

# Market Statement 2015 – SWEDEN

UNECE Timber Committee Market Discussion 3 November 2015

Engelberg

## 1 General Economic Trends

The Swedish economy will continue to recover and GDP is expected to grow by around 3 percent both this year and next. The investment-led economic recovery in the OECD countries and the weak krona will boost Swedish exports, which is expected to grow by 3.0 percent in 2015 and 4.5 percent in 2016, making it the component that contributes most to GDP growth both this year and next. Growing export growth means that industrial production will recover. Meanwhile the upturn in construction activity is likely to be slow due to housing investment rising is less quickly than before. Despite recent years' increase in homebuilding, there is still a shortage of housing. Together with low interest rates, this has led to soaring housing prices and household debt. The increase in housing prices can be explained largely by fundamental factors, such as incomes, interest rates and taxes, but the sharp rise in recent year cannot be explained in this way and there is now a significant risk that prices are at unsustainable levels. An abrupt fall in prices could hamper household consumption if debt levels have to be reduced. There would then be a risk of the recovery in Sweden stalling.

Recent years' low inflation is primarily a result of the poor economic climate in Sweden and abroad. The frail global economy has led to weak world market prices and contributed to the recent sharp fall in prices of crude oil and other commodities. Low inflation and inflation expectations contributed to the Riksbank lowering the repo rate further during the summer. This rate cut has weakened the krona. The substantial depreciation of the krona over the past year is one reason why inflation has bottomed out and is now on the way up.

The government will lower ROT tax deduction for home improvements and raise fuel taxes next year which will push inflation up temporarily by around 0.3 percent points in 2016, but it will hold below 2 percent throughout the year.

Given the government's principle of fully funded reforms, public finances is likely to remain in deficit until 2018. Fiscal space will therefore be non-existent, even with a switch to a balanced-budget target for public finances. An unchanged public sector commitment in 2016-2019 will require taxes to be raised by around SEK 100 billion.

After weak employment growth over the summer, the number of vacancies and firms' recruitment plans suggest that employment probably rise more quickly during the rest of the year. While employment is set to grow at a stable rate, the labour force is likely to expand considerably due to high immigration.

New immigrants have a weak position in the labour market, however, and are in the short-term harder to match to vacant jobs. This is among the reasons why unemployment is expected to fall only slowly and still be around 7 per cent in 2017.

## **2 Economic stimulus policies and forest products markets**

### **Green economy (priorities a wide range of drivers in the forest sector in energy, climate change, industry, innovation and governance)**

Economic stimulus efforts are providing short-term support that directly or indirectly affect the forestry sector. National and international energy and climate policies is likely to have a longer term effect on the forestry sector. Sweden's energy policy rests on three cornerstones: secure energy supply, economic competitiveness and ecological sustainability. In an increasingly globalised world, where global value chains are becoming increasingly dominant, international factors are coming to play a growing role in the design of the energy system and the energy policy. A roadmap for a green transition in Sweden is something much wider than just sector policies and R&D support. It includes an active policy to speed up the international community's commitment, continuous and strong usage of economic domestic tools like green taxation long-term stimulus to green entrepreneurship, and a socially inclusive policy to protect those who lose out from the green transformation.

Sweden has made further progress towards its long-term goal of an economy based on sustainable energy, and today is among the leading countries in terms of low-carbon intensity and high share of renewable energy in total energy supply, with strong growth coming from solid biofuels and biomass. This is the result of continuous political efforts: a stringent carbon and energy taxation, emissions trading and the promotion of renewable energies under the electricity taxation, emissions trading and the promotion of renewable energies under the electricity certificate system.

In 2009, ambitious new targets were adopted under the "integrated climate and energy policy" framework. They support and even go beyond European Union and international obligations and require by 2020: i) the reduction of energy intensity by 20%; ii) a share of at least 50% renewable energy in gross final consumption and 10% in transport, and iii) a reduction of GHG emissions by 40%, two-thirds of which are to be implemented by domestic measures outside the EU Emissions Trading Scheme and the remainder by EU and international efforts.

For the longer term, Sweden put forward two ambitious priorities: i) a fossil fuel-independent vehicle fleet by 2030, and ii) zero net greenhouse gas (GHG) emissions by 2050.

## **3 Present political situation and impact on policies**

The government has further proposed a number of measures that are expected to affect the emission of greenhouse gases and renewable energy in Sweden put into service after 2013. There are, among others:

- Proposed raising of ambition in RE electricity certificate system cap of the targeted from 25 to 30 TWh in 2020, as the capacity build-up was foreseen to hit the lower cap earlier than 2020, such the new investments would not be viable beyond this point.
- Tax changes on renewable electricity are proposed. This relates to negotiations with Norway on the expansion of the joint Green certificate system to 30 TWh for 2020.
- The Government proposed SEK 1 billion annually during the period 2016-2019 earmarked for renovation and refurbishment which includes contributing to the energy efficiency of homes and outdoor environments, particularly in areas with socio-economic challenges.
- The government has also announced the formation of a broad parliamentary energy commission, i.e. also inviting the opposition to participate. The commission will mainly concentrate on the electric energy supply and the end-date for reporting is set to 2017.
- For 2016, new changes to the tax rates have been proposed. This is an increase of the energy tax for diesel and gasoline, which had been proposed by the government, but the same tax increase is also levied on biofuels in order to avoid over-compensation of biofuels, as the EC considers that the biofuels should not be less costly than fossil fuels by subsidies or fiscal measures. Furthermore, there is an on-going debate with the EC on the carbon tax for biofuels, as the tax is not levied on biofuels. The criticism is based on that there is no consideration of, or differentiation for, the actual CO<sub>2</sub> emission of the biofuel in question, and thus it can be seen as state aid.
- The lower energy tax for diesel compared to gasoline has been gradually reduced from 2011 and will be further reduced in 2015 with the aim to have a similar tax as for gasoline on an energy basis. For the transport industry, some compensation for this is made through vehicle taxation as diesel vehicles had higher taxes than comparable gasoline vehicles in the past.
- For 2016, an increase of the energy tax for gasoline and diesel of 0.44 and 0.48 SEK/liter, respectively has been proposed, and which will also be levied on liquid biofuels, while the tax on ethanol is proposed to be raised to avoid “over-compensation”, these latter changes being motivated by the EC position.
- The government had expressed a higher ambitions levels the on the new EU 2030 framework agreement on energy and climate policies. The government has appointed parliamentary energy commission to look into the policies. The overall vision for the Swedish climate and energy policy is a fossil-independent energy system by 2050.

