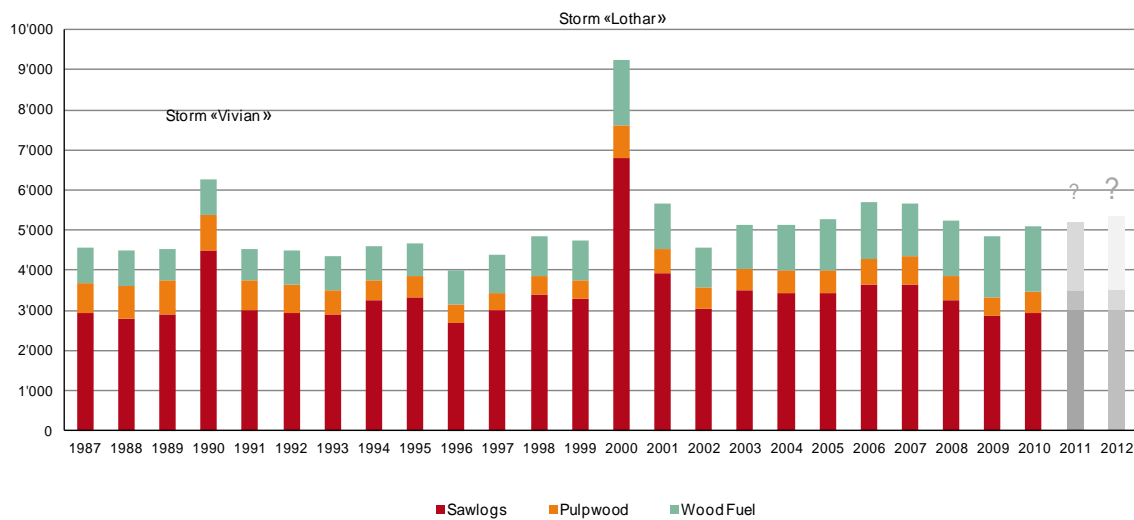




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Country Market Statement 2011: Switzerland

Wood Harvest in Switzerland 1987 - 2012



Contents

Highlights	5
1 General economic trends.....	6
2 Policy measures and developments, which have a bearing on markets of forest products or forest management.....	7
2.1 Swiss National Forest Programme (Swiss NFP).....	7
2.2 Biodiversity Strategy	7
2.3 Wood Resource Policy and Wood Promotion.....	7
2.4 Research and development.....	9
2.5 Life Cycle Assessment of biomass and wood products	10
2.5.1 Biomass Strategy.....	11
2.5.2 Switzerland's binding ecological and social minimum requirements for biofuels and the mineral oil tax.....	11
2.5.3 Life Cycle Assessment of wood products and sustainable building	11
2.6 Policies for Renewable Energy and Energy Efficiency	12
2.6.1 The legal framework	12
2.6.2 The cost-covering remuneration for feed-in to the electricity grid (CRF).....	12
2.6.3 Energy Efficiency and Sustainable Building	13
2.6.4 Building Codes and Standards.....	13
2.7 Climate change and the forestry sector	16
2.7.1 CO2 Act, incentive taxes and post-Kyoto	16
2.7.2 Kyoto Protocol, forest management and CO2 balance of forest and wood..	17
2.7.3 Forest and climate change: effects and adaptations	17
2.8 Trade issues affecting the market	18
2.8.1 Market transparency: the duty of declaration for wood and harvested wood products.....	18
2.8.2 New practices in the Swiss timber trade.....	18
3 Developments in forest products markets	19
3.1 Roundwood: sawlogs, pulpwood and fuelwood.....	19
3.2 Wood energy	20
3.3 Certified forest and forest products	21
3.4 Sawnwood.....	22
3.5 Pulpwood-processing sector	22
3.5.1 Wood-based panels.....	22
3.5.2 Pulp and paper	22
4 Tables.....	23
4.1 Economic Indicators for Switzerland	23
4.2 Forest products production and trade in 2009–2010; Estimations and Forecasts for 2010–2011	24

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Highlights

- The number one economic topic in Switzerland is the high value of the Swiss franc, which also influences events in the forestry and timber sector. (p. 6)
 - The nuclear disaster at the Fukushima nuclear power plant in Japan has shaken Swiss energy policy to the core. (p. 12)
 - The Swiss NFP, the political action programme for the Swiss forest, is being adapted to a changed environment. (p. 7)
 - The Biodiversity Strategy aims to conserve the resilience of ecosystems through their variety. (p. 7)
 - The Wood Action Plan aims to access unexploited market potential through innovative hardwood products. (p. 9)
 - CO2 Act: The framework conditions for climate policy are renegotiated. (p. 16)
 - The partial earmarking of proceeds from the CO2 tax finances climate-related measures in buildings. (p. 16)
 - The duty of declaration for wood and harvested wood products generates market transparency. (p. 18)
 - The new label of origin “Schweizer Holz” raises awareness among consumers of sustainably produced wood from the region. All of the wood harvested in Switzerland now bears this label of origin. (p. 21)
 - Following the collapse of 2008/2009, wood prices recovered in 2010; the wood harvest increased by 5%. (p.19)
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1 General economic trends

Developments up to mid-2011

2010 was a year of temporary highs for all of the export-oriented sectors of the Swiss economy. The interim economic high was reflected in consumer sentiment and, later also, in the unemployment figures. The unemployment rate declined to almost 3% up to July 2011.

The rise in the value of the Swiss franc (CHF) against the euro (EUR) began to intensify from mid-2010 as a result of the ongoing crisis in Greece and the deterioration in the economic outlook in Great Britain, Portugal, Spain and Italy. This development was further propelled by the US budget crisis and reached a temporary high point in early August 2011 when the EUR-CHF exchange rate was close to parity. In the second half of August 2011, the measures undertaken by the Swiss National Bank (SNB) and the EU's stabilisation programme for various Member States began to take effect and the situation eased slightly. However, the problem of the high CHF will continue to create severe problems for the profit margins and financial reserves of export-oriented sectors and cause a lean period, the duration of which cannot yet be estimated.

The domestically-oriented construction sector has proven to be largely resistant to the impact of the high value of the CHF. Due to immigration and the low level of vacant housing, residential construction activity, which is crucial to the demand for sawn timber, derived timber products and wood products, remains very high. This situation should continue to prevail in 2011 and 2012. Activity in the civil engineering sector is also being sustained at a high level through long-term investments in infrastructure. With respect to the financial sector, a solution remains to be found to the macro-economic problem posed by the large (Swiss) banks – i.e. the “too big to fail” problem.

Outlook

Switzerland's economic prospects have become less certain. The crucial factors here are the unfavourable foreign-trade conditions, i.e. the downturn in the global economy and – even after the introduction of the exchange rate limit with the euro – the high value of the Swiss franc. The forecasts by experts for GDP growth in late September were 1.9 % for 2011 and 0.9 % for 2012. The prospects of the export-oriented sectors, in particular, are expected to deteriorate. Less affected are sectors that provide specialised products and services, which are difficult to replace with competitor products. The domestically-oriented construction sector will continue to experience a high level of demand and residential construction will continue to boost domestic sales of sawnwood, derived timber products, wood products and raw wood.

Stabilisation packages for the support of the Swiss economy

In late August 2011, the Swiss Federal Council decided to counteract the consequences of the exchange rate problems for Switzerland as a place of work through the introduction of a short and medium term “Package of Measures 2011”. The main aim is to safeguard jobs and the long-term attractiveness of the Switzerland as a business location. Short-term relief measures are intended in the export promotions sector; in the long term, it is planned to strengthen Switzerland's attractiveness as a location through investments in tourism and in the field of technological innovations. It is intended to provide funding of CHF 870 million for this first package of measures. A “2012 Package of Measures” will be submitted to parliament during the winter session.

The measures implemented by the Swiss National Bank are having an impact. The measures to promote energy efficiency and renewable energy sources, which are being implemented in association with the withdrawal from nuclear power, should have a positive impact in the long term (see chapter 2.6 Policies for Renewable Energy and Energy Efficiency).

