

## MONITORING OF WOOD FUEL PRICES IN SLOVENIA, AUSTRIA, ITALY, CROATIA, ROMANIA, GERMANY, SPAIN (incl. Catalonia) AND IRELAND

### Report No. 4, June 2013

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The BiomassTradeCentrell project ([www.biomassstradecentre2.eu](http://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/](http://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 (loose / 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, ex-work 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/](http://www.biomassstradecentre2.eu/wood-fuel-prices/)). The prices included in the analysis refer to retail at the local level.

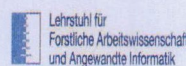
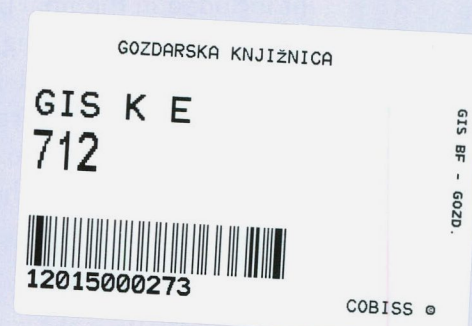
### Prices of wood fuels in selected countries

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

Firewood of 25 to 33 cm length and with 20% moisture content varied considerably among countries; the highest prices were recorded in Germany (267,17 €/t) and Ireland (249,70 €/t). However, two to three times lower prices were found in Croatia (87,50 €/t) and Slovenia (135 €/t), respectively (Figure 1). These large differences can result from different prices of round wood or by different situation at local market. But we have to consider that prices are different also inside the countries and are normally lower at local markets or in the case when logs are directly purchased from forest owner.

Also the prices of wood chips (with 20% or 30 % moisture content and particle size category P45 or P31,5) vary considerably among countries; the lowest prices are in Romania (49,60 €/t) and Croatia (52,50 €/t), the highest in Austria (143 €/t), Germany (137 €/t) and Ireland (136 €/t) (Figure 1). In Greece, production of wood chips is negligible. Compression of wood chips prices can be difficult since they vary according to moisture content (M20, M30, and M50), particle size distribution (P16, P31.5, P45, P63, P100) but also by ordered load size or they are negotiated in long term contracts.

Pellets are the product with lowest price differences among the observed countries; the difference among the lowest and highest price is around 50%. It is important to note that pellet prices differ among quantity classes, but also among sold quantity/packaging. The prices of 6mm (loose) pellets vary between 276,78 €/t in Greece and 179,80 €/t in Romania (Figure 1). Also briquettes have the highest price in Greece (369,56 €/t) and lowest in Croatia (133,75 €/t).