# **Governments Budget Bill for 2016<sup>1</sup>**

## **Increased resources for climate in all sectors and forest protection**

On 21 September 2015 the Government submitted its bill for the central government budget for 2016 to the Parliament. The Government is investing more than SEK 24 billion in 2016 in jobs, schools and climate action. This is on top of the SEK 20 billion announced in the spring budget.

The Government also proposes more funds for the protection of valuable forest. This is to be increased by SEK100 million from 2016 for compensation to landowners for forest protection

Overall, the government is investing 4.5 billion for climate action in the Budget for 2016, including the one announced by the Spring Budget Bill for 2015. The government also proposes SEK 325 million on Greenovation (gröna näringar) concepts is to increase user-driven innovation in more green growth in forestry sector.

## **Recent policy measures**

### **National Forest Programme (NFP)**

The government is working on a broad dialogue with stakeholders to develop a national forest program. The NFP will help stimulate several other strategic initiatives and policies on, for example, climate and environmental objectives, rural development, industrialization - new technologies and competitiveness, development of exports, tourism and more.

The Minister for Rural Affairs Sven-Erik Bucht leads the work and is assisted by a program committee. The operational work will be done in the working groups established during the late summer of 2015. These working groups will present a final report fall in 2016.

### Background

There are several inputs to the work now under way. Decisions on milestones and objectives system was taken in 2014 and a bill on a Swedish strategy for biodiversity and ecosystem services was agreed by Parliament in June 2014. One of the milestones is to start a dialogue process for a national forestry program with stakeholders affected by the forest and its value chain. The dialogue should include economic, social and environmental values and aims to the forest and its value chain further contribute to the development of a sustainable society and a growing bio-based economy.

### Working groups within the NFP process of dialogue

Representatives of interest groups, companies and authorities will participate in the four working groups that form the core of the NFP process of dialogue:

- Growth, multiple use and value creation of the forest resource
- Timber production, other ecosystem services and nature's boundaries
- Promotion of bio-based products and energy, smart mobility, a forest in the world and

---

<sup>1</sup> The proposed budget bill for 2016 is [subject to parliamentary approval](#).

increased exports

- International forestry issues

Government intends to allocate SEK 26 million annually during 2017-2019. The aim is to establish a platform for long-term action and engagement to develop the forestry sector.

### **Government stimulus: ROT**

The tax deduction on labour work repair, renovation, extension and maintenance on houses (ROT) excluding material passed by Parliament on (May 13, 2009) is still applying. The ROT deduction also serves to reduce energy use through covering a number of measures for saving energy. The measures mitigate the effects of the economic crisis and improve the conditions for a gradual recovery of construction sector. The ROT deduction measure is also a part of the government's efforts to enhance labour market policies, reduce illegal employment and improving demand in the construction sector. Swedish Tax Agency office paid SEK 16.9 billion in 2014 for tax reduction for ROT. There was an increase by 11 percent in 2014 compared to 2013. This gave some net revenue to the treasury through VAT, payroll taxes and employee and cooperate taxes and increased employment. ROT has had a positive effect on the domestic demand of sawn wood.

According to the government proposal the ROT deduction will be lowered from 50 to 30 percent at year-end, although the ceiling for the deduction will continue to be SEK 50 000 per person per year, and a maximum of 100,000 per household, on work performed.

### **Rural Development Programme (RDP) 2014-2020**

The Rural Development Programme (RDP) for Sweden was formally adopted by the European Commission on 26 May 2015. It outlines Sweden's priorities for using nearly € 4.3 billion of public money that is available for the 7-year period 2014-2020 (€ 1.8 billion from the EU budget, including € 18 million transferred from the 2014–2015 envelope for CAP direct payments, and € 2.5 billion of national co-funding plus € 2.9 million of additional national funding top-ups).

The total budget for the forestry in RDP for the period 2014 - 2020 is some SEK 280 million. The three forestry support is included; i) skills development, ii) forest environmental values and iii) way of cooperation. Support for training and advice has a budget of some SEK 100 million and focuses on efforts that contribute to sustainable forest management, including forest's impact on water, prevent the effects of climate change and reducing the environmental impact of the forest. In support of the environmental values of forests the budget amounts to some SEK100 million are as measures to thinning for broadleaved and deciduous forests, management of natural and cultural values in management-intensive stocks and clearing around paths and trails. Within collaborative support with a budget of SEK 80 million is planned collaboration on forest roads, for example, limits in forest, wildlife management and adaptive forest management. In addition there is a further support, "Prevention and restoration of damage to forests" without a set budget. It's a "backup support" that can be activated on special occasions, such as in forest fires and natural disasters.

## **4 Policies related forest products markets**

### **Trade related policies**

#### **4.1.1 European Union Timber Regulation (EUTR)**

The European Union Timber Regulation (EUTR), which became effective on 3 March 2013, is intended to prevent the entry of illegally logged wood into the 28 EU Member States. The Regulation prohibits placing on the EU market wood and wood products illegally harvested and obligate operators to exercise due diligence and use a due diligence system. Operators can develop their own system or use one developed by a monitoring organization. The Member States are responsible for laying down effective and dissuasive penalties applicable to infringements. Competent authority shall carry out checks on operators and monitoring organisations to verify compliance with the requirements in EUTR.

The Swedish Forest Agency (SFA) is assigned to be the competent authority for EUTR in Sweden. Since the first of August 2014 Sweden has a national legislation laying down rules concerning infringements of the provisions of the regulation and rules on carrying out checks on regular intervals on operators by the competent authority.

Since autumn 2013 SFA has done 59 checks on operators importing timber and timber products. Of this 22 injunctions has been decided by the SFA. The extent of checks on importers is 39 per cent of total import of timber products covered by the timber regulation.

Checks on operators (first buyer) placing harvested timber from Swedish forests has also started and are integrated and coordinated with supervision of the Forest Act. In August 2015 total of 24 prosecution has been initiated on operators for not having notified final felling.

### **Energy related policies**

#### **4.1.2 Renewable energy policies**

The energy related policies has increased the demand for bioenergy. In addition there are national strategies for the shift towards bio economy or bio-based economy. Most important for the on-going replacement of fossil fuels with bioenergy are the carbon tax and the renewable electricity certificate system. By-products from the forest and forest industry are the main source of bioenergy, the demand rather strengthens the supply side as it is improving the marginal profitability of forestry. So far, raw material competition between the energy sector and the traditional forest industry has been limited to wood from thinning operations within the vicinity of large heat-and-power plants.

