

1 Tonne Pellets produces 10 kgs of ash (<1% standard)
1 Litre of ASH weights 2.3kg
1 Tonne of Pellets produces 4.4 litres of Ash

Metric - Heating Values and Cost Comparisons for Various Fuel Types

TYPE OF FUEL	Wood Chips / Grindings				Softwood (kiln dried) (13% WC)	Hardwood (kiln dried) (8% WC)	Wood Pellets (5-7% WC)	Firewood (Douglas Fir) (20% WC)	Electricity	Natural Gas	Natural Gas	Fuel Oil			Bituminous Coal	Switchgrass (Overdried)
	Green (50% WC)	Semidried (30% WC)	Air-dried (20% WC)	Dimensional Lumber (10% WC)								Red Diesel #2	Diesel / Oil#6	Propane		
Gross Heating Value	2,500	3,499	3,957	4,650	4,361	4,490	4,907	6,155	1.000	1.000	11.020	10.743	11.840	7.100	9,886	5,007
	kWh/tonne	kWh/tonne	kWh/tonne	kWh/tonne	kWh/tonne	kWh/tonne	kWh/tonne	(kWh/Cord)	kWh	GJ	kWh/M3	kWh/L	kWh/L	kWh/L	kWh/tonne	kWh/tonne
Efficiency	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Net Heating Value	2,500	3,499	3,957	4,650	4,361	4,490	4,907	6,155	1.000	1.000	11.020	10.743	11.840	7.100	9,885.500	5,007.361
	kWh/tonne	kWh/tonne	kWh/tonne	kWh/tonne	kWh/tonne	kWh/tonne	kWh/tonne	(kWh/Cord)	kWh	GJ	kWh/M3	kWh/L	kWh/L	kWh/L	kWh/tonne	kWh/tonne
\$ per kWh	\$ per tonne	\$ per tonne	\$ per tonne	\$ per tonne	\$ per tonne	\$ per tonne	\$ per tonne	\$ per Cord	\$ per kWh	\$ per GJ	\$ per cu/metre	\$ per L	\$ per L	\$ per L	\$ per tonne	\$ per tonne
0.0100	25.00	34.99	39.57	46.50	43.61	44.90	49.07	61.55	0.0100	2.780	0.110	0.1074	0.1184	0.07	98.86	50.07
0.0125	31.26	43.73	49.47	58.13	54.52	56.13	61.34	76.93	0.0125	3.475	0.138	0.1343	0.1480	0.089	123.57	62.59
0.0150	37.51	52.48	59.36	69.75	65.42	67.36	73.61	92.32	0.0150	4.170	0.165	0.1611	0.1776	0.107	148.28	75.11
0.0200	50.01	69.97	79.15	93.00	87.23	89.81	98.14	123.09	0.0200	5.560	0.220	0.2149	0.2368	0.142	197.71	100.15
0.0225	56.26	78.72	89.04	104.63	98.13	101.04	110.41	138.48	0.0225	6.255	0.248	0.2417	0.2664	0.160	222.42	112.67
0.0250	62.51	87.47	98.94	116.25	109.03	112.26	122.68	153.87	0.0250	6.950	0.276	0.2686	0.2960	0.178	247.14	125.18
0.0275	68.76	96.21	108.83	127.88	119.93	123.49	134.95	169.26	0.0275	7.645	0.303	0.2954	0.3256	0.195	271.85	137.70
0.0300	75.01	104.96	118.72	139.50	130.84	134.71	147.22	184.64	0.0300	8.340	0.331	0.3223	0.3552	0.213	296.57	150.22
0.0350	87.52	122.45	138.51	162.75	152.64	157.17	171.75	215.42	0.0350	9.730	0.386	0.3760	0.4144	0.249	345.99	175.26
0.0400	100.02	139.95	158.30	186.00	174.45	179.62	196.29	246.19	0.0400	11.120	0.441	0.4297	0.4736	0.284	395.42	200.29
0.0450	112.52	157.44	178.08	209.25	196.26	202.07	220.82	276.96	0.0450	12.510	0.496	0.4834	0.5328	0.320	444.85	225.33
0.0500	125.02	174.93	197.87	232.50	218.06	224.52	245.36	307.74	0.0500	13.900	0.551	0.5372	0.5920	0.355	494.28	250.37
0.0550	137.52	192.43	217.66	255.75	239.87	246.98	269.90	338.51	0.0550	15.290	0.606	0.5909	0.6512	0.391	543.70	275.40
0.0600	150.03	209.92	237.45	279.00	261.68	269.43	294.43	369.28	0.0600	16.680	0.661	0.6446	0.7104	0.426	593.13	300.44
0.0627	156.78	219.37	248.13	291.56	273.45	281.55	307.68	385.90	0.0627	17.431	0.691	0.6736	0.7424	0.445	619.82	313.96
0.0650	162.53	227.41	257.23	302.25	283.48	291.88	318.97	400.06	0.0650	18.070	0.716	0.6983	0.7696	0.462	642.56	325.48
0.0680	170.03	237.91	269.11	316.20	296.57	305.35	333.69	418.52	0.0680	18.904	0.749	0.7305	0.8051	0.483	672.21	340.50
0.0700	175.03	244.91	277.02	325.50	305.29	314.33	343.50	430.83	0.0700	19.460	0.771	0.7520	0.8288	0.497	691.99	350.52
0.0750	187.53	262.40	296.81	348.75	327.09	336.79	368.04	461.61	0.0750	20.850	0.827	0.8057	0.8880	0.533	741.41	375.55
0.0800	200.04	279.90	316.59	372.00	348.90	359.24	392.58	492.38	0.0800	22.240	0.882	0.8594	0.9472	0.568	790.84	400.59
0.0850	212.54	297.39	336.38	395.25	370.71	381.69	417.11	523.15	0.0850	23.630	0.937	0.9132	1.0064	0.604	840.27	425.63
0.0878	219.54	307.19	347.46	408.27	382.92	394.26	430.85	540.39	0.0878	24.408	0.968	0.9432	1.0396	0.623	867.95	439.65
0.0900	225.04	314.88	356.17	418.50	392.51	404.14	441.65	553.93	0.0900	25.020	0.992	0.9669	1.0656	0.639	889.70	450.66
0.1000	250.05	349.87	395.74	465.00	436.13	449.05	490.72	615.47	0.1000	27.800	1.102	1.0743	1.1840	0.710	988.55	500.74
0.1019	254.80	356.52	403.26	473.84	444.41	457.58	500.05	627.17	0.1019	28.328	1.123	1.0947	1.2065	0.723	1007.33	510.25
0.1100	275.05	384.86	435.32	511.50	479.74	493.95	539.79	677.02	0.1100	30.580	1.212	1.1817	1.3024	0.781	1087.41	550.81
0.1200	300.05	419.84	474.89	558.00	523.35	538.86	588.87	738.57	0.1200	33.360	1.322	1.2892	1.4208	0.852	1186.26	600.88
0.1300	325.06	454.83	514.47	604.50	566.96	583.76	637.94	800.12	0.1300	36.140	1.433	1.3966	1.5392	0.923	1285.12	650.96
0.1400	350.06	489.82	554.04	651.00	610.58	628.67	687.01	861.66	0.1400	38.920	1.543	1.5040	1.6576	0.994	1383.97	701.03

*Source information compiled by Fink Machine Inc. with template fi