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Country Market Statement: Switzerland

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What's new?

- The Swiss NFP, the political action programme for the Swiss forest, is being adapted to a changed environment (p. 5)
- The Biodiversity Strategy aims to conserve the resilience of ecosystems through their variety (p. 5)
- The Wood Action Plan aims to access unexploited market potential through innovative hardwood products (p. 6)
- A national research programme provides new opportunities for wood research (p. 6)
- The partial earmarking of proceeds from the CO2 tax finances climate-related measures in buildings (p. 12)
- The duty of declaration for wood and harvested wood products generates market transparency (p. 14)
- The new Swiss wood trade practices create legal certainty for the trade in wood products and facilitate their marketing (p. 15)
- The new label of origin "Schweizer Holz" raises awareness among consumers of sustainably produced wood from the region (p. 18)
- The wood harvested in the Swiss forest declined for the second time by 7% in 2009 (p. 16)

1 General economic trends

Developments up to mid-2010

Switzerland withstood the most serious collapse in the global economy since the Second World War relatively well. After three very good years, industrial business development slowed down in 2008. 2009 was a difficult year for the export-oriented sectors of the Swiss economy. The value of the euro declined further against the Swiss franc. In mid-2010, the CHF/EUR exchange rate fell below the 1.4 CHF/ euro threshold, which is viewed as critical by the Swiss export sector. The export-oriented wood-processing sectors of the saw milling, derived timber products and paper industries were severely affected by this development. In addition, the international economic recession and the difficulties faced by many foreign construction and property markets affected elements of the wood-processing operations in Switzerland. However, domestic consumer sentiment remained good and domestically-oriented sectors such as retail trade and the construction sector, in particular residential building and the civil engineering sector which is occupied with long-term infrastructure projects, remained largely unaffected by the effects of the economic crisis and shored up the domestic economy. The economy also benefited from both the economic support programmes created by the Swiss government and those of its trading partners. The economic stimulus programmes provide particular stimulus for (energy-related) renovation projects (see box below). Residential construction activity kept the timber-frame construction companies busy in 2009 and 2010 and ensured good domestic demand for sawn-wood and derived timber products.

The decline has been decelerating since mid-2009 and, despite the weakness of the euro, the Swiss economy continued to recover in the first half of 2010. Unemployment peaked in late 2009 and fell again in the first half of 2010. Switzerland's gross domestic product (GDP) showed a real decline of 1.9%.

The financial sector has not yet fully stabilised. Switzerland's inclusion in a negative list of "tax havens" could be averted through the conclusion of numerous double taxation conventions and the provision of customer data to the US tax authorities. Switzerland's future involvement in international cooperation for the prevention of tax evasion and tax fraud will influence the development of the finance sector.

Outlook

According to expert forecasts, the economic recovery will continue for the duration of 2010 and will level off somewhat in 2011. The strong franc will dampen exports.

The savings programmes for budget consolidation in countries such as Great Britain, France and Germany could restrict the sales opportunities of Swiss wood processing operations involved in the export market in 2010. Euroconstruct expects 2010 to be a difficult year for the European construction sector. Residential construction in Switzerland is expected to remain at a high level or to show a slight decline. The expected increase in the very low mortgage rates will have a negative effect.

The current growth forecasts for Gross Domestic Product (GDP) are 2.7% for 2010 and 1.2% for 2011.

Stabilisation packages for the support of the Swiss economy

Three economic stabilisation programmes were passed by the Swiss parliament in late 2008 and 2009 which also contained provisions for the financing of energy promotion programmes and other environmental investments. The programmes support measures in the areas of flood protection, biodiversity, building renovation, district heating, the replacement of electric heating systems, the promotion of renewable energy sources and the promotion of the export of environmental technologies.