2 Policy measures and developments, which have a bearing on markets of forest products or forest management

2.1 Swiss National Forest Programme (Swiss NFP)

The legal framework for Swiss forest policy is set down in the Swiss Federal Act on Forest.¹ In addition to this, *the Swiss National Forest Programme (Swiss NFP)* was developed for the period 2004-2015, on the basis of a participative process with the objectives of optimising and improving the three dimensions of sustainability, i.e. the ecological, economic and social value of the forest. Representatives of the forestry sector and other relevant sectors were actively involved in the process. In order to effectively address changing conditions within and outside the forest sector, e.g. adaptation to climate change, invasive species (neobiota), increased demand for wood etc., the Federal Council approved the further development of the Swiss NFP on 30 August 2011. The revised policy is now called *Forest Policy 2020 (FP2020)*.² During the further development of the Swiss NFP, efforts were made to ensure that it is consistent with the development of the national *Biodiversity Strategy* (see chapter 2.2) and the *revision of the Federal CO2 Act* (see chapter 0).

FP2020 will display a stronger focus on “the forest right up to the forest edge” and does not claim to be an action programme for the entire wood value chain. As far as wood is concerned, it concentrates on the supply of wood and the efficiency of the forestry sector. Forest policy is complemented by *the Wood Resource Policy* (2008, see chapter 2.3), which deals mainly with topics of relevance beyond the forest boundary. With respect to the conservation of biodiversity, FP2020 adopts the *Aichi targets* developed under the *Convention on Biological Diversity CBD*. An action plan for the implementation of *Forest Policy 2020* is currently in preparation.

2.2 Biodiversity Strategy

A national strategy for the conservation and promotion of biodiversity has been in development since January 2009. The trigger for this mandate was the negative assessment of the status of biodiversity in Switzerland (OECD Environmental Performance Reviews Switzerland, 2007) and the obligations entered into as part of various international conventions. The long-term aim of the biodiversity strategy (time horizon 2050) is to ensure that the resilience of the ecosystems will be conserved through their variety. In order to conserve and strengthen the diversity of the ecosystem services, among other measures, sufficient areas for the protection and promotion of biodiversity will be segregated by 2020. These areas also include forest areas. Biodiversity should be understood by society as a matter of central importance and greater economic attention should be focused on the services provided by ecosystems. The biodiversity objectives are to be integrated into all relevant policy and economic sectors. The national biodiversity strategy will be discussed in the parliament in early 2012.

-> <http://www.news.admin.ch/message/index.html?lang=fr&msg-id=41197>

2.3 Wood Resource Policy and Wood Promotion

It is the task of the Federal Office for the Environment (FOEN) to manage the access to Switzerland's natural resources. The main targets for the resource wood are that it contribute to the sustainable³ use of wood from native forests and support the resource-efficient use of wood. In order to implement this aim in a targeted way, together with the cantons and the forestry and timber sector, the FOEN has formulated a wood resource policy, which is coordinated with the other relevant sectoral policies (e.g. energy policy, regional development policy) and covers the period to 2020. This policy defines, among other things, the direction to be taken by federal policy in relation to wood promotion. Wood promotion

¹ http://www.admin.ch/ch/e/rs/c921_0.html

² <http://www.news.admin.ch/message/index.html?lang=fr&msg-id=40865>

³ Sustainable: the economically efficient and socially and ecologically compatible harvesting and use of wood. This also includes the legally defined functions of the forest such as the protective function and biodiversity.

activities are organised in the context of **the Wood Action Plan (Aktionsplan Holz, AP Holz)**.⁴ Seven thematic focuses contribute to the implementation of the objectives of the Wood Resource Policy.⁵ Promotional and research projects that correspond to the following thematic focus areas are supported:

- 1 Data: support for knowledge transfer, publication of relevant data on wood volumes, wood utilisation potential, utilisation strategies and the life-cycle of wood as a material and energy source (life-cycle assessment)
- 2 Provision of information for and raising awareness of forest owners (mobilisation of raw wood reserves)
- 3 Provision of information for and raising awareness of the general public on the topic of "increased wood utilisation – coordination with other forest functions"
- 4 Development of innovative concepts for increasing the possibilities for the recycling and use of hard wood
- 5 Further development of energy-efficient and large-scale timber construction systems, use of wood in renovation projects
- 6 Raising of awareness of institutional end users in relation to timber structures and wood energy
- 7 Design of general conditions and coordination with relevant partners on topics concerning wood

The Wood Action Plan is programmed to run for a period of four years (2009-2012) and reached the halfway mark at the end of 2010. A large proportion of the total funding of CHF 16 million provided for the programme has already been pledged to over 60 projects. Knowledge transfer, that is the conversion of the project findings into practical applications, remains an important task for the second half of the project. Moreover, the project context should be analysed so as to enable a decision to be made in good time as to whether the Wood Resource Policy should also be implemented through an action plan.

The following list provides an overview of the projects that have already been implemented or are currently being carried out in the seven thematic focus areas:

Focus area 1: Data

- **Final wood consumption:** Material consumption for the year 2009 was recorded and mapped for six final consumption areas of the wood production chain (construction, exterior applications for wood, furniture and interiors, packaging, wood products, DIY).
- **Wood lifecycle** (ongoing): Theecoinvent database is now the globally leading data source for eco-inventories. According to the database, the performance of wood as a material and energy source in many forms and applications is merely average. This is due to the outdated nature of the data. The aim of the project is to update and expand the database for the life cycle assessment (LCA) of wood products (see chapter 2.5.3 *Life Cycle Assessment of wood products and sustainable building*).

Focus area 2: Raising awareness among forest owners

- Identification and visualisation of connections to be considered for the success of wood mobilisation -> extrapolation of scenarios, goals and actions.

Focus area 3: Raising awareness among the general public

- Campaign to raise awareness and inform the general public with the aim of generating understanding for more intensive forest harvesting. The elements of the campaign are: TV advertising, an internet website and Facebook. The campaign will take place in two phases (wood harvesting periods): November 2011 to March 2012, September to December 2012.

Focus area 4: Use of hard wood

- **Hard wood competition:** With this competition, the Action Plan sought concrete applications for hard wood. Awards were made to seven projects.
-> <http://www.bafu.admin.ch/dokumentation/medieninformation/00962/index.html?lang=fr&msg-id=39822>

⁴ <http://www.bafu.admin.ch/aktionsplan-holz/index.html?lang=fr>

⁵ <http://www.bafu.admin.ch/aktionsplan-holz/10300/index.html?lang=fr>



- Shed constructed from beech gluelam: beech gluelam was used for the first time for the construction of a shed. The structure in question was an farm building.

Focus area 5: Large-scale timber construction systems

- Projects on the technical timber construction topics of “sound insulation”, “fire safety” and “doors”.

Focus area 6: Raising awareness among institutional construction clients

- Various awareness-raising programmes such as further training courses, conferences and seminars for institutional construction clients (see also focus area 5).

Larger projects involving basic research will be carried out under the National Research Programme NRP 66 “Wood” (see chapter 2.4) and applied projects will be carried out as part of the Wood Action Plan.



2.4 Research and development

In addition to the Wood Action Plan, the Confederation has a range of other vehicles for the promotion of topics relating to the forestry and timber sector:

- The *Foundation for the Promotion of Forest and Timber Research (Fonds zur Förderung der **Wald- und Holzforschung**)* has been supporting projects in the area of “applied forestry and wood research” (R&D) since 1946. The foundation currently manages a budget of approximately CHF 0.5 million which is drawn from federal and cantonal sources. It is due to undergo a comprehensive evaluation in the near future. More projects in the area of applied forest research will receive support from 2012. -> www.bafu.admin.ch/whff

- The FOEN supports projects and activities in the area of environmental technology and research through a special innovation programme, in which it works in close cooperation with research institutes and businesses. -> www.umwelt-schweiz.ch/innovation
- The Commission for Technology and Innovation (**Kommission für Technologie und Innovation, KTI**) is the Swiss Confederation's innovation promotion agency. It supports knowledge and technology transfer between companies and universities with the aim of achieving the maximum possible market effect. -> www.bbt.admin.ch
- New opportunities for research on wood are being created through the authorisation by the Federal Council of the National Research Program **NRP 66 Holz "Strategien und Technologien zur wer-toptimierten Nutzung der Ressource Holz" (NRP 66 Wood "Strategies and technologies for the optimised use of the resource wood")**. The NRP 66 "Wood" will run for five years (2011 – 2015) and has a budget of CHF 18 million. Its aim is to provide a scientific and material-technology basis and application-oriented solutions for the increased use of wood. In the context of the holistic exploitation of the possible uses of wood, the focus of the research carried out as part of this NRP is on the optimisation of the forest-wood-chemistry-energy value-added chain. The public call for tenders for the project was published in spring 2011. Thirty-three projects were shortlisted in June. The programme is divided into six thematic modules:
 - M1: Raw wood – availability, procurement policy and processes
 - M2: Life-cycle management of wood-based material flows
 - M3: Material conversion of wood into exploitable chemical substances
 - M4: Energy use of wood
 - M5: Wood as material for components
 - M6: Wood as material for structural frameworks and buildings