The high capacity from hydropower and the increased use bioenergy means that Sweden has a very high proportion of renewable energy, 52 % in compared to 33 % in 1990. The Swedish target of 49 % in 2020 has already been reached and surpassed. The Swedish Energy Agency has estimated that further target for renewable energy by 2020 can be achieved and that renewable energy with policy instruments can be expected to reach 55 percent. Bioenergy accounts for almost a third of Sweden's energy use, and hydropower accounts for almost half of Sweden's electricity supply. Wind power and geothermal heat pumps each supply less than 5 percent of the renewable energy, and solar energy less than one percent.

### **4.1.3 Biomass**

Bioenergy has a significant role in the energy system and the economy in Sweden. Efforts to increase the use of biofuels is an important part of the strategy to achieve good natural resource management, and is also an important part of the climate work. The use of bioenergy (incl. waste and peat) in Sweden has increased from 40 TWh/year in the 1970s to around 140 TWh in 2014. The primary reason for the growth of the bioenergy sector in Sweden is broad political support and the use of strong general incentives like the Swedish carbon tax (introduced in 1991) the green electricity certificates (introduced in 2003), and tax exemption for biofuels for transport, as well as direct investment supports.

So far, the carbon tax has been lower for energy production for industries outside the EU Emission Trading System. It has been decided that this tax will increase substantially from January 1, 2015, and already now there is a noticeable increase in decisions made about substitution from fossil fuels to renewables within the sector.

Moreover, there is a tendency of increased supply of waste from other EU countries to the bioenergy market, probably due to a tightened implementation of the EU waste directive which prohibits deposition. The increase in the capacity for domestic combustion and procurement of its energy does not keep pace. Thus, within Sweden the use of low value wood from the forest has not increased as much over the last few years as it did during the previous decade.

### **4.1.4 Ethanol and liquid fuels**

Production and use of biofuels has grown significantly since the mid-2000s. Biofuels production from forest biomass in 2013 was estimated to some 900 GWh. According to preliminary statistics, the share of renewable fuels in road transport 2013 was 9.8 percent. When calculated according to the methodology of the Renewables Directive (RD), it was 15.6 percent. The development has largely been governed by political decisions. RD target of 10 percent renewable energy in the transport sector has been central. In Sweden, the tax reduction used to make it economically viable to use biofuels compared to fossil alternatives. The exemption in Sweden today is only approved by the European Commission until the end of 2015. There are voluntary approaches in the longer term, including the priority of a fossil-independent vehicle fleet in 2030 and the vision of a carbon neutral energy system in 2050, but what this means in practice and how it will be achieved is unclear. The government plans to increase tax on diesel and gasoline by 45-50 öre per liter, but also double the taxes (115-120 öre per liter) to biofuels, i.e. biodiesel and E85

### **4.1.5 Environmental related policies**

#### **Certification schemes**

The preliminary figures in 2014 total certified forest land according to PEFC standard was 11,263,434 hectares productive forest land, which is nearly 50 percent of total productive forest land. The number of forest owners amounted to 39,760 and companies according to chain of custody (CoC) to 3,203. Forest land certified according to FSC standard covers half of the productive forest land, 12,000,000 hectares, in the end of 2013. More than 500 companies are FSC certified, of which 477 according CoC.

A lot of forest companies, mostly large ones, are double-certified which makes it difficult to produce certified areas share by system of total forest land. Both PEFC and FSC national standards are currently being reviewed.

## **Carbon related policies**

### **4.1.6 Climate change**

#### **The Forestry Act and the Environmental Code**

The methods used in forestry are mainly regulated by provisions in the Forestry Act and the Environmental Code. Existing provisions influence carbon dioxide removals and emissions in various ways, in particular:

- Provisions on forest management are described in the Forestry Act. Examples include requirement to establish new forest after felling and requirement to afforest abandoned farmland no later than the third year after it is taken out of production. These requirements are designed to ensure full use of the timber-producing capacity of land, which is beneficial for climate change mitigation as it promotes the uptake of carbon dioxide by forest biomass and sustains high production of biomass, enabling the substitution of fossil fuels and greenhouse gas intensive materials for forest biomass.
- Provisions on land drainage are described in the Environmental Code. In central parts of the southern Swedish highlands and north of the limes norrlandicus (the Biogeographical Boundary of Northern Sweden), land drainage – defined as drainage with the aim of permanently increasing the suitability of a property for a certain purpose – may only be undertaken with a permit. In the rest of the country and on sites specially protected under the RAMSAR Convention, such schemes are prohibited. Land drainage has declined since the early 1990s and now occurs on a very small scale. Drainage of wetland may induce increased emission of carbon dioxide and nitrous oxide while emissions of methane normally decrease, and increased forest production on drained land increase removals of carbon dioxide in forest biomass and enable the substitution of fossil fuels and greenhouse gas intensive materials for forest biomass.
- Conservation work (site protection, nature conservation agreements and voluntary set-aside of land) not only preserve biodiversity, but also have a positive impact on carbon stocks in forest biomass, and soil carbon are maintained or continue to increase. Production forests that are used primarily for timber have a relatively low average age and therefore a large capacity to sequester carbon, even long after a conservation measure has been implemented. There are targets for the conservation and protection of areas containing both wetlands and forest land. Since such areas are usually excluded from felling, their stocks of carbon in biomass and soil will in most cases be larger than those of production forests.

#### **Advice and training**

Government's advice has in recent years been stepped up and in the period of 2012-2015, 10 million SEK yearly has been allocated to strengthen governmental advice and training for increased production and efficient environmental concern, to the benefit of increased production leading to increased uptake of carbon. The Swedish Forest Agency has mounted information campaigns on adapting forestry to a changing climate with support from the Rural

Development Programme (RDP): “Forestry in a changed climate” and “Forest owners and climate”.

#### **4.1.7 Other notable policy instruments**

There are several policy instruments which have an indirect, but crucial, impact on forest’s fluxes of greenhouse gases. Carbon tax, energy tax, market-based support schemes such as the electricity certificates system and quota obligation on renewable transport fuels are regulatory instruments that influence the demand for forest raw materials for energy supply. These measures have been instrumental in increasing the profitability of forest biomass fuels and been a major factor behind the economy-wide emission reductions achieved.