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 Forests. In addition to this, a political action programme, the Swiss National Forest Programme, Swiss NFP (*Waldprogramm Schweiz, WAP*), was developed on the basis of a participative process. Representatives of the forestry sector and other relevant sectors were actively involved in the process. Since 2004, the Swiss NFP has formed the basis for the orientation of the Swiss Confederation's forest policy up to 2015. The principle aim of the Swiss NFP is to guarantee sustainable forest management in Switzerland and, as a prerequisite for this, conditions favourable to the development of an efficient and innovative forestry and timber sector. The Swiss NFP aims to optimise and improve the three dimensions of sustainability, i.e. the ecological, economic and social value of the forest. New topics have emerged since the Swiss NFP was launched in 2004. Hence the Swiss NFP is currently being further developed to adapt it to the changed conditions. The focus of attention is on climate change, invasive species (neobiota), the unexploited potential of wood resources in certain regions and legislative and policy processes running simultaneous to the Swiss NFP, e.g. the *Biodiversity Strategy* (see chapter 2.2) and the *revision of the Federal CO₂ Act* (see chapter 2.7.1), that will have an influence on the Swiss NFP. The Swiss NFP will be even more strongly focused on "the forest right up to the forest edge" and no longer claims 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. The Swiss NFP is complemented by the Wood Resource Policy (see chapter 2.3), which deals mainly with topics of relevance beyond the forest boundary.

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 which should also be integrated. The biodiversity objectives are to be integrated into all relevant policy and economic sectors. The national biodiversity strategy is to be adopted by the Swiss Federal Council by October 2010 in preparation for the International Biodiversity Conference in Nagoya, Japan. It will be presented to parliament in 2011.

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 sustainable¹ 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 activities are organised in the context of *the Wood Action Plan (Aktionsplan Holz, AP Holz)*. Seven

¹ 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.

thematic focuses contribute to the implementation of the objectives of the Wood Resource Policy. 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 will run from 2009 to 2012. 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. The following promotional activities are planned under the Wood Action Plan programme between 2010 and 2012:

- The raising of the awareness of institutional end-users, for example, insurance companies, banks and property companies, of the possibilities and limits of timber construction (focus area 5)
- Announcement of a competition for innovative hardwood products to reactivate dormant market potential (focus area 4)
- The raising of public awareness of forest utilisation and wood harvesting; a campaign is to be launched in 2011 in response to the expected increase in demand.

2.4 Research and development

In addition to the Wood Action Plan, the Confederation has 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**)* supports projects in the area of "applied forestry and wood research" (R&D). -> www.umwelt-schweiz.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 will be published in spring 2011. 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 research** 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.

-> www.bfe.admin.ch/themen/00490/00496/index.html?lang=de&dossier_id=00726 (only German or French)

2.5.2 Switzerland's binding ecological and social minimum requirements for biogenous 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. Forest wood does not feature explicitly on the list because the maximum total efficiency of wood-based fuel is 30 % (heat production: up to 85 %, combined heat and power: up to 80 %).

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.² 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 intended 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.

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

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.

The **Energy Efficiency Action Plan (*Aktionsplan Energieeffizienz*)** includes measures relating to buildings, mobility, devices and electrical engines, research and technology transfer, and education, and measures relating to the greater awareness on the part of the state with respect to its own function as a role model.

The **Renewable Energies Action Plan (*Aktionsplan Erneuerbare Energien*)** incorporates measures in the areas of heat production (heating and hot water, process heat from industry and services), hydroelectric power, biogenous fuels, research and technology transfer, and education and training.

Based on these action plans, in the period between 2010 and 2020, the consumption of fossil energies should be reduced by 20 %, the proportion of total energy consumption accounted for by renewable energy sources increased by 50 % and the increase in electricity consumption limited to a maximum of 5 %.

Various measures, which have been adopted and are in the course of being implemented, directly or indirectly enhance the attractiveness of wood as a CO₂-neutral energy source, in particular in relation to the promotion of renewable energy sources and energy efficiency in buildings.

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 *CO₂ Act, steering taxes and post-Kyoto*, page 12). The existing cantonal incentive systems are being harmonized. Only measures that outperform the legally defined minimum standards will be supported.
- Additional funding is being made available for the promotion of the energy-based renovation of buildings as part of the **economic stabilisation measures** (see page 2).
- 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).