Two new professorships will also be created at the University of Basel and the Swiss Federal Institute of Technology Zurich (ETHZ) as part of NRP 66. -> www.snf.ch
- The **Swiss National Science Foundation (SNF)** already supports research projects on wood and derived timber projects. Examples here include projects and topics such as: "Multi-Scale Modeling of Adhesive Joints in Wood", "Multiscale analysis of coupled mechanical and moisture behavior of wood", etc. -> see also www.projectdb.snf.ch
- Other research projects on the optimal use of wood are being carried out as part of the **energy re-search** supported by the Swiss Federal Office of Energy (SFOE) and other public and private institutions. Information about this research can be found in the report on energy research (July 2010). The research and pilot projects carried out focus in particular on optimisations in relation to energy efficiency and the emissions from wood-fired heating systems. -> www.news.admin.ch/NSBSubscriber/message/attachments/19862.pdf (only available in German and French)

2.5 Life Cycle Assessment of biomass and wood products

Life Cycle Assessment (LCA) has proven to be a key method for the successful implementation and application of the principle of sustainable development. The concept of eco-balancing is gaining in significance against the background of climate problems and the increasing scarcity of energy, raw materials and land. Industry and the construction sector expect that ecological issues will become increasingly important factors in the context of competitiveness. Thus, it is possible to observe increasing competition among industries that supply raw materials for the production of "ecological" construction materials or energy sources.

Establishing the life cycle inventory (LCI) of a product is not a straightforward task. Although guidelines for conducting a LCA are available, a variety of decisions remain during the setting up of the life cycle inventory that rely implicitly or explicitly on subjective elements. Consistent and coherent life cycle inventory (LCI) datasets are a prerequisite to the performance of sound LCA studies. Quality-controlled and transparently documented generic datasets increase the credibility and acceptance of LCA results. In particular, they support informed decision-making in the field of energy as well as in the field of buildings, construction components and materials.

2.5.1 Biomass Strategy

In order to be able to approach the conflicts surrounding the use of biomass, a cross-sectoral strategy for the production and use of biomass has been developed which involved the cooperation of several federal authorities. The strategy is based on guidelines that specify how biomass should best be produced and used while taking societal, ethical, ecological and economic issues into account. Therefore the **Swiss Biomass Strategy (*Biomassestrategie Schweiz*)** provides a basis for sectoral strategy, for example, in relation to the use of biomass for energy generation and nutrient management. Important principles include the efficiency of production and processing, the life-cycle perspective, cascade use (food and material uses come first followed by energy use at the end of the life cycle) and the consideration of species that are suited to the locations in which they are cultivated.

-> <http://www.bafu.admin.ch/biomasse/11126/index.html?lang=en>

2.5.2 Switzerland's binding ecological and social minimum requirements for bio-fuels and the mineral oil tax

Switzerland has binding ecological and social minimum requirements for biogenous fuels and thus assumes a pioneering role in this area.

Since 2008 fuels from renewable energies are exempt from mineral oil tax. In order to benefit from tax relief on mineral oil, producers and importers of fuels from renewable raw materials must demonstrate that the fuels achieve a 40 % reduction in CO₂ emissions as compared with petrol and demonstrate a positive overall ecological and social balance. This includes providing proof for the entire fuel production process from cultivation to final sale. In particular, the conservation of sensitive ecosystems (forests or wetlands) must be guaranteed in the context of the cultivation of the raw material plants (information about the land-use prior to the cultivation of the raw material since January 2006). Exactly how this proof must be provided is regulated by the Ordinance on the Proof of the Positive Overall Ecological Balance of Fuels from Renewable Raw Material / Fuel-Ecobalance Ordinance (*Verordnung über den Nachweis der positiven ökologischen Gesamtbilanz von Treibstoffen aus erneuerbaren Rohstoffen / Treibstoff-Ökobilanzverordnung*), which came into force in 2009.

The Fuel-Ecobalance Ordinance raises very complex questions in relation to the definition of criteria for the proof of overall ecological balance. Fuels that fulfil these criteria will be included in a "positive list." Biogenous waste, e.g. wood, is included in the positive list.

Up to 2008, nearly the total volume of biofuels used in Switzerland had been produced within the country. Since 2008, there is no national production of bio-ethanol anymore. Today, around 60% of biofuels consumed originate from national production. The proportion of fuel consumption accounted for by biofuels on fuels is low: 1.5 million litres of bioethanol (0.3 % of petrol sales) and 7.2 million litres of biodiesel (2.6 % of diesel sales). A postulate (parliamentary procedural request) has been submitted to the Federal Council requesting that the potential of biofuels should be calculated and measures should be developed to increase the use of biofuels.

-> http://www.parlament.ch/e/suche/pages/geschaefte.aspx?gesch_id=20093611

2.5.3 Life Cycle Assessment of wood products and sustainable building

The "ecoinvent database" was developed by the Empa (the Swiss Federal Laboratories for Materials Testing and Research) with the aim of making the comparison of materials on the basis of their eco-balance understandable and transparent through the use of comparable methodologies.⁶ The Empa uses these data in the development of fact sheets and recommendations for sustainable building.

Since early 2008, the authorities and Empa have been engaged in preparations for the updating of this database in the area of wood and harvested wood products as much of the data in this area originate from 1986, 1990 and 1999 and are therefore obsolete. At the same time, it is also in-

⁶ The Empa is an interdisciplinary research and services institution for material sciences and technology development within the ETH domain.

tended to address methodological questions, for example that concerning the correct integration of the land use of a resource. This process is carried out with the involvement of the timber sector and will take approximately three years to complete. Other sectors, for example the steel, cement and coal industries, also plan to commission the revision and updating of the figures in the ecoinvent database relating to their activities. The *KBOB* (*Koordinationskonferenz der Bau- und Liegenschaftsorgane der öffentlichen Bauherren*, coordination group for public construction projects) regularly publishes lists with updated data on the ecological characteristics of building materials, technologies, energy sources and transport process and additional information on the topic of sustainable building (see also chapter 2.6.3 *Energy Efficiency and Sustainable Building*). The revision and updating of the ecoinvent data for wood and wood products is currently in preparation (including energy wood). Concrete results may be expected by late 2012.

One example of a comparative study of *EMPA* is its analyses of different LCA of the energy use of woody biomass and other biomass. One of the results is that there is no difference in energy efficiency whether wood is used for heating only or used of combined heat and power. For both uses the total efficiency is from 60% to 95% (heat production) or 45% to 90% (combined heat and power).

For further information, see: <http://www.empa.ch>;

- <http://www.bbl.admin.ch/kbob/00493/00495/index.html?lang=de> (KBOB, a coordination group for public construction projects)
- <http://www.eco-bau.ch> > *eco-bau* is a platform for public construction clients that provides recommendations for sustainable building.

2.6 Policies for Renewable Energy and Energy Efficiency

2.6.1 The legal framework

The legal framework for the Swiss energy sector is mainly provided by two legislative acts: the Swiss Federal Energy Act (Energiegesetz, EnG) and the Swiss Federal Energy Supply Act (Stromversorgungsgesetz, StromVG). The measures, with which the targets defined by Swiss energy policy shall be achieved are defined in two action plans. The measures comprise a mix of legally defined minimum standards and consumption specifications as well as incentive and promotional systems.

As a result of the devastating earthquake in Japan and the disaster at Fukushima, the Federal Council commissioned the *DETEC* (*Department of the Environment, Transport, Energy and Communications*) to revise its energy outlook by the end of May 2011. The Federal Council decided to continue to safeguard Switzerland's high level of energy security – although without nuclear energy in the medium term. Existing nuclear power plants should be decommissioned at the end of their operational lifespan and not be replaced by new nuclear power plants. In order to ensure the security of supply, the Federal Council, as part of its new Energy Strategy 2050, is placing emphasis on increased energy savings (energy efficiency), the expansion of hydropower and new renewable energies, and, if necessary, on fossil fuel-based electricity production (cogeneration facilities, gas-fired combined-cycle power plants) and imports. Furthermore, Switzerland's power grid should be expanded without delay and energy research strengthened.