#### **4.1.8 Carbon markets**

There is no national market scheme in Sweden where forest owners may sell carbon credits from carbon sequestration in Swedish forests. There is a concern that such payments, in the long-term perspective, could be counterproductive for climate mitigation due to reduced removal resulting in lowered substitution rates in the longer term. Carbon markets where forest estate owners acts as sellers of carbon credits would also bring high monitoring, transaction and administrative costs, undermining the profitability and hence the incentive of carbon sequestration actions.

While the LULUCF sector features extensive flows of carbon, allowing the LULUCF sector to contribute to economy-wide mitigation targets through trade with carbon credits raise several questions, i.e. to what extent emissions from fossil fuels will be reduced, how permanence of removals are ensured, accuracy of the monitoring of carbon flows, etc.

In 2014/2015 the Swedish Energy Agency supports more than 95 international climate projects in different sectors, primarily developed under the Kyoto Protocol's "Clean Development Mechanism" (CDM). Moreover, the Agency participates in a number of multilateral climate funds and partnerships aiming at supporting climate change mitigation activities and the further development of flexibility mechanisms.

#### **4.1.9 Green Buildings**

Building houses – even high ones – in wood is one way of enabling dwellings that strike a better balance with the environment and the climate. The construction of multi-storey buildings in wood has increased rapidly in the 21st century in Sweden. These successes are based on industrial construction in wood, where Sweden is among the front runners in Europe. The new building methods mean that most of the construction process takes place indoors in factories. The time saving may be up to 80 percent and the cost benefits are substantial. With its economic and environmental advantages, industrial construction in wood has started to challenge traditional building methods.

Lifecycle analyses show better results for wood-framed houses compared to other materials. The Swedish Green Building Council programmes and code development include Leadership in Energy and Environmental Design (LEED) green building standard and Building Research Establishment’s Environmental Assessment Method (BREEAM). More and more companies and organisations are demanding information on the quantities of fossil carbon created by different products, their “carbon footprints”.

The Energy Performance of Buildings Directive governs, amongst other things, minimum requirements for energy performance in buildings and the requirement that energy declarations are performed. This directive has been introduced into Swedish legislation

through the Swedish National Board of Housing, Building and Planning's building regulations. The directive also requires all buildings to be nearly zero-energy buildings from 31 December 2020. The individual member states decide themselves which level the energy use will be in order to be classed as nearly zero-energy buildings.

#### **4.1.10 Environmental products declarations (EPD)**

The ECO platform provides a common framework for construction sector EPDs in Europe, Building construction and operations have significant direct and indirect impacts on the environment. Buildings use resources such as energy, water and raw materials, generate waste (occupant, construction and demolition), and emit potentially harmful atmospheric emissions. Building owners, designers, and builders face a unique challenge to meet demands for new and renovated facilities that are accessible, secure, healthy, and productive while minimizing their impact on the environment. This requires new practices of creating structures and using processes that are environmentally responsible and resource efficient throughout a building's life-cycle from siting to design, construction, operation, maintenance, renovation and deconstruction.

Meanwhile the building sector is moving from new buildings towards maintenance and Renovation. Today some 60% of construction activities in Sweden, relates to renovation. This trend will probably further increase by the energy conservation activities that will be required to achieve the 20-20-20 goals outlined by EC resulting in a need of renovation of a huge amount of buildings.

Life cycle assessment (LCA) is an important tool for evaluating environmental performance and thus achieving sustainable development

#### **4.1.11 Corporate Social Responsibility (CSR)**

CSR has been strong driving force within the forest sector for several years. The interest is primarily demonstrated through the involvement in FSC and PEFC forest certification schemes. The involvement appears stable over time. Swedish global pulp, paper, and packaging producers often include sustainable forestry among the CSR activities are also mentioned in financial and sustainability reports.

## **Research and Development**

Sweden has strategically aligned energy-related RD&D policies with its energy and climate objectives. These are strongly geared towards market deployment and build on the country's comparative strength, including smart grids and biofuels. Innovation and business sector commitment are a key factor for the success of the Swedish energy RD&D policy. Since 2009, co-financing from industry has been increasing, especially in demonstration. This is the result of the strong involvement of the private sector and academia in the formulation of the strategic plans, by means of the Energy R&D Board and its technology platforms and stable public support.

The government has decided to give a mandate to the research funders Swedish Research Council Formas, Sweden's Innovation Agency Vinnova, the Swedish Energy Agency, and the Swedish National Space Board to develop a basis for the Government prior the research policy bill, intended to be presented in autumn 2016.

Every four years, the Government presents a research and innovation bill that deals with the Government's priorities for the following four year period. In September 2012 the Government presented its new research and innovation bill, which will contain priorities for the period 2013-2016. The bill was presented during the autumn 2012. With this bill the Government increased its support for research and innovation by 4 billion SEK, coming into full effect by 2016. Specially, the increase in resources will focus on four strategic areas. A common theme is to prioritize research/innovations leading to new products and services. Forestry interest/commitment focus is in four main areas

- Energy
- Sustainable use of natural resources
- Effects on natural resources, ecosystem services and biodiversity
- Climate models

The research council Formas will fund 75 million SEK (25 million SEK per year for three years, 2015-2017) for research and development projects within sustainable primary production of forest raw materials and biomass, where the biomass may come from forestry, agriculture or aquaculture.

The overall aim of the initiative is to produce new knowledge that will contribute to the development of sustainable production of renewable biomass. The initiative is also intended to strengthen Swedish research in the area and increase the collaboration between academia, industry and society.

### **Bioenergy**

Significant funding is being channeled via the Energy Agency. The Swedish Energy Agency supports research and development on the supply, conversion, distribution and use of energy. Assistance is also provided to development of new technologies

Program Strategic Energy Research for the period 2014-2018 representing a major cohesive focus on research in the field of "energy" studies. In the field of "energy studies" encompasses

many of the interdisciplinary and multidisciplinary efforts made by the Energy Authority. The program covers the period 2014-2018, with a total budget of about SEK 130 million.

In addition, the program has the vision through knowledge building, scenarios and perspectives contribute to the achievement of the 2050 target - a Sweden with no net emissions of greenhouse gases - and the objectives and targets contained therein e.g. generation goal for environment, environmental quality objectives, and the Energy Policy Objectives for 2020 and by 2030.