The topic of "green building" will feature prominently at new events for specialists in the field to be held in 2010. Examples include:

- GREEN-BLUE ARCHITECTURE, First Conference on Sustainable Architecture, Innovation and Design (15.-16.6.2010, Berner Fachhochschule, Burgdorf)
- Blue and Green, a trade fair for professional property investors which was held for the first time in Zurich on 15.-17.6.2010 (<http://www.blueandgreen.ch>)

2.6.4 Building Codes and Standards

Analyses have shown that legally binding standards have proven more effective than promotional funds in achieving greater energy efficiency or lower total energy consumption in buildings. Therefore, 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.

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. In addition to this energy certificate for old buildings that is issued by the cantons, yet another energy certificate was introduced for newly constructed wooden buildings by the *Swiss Association for Certificated Quality Buildings (VGQ)*. The first certificate aims at an assessment and evaluation of the existing constructions in order to fasten the modernisation of the dilapidated edificial park. The second certificate for wooden buildings classifies the new buildings according to the overall consumption of energy *and* material quality.

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; www.vgq.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, steering 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 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, on steering instruments, such as the CO₂ tax. If intermediary objectives are not fulfilled, various successive measures come into force. A CO₂ tax on fossil combustible fuels (heating oil, natural gas) of CHF 12 per tonne of CO₂ emission has been levied since January 2008. The tax is not levied on energy wood. **The CO₂ tax is a steering tax on CO₂ emissions.** The revenue from the levy is redistributed to the citizens and enterprises. Because CO₂ emissions have not decreased to the desired extent, the tax per litre of heating oil was increased from 3 to 9 centimes in 2010, in other words the tax rate per ton of CO₂ increased by a factor of three from CHF 12 to 36.

In accordance with the example set by the international regulations of the Kyoto Protocol, emissions reductions achieved abroad can also be accounted for under Switzerland's CO2 Act.

Due to the intervention of the private sector, a CO2 tax is not levied on propellant fuels but a "**Klimarappen**" ("climate cent"). The "climate cent" is a private-law instrument and a voluntary measure implemented by Swiss industry, which has entered into a commitment vis-à-vis the Swiss Confederation to reduce CO2 emissions by 12 million tonnes over the period 2008 to 2012; at least two million tonnes of this will be reduced within Switzerland. If these targets are not achieved, the CO2 tax will also be levied on propellant fuels. Some of the revenue from the "climate cent" is to be invested in emissions trading and climate protection projects in other countries while another portion will be used for climate protection measures within Switzerland.

The CO2 Act requires further development in emission reductions **for the post-2012 period**. The government presented a draft for the **revision of the act** to parliament in August 2009. The draft proposes a reduction of Switzerland's greenhouse gas emissions of at least 20 % by 2020.

Two possible variants for the revision of the act had been up for discussion:

- Switzerland reduces its greenhouse gas emissions by 20 % by the year 2020 – mainly at domestic level. In terms of the instrument to be used to achieve this, the main focus is on the introduction of a steering tax on all climate gases. This would be accompanied by technical regulations for the reduction of fossil energy consumption in buildings and vehicles. The proceeds of the tax would be ring-fenced for the financing of a programme for the renovation of buildings and further climate protection measures both at home and abroad.
- Switzerland compensates for its climate gas emissions through the purchase of emissions certificates from abroad and becomes "climate neutral" as a result.

The existing measures should be continued and developed further, in particular the CO2 steering tax on combustible fuels. The levying of a tax on propellant fuels remains a secondary measure, i.e. it will only be introduced if the targets are not reached. This proposal is subject to criticism in part as motorised transport is among the main emitters of CO2. Very energy-intensive companies that would face a correspondingly high tax burden are also to be exempted from the CO2 tax. The existing emissions-trading system for energy-intensive companies, e.g. the paper industry, is to be integrated into the European trading system.

The draft revision of the CO2 Act does not explicitly take the sink effect of wood into account (see next chapter).