-> <http://www.bfe.admin.ch/themen/00526/00527/index.html?lang=en>

The Federal Council will now submit the new strategy to parliament for debate. The Federal Council will study the possibility of introducing an incentive tax or 'energy cent'. Based on this, the Federal Council will be able to issue specific mandates for the preparation of draft legislation in the autumn. The draft legislation should be ready to present for consultation in 2012.

2.6.2 The cost-covering remuneration for feed-in to the electricity grid (CRF)

The Energy Act stipulates an increase of the production of electricity from renewable energy sources by 2030. One of the most significant measures concerns cost-covering remuneration for the input into the network of electricity produced from renewable energy sources. The **cost-covering remuneration for feed-in to the electricity grid**, CRF, is paid to offset the difference

between total production cost (including investments) and market price. It came into force in January 2009. Electricity consumers pay a surcharge per kilowatt hour to finance the payments (and other measures introduced under the Energy Act). The tariffs for remuneration for electricity from renewable energy sources (green power) have been specified on the basis of reference facilities for each technology and output category. A gradual downward curve is foreseen for these tariffs in view of the anticipated technological progress.

In order to ensure that more forest wood, field shrubs and waste wood are used in energy generation, a price bonus is also paid for green wood.

Given that the resource potential cannot cover all applications, a carefully balanced system is required. Overall efficiency plays a central role in the design of the wood promotion policy. For this reason, the Confederation is focussing its measures on the heat sector and on combined heat and power.

For further information see: <http://www.bfe.admin.ch/themen/00612/02073/index.html?lang=en>

The CRF is a cornerstone of the promotion of renewable energies. It is complemented by the partial earmarking of revenues from the CO₂ tax for the financing of climate-related measures in buildings and by the promotional programmes carried out as part of the economic stabilisation measures and financed using special funding. The latter support, in particular, district heating systems based on renewable energy sources or waste heat. (See also chapter 3.2 *Wood energy*)

2.6.3 Energy Efficiency and Sustainable Building

Energy efficiency is a crucial parameter for all sustainable development strategies. The building stock, which accounts for half of Switzerland's energy consumption, is a particular point of focus in this context. Significant ecological and economic potential exists in the area of the construction of new buildings and renovation of old ones. Therefore, numerous promotional programmes exist in this area at the most wide-ranging levels (i.e. national, cantonal, local).

- A **national building programme** for the reduction of CO₂ emissions commenced in 2010; it is financed in part by the income from the CO₂ tax (see chapter 2.7.1, page 16). The existing cantonal incentive systems are being harmonized. Only measures that outperform the legally defined minimum standards will be supported.
- The cantons make a considerable contribution to the Confederation's energy and CO₂ objectives with their **cantonal promotion programmes**. A large proportion of the direct subsidies are paid for improvements to the building envelope (see chapter 2.6.4 *Building Codes and Standards*) and for the promotion of automatic wood-fired heating systems and solar collectors.
- Promotional measures are also being implemented by the energy suppliers and municipal power stations.

The latest technical developments in relation to the energy efficiency of buildings are heading in the direction of the "zero energy house" (energy production = energy consumption) or even the "plus energy house" (energy production > energy consumption).

2.6.4 Building Codes and Standards

The cantons have been implementing stricter standards since 2008. This has led to a clear reduction in energy consumption.

Various instruments can provide a basis for such standards. All of them require the quantifiability of the targets and quality criteria. Examples of the instruments used in Switzerland in this context include:

- 1 *SIA Merkblätter* (fact sheets for architects and planners)
- 2 Minergie standard
- 3 Energy certificates for old or new buildings

Because energy-efficient buildings require the provision of greater insulation efficiency by the building envelope, materials with outstanding insulation effects are required. Thus, the use of

wood, in particular in derived timber products, is favoured by these instruments. In the case of the “Minergie” label (see below), the direct use of wood is also promoted as wood has the additional advantage of involving lower levels of grey energy than other building materials (see also chapter 2.5.3 *Life Cycle Assessment of wood products and sustainable building*).

1 SIA Merkblätter (fact sheets)

The Association of Swiss Architects and Engineers (SIA) produces fact sheets on the reduction of the energy consumption of buildings. These fact sheets contain the relevant standards and corresponding calculation and evaluation methods. They also take, *inter alia*, the grey energy used in the production of the construction materials into account and the energy requirement generated by the building location and the mobility caused by it.

For further information: www.sia.ch

2 MINERGIE standard for buildings

MINERGIE is a registered quality label for new and refurbished building, which promotes the rational use of energy and extensive use of renewable energy sources. This trademark is supported by the Swiss Confederation and the Swiss cantons along with trade and industry. The comfort of the users is at the heart of MINERGIE. This is made possible by the combination of high-grade building envelopes and the continuous renewal of air. Specific energy consumption is used as the main indicator to quantify the required building quality. Only the final energy consumed is relevant. Apart from buildings, products and services can also conform to MINERGIE standards. Several standards are offered:

- **MINERGIE-Standard** requires that general energy consumption must not be higher than 75 % of that of average buildings and that fossil-fuel consumption must not be higher than 50 % of the consumption of such buildings.
- **MINERGIE-P** defines buildings with a very low energy consumption, it is especially demanding in regard to heating energy demand. This standard corresponds to the internationally-known passive house standard.
- **MINERGIE-ECO-Standard** adds ecological requirements such as recyclability, indoor air quality, noise protection etc. to the regular requirements.
- **MINERGIE-Modules** are building components and building equipment elements which are certified as being exceptionally well-performing with regard to energy efficiency.

Comfort is the central focus – i.e. the comfort of the users living or working in the building. This level of comfort is made possible by high-quality building envelopes and the systematic renewal of air. Specific energy consumption is used as the main indicator to quantify the required building quality. Only the final energy consumed is relevant. Apart from general requirements such as a ventilation system and moderate extra costs, a detailed **quantitative proof of energy performance** has to be delivered. This proof is the core of the certification process. To maintain feasibility and general use the additional costs for MINERGIE® must not exceed 10 % of the building costs. The MINERGIE-Standard is widely accepted. The most important for this is that builders and planners have the complete freedom both in their design and choice of materials and also in their choice of internal and external building structures.

The progression **from energy-efficient building to sustainable building** was achieved through the further development of the Minergie Standard to the Minergie-Eco-Standard as this also requires the use of environmentally-friendly materials that do not involve any reservations in relation to health. Hence, the use of wood as a building material is promoted by this standard.

Standardised solutions are offered to facilitate the process involved in obtaining certification:

1. Ground-source heat pumps for heating and hot water (all year).
2. Wood-fired systems for heating and hot water in winter, thermal collectors for hot water in summer.
3. Automatic wood-fired systems for heating and hot water (all year), e.g. pellet-furnaces.

4. Use of waste heat (industry, waste incineration and sewage treatment plants) for heating and hot water (all year as single source).

5. Air-to-water heat pump (outside air) for heating and hot water (all year).

For further information, see: <http://www.minergie.ch/>

3 Energy certificate for buildings

In the same way as the energy label for household appliances, an energy certificate for buildings classifies buildings from the point of view of energy quality. Property owners therefore receive a document that evaluates the overall energy efficiency of their building (shell, household systems and electrical installations). Furthermore, the energy certificate for buildings contains recommendations concerning specific measures to improve energy efficiency.

The aim of the energy certificate for buildings is to create **transparency on the property market** in that it indicates the energy consumption of a building in a clear and comprehensible manner so that it can be used as a criterion for purchase or rent.

From the point of view of energy policy, the introduction of an energy certificate for buildings creates **an opportunity for initiating urgent improvements to buildings in relation to energy efficiency**.

At the same time, the recommendation for the implementation of such improvements will yield direct benefits for property owners, and incentives are created for **ensuring the more energy-aware design and use of buildings**.

The Association of Swiss Architects and Engineers (SIA) has issued a fact sheet (no. 2031) that acts as a technical basis for the energy certificate for buildings. This fact sheet is based on the relevant European standards, in particular EN 15217 and 15603. These two standards propose a method for certification, but also provide scope for each country to adapt the regulations to local conditions.

