

## **Healthy, natural forests: responding to climate change**

### CIPRA's demands for forest management

Forests have many functions in the Alps. They provide wood, a valuable raw material, are a habitat for many animal and plant species, and protect human beings from natural disasters. In addition, they have recreational potential.

Changing climate conditions have a noticeable influence on forests. Higher temperatures and lower precipitation change the conditions for tree growth. Because of the long life cycle of trees, climate change has a strong impact on the forest ecosystem. Forest management must therefore make effective adaptations with a very long-term perspective, taking account of climate change.

Forests are not only affected by climate change: they also play a key role in adaptation measures and climate protection. The ability to store carbon depends on the vitality and the growth potential of the forest. This ability to store carbon in biomass and soil is an effective means of extracting CO<sub>2</sub> from the atmosphere. But the increasing use of wood, especially for energy generation at present, reduces the absorption capacity of the forest in the name of climate protection, throwing away the baby with the bath water. A study for Austria shows that intensified biomass use of twigs and branches is already problematic on over 50 % of the forest area because it leads to nutrient deficiencies. Therefore a one-sided use of forests for energy purposes must be avoided.

As forestry measures have long-term lead times and consequences and as the Alps are even more affected by climate change as other parts of the continental land mass, adaptation of the forests to new climate conditions is urgently needed - but it should be initiated with great caution.

CIPRA therefore demands:

### **1. Greater use of the forest for CO<sub>2</sub> storage, less use as a source of firewood!**

As a result of centuries of overexploitation there are few areas in the Alps with a large stock of wood in the form of old-growth forest. But most of the Alpine forests still have a large growth potential and therefore a large unused CO<sub>2</sub> storage capacity. Standing and lying deadwood is part of this capacity and will improve the forest's topsoil at the end of the cycle of decay.

It therefore makes little sense to increase the use of wood for energy purposes with the argument of climate protection, creating unnecessary emissions; instead, forests should be used for long-term storage of CO<sub>2</sub>. In a cascading system, wood should first be used as a raw and building material; where possible, only wood waste or wood that is no longer needed should be used for heating. But this measure will only be effective if energy use is drastically reduced. In addition, other renewable energy sources should be used for heating.

### **2. Spatially limited exploitation cycles and regional wood use!**

Where wood is used, it should be logged by firms in region and if possible go to local firms that process and sell it in the region. This type of wood use makes closed economic cycles possible, increases regional value added and creates jobs. Resources remain in the region and the local economy is boosted. In addition, transport is reduced, which reduces fuel costs and CO<sub>2</sub> emissions.

### **3. More natural forests help to increase resistance to natural risks!**

Planting and managing forests in as natural a way as possible – using local species suiting the local conditions, promoting structural diversity – improves resistance to extreme weather and pests and increases the adaptability of the forests to climate change. This type of forest management must also avoid clear-cutting and the use of pesticides, promote natural regeneration, create valuable transition zones to open country and retain areas of old growth and deadwood in commercial forests.

#### **4. Compensate for climate protection by forests!**

There is a lack of forest reserves where nature can go its own way. Apart from helping to preserve habitats, such reserves help to store CO<sub>2</sub>. In the Alpine region at least 10 % of the area covered by forest should be allowed to develop freely, taking into account the different natural forest associations. For the protection of species and biotopes additional special forest reserves should be set aside. Forest owners who in the interest of climate and nature protection give up part of their earnings and forest surfaces should be compensated, in particular for the CO<sub>2</sub> sink function. The existing subsidy systems of the EU and most of the Alpine countries do not offer adequate compensation in such cases. This needs to be changed as soon as possible.

#### **5. Climate change requires new knowledge and the diffusion of all knowledge!**

Targeted research into practical climate adaptation measures is an important long-term task. New knowledge about climate change and its effects must be widely diffused and used.

The CO<sub>2</sub> absorption and emission/wood use balance should be seen as a holistic system, so that a reliable optimization of forest management is possible. Important information is still lacking for this purpose, in particular with regard to the carbon storage potential of forests of different types and quality in the context of climate change, including the carbon content of the soil. Research and science must provide new knowledge here.

Schaan, March 2012