### **Future Forests - Sustainable Strategies under Uncertainty and Risk**

The research program will generate new knowledge within several important areas where critical information for a sustainable development of forests and forestry in Sweden is missing, or is incomplete. These areas include adaptations and mitigations to climate change, water quality, nutrient cycling, and biodiversity. The funding applied for by future forests program for the period 2013-2015 is 126 million SEK.

### **National strategy for bioeconomy**

The research institutions Formas, together with Vinnova and the Energy Agency, has jointly submitted a proposal for a research and innovation strategy for a biobased national economy. The objective is to reduce the climatic impact and use of fossil raw materials and to optimise the value of ecosystem services and their contribution to the economy. The priority principal areas 1) Replacement of fossil raw materials by biobased raw materials, 2) Smarter products and smarter use of raw materials, 3) Changed consumption patterns and attitudes, 4) Prioritisation of, and a choice between, measures. Research will be complemented by inputs that promote innovation and measures that specifically deal with the challenges of bioeconomy

VINNOVA, the Swedish innovation agency granted the Swedish Forest Industry Federation (SFIF) 500 000 SEK for a new project on the future of bio-based products. The project aim is to better match users´ and consumers´ needs with research advances that are constantly being made. Developing new materials and products based on renewable raw materials to meet Sweden´s transition to a bio-based economy. This will help one step closer to SFIF vision to double the value added in 2035.

### **Forest Fire**

The research council Formas is funding 15 million SEK (5 million SEK per year 2014-2016) for research activities related to the large forest fire in the Västmanland County. The fire in Västmanland County is described as one of the largest in Sweden in modern times and the fire has required significant efforts at local, regional and national level. There is a great need for research efforts to collect and analyze materials and data on the fire and its consequences.

### **BioInnovation**

Parallel and inter-related to these efforts is BioInnovation. BioInnovation is 6-year strategic programme jointly funded by the state and private sector. It is cross-sectoral and includes currently some 60 organizations, companies and the academia. The objective is to develop sustainable and competitive products and services from bio-based material. It works in 4 priority areas: Chemicals Energy, Construction Design, Materials and new Utilisation. Each area operates through expert teams that formulate innovative projects in their respective area. Some examples of activities:

**Chemicals & Energy:** New production processes, energy products and chemicals for renewable bio-based materials.

**Materials:** New products with long-term good physical features.

**Construction & Design:** New product designs, production processes and business models for construction, renovation and interior purposes.

**New Utilisation:** New unexpected innovative solutions, business models, companies and technologies based on challenge driven innovation that not yet exist.

## 5 Market drivers

Sweden is an export-oriented and export-dependent as more than 80 % of sawnwood, paper and pulp production is exported. As regard to wood products the main driver is demand in the construction sector. This sector deteriorated after the financial crisis. The recovery has been very weak and prolonged in the industrialised countries. The activity is far from its peak levels. Moreover, the developments of the sawnwood markets also affect the prices and raw material supply flows for the other large scale forest-based industries, such as pulp, wood-based panels and bioenergy markets.

Factors frequently cited as drivers of change with regard to long-term global demand for wood products are: economic development; demographics; scientific and technological developments; globalization; global climate change; policies, regulations and customer preferences linked to climate change; environmental policies and regulations other than those linked to climate change.

The increased focus on wood as a renewable and climate friendly solution represents an opportunity for the forest sector. New requirements for energy efficiency benefits increased use of wood in buildings. Inter alia public promotion campaigns, government platforms (which seek to enhance wood building), technology platforms (e.g. open construction system), removing institutional obstacles of wood-frame construction (e.g. revising fire regulations and building standards), and successful examples (e.g. modern wood cities).

There is more awareness of using wood in building and housing regarding technology, environment and economy. The construction processes, greater industrialisation and extensive use of modularisation and prefabrication are becoming increasingly important, as are products and technologies for flexible design of interiors and exteriors of buildings

In Sweden multi-storey, multi-residential timber frame construction is proving to be cheaper and faster to build than equivalent buildings in concrete or steel. It is also rated as much better by tenants who had previously lived in concrete apartments. A considerable amount of research has been done covering fire, acoustic, differential movement, construction costs and disproportionate collapse. The main concern of building authorities has been fire performance but those concerns now appear to have been allayed. Having building regulations expressed in performance terms rather than prescriptive terms has been a significant breakthrough for timber in this application.

## **6 Development in the forest products markets sectors**

### **Wood raw materials**

#### **Sawlogs**

Sawlogs removals increased in 2014 by 14 percent to 36 million m<sup>3</sup> (solid volumes under bark) than last year. The estimate for 2015 shows a slight fall compared to 2014. The higher demand for sawlogs in 2014 and 2015 when compared to 2013 is driven likely by improved markets for sawn softwood due to both strong domestic construction and increasing demand outside Europe mainly in Asia, Middle East and North Africa.

Average price of sawlogs (only statistics for delivery timber is available which represents some 15 percent of total sales) increased by 5 percent in 2014 compared to 2013. Prices varied geographically, where prices declined in region Northern Sweden by 5 percent but increased in the regions of Central and Southern Sweden by 7 percent, both for pine and spruce in 2014. Prices decreased by 1 percent in the second quarter of 2015 compared to the prior quarter. When comparing the second quarter of 2015 and the same quarter of 2014, average prices of sawlogs increased by 5 percent.

#### **Pulpwood**

Removals of pulpwood were down by about 5 % in 2014 compared to 2013 and is estimated to rise slightly in 2015.

Pulpwood prices decreased in Sweden by 4 percent in 2014 compared to 2013. Price trends were geographically even with price decline in all regions. The price decline is due oversupply on the market. In the first two quarters of 2015 average pulpwood prices has increased marginally when compared to the quarters before.

#### **Wood fuels and pellets**

The use of biofuels in the district heating sector has increased more than fivefold since 1990. These biofuels are mainly wood fuels in the form of logging residues and low-grade round wood, as well as solid by-products from the forest industry. Refined fuels such as briquettes and pellets are being used to an increasing extent. An advantage of district heating is its flexibility in terms of utilisation of different fuels. Since the 1970s, there has been a major shift towards the use of renewable fuels. In 2012, biofuels accounted for 45 %, waste for 22 %, peat for 4 %, oil for 2 %, biofuels for electricity for 16 % and others for 11 % of the energy input for district heating production in Sweden.