The Federal Council discussed the revision and proposal in the 2010 summer session. It opted for the first variant, a 20% reduction in greenhouse gas emissions by 2020 as compared with 1990 levels. This reduction must be achieved exclusively through domestic measures. The Council of States will pass the law by summer 2011 at the latest.

Due to the urgent need for action in the area of climate policy, further measures have been introduced in 2010 through partial revisions of the legislation currently in force. These concern buildings in particular. From 2010, a maximum of CHF 200 million from the **CO2 tax is to be used to finance climate-related measures in buildings**. Most of this partly earmarked funding will be used in the context of a **national building programme for the upgrading of building envelopes** (insulation of roofs, walls, floors and ceilings and replacement of windows). A third of the earmarked funding will be made available for the **promotion of renewable energy**, waste heat utilisation and building services (see also chapter 2.6.3 *Energy Efficiency and Sustainable Building*). These general subsidies will be based on a programme agreement with the cantons. The precondition for the payment of general subsidies is the existence of both a cantonal legal basis and a specific promotional programme. The cantons are free to design the concrete promotional programme as they see fit. With regard to renewable energy sources, the majority of cantons are planning a promotional programme for wood energy. The subsidies will be increased by several factors as compared with previous years.

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 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 begins 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 HWP). 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, the resulting damage risks, the changes in tree species composition and their effects on forest services. Based on the project's findings it is intended to develop suitable silvicultural approaches to accommodate the relevant climate change scenarios along with corresponding recommendations for forestry practice. This research project is due to run initially until 2011.

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

As was the case in 2008, the international financial crisis, the turbulence on foreign property and residential construction markets, and the economic decline and collapse of central European sales options for sawnwood, derived timber products and semi-finished wood products have impacted on the Swiss forest products markets. The consequences were well cushioned, however, by the robust domestic demand for wood – in particular from the residential building sector.

While many sawmills that produce timber for the domestic building market were kept busy, overall production in the sawnwood sector was below capacity. Staff were put on short-time working in some sawmills. The derived timber products industry and the paper industry, which has a strong international focus, also came under pressure. The paper industry, in particular, is exposed to the influence of currency movements and the development of energy prices on world markets. Overall, 10% less wood was required by the domestic economy in 2009 than in the previous year.

In 2008, average annual roundwood prices exceeded those of 2007, however they started to fall from mid-2008. The stabilisation of the international roundwood and sawnwood markets and the scarcity of soft sawlogs in neighbouring Germany and Austria have also had an impact in Switzerland since mid-2009: prices are on the rise again.

3.1 Roundwood: sawlogs, pulpwood and fuelwood

Developments up to mid-2009

The Swiss forestry sector was spared the effects of major storms and compulsory logging in 2008, 2009 and 2010. The volumes of bark-beetle wood, which had remained high in 2007, also declined significantly. Thus, it was possible to adapt to the fall in demand. In addition, the uncertain economic environment, falling wood prices and the lack of clear signals from the stemwood processors regarding their wood requirements gave rise to a more cautious market assessment. This prompted corresponding reticence regarding wood utilisation among price-sensitive private forest owners. The forestry sector exported 24% less roundwood in 2009 than in the previous year. While public forestry operations maintained the wood harvest at the previous year's level of 4.24 million m³, the harvest in private forests declined by 18% to 1.64 million m³. Hence, overall, the wood harvest declined for the second time by 7% and reached only 4.9 million m³ in 2009.³ The only year in which less wood was harvested in recent times was 2002.

Of the 2.85 million m³ of sawlogs harvested in 2009, 90% were softwood and 10% hardwood. The market for **soft sawlogs** in 2009 was influenced by the weaker international demand, on the one hand, and the strong domestic construction economy, on the other. Exports decreased by 30%. At just under 2.6 million m³, the volume of soft sawlogs harvested was again around 11% lower than in the previous year. As was the case in neighbouring countries, this resulted in a scarcity of supply in the region.

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 beechwood in northern Italy ceased operation in recent years. The utilisation of hard sawlogs declined again by 30% to approximately 270 000 m³, of which over 260 000 m³ was exported. The corresponding import volumes were insignificant.

