



BULGARIA	BIOMASS				FOSSIL FUEL		
	Price/t (incl.VAT,excl. transport)	VAT for biomas s in %	av. trans-port costs of biomass/ km	Average energy content MWh/t of biomass <sup>9</sup>	Average energy content MWh/t for fossil fuels (a) Natural gas <sup>10</sup> (b) heating oil <sup>11</sup> (c) and coal	Price/unit & Price/t (incl. VAT, excl. transport)	Price/t <sup>12</sup> (incl. VAT, excl. transport) with the same energy content than 1 ton of the biomass product
Firewood	55.00 – 85.00 €/t	20%	1.00 – 1.50 €/km	2.3 – 4.2 MWh/t	(a) 12.7 - 14.1 Mwh/t (b) – (c) 7 MWh/t	(a) 0.31 €/m <sup>3</sup> or 424.00 €/t <sup>13</sup> (b) – (c) 100-160 €/t	(a) 69.00 – 140.00 €/t (b) – (c) 33.00 – 96.00 €/t
Wood chips	42.00 – 110.00 €/t	20%	1.00 – 2.00 €/km	2.0 – 4.2 MWh/t	(a) 12.7 - 14.1 Mwh/t (b) 11.2 - 11.8 Mwh/t (c) 7 MWh/t	(a) 0.31 €/m <sup>3</sup> or 424.00 €/t (b) 850.00 €/t (c) 100.00 – 160.00 €/t	(a) 60.00 – 140.00 €/t (b) 144.00 – 319.00 €/t (c) 29.00 – 96.00 €/t

<sup>9</sup> 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

<sup>10</sup> Conversion of natural gas unit from kWh/m<sup>3</sup> to MWh/t: Upper heating value 10,28 kWh/m<sup>3</sup>, Lower heating value 9.26 kWh/m<sup>3</sup> with a density of 0,731 kg/m<sup>3</sup>-> 1368m<sup>3</sup>/t

<sup>11</sup> Heating Oil/Mazut: 1111l/t

<sup>12</sup> 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

<sup>13</sup> Official prices in Bulgaria are given in €/GJ (1MWh = 3.6 GJ)



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Wood pellets	170.00 – 230.00 €/t Enplus certified: >200.00 € non certified: <200.00 €	20%	1.00 – 1.50 €/km	4.8 MWh/t	(a) 12.7 - 14.1 MWh/t (b) – (c) 7 MWh/t	(a) 0.31 €/m <sup>3</sup> or 424.00 €/t (b) – (c) 100.00 – 160.00 €/t	(a) 144.00 – 160.00 €/t (b) – (c) 69.00 – 110.00 €/t
Wood briquettes	150.00 – 210.00 €/t	20%	1.00 – 1.50 €/km	4.8 MWh/t	(a) 12.7 - 14.1 MWh/t (b) – (c) 7 MWh/t	(a) 0.31 €/m <sup>3</sup> or 424.00 €/t (b) – (c) 100.00 – 160.00 €/t	(a) 144.00 – 160.00 €/t (b) – (c) 69.00 – 110.00 €/t