- In August 2009 **the cantons launched the energy label for old buildings** which is implemented on a voluntary basis. The Confederation supported the introduction of this label and is responsible for its co-ordination at national level. During the introduction stage of the voluntary energy certificate for buildings the Swiss Federal Office of Energy is working with the cantons and the other actors involved to evaluate suitable implementation models and analyse the associated findings. The objectives here are to identify a suitable means of implementing quality assurance and ensuring the continued development of the energy certificate for buildings. It is planned to enforce the use of a national declaration of energy consumption in buildings at a later stage through its incorporation into the relevant legislation.

-> www.bfe.admin.ch/energie/00567/00569/00601/index.html?lang=en

- In addition to this energy certificate for old buildings, which is issued by the cantons, **another energy certificate was introduced for newly constructed wood buildings by the Swiss Association for Certified Quality Buildings (VGQ)**. The first certificate aims to assess and evaluate existing structures with a view to advancing the modernisation of dilapidated building stocks. The second certificate for wood buildings classifies new buildings in terms of their overall energy consumption and material quality.

-> www.vgq.ch

- A new marketing tool, the **“CO2-Bank”**, was also introduced in 2011 under the auspices of the VGQ. This web-based database enables individual companies to report their wood consumption data, and hence the amount of CO2 storage achieved, and indicate it on the actual structure by mounting an information plaque. Carpentry workshops, timber construction companies, architectural practices etc. can open an account and enter data about the objects they produce in wood. The reduction in CO2 emissions arising from the use of the wood is calculated automatically.

-> www.co2-bank.ch

2.7 Climate change and the forestry sector

Switzerland's climate and energy policy are very closely linked. Measures for greater energy efficiency and for the further development of renewable energy sources as a proportion of total energy consumption impact also positively on the fight against climate change.

2.7.1 CO2 Act, incentive taxes and post-Kyoto

Switzerland's climate policy starts with the most important climate gas, i.e. CO₂. Based on the Swiss **Federal CO₂ Act**, which was passed in 1999, Switzerland aims to reduce energy related CO₂ emissions by 10 % by 2010 (as compared with 1990 levels).

The CO₂ Act is based, first, on voluntary measures, in particular on the part of business, and, second, if predefined intermediary reduction targets are not met, on steering instruments, such as the CO₂ tax. A CO₂ tax on fossil combustible fuels (heating oil, natural gas) of CHF 12 per tonne of CO₂ has been levied since January 2008. The tax is not levied on biofuels, such as energy wood. **The CO₂ tax is an incentive tax on the carbon content of fossil fuels.** The revenue from the levy is redistributed to the citizens on a per capita basis and to enterprises as a percentage of wages paid. Because CO₂ emissions had not decreased to the required level, a tax increase was triggered and tax rates tripled from CHF 12 to CHF 36 per tonne of CO₂ (from 3 to 9 centimes per litre of heating oil) as of 2010. At the same time, the effectiveness of the tax was reinforced by a national building programme, to which one third of the revenues is dedicated (see chapter 2.6.3 *Energy Efficiency and Sustainable Building*). The earmarking of the CO₂ tax required an amendment of the CO₂ Act, which was adopted by Parliament in 2009 (see below).

Due to the intervention of the private sector, a CO₂ tax is not levied on transport fuels but a "**Klimarappen**" ("climate cent"). The "climate cent" is a private sector instrument implemented by the Swiss mineral oil industry, which entered a commitment vis-à-vis the Swiss Confederation to offset CO₂ emissions by 12 million tonnes over the period 2008 to 2012 (first commitment period under the Kyoto Protocol); at least two million tonnes of this shall be reduced within Switzerland. The large bulk of emission reductions, max. 10 million tonnes (2 m p.a.), are achieved abroad by using the flexible mechanisms of the Kyoto Protocol. CO₂ credits from projects implemented according to requirements set by the Kyoto Protocol can also be accounted for under Switzerland's CO₂ Act.

The CO₂ Act requires further emission reduction targets **beyond 2012 (second commitment period)**. As a counter project to a people's initiative calling for a 30% reduction target by 2020, the government presented a draft **revision of the act** to parliament in August 2009 proposing a reduction of Switzerland's greenhouse gas emissions of at least 20 % by 2020 (as compared with 1990 levels) with the option to increase the target in line with international commitments beyond Kyoto. The scope of the future legislation is extended from energy related CO₂ emissions to all greenhouse gases, sinks and sources covered by the international agreement beyond Kyoto. **Parliament inserted a passage providing for the accountability of wood products regardless of international regulations.**

The future mix of instruments bases on existing measures, such as the CO₂ tax on heating fuels, from which energy intensive industries can be exempted, and the building programme. The CO₂ tax on transport fuels however, proposed as a subsidiary measure only to be introduced, if the targets are not reached, is likely to be dropped by Parliament. The private sector climate cent is transformed into an obligation for importers of transport fuels to offset a certain percentage of CO₂ emissions. The main instrument to curb emissions from the transport sector, are prescriptions for passenger cars; the fleet of new cars is not to exceed an average target value of 130 gram per kilometre by 2015. The existing emissions-trading system is sought to be linked to the European emission trading system.

A maximum of CHF 200 million from the **CO₂ tax is earmarked to subsidise CO₂ relevant measures in buildings**. At least two third of this funding is to be dedicated to a nationally harmonised **buildings refurbishment programme** (insulation of roofs, walls, floors and ceilings and replacement of windows). One third at the most can be made available to cantons by matching their

budgets for the **promotion of renewable energies**, waste heat utilisation and building services engineering (see also chapter 2.6.3 *Energy Efficiency and Sustainable Building*).

The precondition for such general subsidies to be granted by the Confederation is the existence of both a cantonal legal basis and a promotional programme. To some extent, the cantons are free to design their specific promotional programme. With regard to renewable energies, the majority of cantons promote wood energy. The amount of subsidies granted by the Confederation varies among other factors with the efficiency of the cantonal program in the previous year.

2.7.2 Kyoto Protocol, forest management and CO2 balance of forest and wood

Switzerland accounts for forest management as an activity under Article 3.4 of the Kyoto Protocol. In other words, the sink effect of the forest, i.e. the CO2 sequestered in its standing volume, can be taken into account in the calculations for Switzerland's compliance with its commitment under the Kyoto protocol. The CO2 certificates (**Carbon Removal Units**, RMUs) achieved through CO2 sequestration in the forests will be held in the country's account. There is no legal basis for the transfer of RMUs to forest owners who are interested in participating in the CO2 market. Hence, one of the country's biggest forest companies initiated a process for the certification of its forest management to provide sink certificates for the voluntary market. Moreover, no legal basis exists for obliging forest owners to generate removals in their forests. Forest owners cannot be held responsible if an increase in harvesting exceeds growth increment; Switzerland as a country will have to compensate the resulting forest emissions by other measures. According to current estimates, the Swiss forest is expected to provide a sink effect of around 0.6 % of total greenhouse gas emissions during the Kyoto commitment period of 2008 to 2012. Increases in wood utilisation and damage events are expected to give rise to a CO2 source during the second Kyoto commitment period.

On the other hand, wood utilisation is expected to become economically more attractive in the years to come and this will foster the **substitution and sequestration effect of wood**. The material and energy use of wood replaces more CO2-intensive construction materials and fossil fuels. This substitution effect is implicitly accounted for in the greenhouse gas inventory because the consumption of fossil fuels is reduced. Swiss policy and the forest and timber industry argue for the integration this substitution effect to enhance the attractiveness of wood utilisation and to prevent a further increase in the already high growing stocks in the Swiss forests. A further advantage of wood used in construction is the resulting increase in the carbon stock in **harvested wood products**. This, however, cannot be accounted for under the current provisions of the Kyoto Protocol. Accounting for wood used in construction is being negotiated for the second commitment period which should begin as from 2013. Switzerland supports the accounting of harvested wood products in the national CO2 inventories.

A study on the potential contribution of the Swiss forestry and timber sector to the reduction of CO2 emissions showed that the best long-term effect was achieved by a scenario that includes all effects (sinks, substitution and storing effect in HWPs). In this scenario the forests are managed in a way that aims to maximise growth increment which is harvested regularly on a sustainable basis. The latest studies also consider the age-class structure of Swiss forests and demonstrate that the growing stock of Swiss forests should be slightly reduced to achieve this objective.

