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

Report No. 6, March 2014

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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 (price per ton for loose pellets or price for tone for packaging in 15 and 20 kg bags respectively),
- **wood briquettes** with a moisture content of maximum 10% and different package type (price per ton for loose delivered briquettes or price per ton for packaging in 15 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. Some 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 in March 2014

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

Firewood with 20% moisture content and length between 25 to 33 cm have the lowest price in Croatia (105,00 €/t) followed by Slovenia and Romania with 125,81 €/t and 148,80 €/t respectively. The highest prices were recorded in Germany (290,27 €/t), Ireland (249,70 €/t) and Austria (209,00 €/t) (Figure 1a). In most of the countries the prices of firewood increased; the highest increase for about 140% was recorded in Croatia. In Slovenia and Germany the prices decreased for 4 % and 5 % respectively. When comparing with other wood fuels the differences in prices per ton among countries are highest in case of firewood; 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 and associated services (e.g. packaging type, transport).

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; in the first half of 2014 the lowest prices were recorded in Croatia (56,25 €/t) and Romania (58,28 €/t), the highest in Ireland (136,20 €/t), Austria (132,00 €/t) and Germany (113,86 €/t) (Figure 1b). In Greece, production of wood chips is negligible, therefore no data on wood chips prices are available. In comparison to the previous period (second half of 2013) prices of wood chips increased in case of Croatia, Romania and Germany for about 7% and 8 % respectively. In Austria the prices decreased for around 11 % and in Ireland remained at approximately the same level.

Less pronounced are the differences between prices among countries in case of pellets. Highest prices were recorded in Greece (347,57 €/t), Germany (336,35 €/t) and Ireland (334,83 €/t). Lowest are the prices in Romania (234,36 €/t), Croatia (250,00 €/t) and Slovenia (263,34 €/t) (Figure 1c). In comparison to the previous period the highest decrease in prices was recorded in Romania (for around 5%), however the highest increase was recorded in Greece (for around 15 %). 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/packaging.

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 in 10 kg bags) was recorded in Greece (342,85 €/t) and the lowest in Croatia (133,75 €/t) (Figure 1d).