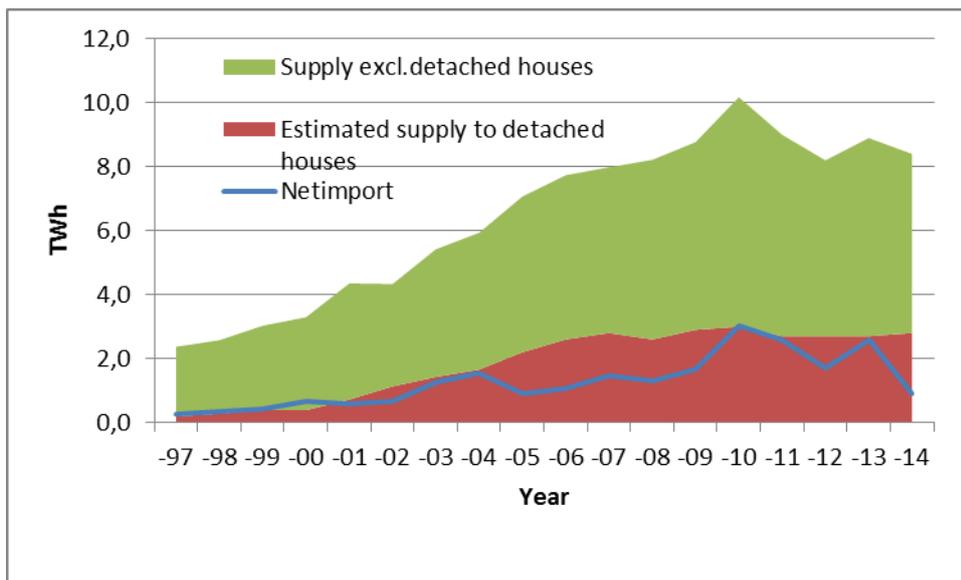
District heating demand is anticipated to decrease as a consequence of energy efficiency improvement measures and global warming. At the same time the market share for district heating will increase and a large proportion of the future cooling demand is produced by district heating by absorption cooling. It is vital that the district heating sector can contribute to recover the surplus heat from industry and future biofuel production.

The increased use of biofuels for electricity and heat production has particularly increased the demand for wood fuels. During the 1980s and 1990s, the prices of wood fuels for heating plants remained essentially unchanged. A long period of surplus of by-products from the forest industry, with no potential sales outlets, meant that there were good stocks of cheap and easily available fuels. The increased demand increased competition for wood fuels, and price levels rose during the 2000s. Greater recovery of branches and tops from clear felling has

been the main factor in enabling the use of these fuels to be increased. Several factors indicate that greater use of waste for electricity and heat production can help to restrain expected future rising prices.

The use of wood pellets in the Swedish market declined by 230 000 tons or 11 percent in 2014 compared to the year before. The production of pellets increased to some 65 000 tons, or 4 percent. - The explanation for the increase in production is that the export of Swedish pellet were up by 105 000 tons or by 65 percent. Reductions in Sweden affected mainly imports of pellets, which fell by 190 000 tons, or 27 percent.

*Figure 1. Supply of pellets to the Swedish market, 1997-2014, in TWh*



Source: Swedish Association of Pellets Producers.

Pellet prices for residential customers in recent years have basically remained constant or slightly decreased despite increased raw material costs. Warm winters of 2011-2013 resulted in fewer sales. Sales of wood pellets are temperature dependent and the use goes up during the cold winters. On the international market the dollar has gained strength against the euro and the Swedish krona. The market was cautious. It is anticipated that demand would increase as the winter approaches. An additional factor contributing to the uncertainty is that there are still question marks on the support for biomass fuel in some countries.

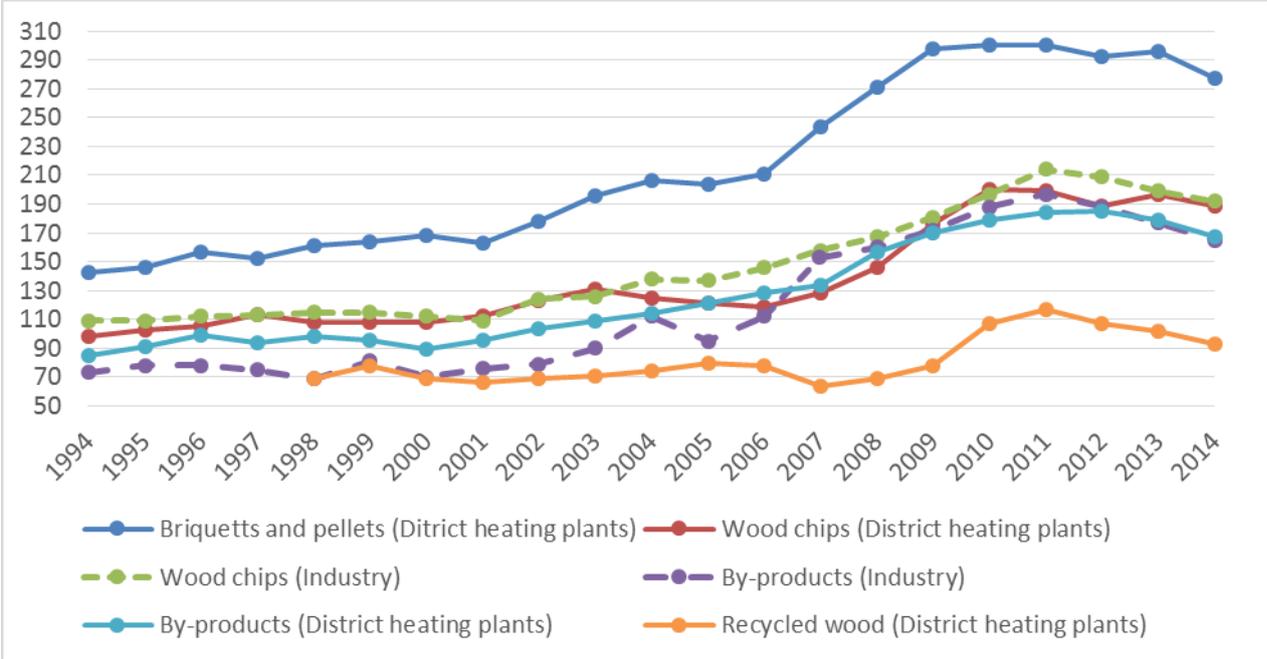
The fall in prices that started in 2010/2011 for both densified wood fuels and unprocessed wood fuels continued also in 2014. The prices declined in all assortment both in district heating plants and industry.