2.7.3 Forest and climate change: effects and adaptations

The FOEN launched a project in conjunction with a number of research institutions in 2009, the aim of which is to estimate the effects of climate change on the Swiss forest, and the resulting risks for forest ecosystem services, like wood production, water protection, and biodiversity. In the first stage of the programme, up to the end of 2011, experiments are being carried out along with basic research on the mechanisms and effects of climate change and their impact on trees and forests. The potential changes in tree species composition are being calculated. This will provide the basis for the scenario modelling of the effects of climate change on forest services.

The first phase of the research project is due to run until 2011. During the second phase, which will run from 2012 to 2015, the experiments will be continued and initial guidelines for the practice of silviculture in the context of climate change and adaptation will be developed.

2.8 Trade issues affecting the market

2.8.1 Market transparency: the duty of declaration for wood and harvested wood products

In September 2007 the Swiss Parliament requested that the federal government develop a legally based duty of declaration for wood and harvested wood products. The aim here is to counteract illegal logging and increase market transparency.

The following conditions were specified:

- the measures should be introduced on a phased basis,
- implementation should function on the basis of the principle of self-declaration with sample controls,
- complex wood products would be exempt,
- international developments, in particular in the EU, would be taken into account,
- the forestry and timber sector would be integrated into the ongoing process.

The main difficulty for the implementation of this kind of duty of declaration lies in the difficulties involved in the traceability of wood products. Verifying the legality of non-certified wood necessitates the availability of information about the place of origin and the conditions associated with the production of the wood.

The Swiss government passed a corresponding ordinance on 4 June 2010 for the implementation of this parliamentary mandate. The ordinance comes into force on 1 October 2010 for a transitional period until the end of 2011.

Compliance with the following principles was noted in the drafting of the ordinance:

- Approach is based on the principle of market transparency.
- Duty of declaration at the final point of sale. Border controls are not implemented.
- No discrimination in accordance with WTO rules.
- No technical obstacles to trade with the EU.
- Raw wood and solid wood products only must be declared in the first stage. Complex derived timber products (to be discussed), packaging material (means to an end) and scrap wood (traceability not possible) will be recorded at a later stage.

Hence, for the first stage from October 2010 only roundwood and raw wood and solid wood products, for which it is relatively easy to establish their origin and type, are subject to the duty of declaration. It is planned to extend the duty to declare to other wood products at a later stage when the content of the future EU regulation on wood and wood products has been clarified. Its implementation is expected in 2013 at the earliest.

To alleviate the administrative burden on small and medium-sized companies, it will be sufficient for companies to make a general declaration in the case of low-volume production.

A database will be accessible on the internet from early October on www.konsum.admin.ch in which the following information can be obtained:

- The scientific names and the trade names of the wood type required for the declaration
- The distribution areas of the wood types
- Information as to whether the type of wood in question belongs to the protected species under the Convention on International trade in Endangered Species (SR 0.453).

2.8.2 New practices in the Swiss timber trade

The practices implemented in the timber trade in Switzerland up to now have not been adequate to practices on the timber market for some time now. The new timber trade practices have been in force since September 2010. These take the form of rules developed and recognised by the sector for ease of communication in the wood chain and between the sector and end customers, such as

planners and architects. The rules are divided into two parts. The first deals with **raw wood** and includes not only provisions on sawlogs but also on industrial and energy wood. The second part contains **quality criteria for timber and derived timber products used in construction and renovation**. These define the requirements to be fulfilled by boards, planed timber, structural timber, and derived timber products that are not subject to special agreements. Based on the defined quality classes, it offers architects and planners a basis for the compilation of invitations to tender for timber and derived timber products. The new Swiss timber trade practices create legal certainty for the trade in timber and facilitate its marketing. -> www.lignum.ch

3 Developments in forest products markets

The temporary economic recovery from 2010 to early 2011 had a positive impact on the forestry sector and the domestically-oriented areas of the timber sector. The sawmills, whose activity is directed at the domestic construction market, and, in part also, the derived timber products industry benefited from the strong demand for housing. Following the collapse of 2008/2009, prices for soft sawlogs recovered over the course of 2010 and almost re-attained the levels achieved in late 2007. Due to the simultaneous increase in the CHF/EUR exchange rate, the price increase remained below that recorded in Germany and Austria, however. Based on the economic recovery and improved prospects, the forestry sector increased the harvest and increased the supply of soft sawlogs in particular.

The export-oriented sawmills came under pressure due to the increase in the value of the CHF. Switzerland's biggest sawmills, whose activity was focused on the export of sawlogs without value-added processing, was forced to cease operation in late 2010. In addition to sales problems, the plant's capacity, which was based on the potential sawlog supply, was excessive.

The derived timber products and paper industries also felt the pressure generated by the high Swiss franc. In late April 2011, the Austrian proprietor of a paperboard factory near Bern ceased operations. In July 2011, the South African mother company of a paper factory in the Solothurn region announced its closure. Both operations did not cover their requirement for fibres from forest wood but from recycled paperboard and paper and imported cellulose. This shows how fragile Switzerland and Europe are as locations for plants in the context of a strongly globalised paper and paperboard industry which also suffers from excess capacity.

3.1 Roundwood: sawlogs, pulpwood and fuelwood

Developments up to mid-2011

The Swiss forestry sector was spared the effects of major storms and compulsory logging from 2008 to 2011. The volumes of bark-beetle wood, which had remained high in 2007, also declined significantly and reached a low that had not been seen for many years in 2010/2011. Thus, it was possible to adapt to the fall in demand. In addition, the better economic environment, rising wood prices and clearer signals from the stemwood processors prompted an increased supply of raw wood from public and private forest owners. The forestry sector imported 15 % less and exported 9% less roundwood in 2010 than in the previous year.

Overall, 5.1 million m³ of wood was harvested in 2010, which corresponds to an increase of a good 5%. 65% or 3.3 million m³ of the wood harvest originated from public forests (3% more than in 2009) and 1.8 million was from private forests (+ 9%).

Of the 2.94 million m³ of sawlogs harvested in 2010, 91% were softwood and only 9% hardwood. The market for **soft sawlogs** in 2010/11 was influenced by the rising of the international demand and the strong domestic construction economy. At 2.68 million m³, the volume of soft sawlogs increased by 4% as compared with the previous year. Exports decreased by 6%.

The market for beech sawlogs, the most important variety of hardwood in terms of volume, remains weak due to the lack of suitable processors. The majority of the traditional processing capacities for Swiss beech wood in northern Italy ceased operation in recent years. The harvesting of hard sawlogs

declined again by 2% to approximately 266 000 m³, of which over 220 000 m³ was exported. The corresponding import volumes are insignificant.

At a total of 526,000 m³, 12% more **industrial wood** was harvested in 2010 as compared with 2009. 58% of this was soft industrial wood.

At 1.64 million m³, the volume of energy wood harvested increased again (+6%). 31% of this was soft wood, 69% hard wood, Beech sawlogs of medium and poorer quality, large volumes of which were exported to Italy or processed in Switzerland in the 1990s, and hard industrial wood, which was processed to beech cellulose at the Borregard Schweiz AG plant until the end of 2008, now enters the expanding energy wood market. Another large wood energy plant, the Aubrugg wood energy plant near Zurich, commenced operation in October 2020. Foreign trade in fuelwood is relatively insignificant. In other words, the fuelwood harvested in Switzerland is also burned within the country.

-> For further information, see: <http://www.bafu.admin.ch/wald/01198/01206/08843/index.html?lang=fr>

Current developments

The market trends for 2011/2012 will include continuing buoyant demand for soft sawlogs due to the continuation of strong activity in the residential construction sector, a decline in the demand for hard sawlogs, a stagnating market for industrial wood and further growth in the energy wood market. Price development will be under pressure due to the low EUR exchange rate. As has already been observable for several months, certain price drops will have to be expected. Switzerland's only particleboard factory produces for both the export and domestic markets. Hence, its purchasing behaviour in relation to forest wood is moveable. The two paper-producing plants in Switzerland sell most of their products within the euro region. Hence their demand for forest wood is strongly dependent on developments abroad. This makes it particularly difficult to assess the development of the market and the associated development of demand.

3.2 Wood energy

Wood energy is the second most important native and renewable energy source in Switzerland after hydroelectric power. Due to the characteristics of this climate-neutral raw material and the subsidising of non-renewable energies, the importance of wood as an energy source continues to increase.