The closure of the last Swiss cellulose producer, Borregaard Schweiz AG in late 2008 was an important development for the **industrial wood market**. This marked the disappearance of a central sales channel for forest industrial wood and for soft sawnwood residues. Demand from the paper and particleboard industry was muted in 2009. The volume of industrial wood harvested was reduced by 23% to 0.47 million m³ and of exports by 5% to 124 000 m³. Little or no industrial wood is imported now.

As was the case in 2008, the reduction in the harvest affected all wood types with the exception of **energy wood**. Despite the decline in total Swiss energy consumption as a result of the weakness in the economy, the demand for wood energy increased. The statistically recorded volume of forest en-

³ Source: Swiss forest statistics

ergy wood harvest increased by almost 11% to 1.55 million m³ between 2008 and 2009 and, according to the forest statistics, reached 30% of the total harvest for the first time. More than three times more energy wood was utilised than industrial wood. The focus in the processing of energy wood continues to shift from logs to woodchips, which allow for more rational processing. This trend is also corroborated in the wood energy consumption statistics which show that the traditional small and medium-sized wood burners for wood in log form are decreasing in number and medium-sized to large wood-chip burners are on the increase. The small to medium-sized log burners are being replaced in part by pellet burners. Foreign trade in fuelwood is relatively insignificant. In other words, the fuelwood harvested in Switzerland is also burned within the country.

Current developments

Lively demand for soft sawlogs, weaker demand for hard sawlogs and healthy demand for energy wood is expected for the 2010/2011 wood market campaign. The forestry and timber sector expects prices to increase until the end of the year. Detailed estimates of the future wood requirements of the paper and derived timber products industry were unavailable at the time of compilation of this report. These sectors, which are strongly reliant on exports, are exposed to the counteracting influences of the recovering markets and continuing collapse of the euro. 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, over 4 million m³ of fuelwood (including waste incineration plants) was consumed and 39.7 PJ of final energy was produced from wood in Switzerland in 2009. The gross consumption of wood energy, excluding waste incineration plants, is 3.75 million m³ (36.1 PJ). This represents an increase of the effective consumption of wood energy of around 2% as compared with the previous year. Thus, wood energy accounts for just over 4 % of the total final energy consumption.⁴

Of the 4 million m³ of fuelwood used, 63 % originated from the forest, 22 % from wood processing, 9 % from used wood sources (*Altholz*) and 6% 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.

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

⁴ 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.

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 0.7 million ha of Swiss forest (i.e. 56 % of the total forest area) was certified in 2009. Of these certified areas, 60 % have both **FSC and PEFC certification**, 37 % have FSC certification alone and 4 % have PEFC certification alone. Of the timber harvested in Switzerland in 2009, 71 % 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 proof 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.

3.4 Sawnwood

2.44 million m³ sawlogs were processed into 1.48 million m³ of sawnwood in Switzerland in 2009. There was a slight reduction of 4% in cutting volume as compared with the international rate. The production of soft sawnwood declined by 2% to 1.41 million m³.

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.

With a cutting volume in excess of 100 000 m³, the large sawmills increased their share of total sawnwood production to 37%. Despite the decline in production, the export quota of sawnwood rose from 29% in 2008 to 32% in 2009. There was a slight decline in the importation of spruce/fir sawn-

wood and exports increased slightly. The 17% increase in exports to Switzerland's most important export market, Italy, is worthy of note. This increase was made possible by the tax-incentivised renovation of residential buildings. Due to the weakness in the Italian new-build sector and the strong decline in industrial production, Italian imports increased by a total of 23%.

Exports continued to increase slightly in the first half of 2010. This trend will, however, be increasingly hampered by the low exchange rate between the euro and Swiss franc or Swiss exporters will benefit little from price improvements on the foreign soft sawnwood markets.

3.5 Pulpwood-processing sector

Operations that process industrial wood consumed 28% less forest wood and 39 % less sawnwood residues in total in 2009.

