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MONITORING OF WOOD FUEL PRICES IN SLOVENIA, AUSTRIA, ITALY, CROATIA, ROMANIA, GERMANY, SPAIN AND IRELAND

Report No. 5, November 2013

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The BiomassTradeCentrell project (www.biomassstradecentre2.eu) aims to increase the production and the use of energy from wood biomass. In the project the nine following EU countries are included: Austria, Croatia, Germany, Greece, Ireland, Italy, Romania, Slovenia and Spain. To ensure better transparency of wood fuel markets in participating countries or regions wood fuel prices are regularly monitored and analysed. Furthermore, catalogues of forestry companies and biomass producers were prepared and are published on www.biomassstradecentre2.eu/wood-biomass-production/catalogues/. An international version of the catalogue is available on <http://www.biomassstradecentre2.eu/wood-biomass-production/service-providers/>. All partners together published nearly 2000 addresses of wood fuel producers in 9 countries. The same web site offers also information on good practice examples of wood biomass production, where different production chains from each project partner country/region are presented.

The wood fuel prices are regularly monitored at the beginning and end of each heating season. The following wood fuel categories are included into the comparison analysis:

- **firewood** with the length of 25, 33, 50 and 100 cm and the moisture content of 20% or 50%,
- **wood chips** categories P16, P31.5, P45, P63, P100 and moisture content of 20%, 30%, 40% or 55%,
- **wood pellets** with a moisture content of maximum 10% and different package type (loose /price per ton or in 15 kg or 20 kg bags),
- **wood briquettes** with a moisture content of maximum 10% and different package type (loos/ price per ton or in 15 kg or 20 kg bags),

When comparing prices among countries, different VAT values (if included), transport costs (if included in the final price), wood fuel quality classes etc. were considered. In this report, prices including VAT are compared, with indicated fuel quality classes according to standards of EN 14961 series. Most of EU countries are applying lower degree of VAT for wood fuels in comparison with fossil fuels. Comparison of VAT in participating countries is presented in Report no. 1 (available on: www.biomassstradecentre2.eu/wood-fuel-prices/). The prices included in the analysis refer to retail at the local level.



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Prices of wood fuels in selected countries

According to data collected by project partners prices of wood fuels differ among wood fuel types and countries.

Wood chips are the cheapest among the wood fuels. The prices vary according to moisture content (M20, M30, and M50) and the particle size (P16, P31.5, P45, P63, P100). In general wood chips with higher moisture content and larger particle size have lower price. Wood chips with moisture content between 20% or 30 % and particle size category P45 vary considerably among countries; the lowest prices are in Croatia (52,50 €/t) and Romania (54,56 €/t), the highest in Austria (143 €/t), Ireland (136,20 €/t) and Germany (105,53 €/t) (Figure 1). In Greece, production of wood chips is negligible.

Firewood with 20% moisture content and length between 25 to 33 cm have the lowest price in Croatia (43,75 €/t) followed by Spain and Slovenia where the prices are around three times higher (126,80 €/t and 130,93 €/t respectively). The highest prices were recorded in Germany (304,27 €/t) and Ireland (249,70 €/t). When comparing with other wood fuels the differences in prices per ton among countries are highest in case of fire wood; e.g. in Germany the price for firewood is almost six times higher than in Croatia. Such large differences can be ascribed to different round wood prices or by different situation at local market.

Less pronounced are the differences between prices among countries in case of pellets. Highest price was recorded in Germany (336,23 €/t) and Italy (324,50 €/t). The lowest are the prices in Croatia (243,75 €/t) and Romania (324,50 €/t); approximately 32 % lower than in Germany. Most commonly are pellets sold in 15 kg bags, they can be bought separately or stacked at pallets (by 66 or 70 bags). More and more producers also deliver pellets in the so called "Big-bags" (1000 kg) or loose. It is important to note that pellet prices differ among quantity classes, but also among sold quantity/packageing.

In general, wood briquettes have lower prices than pellets. They are sold in 10 or 20 kg PVC packages, but also in Big-bags or loose. The highest price of wood briquettes (with below 10 % moisture content and delivered loose) was recorded in Ireland (278 €/t) and the lowest in Croatia (133,75 €/t).