According to the Federal Office for Energy, 4.5 million m³ of fuelwood (including waste incineration plants) was consumed and 43.3 PJ of final energy was produced from wood in Switzerland in 2010. The gross consumption of wood energy, excluding waste incineration plants, is 4.11 million m³ (38.3 PJ). This represents an increase of the effective consumption of wood energy of around 8 % as compared with the previous year. Thus, wood energy accounts for just over 4 % of the total final energy consumption.⁷

Of the 4.5 million m³ of fuelwood used, 57 % originated from the forest, 19 % from wood processing, 17 % from used wood sources (*Altholz*) and 7 % from wood pellets. The increase in wood pellet consumption is particularly significant. Their use has increased almost six-fold over a period of three years. Pellets are particularly good for meeting peaks in demand for heat energy in energy-efficient buildings. Their production is of major and increasing importance for the utilisation of sawdust and wood shavings. However, due to errors in planning, the only Swiss company that tried to produce wood pellets from forest wood on an industrial scale, went bankrupt in August 2010 following a year in operation.

For further information, see: Swiss Federal Office of Energy (SFOE): *Schweizerische Holzenergiestatistik 2010* -> http://www.bfe.admin.ch/themen/00526/00541/00543/index.html?lang=en&dossier_id=00771

The potential offered by energy wood (i.e. forest, slash, wood residues and used wood) will be exploited more extensively in the future. Three large wood-fired power plants currently operate in Switzerland and one more is under construction. They need to be situated in locations where raw wood is

⁷ The increasing demand for electricity, the conditions of compliance with the Kyoto Protocol, the growing scarcity of fossil fuels and the gap in the electricity supply predicted to arise from 2020 prompted the Swiss Federal Office of Energy (SFOE) to launch a programme called *Swiss Energy*. One aim of *Swiss Energy* is to double wood energy by the year 2020.

produced and where the heat can be provided for large urban distance heating networks or large industrial consumers. Hence the number of economically viable locations for such plants is limited. Other large plants are planned but have prompted scepticism and resistance among the local populations due to the environmental nuisance associated with the wood logistics. Seventy percent of the Swiss forest is in public ownership, 30% belongs to political communes and a further 30% to the citizens' communes. Because this gives rise to considerable proximity between the forestry services, communal authorities and the population, numerous smaller wood energy plants with short wood transport routes are being built and operated.

The *cost-covering remuneration for feed-in to the electricity grid (CRF)* for electricity generated from renewable sources (see chapter 2.6.2 *The cost-covering remuneration for feed-in to the electricity grid*) affects the viability of wood-fired heating plants and, together with a desired gain in terms of image, increases the (economic) attractiveness of business with green electricity for the Swiss electricity companies. The challenge for the future design of energy policy is not to create over-capacity through this incentive system.

3.3 Certified forest and forest products

Approximately 0.68 million ha of Swiss forest (i.e. 54 % of the total forest area) was certified in 2010. Of these certified areas, 57 % have both **FSC and PEFC certification**. Of the timber harvested in Switzerland in 2010, 68 % was certified.

At present, almost 730 companies operating at all levels in the timber processing sector hold a certificate. In contrast to the situation in the forest sector, the majority of these companies, 68%, only hold the FSC certificate. Thus, the Swiss wholesale distributors, which also hold a significant share of the market in the DIY sector, are FSC-certified. 30% hold both the FSC and PEFC certificate. At present there are no companies in Switzerland that are solely PEFC-certified.

The two certification systems have different requirements with regard to forest management and chain of custody. In 2009 a **new version of the national certification standard** which forms the basis of certification for FSC and PEFC in Switzerland was introduced by both label organisations. New certifications and re-certifications should become less costly with the new standard.

The main driving forces for certification in Switzerland are the DIY sector and the demand for certified paper products. The FSC label is increasingly required on the paper market. The number of certified operations is also increasing in the printing sector. Therefore, the suppliers of these industries gain better market access through certification. On the other hand, the sellers of certified wood cannot demand a higher price ("green premium"). The current supply of certified roundwood considerably exceeds demand. Thus the market does not yet compensate for the additional costs incurred in certification. For this reason, certification is a contentious issue in the forestry and timber sector.

The origin of the wood is not declared under the FSC and PEFC certification systems. In 2009 the forestry and timber industry introduced a new label ("**Herkunftszeichen Schweizer Holz**"). It is managed by LIGNUM, the Swiss timber sector umbrella organization. Its main purpose is to show and prove the Swiss origin of the timber products. The intention here is to raise the awareness of end users about Swiss wood that is produced in accordance with the strict sustainability requirements of the Swiss forest legislation and has not caused environmental pollution as a result of being transported over long distances.

Products bearing the *Herkunftszeichen Schweizer Holz* label of origin may contain up to 20% of wood of foreign origin if it comes from a comparable production region (low risk origin) and has a sustainability certificate or declaration of origin.

Since September 2011, all wood originating from Swiss forest areas bears the *Herkunftszeichen Schweizer Holz* label of origin.

-> http://www.lignum.ch/fr/technique/certification_du_bois/

-> <http://www.wvs.ch/fr/taches-centrales/dossiers/certificat-dorigine-bois-suisse.html>



3.4 Sawnwood

2.4 million m³ sawlogs were processed into 1.46 million m³ of sawnwood in Switzerland in 2010. At 1.4 million m³, the production of soft sawnwood remained more or less on the same level as the previous year. Because the exports also remained stable at 466,000 m³, the export quota was around 32% as in 2009. With a cutting volume in excess of 100 000 m³, the large sawmills hold in 2010 their share of total sawnwood production to 37%.

Whereas 31% of the wood that grows in the Swiss forest is hardwood, only 5% of the wood cut in the sawmills is hardwood. Hence 95% of the cutting volume and 98% of sawnwood consumption is accounted for by softwood. As a result the promotion of hardwood, the use of which is very desirable from an ecological perspective, is being undermined by the wood processors.

The role played by tropical wood in Switzerland is minor. Most of the tropical wood consumed in Switzerland is already fully processed when imported and is not, therefore, included in the wood processing statistics.

Contrary to expectations, exports of soft sawlogs declined significantly in the first half of 2011, i.e. by a good third, despite the collapse of the CHF/EUR exchange rate. In contrast, as expected, the exports of hard sawlogs yielded less than half.

3.5 Pulpwood-processing sector

In 2010, operations that process industrial wood consumed around 580,000 m³ forest wood (+ 8%) and 65,000 m³ sawnwood residues.

3.5.1 Wood-based panels

The production of wood-based panels in Switzerland is shared by two companies, one of which produces particleboard and the other various forms of fibreboard. The export figures are no longer published for data protection reasons and have to be estimated.

Production: Switzerland produced an estimated 0.43 million m³ of particleboard and 0.55 million m³ of fibreboard in 2010. Particleboard production increased by around 4% and fibreboard production by 7%. Hard fibreboard is no longer produced in Switzerland.

Exports: In the course of the general economic recovery, the situation of the particleboard industry improved as compared with the previous year. Because soft fibreboard is preferred for the energy-based renovation of buildings and used for high-quality heat and noise insulation, this sector is less affected by economic fluctuations and also receives state support. It may be assumed that state-promoted residential building in Germany in 2010 prompted the increase in the exports of fibreboard despite the increase in the value of the CHF. As opposed to this, particleboard and medium-density fibreboard (MDF) are mainly used in the production of furniture and in interior construction, two sectors that are more strongly influenced by the current economic situation. Hence, A decline in exports may be expected here both in 2010 and in 2011.

Outlook: For the aforementioned reasons, stagnating or declining figures may be expected for the production of soft fibreboard, particleboard and medium-density fibreboard (MDF).

3.5.2 Pulp and paper

The paper industry is one of the sectors that is particularly exposed to the impacts of globalisation and fluctuations in currency rates. Swiss paper is mainly exported to the EUR region. Cellulose has not been produced in Switzerland since 2008. The prices of the imported cellulose are set in USD. For these reasons, it is difficult to predict the development of the two Swiss paper plants' demand for forest wood.

The Swiss paper and paperboard industry produced 1.56 million tonnes of paper and paperboard in 2010, 2 % more than in 2009. Of this, 72% was exported as in the previous years; exports inclined by 6%. The calculated domestic consumption in 2010 was 1.53 million tonnes (+2%). In 2010, the wood pulp, paper and paperboard industry consumed 0.2 million m³ of domestic forest

wood and wood residues. In 2008, prior to the closure of the last Swiss cellulose plant, the volumes used were twice as high. This wood is now used in the energy sector instead. Very little foreign forest wood and sawnwood residues is processed by this industry. The new paper machine at *Perlen Papier AG* will affect the demand for roundwood from 2011.

