# EDITORIAL

## *DO WE USE BIOMASS AS AN ENERGY SOURCE? IF SO, HOW DO WE USE IT?*

The Russian aggression on Ukraine and the related sanctions have again confirmed our dependence on fossil fuels: not only is their price soaring, but their availability is also questionable. Perhaps the current situation will accelerate the process of transition from fossil fuels to renewables based on water, wind and solar energy, thermal resources and biomass. In this sense, it may do more than all those climate conferences, because the fear of energy shortages exceeds the awareness of the need to preserve the earth from global warming. Thus, the goals of the Glasgow Climate Conference to reduce greenhouse gasses to 55 % by the year 2030 could be achieved ever earlier.

In terms of the protection of nature and the environment, it is calculated that wood as an energy source for heating a family house with 20,000 kWh annually emits 100 kg $CO_2$ during combustion, gas emits 4,600 kg $CO_2$, and fuel oil emits 5,600 kg $CO_2$. Therefore, to generate the same amount of energy, the odds are 1: 9 in favour of wood.

With its available biomass, forestry can definitely help in the production of heat and electricity. Let us emphasise: with regular production at realistic regular annual cuts, with the use of biomass, which has until now remained in the forest, and with more intensive silvicultural treatments of cleaning and tending of stands, which become profitable as a new product carrying a decent market price, the potentials of biomass in the near future reach about 4.5 million tons annually, equalling 2.2 million tons of oil. From a professional forestry standpoint, these currently profitable treatments, which we often neglect due to lack of financial resources, would have an immeasurable importance for the quality of the forest, the value of its non-market functions and the insurance of sustainability, and in particular for the implementation of the Kyoto Protocol and the Graz Declaration, whose signatories we are.

Have we already written about this topic? Yes, we have, on several occasions. Browsing the Editorials from this column, we come across this topic with the same title in the Editorial from double issue 7-8/2010. In the previous paragraph, we also provided some information from that article. The excursion of members of the Croatian Forestry Association to the forestry and wood technology fair "Holzmesse" in Klagenfurt and the "Interforst" in Munich was also mentioned. Both these trade fairs were dedicated to the procurement and use of forest biomass. A business conference focusing on the topic "Biomass (*electric and thermal energy*), Biogas and Biofuels" has for years been held in Našice within the Croatian Biomass Day. The Croatian Forestry Association has discussed the issue of bioenergy at the thematic meetings of its Managing Board, annual symposia or within the activities of the CFA's section Croatian Biomass Association. Let us also mention the scientific symposium "The production of renewable energy sources from agriculture and forestry". We sell wood chips, but we could sell energy like the Austrians or the Germans do – for example, Austrian state forests own 30 cogeneration systems and sell KwH as a finished product, not a raw material. We can also mention the scientific conference "Forests, water and soil as the greatest wealth of the Republic of Croatia", where we can learn something about thermal waters in which we also abound.

Regarding the production of pellets, the scientific article by Domac, J. et al, provides extensive information on the development of the domestic pellets market. In the year 2009, eight Croatian producers planned to produce 212,100 tons of pellets, but they only produced 92,000 tons, of which 98 % were exported and only 1,850 (2%) tons were sold on the domestic market. In addition to savings and a more environmentally friendly method of heating compared to conventional heating with firewood, it would also provide employment, especially in the domestic metal industry (stoves, pipelines, etc.). The author wonders: Where is the Energy Development Strategy?

If we asked ourselves what has changed in the past 12 years, the answer would undoubtedly be – something has changed, but things are not going in the right direction. At a gathering in Našice, the guest mayor of Güsing (Burgerland), who fully covers his electricity and thermal needs from renewable energy sources available in his region, called on mayors of cities and heads of municipalities, especially in rural areas, to make the use of biomass as an energy source their primary task. Despite numerous study visits to the Burgerland region, which is one of the best European examples of energy independence at the local level, no place in Croatia, even a small one, can boast of such a case. In 2011, we had the opportunity to see how the Swedish town of Östersund with about 50 thousand inhabitants, using biomass from the surrounding area (50 % forest biomass, 30 % wood debris from the wood industry, 10 % from old furniture and carpentry and 10 % from peat), had been producing heat and electricity for a decade, covering as much as 98 % of the total energy consumed by 10,000 households. Cogeneration plants have sprung up in Croatia, using favourable annual contracts for the supply of raw materials and energy incentives for the sale of electricity, but the local community has very little benefit from this. Moreover, part of the cheap wood raw material is turned into pellets, but these pellets are mostly used to heat inhabitants of other countries and not those of Our Beautiful Homeland. In both cases, it is only plant owners and sellers of produced energy and raw materials that are on the receiving side.

We can only hope that the current energy crises will clarify the views of those in charge and encourage them to start using all the wealth that Croatia has at its disposal.

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