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 cannot be estimated. Switzerland produced an estimated 0.4 million m³ of particleboard and 0.5 million m³ of fibreboard in 2009. Particleboard production decreased by around 11 % and fibreboard production by 8%. Hard fibreboard is no longer produced in Switzerland. 2009 was not an easy year for the particleboard and fibreboard industry, in particular on the export markets. Soft fibreboard is preferred for the energy-based renovation of buildings and used for high-quality heat and noise insulation. Because this sector was not affected by the recession but is subject to state promotion, production (and presumably also the export of the generated domestic consumption) could increase here. Declines in both exports and domestic consumption of particleboard and medium-density fibreboard (MDF) may be expected. These products are mainly used in the production of furniture and in interior construction, both of which were more strongly affected by the collapse in the international property and construction markets.

3.5.2 Pulp and paper

The Swiss paper and paperboard industry produced 1.5 million tonnes of paper and paperboard in 2009, 10% less than in 2008. Of this, 70% was exported as in the previous year; exports also declined by 10%. The calculated domestic consumption in 2009 was 1.5 million tonnes (-10%). In 2009, the wood pulp, paper and paperboard industry consumed 0.113 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 was used in the energy sector instead. Very little foreign forest wood and sawnwood residues were processed by this industry. The new paper machine at Perlen Papier AG, which is currently under construction, will affect the demand for roundwood from 2011.

4 Tables

4.1 Economic Indicators for Switzerland

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

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 2008–2009; Estimations and Forecasts for 2009–2010



TC1

UNECE TIMBER COMMITTEE FORECASTS
Roundwood

Product Code	Product	Unit	2008	2009	Estimate 2010	Forecast 2011
1.2.1.C	SAWLOGS AND VENEER LOGS, CONIFEROUS					
	Removals	1000 m ³	2'886	2'574	2'800	3'000
	Imports	1000 m ³	134	123	100	50
	Exports	1000 m ³	699	492	300	250
	Apparent consumption	1000 m ³	2'321	2'205	2'600	2'800
1.2.1.NC	SAWLOGS AND VENEER LOGS, NON-CONIFEROUS					
	Removals	1000 m ³	317	272	250	230
	Imports	1000 m ³	38	29	30	30
	Exports	1000 m ³	325	264	240	220
	Apparent consumption	1000 m ³	30	37	40	40
1.2.1.NC.T	of which, tropical logs					
	Imports	1000 m ³	2	1	2	2
	Exports	1000 m ³	0	0	0	0
	Net Trade	1000 m ³	2	1	2	2
1.2.2.C	PULPWOOD (ROUND AND SPLIT), CONIFEROUS					
	Removals	1000 m ³	323	292	300	320
	Imports	1000 m ³	158	143	145	145
	Exports	1000 m ³	77	82	50	60
	Apparent consumption	1000 m ³	404	353	395	405
1.2.2.NC	PULPWOOD (ROUND AND SPLIT), NON-CONIFEROUS					
	Removals	1000 m ³	211	176	180	180
	Imports	1000 m ³	7	5	6	6
	Exports	1000 m ³	54	42	40	40
	Apparent consumption	1000 m ³	164	139	146	146
3 + 4	WOOD RESIDUES, CHIPS AND PARTICLES					
	Domestic supply	1000 m ³	972	957	1'000	1'100
	Imports	1000 m ³	1'038	587	500	500
	Exports	1000 m ³	921	1'122	1'000	1'000
	Apparent consumption	1000 m ³	1'089	422	500	600
1.2.3.C	OTHER INDUSTRIAL ROUNDWOOD, CONIFEROUS					
	Removals	1000 m ³	17	13	15	15
1.2.3.NC	OTHER INDUSTRIAL ROUNDWOOD, NON-CONIFEROUS					
	Removals	1000 m ³	3	4	5	5
1.1.C	WOOD FUEL, CONIFEROUS					
	Removals	1000 m ³	424	482	550	600
1.1.NC	WOOD FUEL, NON-CONIFEROUS					
	Removals	1000 m ³	771	1'066	1'150	1'200