4 Tables

4.1 Economic Indicators for Switzerland

4.1 Economic Indicators for Switzerland

	2003	2004	2005	2006	2007	2008	2009	2010	2011 ^F	2012 ^F
Economic growth in %¹	-2.0	2.3	2.5	3.6	3.6	1.8	-1.9	2.7	1.9	0.9
Inflation in %²	0.6	0.8	1.2	1.1	0.7	2.4	-0.5	1.1	0.4	0.3
Unemployment rate in %¹	3.7	3.9	3.8	3.3	2.8	2.6	3.7	3.9	3.1	3.4
Interest yields 10-year government bond in %³	2.6	2.3	1.9	2.5	2.9	2.9	2.2	1.6	1.5	1.7
Currency rate³										
EUR	1.56	1.54	1.56	1.61	1.65	1.54	1.51	1.35	1.20	–
USD	1.24	1.14	1.31	1.22	1.13	1.15	1.09	1.07	0.81	–

1) State Secretariat for Economic Affairs SECO; 2) Consumer Price Index, Swiss Federal Statistical Office;

3) Swiss National Bank SNB

4.2 Forest products production and trade in 2009–2010; Estimations and Forecasts for 2010–2011



UNECE TIMBER COMMITTEE FORECASTS Roundwood

Product Code	Product	Unit	Historical data		Estimate	Forecast
			2009	2010	2011	2012
1.2.1.C	SAWLOGS AND VENEER LOGS, CONIFEROUS					
	Removals	1000 m ³	2'574	2'678	2'750	2'750
	Imports	1000 m ³	123 #	162	50	25
	Exports	1000 m ³	492 #	460	600	450
	Apparent consumption	1000 m ³	2'205	2'380	2'200	2'325
1.2.1.NC	SAWLOGS AND VENEER LOGS, NON-CONIFEROUS					
	Removals	1000 m ³	272	266	250	240
	Imports	1000 m ³	29 #	28	20	20
	Exports	1000 m ³	264 #	222	200	190
	Apparent consumption	1000 m ³	37	72	70	70
1.2.1.NC.T	of which, tropical logs					
	Imports	1000 m ³	1 #	1	1	1
	Exports	1000 m ³	0 #	1	1	1
	Net Trade	1000 m ³	1	0	0	0
1.2.2.C	PULPWOOD (ROUND AND SPLIT), CONIFEROUS					
	Removals	1000 m ³	292	307	290	300
	Imports	1000 m ³	129	97	90	90
	Exports	1000 m ³	82	66	50	50
	Apparent consumption	1000 m ³	339	338	330	340
1.2.2.NC	PULPWOOD (ROUND AND SPLIT), NON-CONIFEROUS					
	Removals	1000 m ³	176	219	200	210
	Imports	1000 m ³	4	0	10	10
	Exports	1000 m ³	42	47	40	40
	Apparent consumption	1000 m ³	138	172	170	180
3 + 4	WOOD RESIDUES, CHIPS AND PARTICLES					
	Domestic supply	1000 m ³	957 C	946	920	930
	Imports	1000 m ³	587 C	646	650	650
	Exports	1000 m ³	1'122 C	1'185	1'150	1'150
	Apparent consumption	1000 m ³	421	407	420	430
1.2.3.C	OTHER INDUSTRIAL ROUNDWOOD, CONIFEROUS					
	Removals	1000 m ³	12	14	15	15
1.2.3.NC	OTHER INDUSTRIAL ROUNDWOOD, NON-CONIFEROUS					
	Removals	1000 m ³	5	5	5	5
1.1.C	WOOD FUEL, CONIFEROUS					
	Removals	1000 m ³	482	512	520	530
1.1.NC	WOOD FUEL, NON-CONIFEROUS					
	Removals	1000 m ³	1'066	1'128	1'200	1'300

-> Forest Products: see next page ./.

UNECE TIMBER COMMITTEE FORECASTS
FOREST PRODUCTS

Product Code	Product	Unit	Historical data		Estimate	Forecast
			2009	2010	2011	2012
5.C	SAWNWOOD, CONIFEROUS					
	Production	1000 m ³	1'413	1'397	1'300	1'350
	Imports	1000 m ³	381	418	385	400
	Exports	1000 m ³	448	445	215	200
	Apparent consumption	1000 m ³	1'346	1'371	1'470	1'550
5.NC	SAWNWOOD, NON-CONIFEROUS					
	Production	1000 m ³	68	59	55	55
	Imports	1000 m ³	55	64	60	62
	Exports	1000 m ³	21	21	15	12
	Apparent consumption	1000 m ³	103	101	100	105
5.NC.T	of which, tropical sawnwood					
	Production	1000 m ³	3	3	3	3
	Imports	1000 m ³	21	22	23	24
	Exports	1000 m ³	1	2	2	2
	Apparent consumption	1000 m ³	22	23	24	25
6.1	VENEER SHEETS					
	Production	1000 m ³	5 C	5	5	5
	Imports	1000 m ³	4 C	4	4	4
	Exports	1000 m ³	2 C	3	3	2
	Apparent consumption	1000 m ³	7	6	8	9
6.1.NC	of which, tropical veneer sheets					
	Production	1000 m ³	0	0	0	0
	Imports	1000 m ³	4	0	0	0
	Exports	1000 m ³	2	0	0	0
	Apparent consumption	1000 m ³	2	0	0	0
6.2	PLYWOOD					
	Production	1000 m ³	8 C	8	8	9
	Imports	1000 m ³	53 C	68	80	85
	Exports	1000 m ³	2 C	2	2	2
	Apparent consumption	1000 m ³	59	74	86	91
6.2.NC	of which, tropical plywood					
	Production	1000 m ³	0	0	0	0
	Imports	1000 m ³	20	19	14	12
	Exports	1000 m ³	0 E	2	2	2
	Apparent consumption	1000 m ³	20	17	12	10
6.3	PARTICLE BOARD (including OSB)					
	Production	1000 m ³	409	426	450	460
	Imports	1000 m ³	250	291	320	340
	Exports	1000 m ³	287	*	*	*
	Apparent consumption	1000 m ³	372	450 (**)	480 (**)	510 (**)
6.3.1	of which, OSB					
	Production	1000 m ³	0	0	0	0
	Imports	1000 m ³	65	72	80	85
	Exports	1000 m ³	0	1	0	0
	Apparent consumption	1000 m ³	65	71	80	85
6.4	FIBREBOARD					
	Production	1000 m ³	515 C	553	580	590
	Imports	1000 m ³	165 C	198	195	195
	Exports	1000 m ³	437 C	*	*	*
	Apparent consumption	1000 m ³	244	310 (**)	330 (**)	335 (**)
6.4.1	Hardboard					
	Production	1000 m ³	0	0	0	0
	Imports	1000 m ³	39	40	38	36
	Exports	1000 m ³	2	*	*	*
	Apparent consumption	1000 m ³	37	40 (**)	38 (**)	35 (**)
6.4.2	MDF (Medium density)					
	Production	1000 m ³	221	253	260	250
	Imports	1000 m ³	78	85	85	80
	Exports	1000 m ³	237	*	*	*
	Apparent consumption	1000 m ³	63	88 (**)	85 (**)	80 (**)
6.4.3	Other fibreboard					
	Production	1000 m ³	294	300	310	320
	Imports	1000 m ³	48	73	85	90
	Exports	1000 m ³	198	*	*	*
	Apparent consumption	1000 m ³	144	180 (**)	200 (**)	210 (**)
7	WOOD PULP					
	Production	1000 m.t.	132 C	124	100	90
	Imports	1000 m.t.	445 C	472	535	525
	Exports	1000 m.t.	24 C	11	5	5
	Apparent consumption	1000 m.t.	553	585	630	610
10	PAPER & PAPERBOARD					
	Production	1000 m.t.	1'524 C	1'559	1'455	1'250
	Imports	1000 m.t.	864 C	919	1'150	1'250
	Exports	1000 m.t.	687 C	912	1'015	850
	Apparent consumption	1000 m.t.	1'701	1'566	1'590	1'650

* hidden transactions

** estimations