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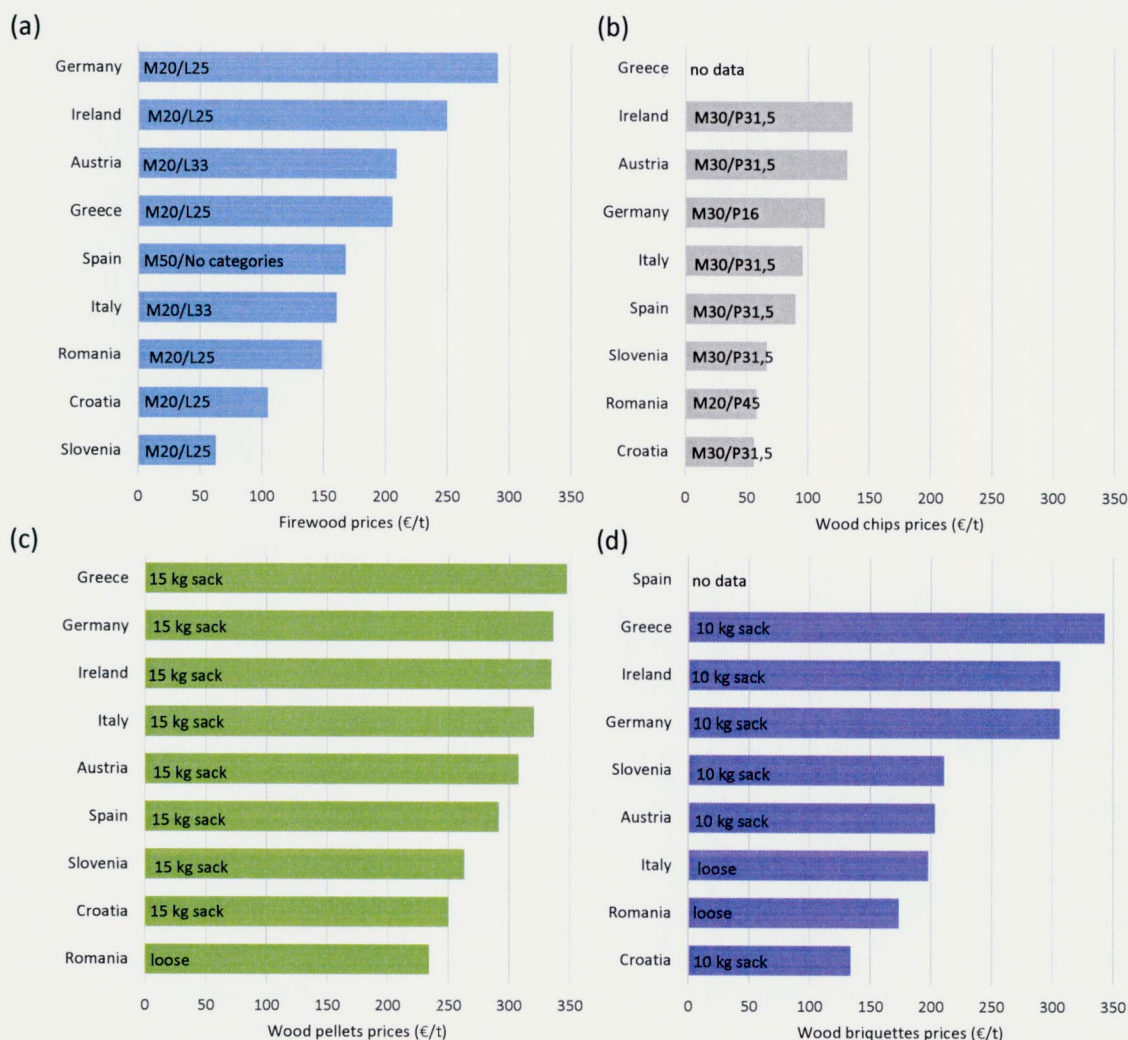
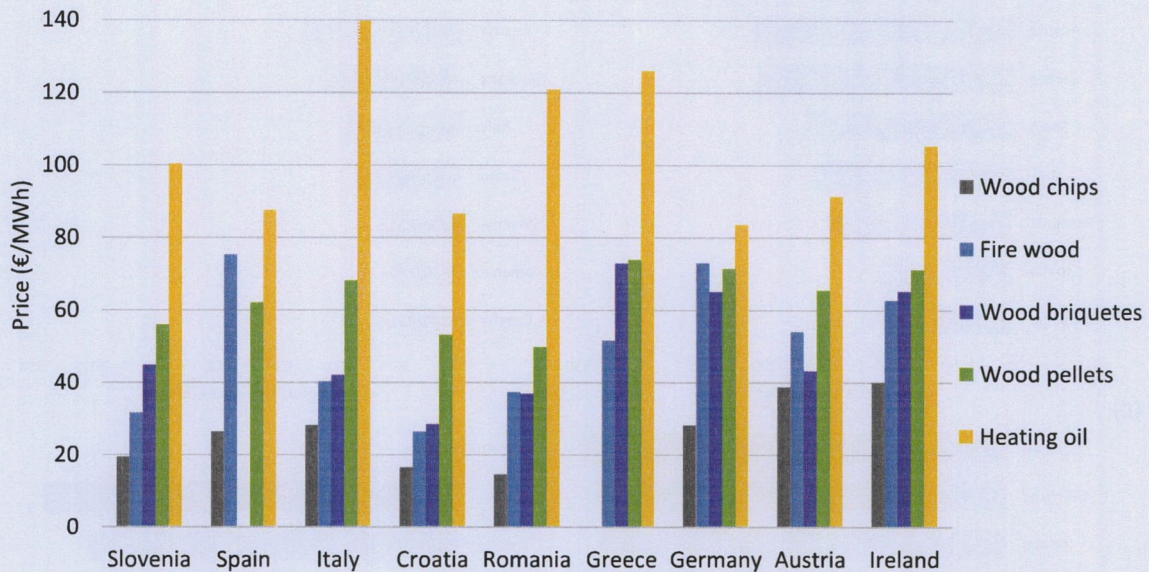


Figure 1: Wood fuel (firewood originating from rondwood, wood chips, pellet and briquette) prices collected by project partners, for the first half of 2014. On the presented chart bars, moisture and type of product are indicated, since data for the same product are not available in each country.

