Joint FAO/UNECE Working Party on Forest Economics and Statistics, 2-3 April 2008

Some comments on the Natural Wood Resource Balance in Sweden

Swedish delegation: Jan-Olof Loman and Sören Wibe

The current situation

As in most European countries, total growing stock of forests in Sweden has continuously increased for many decades. Since measurement was introduced in the 1920:ies, growing stock has almost doubled, from around 1,7 billion m^3 to about 3,2 billion m^3 in 2005. The explanation is that (except of a few individual years), annual fellings have always been much less than net annual increment. On average (in the period 1925-2005), only about 70 - 80% of annual growth has been cut.

Increased stock, together with better management, better plant material, shift in land use, not full utilization of increase in increment etc. has led to an increase in annual growth. For instance, in 1950, annual growth of Swedish forests was around 75 million m^3 per year, a figure that now has increased to around 110 million m^3. But fellings have also increased, so the gap between growth and cuttings is closing. Twenty years ago, growth surplus (i.e. growth over removals) was around 30-35 million m^3, now it is down to around 20-25 million m^3. It will never be possible, in the long run, to cut the total gross annual increment, there has to be a "gap" for several reasons: Larger areas are set aside due to environmental considerations (Forest Act, certification policies), due to nature reserves, technical reasons, etc. Sweden has now reached a level when it is fair to say that fellings, currently approx 90 million m^3, has reached the limit for sustainable harvesting.

Trends in the future

In the next 20-30 years, growth is expected to continue to increase due to (i) greater stock, (ii) better genetic material (partly due to results from biological research on fast growing trees) and (iii) warmer and more humid climate (even if the climate change probably will affect forests and increment in a negative way too). To this must also be added the probable results of more intense management, for instance more fertilisation. Estimates show that with reasonable economic efficiency, it is possible to increase annual growth from 110 to 130-140 million m^3 stemwood within a 30-year period.

Demand is also rapidly increasing due to international demand for forest products and the booming sector for renewable energy. The price of wood for energy has now almost reached the same level as for pulp wood, and as long as the oil price keeps rising, all forecasts points to a further rise in the price of both industrial wood and wood for energy.

Will future wood supply be enough?

Although growth probably will be increasing, it is predicted that the demand of wood will be still high due to increased demand from the energy sector and increased difficulties to obtain timber from the Russian market. The EU strategy on renewable energy stipulates that Sweden shall increase the share of renewable energy from just under 40% to 49% until 2020, and the bulk of this energy has to come from wood. This means that at least 20 TWh or more must be produced by wood energy, which in turn means that at least 10-15 more million m^3 of wood (stemwood and/or logging residues) must be transferred to the energy sector within the next 15 years.

Future studies and research

We can identify some areas where studies and research are urgently needed. The first is the actual amounts of wood (in different forms) currently being used for energy production. It is, for instance, not known how much wood residues that now goes directly to energy production for private use, in distance heating plants or other "industrial" production. It could be anything between 5 and 10 million m^3, stemwood and/or logging residues.

Secondly, we need to know much more about the price formation of fuel wood. Clearly, there is a connection between this price, and the price of oil, the price of pulp wood and timber, but we know very little about the exact form of the supply and demand functions. What we need to know is, for instance, how a change in the taxation of wood for energy affects supply and demand, and how it influences connecting markets, such as the market for pulpwood and timber.