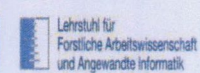
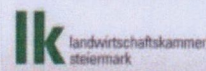
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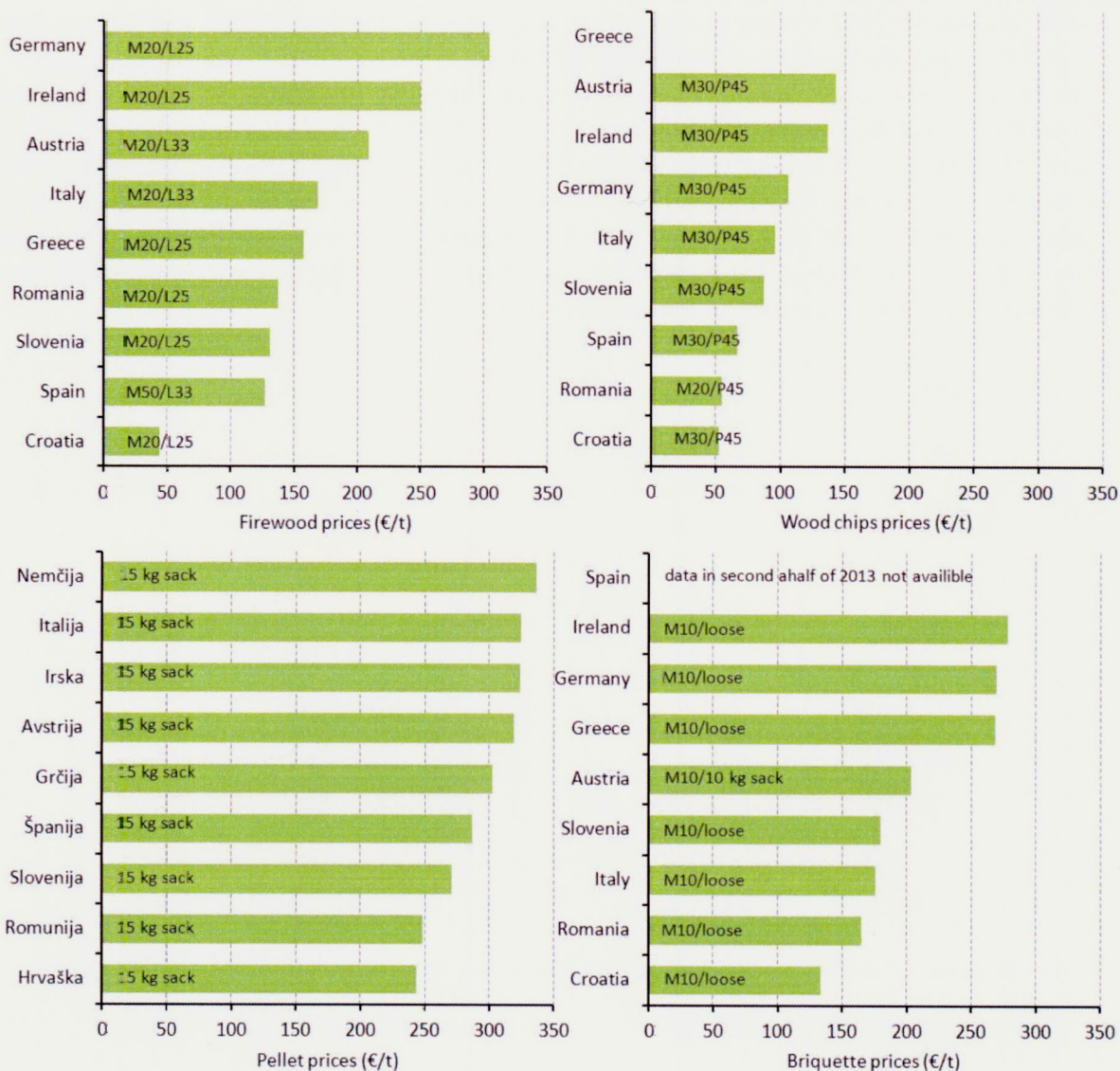
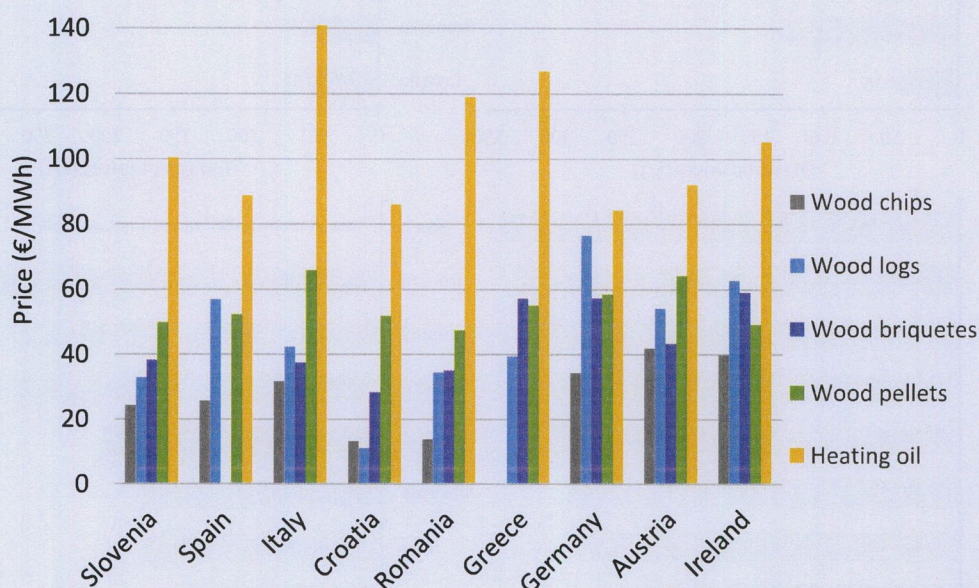