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).



Note: Fire wood - L25-L33, M20; Wood chips: P16 and P31.5, M30; Wood pellets: 15 kg sack per tonne, M10; Wood Briquettes 10 kg sack per tonne, M10

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

In most of the countries the price of pellets in general increased during 2011 and 2014, probably due to increasing demand on the market (Figure 3). The trends of wood chips and firewood differ considerably among countries (Figure 4 and 5). E.g. in Germany and Spain the prices of wood chips decreased between 2011 and 2014 but on the other site the price of firewood increased. Because of the ice storm in February 2014 in Slovenia and Croatia the supply of firewood and wood chips increased, however due to mild winter the demand is decreasing, therefore we expect that the prices of wood chips and firewood will further decrease in the region. The prices of wood briquettes were more or less constant during the period in most of the countries (Figure 6).

Wood pellets

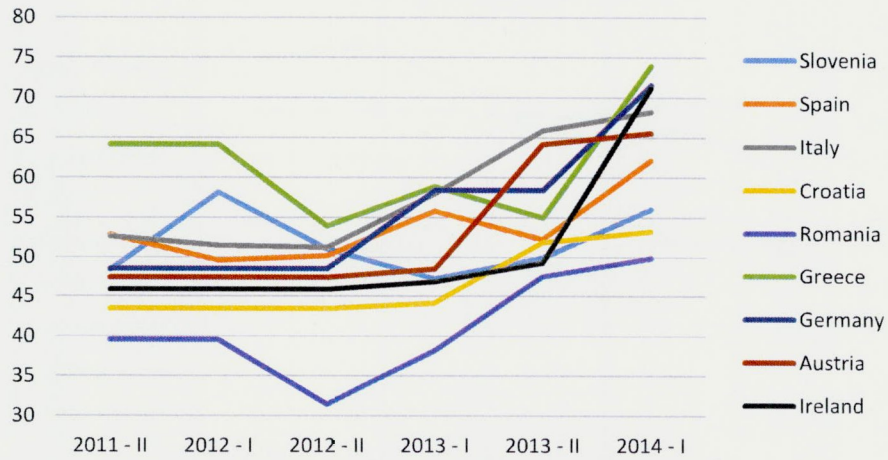


Figure 3: Wood pellet prices (6 mm in 15 kg bags) between 2011 and 2014.

Wood chips

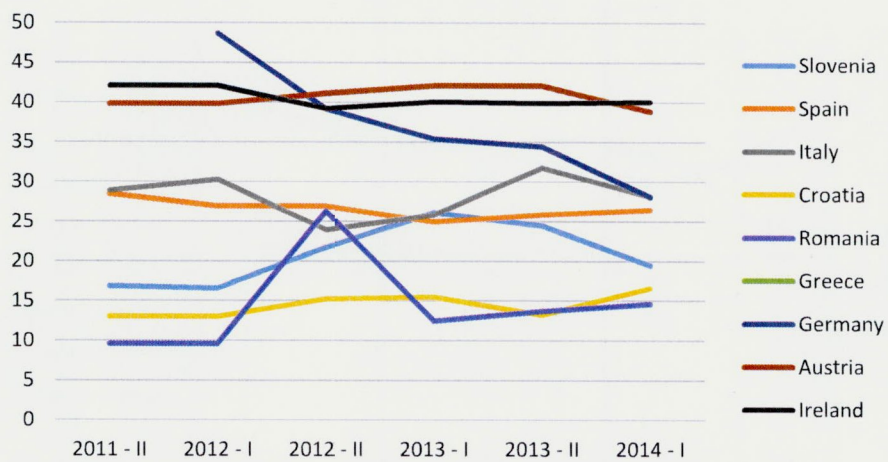


Figure 4: Wood chips prices (M30 and P31,5 or P45) between 2011 and 2014.

