



BULGARIA	BIOMASS				FOSSIL FUEL		
	Price/t (incl.VAT,excl. transport)	VAT for biomass in %	av. transport costs of biomass/ km	Average energy content MWh/t of biomass ¹	Average energy content MWh/t for fossil fuels (a) natural gas ² (b) heating oil ³ (c) and coal	Price/unit & Price/t (incl. VAT, excl. transport)	Price/t ⁴ (incl. VAT, excl. transport) with the same energy content than 1 ton of the biomass product
Firewood	50.00 – 80.00 €/t	20%	1.00 – 1.50 €/km	2.3 – 4.2 MWh/t	natural gas: 12.7 - 14.1 Mwh/t heating oil: - coal: 7 MWh/t	natural gas: 0.45 €/m ³ or 616.00 €/t ⁵ heating oil: - coal: 100.00 – 150.00 €/t	natural gas: 100.00 – 204.00 €/t heating oil: - coal: 33.00 – 90.00 €/t
Wood chips	45.00 – 100.00 €/t	20%	1.00 – 2.00 €/km	2.0 – 4.2 MWh/t	natural gas: 12.7 - 14.1 Mwh/t heating oil: 11.2 - 11.8 Mwh/t coal: 7 MWh/t	natural gas: 0.45 €/m ³ or 616.00 €/t heating oil: 600.00 €/t coal: 100.00 – 150.00 €/t	natural gas: 87.00 – 204.00 €/t heating oil: 102.00 – 225.00 €/t coal: 29.00 – 90.00 €/t
Wood pellets	175.00 – 220.00 €/t Enplus certified: > 200.00 € non certified: < 200.00 €	20%	1.00 – 1.50 €/km	4.8 MWh/t	natural gas: 12.7 - 14.1 Mwh/t heating oil: - coal: 7 MWh/t	natural gas: 0.45 €/m ³ or 616.00 €/t heating oil: - coal: 100.00 – 150.00 €/t	natural gas: 210.00 – 233.00 €/t heating oil: - coal: 69.00 – 103.00 €/t
Wood briquettes	150.00 – 220.00 €/t	20%	1.00 – 1.50 €/km	4.8 MWh/t	natural gas: 12.7 - 14.1 MWh/t heating oil: - coal: 7 MWh/t	natural gas: 0.45 €/m ³ or 616.00 €/t heating oil: - coal: 100.00 – 150.00 €/t	natural gas: 210.00 – 233.00 €/t heating oil: - coal: 69.00 – 103.00 €/t

* In Bulgaria the transportation costs are in average 10.00 – 15.00 €/ton

¹ Range of MWh/t for firewood, wood chips and charcoal depends on the tree species from coniferous and broad-leaf-trees as well as depending on the moisture content

² Conversion of natural gas unit from kWh/m³ to MWh/t: Upper heating value 10,28 kWh/m³, Lower heating value 9.26 kWh/m³ with a density of 0,731 kg/m³-> 1368m³/t

³ Heating Oil/Mazut: 1111l/t

⁴ Calculate: Price for each fossil counterpart * (min.& max. energy content of biomass / max. & min. energy content of fossil fuel) = price range of fossil fuel with same energy content than 1 ton of respective woody energy product

⁵ Official prices in Bulgaria are given in €/GJ (1MWh = 3.6 GJ)