Figure 1: Wood fuel (firewood originating from roundwood, wood chips, pellet and briquette) prices among countries. On the presented chart bars, moisture and type of product are indicated, since data for the same product are not available in each country.

The prices of wood fuels and fossil fuels can be compared by primary energy prices in €/MWh (Figure 2). Energy value of wood fuel varies mainly according to water content. Therefore, typical commercial moisture content (M %) of wood fuels (see note at the figure 1) were considered in our comparison. In all involved countries the prices for MWh are highest in case of heating oil, and lowest for wood chips. However the differences in prices of fossil fuels and wood fuels are differing considerably among countries. E.g. in Romania, Croatia and Italy prices of wood chips are more than five times lower comparing to heating oil. In Germany, Austria and Ireland the differences among fossil fuels and wood fuel prices is not as pronounced as in other countries (Figure 2).

In second half of 2013 the prices of firewood decreased in Slovenia, Croatia and Romania for 3 %, 50 % and 20% respectively in comparison to the first half of 2013. In all other countries the prices of firewood increased or remained approximately the same; the highest increase was observed in Austria (26%) and Spain (22%). The price of wood chips slightly (between 1 to 6 %) decreased in Slovenia, Germany and Ireland while in Croatia the prices decreased for around 15 %. The highest increase (with respect to second first half of 2013) of wood chips prices was recorded in Italy for around 23 %. The prices of wood pellets decreased in Spain and Greece (in both cases for around 6 %), in all other countries the prices increased; the highest increase was recorded in Austria, for around 32 %.



Note: Wood logs - L25-L33, M20; Wood chips: P16 and P31.5, M20; Wood pellets: loose t, M10; Wood Briquettes loose t, M10

Figure 2: Prices of wood fuels compared to heating oil in €/MWh.

The wood fuels prices report will be published on the project web site twice per year. For those interested in more detailed information about wood fuel prices in participating countries, please contact: dr. Nike Krajnc (project coordinator) nike.krajnc@gozdis.si or dr. Peter Pislán peter.prislan@gozdis.si.

For more information about wood biomass production chains, biomass trade centres or wood fuel quality assurance please visit our web page and contact project partners at: www.biomastradecentre2.eu.

References:

Information from project partners: SFI (SLO), AIEL (I), LkStmk (A), REGEA (CRO), AVEBIOM (ES), CTFC (Catalonia, ES), CRES (GR), ICPE (RO), TUM (D), IrBEA (IRL)

UWID – Wood products and panels, no. 41/2011.

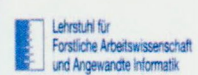
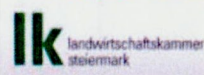
Prices of fossil fuels in EU- www.energy.eu/



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