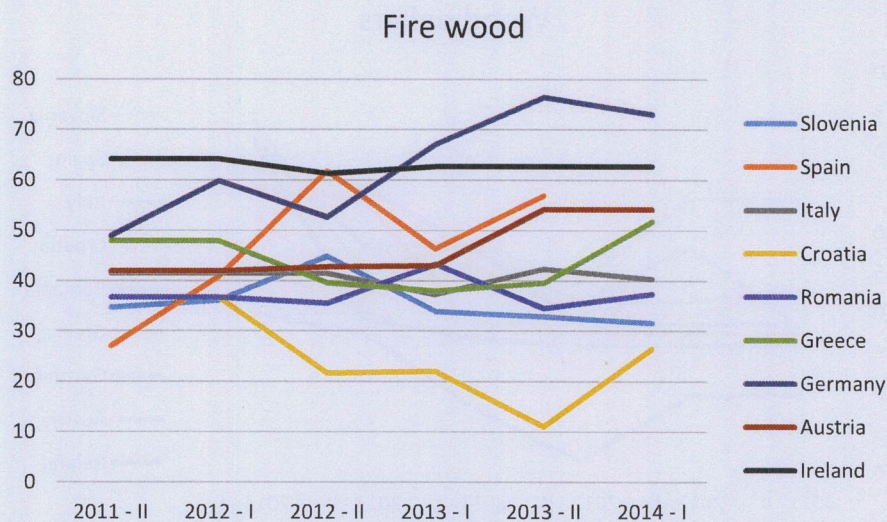


Figure 5: Firewood prices (M20 and L25 or L33) between 2011 and 2014.

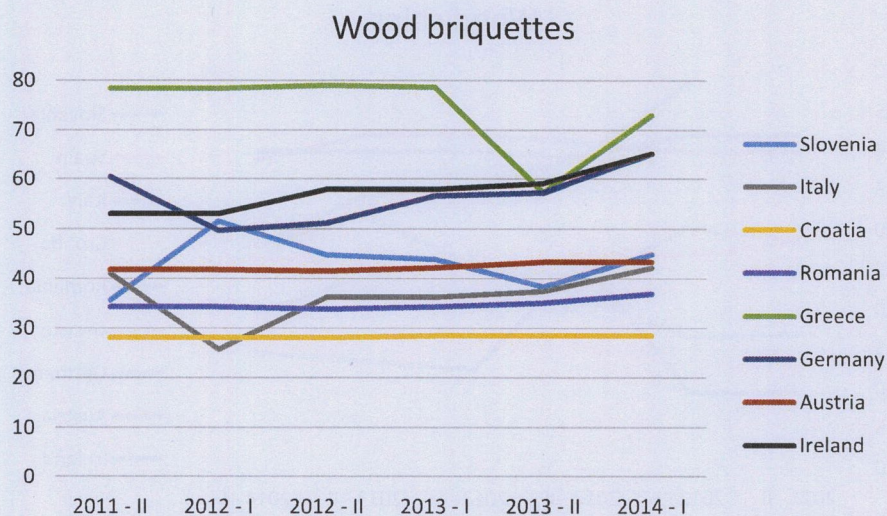
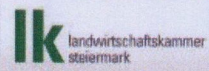
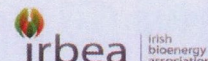
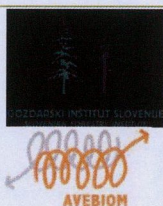


Figure 6: Wood briquettes prices (M10 packed in 10 kg bags) between 2011 and 2014.

For further information about wood fuel prices in participating countries, please contact: dr. Nike Krajnc (project coordinator) nike.krajnc@gozdis.si or dr. Peter Prislan 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:

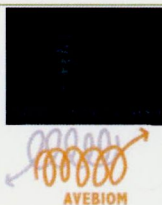
Information from project partners: SFI (SLO), AIEL (I), LkStmk (A), REGEA (CRO), AVEBIOM (ES), CTFC (Catalonia, ES), CRES (GR), ICPE (RO), TUM (D), IrBEA (IRL)

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

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



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