TC2

UNECE TIMBER COMMITTEE FORECASTS
Forest products

Product Code	Product	Unit			Estimate	Forecast
			2008	2009	2010	2011
5.C	SAWNWOOD, CONIFEROUS					
	Production	1000 m ³	1'448	1'413	1'560	1'700
	Imports	1000 m ³	378	381	390	410
	Exports	1000 m ³	422	448	460	520
	Apparent consumption	1000 m ³	1'404	1'346	1'490	1'590
5.NC	SAWNWOOD, NON-CONIFEROUS					
	Production	1000 m ³	93	68	60	55
	Imports	1000 m ³	73	55	55	50
	Exports	1000 m ³	24	21	20	20
	Apparent consumption	1000 m ³	141	103	95	85
5.NC.T	of which, tropical sawnwood					
	Production	1000 m ³	3	3	3	3
	Imports	1000 m ³	19	21	20	20
	Exports	1000 m ³	1	1	1	1
	Apparent consumption	1000 m ³	21	22	22	22
6.1	VENEER SHEETS					
	Production	1000 m ³	10	8	8	8
	Imports	1000 m ³	5	5	5	5
	Exports	1000 m ³	3	2	3	3
	Apparent consumption	1000 m ³	12	11	10	10
6.1.NC.T	of which, tropical veneer sheets					
	Production	1000 m ³	0	0	0	0
	Imports	1000 m ³	0	4	4	4
	Exports	1000 m ³	0	0	0	0
	Apparent consumption	1000 m ³	0	4	4	4
6.2	PLYWOOD					
	Production	1000 m ³	10	8	8	8
	Imports	1000 m ³	127	128	127	130
	Exports	1000 m ³	4	3	4	4
	Apparent consumption	1000 m ³	133	133	65	70
6.2.NC.T	of which, tropical plywood					
	Production	1000 m ³	0	0	0	0
	Imports	1000 m ³	23	20	22	25
	Exports	1000 m ³	3	3	3	3
	Apparent consumption	1000 m ³	21	17	19	22
6.3	PARTICLE BOARD (including OSB)					
	Production	1000 m ³	462	409	440	480
	Imports	1000 m ³	265	250	250	255
	Exports	1000 m ³	330	287	290	300
	Apparent consumption	1000 m ³	397	372	400	435
6.3.1	of which, OSB					
	Production	1000 m ³	0	0	0	0
	Imports	1000 m ³	56	65	70	80
	Exports	1000 m ³	0	0	0	0
	Apparent consumption	1000 m ³	56	65	70	80
6.4	FIBREBOARD					
	Production	1000 m ³	559	515	550	590
	Imports	1000 m ³	159	165	200	205
	Exports	1000 m ³	437	437	470	490
	Apparent consumption	1000 m ³	281	243	280	305
6.4.1	Hardboard					
	Production	1000 m ³	0	0	0	0
	Imports	1000 m ³	35	39	35	35
	Exports	1000 m ³	0	2	0	0
	Apparent consumption	1000 m ³	35	37	35	35
6.4.2	MDF (Medium density)					
	Production	1000 m ³	269	221	250	270
	Imports	1000 m ³	93	78	95	100
	Exports	1000 m ³	259	237	270	280
	Apparent consumption	1000 m ³	104	62	75	90
6.4.3	Other fibreboard					
	Production	1000 m ³	289	294	300	320
	Imports	1000 m ³	31	48	70	70
	Exports	1000 m ³	178	198	200	210
	Apparent consumption	1000 m ³	142	144	170	180
7	WOOD PULP					
	Production	1000 m.t.	213	132	140	140
	Imports	1000 m.t.	514	445	470	480
	Exports	1000 m.t.	90	24	10	10
	Apparent consumption	1000 m.t.	636	553	600	610
10	PAPER & PAPERBOARD					
	Production	1000 m.t.	1'698	1'524	1'650	1'750
	Imports	1000 m.t.	1'148	1'034	1'050	1'050
	Exports	1000 m.t.	1'190	1'058	1'100	1'200
	Apparent consumption	1000 m.t.	1'656	1'500	1'600	1'600