Behind the low prices are many interacting factors. One of these is probably more competition from waste and recycled wood. Other contributing factors may be the low import price of coal and the decreased price in EU emission trading system. The warm winters had also the impact on this. The increased production in sawmills in recent years has resulted in more sawdust competing with wood fuel. Electricity prices have also fallen in recent years.

The Government abolished carbon tax completely for CHP from January 1, 2013 and from January 1, 2014 there was also reduced in the carbon tax for heat. Both changes have

probably affected the demand for wood fuels. This in turn means that demand has decreased and prices have dropped on these biofuels.

Figure 2. Price trends of briquettes/pellets, wood chips by-products and recycled wood 1994-2014, SEK/MWh, average prices, current prices excl. taxes



Source: Swedish Energy Agency

### Value-added wood products

Sweden's prefabricated wooden houses industry in 2013 comprises of some 510 companies with 4,200 employees, of which 104 companies has more than five employed. Production value was SEK 9billion in 2013. In 2014 new orders rose by 23 % compared to the same period last year. Total exports of prefabricated wooden houses declined by 21 % and amounted to SEK 807 million in 2014 compared to 2013 while imports increased by 74 % to SEK 210 million. Swedish exports were mainly to Norway, Japan, Finland, Germany and Denmark. Swedish imports were mainly from Estonia, Latvia, Norway and Finland.

The Furniture industry comprises 2,220 companies, of which 1,400 are companies with null employees. Total number of employees were 12,770. The estimates of 2014 of total production of furniture amounted to SEK 21 billion. Total exports of furniture increased by two percent to SEK14.9 billion in 2014 compared to 2013. Norway is the main market of export with a share of 35 %. Other important markets are Denmark 11 %, Germany and Finland, each with a share of 10 %. Total imports of furniture increased by 11 percent to 14.5 SEK billion in 2014 compared to 2013. Swedish imports were from China, Poland, Germany, Denmark, Lithuania, Norway and Italy.

## Sawn softwood

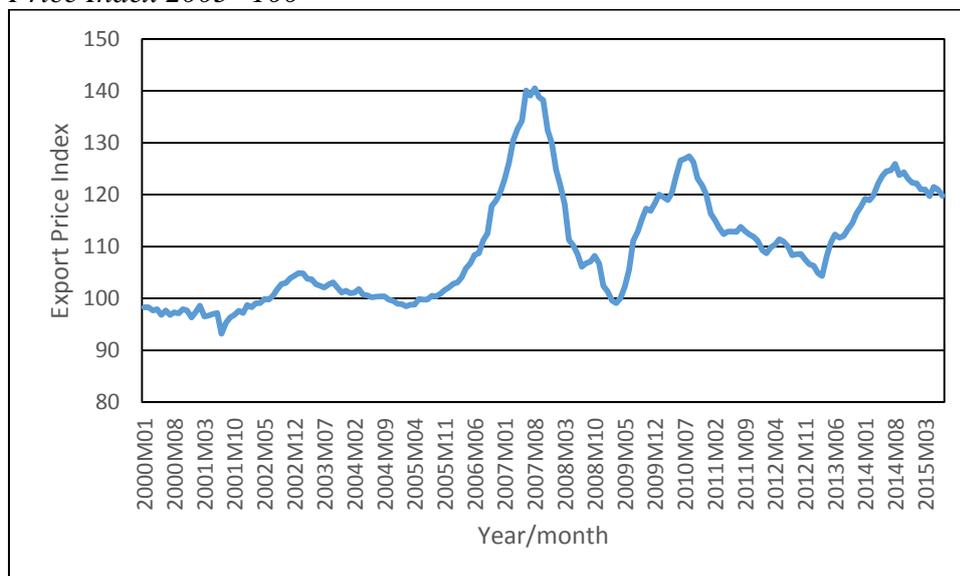
The production of soft sawnwood increased by 10 percent, highest since 2007 and amounted to 17.5 million m<sup>3</sup> in 2014 when compared to 2013. The production is estimated to increase by 2 percent in 2015. This positive development was due to higher investments growth in both housing and residential sector and increasing exports.

Exports of sawn and planed softwood increased in 2014 by 5 per cent to 12.3 million m<sup>3</sup>. During first half of 2015, export deliveries were up by 6 per cent compared to the same period 2014. United Kingdom was far the largest market in 2014. Denmark has declined in importance in recent years, while Norway is a growing market. Exports to North Africa and Middle East countries of especially pine wood have increased since the start of the financial crisis, while the traditional markets in Europe have fallen compared with pre-crisis levels. More distant overseas markets have a higher volatility than European markets. During the last two years exports have been boosted by weak krona.

Output growth in Sweden has meant higher stock levels at sawmills. The total stocks of sawmills volume levels is therefore at a higher level than in the last five years. The stock level, however, is lower than the crisis year of 2008 and in line with normal stocks until 2005.

Due to weaker demand from both the energy sector and the pulp industry, prices for by-products such as chips and sawdust have decreased during the last years in Sweden.

Figure 3. Export price index for sawn & planed wood, 2000- July 2015.  
Price Index 2005=100



Source: Statistics Sweden

After a peak in average export prices in 2007 prices fell during 2008 and reached bottom in the second quarter of 2009. The average prices then peaked up again in late 2010 as a result of very low supply during the years after 2007. The prices have declined throughout 2011 and 2012. The downward trend changed in March 2013 and the prices have steadily increased in 2014 were up by 10 % compared to 2013. In the first seven months of this year the prices have slightly decreased compared to the same period last year.

## **Wood-based panels incl. Parquet industry**

According to Statistics Sweden the wood-based industry and parquet industry consists of some 80 companies with some 1,700 employees in 2013 and output accounted for approximately SEK 3.8 billion. Most are inputs in the furniture and joinery industries and the construction industry. Although manufacturing of packaging and packaging are significant uses. There was a decline in overall production of wood based panels by 8 percent to 577, 000 m<sup>3</sup> in 2014 compared to 2013. Exports of wood-based panels declined while imports increased in 2014.

In recent years the cost of wood raw material, energy and chemicals has affected wood based panel industry negatively. The industry will continue to face growing competition for wood from renewable energy sector.

