secure all our

is already one of the most advanced in terms of generating and using energy from renewable sources.

Our vision for the future calls for continuous development of the

# Summary

A more sustainable use of resources throughout the world is essential. Sweden can and in this context wishes to play a prominent role. Such a development presupposes greater use of renewable resources. As a result of this, the forest will have a decisive role to play in the future.

The forest-based sector of the Swedish industry is highly export orientated and are going through a process of transformation. Global competition is increasing all the time in many segments of the present range of products. The forest as a versatile resource is attracting more and more attention. The way forward for the Swedish forest-based sector lies in developing products with a higher added value and in finding new business opportunities based on the forest as a natural resource. Its role as a supplier of biomass for energy is growing in importance. The forest-based sector is particularly well placed to contribute to sustainable development. Forestry that generates higher biomass volumes and at the same time creates other values in the form of ecosystem services, biological diversity and recreational value is both realistic and desirable.

The process of transformation must be underpinned by effective research. With a focus on strategic issues and effective co-ordination of skills, world-class research can be achieved. All the parties involved must co-operate to achieve this.

## **NRA – A COMBINED EFFORT**

As a result of talks between the former government and sectors of industry, the Swedish Forest Industries Federation has launched an initiative to draw up a strategic, national research agenda. The NRA is the outcome of this initiative and, in the process of gaining support, has been preceded by close co-operation between many interested parties; principally the forest-based sector, the research community and relevant research-funding authorities.

The NRA shall secure the future of Sweden's forest-based sector. It maps out and explains the research requirements in the form of 14 national focus areas (see table on last page) and also describes the expected effects. The role of the NRA is to provide guidance and inspire researchers to adopt new ways of thinking and working together. As the funding agencies have the NRA as a point of departure, the ground is already laid for a necessary concentration of effort.

NRA has of necessity a broad remit in light of the fact that the Swedish forest industry represents an unusually extensive range of products, that Sweden's forests are required to meet several different goals and objectives and that bioenergy is becoming increasingly significant.

## **THE FORESTS – BASIS FOR THE FUTURE**

Since Sweden is typically a densely forested country, in which forest products throughout the ages have been a cornerstone of the economy, the country is very obviously affected by the changing attitudes that characterise modern society. The country's immense forest assets mean that future prospects are bright, not least thanks to the ability of the sector to gradually adapt its forestry methods in order to keep up with new knowledge and insights. The value of the environment and biological diversity are being recreated within this framework. The supply of biomass in Swedish forests is greater today than it ever has been. The weakness from an industrial perspective is the relatively slow growth due to climatic conditions.

As a result of urbanisation, people have a growing need for adventurous and healthy recreation, and here too forests are playing an increasing valuable role. A well-managed forest also offers major ecological benefits. In addition to converting carbon dioxide into biomass, the forest shall harbour a variety of species of plants and animals, provide protection against flooding and landslides, serve as a buffer for sensitive water areas and constitute a resource in water management.

Sweden shall be recognised for forestry practices that ensure access to biomass whilst safeguarding and developing all the other valuable aspects of the forest.

## **THE FOREST INDUSTRY – TOWARDS THE FUTURE**

The Swedish forest industry has always been a prominent exporter and has, not least as a result of its high quality research, been able to assume a leading technical position with modern and well-managed manufacturing units. The pulp and paper industry nowadays consists of large and efficient mills that belong to international groups. Mergers are taking place in the wood industry with the aim of gaining a stronger position on the market and promoting product development. The bioenergy sector is currently growing rapidly at the national level.

The forest industry is subject to powerful pressures to adapt. Competition is steadily increasing from countries with lower raw material and production costs. Changes on the energy market have also led to substantial increases in energy costs in the industry; moreover, interest in using forest-based biomass as a source of energy is steadily increasing.

The Swedish forest industry thus faces major challenges. The way forward for the Swedish forest industry requires products with a higher added value to be developed and the industry to play an active role within the energy sector.

## RESEARCH – A KEY FACTOR

Sweden has a strong research tradition within the forest-based sector and is at the cutting edge of research in several areas. The Swedish forest-based sector cannot continue to develop successfully without a strong research foundation. Research must play a more active part in this development and be characterised by innovative thinking. It must seek new paths in terms of changing production systems and developing products with a high added value, have a strong customer focus and an increasingly socio-economic elements. Research can become even more effective by improving co-ordination, by strengthening networks and by strengthening the participants' profiling. As Sweden is a small country a combined, target-oriented effort is essential if research funds are to be put to effective use, and in order to retain and, not least, create new positions of international leadership.

Swedish research has much to gain within several areas by international research co-operation. This is particularly the case within Europe, which provides the main market for many of Sweden's forest-industry companies and where they in many cases also have production units.

## IMPLEMENTATION

The implementation of the NRA will require numerous projects and programmes to be identified and carried out. With this in mind an organisation has been established for purposes of implementation. It will be headed by an NRA Council. The NRA's implementation organisation is not a research-funding body; decisions on project financing will be taken by other bodies. The basic idea is that NRA shall serve as a reference point and encourage augmented,

joint research-funding co-operation between the forest-based sector, public bodies and private foundations.

One important aspect of the implementation of the NRA is the industry research programme (BFP) for "the forest and wood industry" – which will cost 500 million Swedish kronor over 5–7 years – that has been jointly approved by the Ministry of Industry, Employment and Communication, VINNOVA, the Swedish Forest Industries Federation and the Swedish Federation of Wood and Furniture Industry.



Opportunities for project support from the EU's research financing mechanisms are a further asset when it comes to realising the NRA's aims. The European co-operation offers access to valuable competence while Swedish research activities contribute to achieving the goals at European level that have been formulated within the Forest-based Sector Technology Platform (FTP), with its strategic research agenda SRA ([www.forestplatform.org](http://www.forestplatform.org)).

“Close co-operation between the parties concerned will result in a successful development of the forest-based sector in Sweden.”

# THE NATIONAL FOCUS AREAS' (NS) RELATIONSHIP TO STRATEGIC OBJECTIVES AND TO VALUE CHAINS

Strategic objectives	Forestry	Wood products	Pulp and paper products	Bio-energy
1. Development of innovative products and services	NS-12 Commercialisation of soft forest values	NS-1 Building and living with wood  NS-2 Service life of wood products and life cycle costs	NS-4 Fibre-based packaging  NS-5 Paper in the media society  NS-6 New product areas for wood fibre industry	NS-8 Energy from forest raw materials
2. Development of new and efficient uses of energy		NS-3 More efficient wood processing	NS-7 Processes and process systems for pulp and paper production	NS-7 Processes and process systems for pulp and paper production  NS-8 Energy from forest raw materials
3. Sourcing of forest-based raw materials for products and energy	NS-9 Trees for the future			
	NS-13 Customer-adapted supply of wood-based raw materials			
4. Sustainable and multi-functional forestry	NS-10 Forestry with multiple objectives			
	NS-11 Improved knowledge on forest eco-system			
5. The industry in a social perspective	NS-14 Forest-based sector from a social perspective			

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