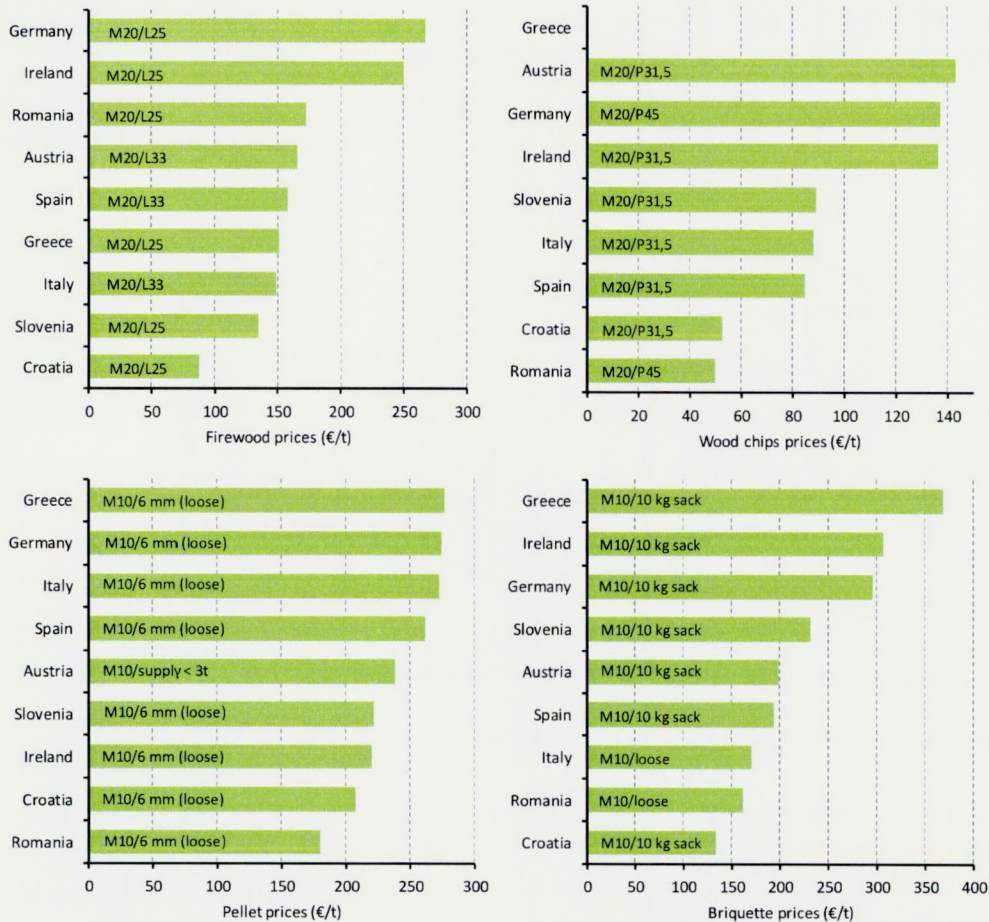
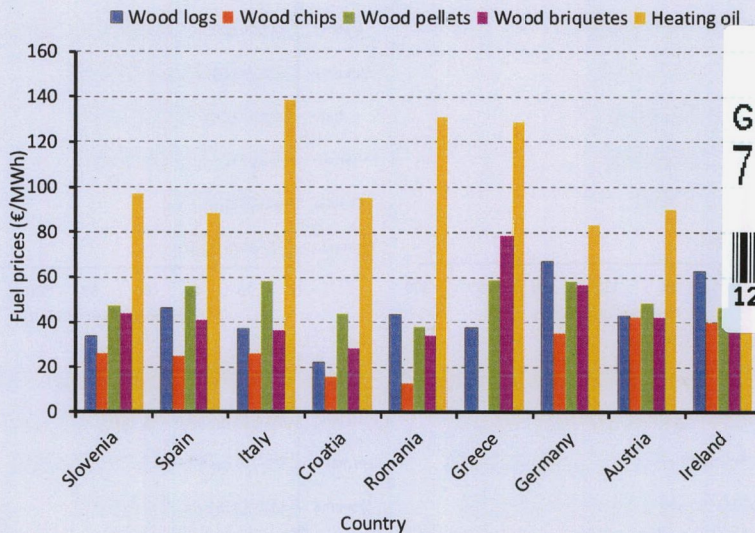


Figure 1: Wood fuel (firewood originating from rondwood, wood chips, pellet and briquette) prices among countries. On the presented chart bars, moisture and type of product are indicated, since data for the same product are not available in each country.

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 comparison to second half of 2012 the prices (€/MWh) in first half of 2013 in general increased; In Spain and Slovenia firewood prices went down for around 25% , but in Germany and Romania the prices rose for 28 and 22 % respectively. The highest increase in wood chips prices was observed in Slovenia (20%) and highest decrease in Romania (53 %).

Pellet prices reduction was observed just in Slovenia (8%), whereas in other countries the prices of pellets increased (e.g. up to 21% in Germany).



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

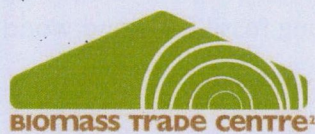
Figure 2: Prices of wood fuels compared to heating oil in €/MWh.

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](mailto:nike.krajnc@gozdis.si) or dr. Peter Pislán [peter.prislan@gozdis.si](mailto: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.biomasstradecentre2.eu](http://www.biomasstradecentre2.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/](http://www.energy.eu/)



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