## **Paper, paperboard and wood pulp**

The production of paper and paperboard declined by 3.5 % to 10.4 million tons in 2014 compared to 2013. All the paper grades declined with the exception of wrapping paper and corrugated material. The largest decline was of newsprint by 19 % due to closure in 2013 of newsprint machines. The production and exports are estimated to recover slightly in 2015 and forecasted to remain in same levels in 2016. There is a weak demand for graphic paper in Europe, North America and Japan. The structural change in the graphic paper subsector is likely to continue in 2015 and 2016. In Sweden the share of packaging papers is increasing and today it is more than half of the total production of paper and paperboard.

Prices on local currency remained under pressure in most of the paper grades under 2014. There is a continued downward trend on graphic paper prices, but packaging paper and paperboard prices have remained at the same level.

Production of wood pulp reached 11.5 million tons in 2014. This was decrease by 1.7 % compared to 2013. Chemical pulp has the highest share of some 70 percent of the total pulp production. The estimate production in 2015 and forecast for 2016 is likely to rise slightly compared to 2014. Price fluctuations are closely tied to global stocks and changes in balance between supply and demand. Export prices remain dependent on the exchange rate of USD and SEK. The wood pulp prices increased by some 3 % in the first 9 months of 2014. Modest change is foreseen in the forecasts of pulp exports volumes in 2015 and 2016

There is optimism in the pulp, paper and sawmill industry for new investments So far in 2014, investments of a total of SEK ten billion was announced where projects are expected to be completed under period 2014-2017.

## **Housing and construction**

The government is proposing a significant focus on increasing investment in the housing sector. The government proposed SEK 5.5 billion be set aside in 2016 and 6.1 billion per year during the period 2017-2019.

Construction output rose sharply in 2014 due to growing residential investment. Demand from households appears to have increased since the lowering of the tax deduction (ROT) was announced, but demand is expected to weaken in 2016, when the tax deduction is reduced. The confidence for construction activities in the Business Tendency Survey has fallen in

recent months, suggesting that the situation only somewhat stronger than normal. The proportion of construction firms reporting shortages labor as the main obstacles to production in the Business Tendency Survey has increased recently. Labor shortage dampens down developments and construction output rise in slower pace in 2015 and 2016 compared with 2014. On the positive side in real terms, residential construction has grown by double digits in last 18 months. Construction has weakened somewhat lately, but the extremely low interest rates might lead to for continued expansion. Housing construction after 1995 have been consistently lower than the equivalent population trends.

According to preliminary figures from Statistics Sweden, roughly 23 600 dwellings were started in new buildings during the first half of 2015. This is an increase of 33 percent compared to same period in 2014, when construction of 17 688 dwellings was started.

In multi-dwelling buildings 18 900 dwellings were started; this is an increase of 36 percent compared to same period 2014. In one- or two-dwelling buildings 4 700 dwellings were started; this is an increase of 24 percent or 900 dwellings compared to same period in 2014.

To make it easier to compare between years, the figures for 2015 are adjusted upwards by 33 percent, which is the average time lag in reporting in recent years

Figure 4. Number of started dwellings 1<sup>st</sup> half 2005-2015

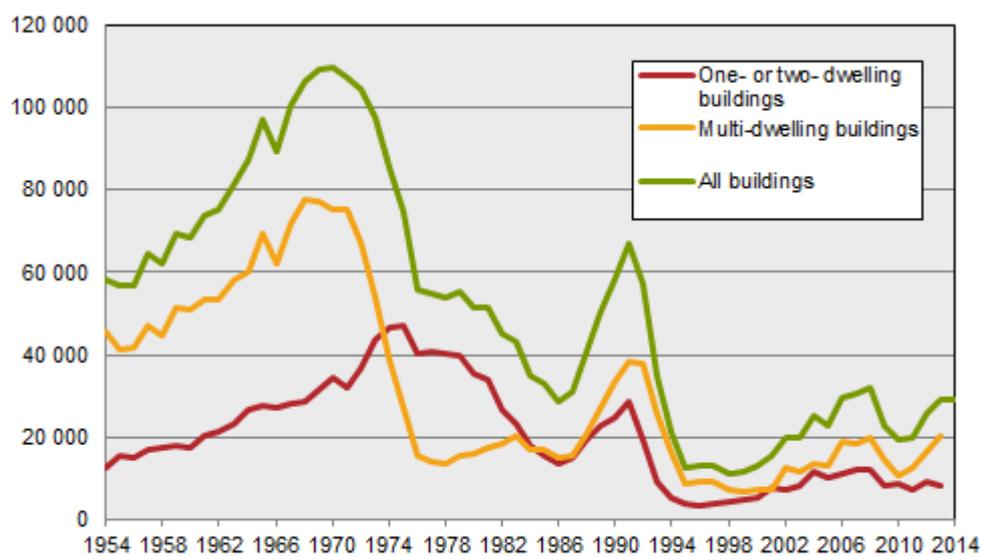


Source: Statistics Sweden

Last year a total of 29 164 newly built dwellings were completed. The completed dwellings comprised 8 410 dwellings in one-or two-dwelling buildings and 20 754 dwellings in multi-dwelling buildings. 52 percent of the dwellings were rental dwellings.

The number of completed dwellings is similar to 2013 when 29 25 dwellings were completed. The distribution between one- or two-dwelling buildings and multi-dwelling buildings is also similar to 2013.

Figure 5. Completed dwellings in new construction 1954-2014



Källa: SCB

Source: Statistics Sweden

**Table on selected Economic indicators**

Macro-Economic indicators	2014	2015	2016	2017
(Annual percentage change and percent, respectively)				
GDP at market prices	2.3	3.0	3.1	2.6
Current account <sup>1</sup>	6.2	7.2	6.9	6.5
Employment	1.4	1.1	1.4	1.6
CPI	-0.2	0.1	1.0	2.2
Unemployment <sup>2</sup>	7.9	7.7	7.5	7.0
Repo rate <sup>3</sup>	0.00	-0.45	-0.25	0.75
Productivity in construction sector	10.2	3.2	1.0	N.A.
Krona/Euro <sup>4</sup>	9.1	9.4	9.3	9.1
Krona/Dollar <sup>4</sup>	6.9	8.5	8.4	8.1

1. Percent of GDP

2. Percent of labour force

3. Percent at year-end

4. Percent, index 18 November 1992=100 and SEK per current unit.

N.A. Not available