

Wood Pelleting Status



Wood pellets – the fuel of the future



Areas of wood pelleting

- Industrial pellets

- low quality pellets
- low focus on quality
- binders only used exceptional (raw material depending)
- no sulfur limitation



- Standard Pellets

- according to standardized methods
- DIN Plus standard DIN 51731
- ÖNORM standard M 7135
- limitations of sulphur, dust, ash and others
- DIN Plus and ÖNORM will from the new EU standard within the next 2 years (prEN 14961-2, ENplus)



- Wood Pellets:

- outside industrial pellets
- countries where standardized pellets are not yet of interest



In which areas can Lignin be used

- Industrial pellets (non quality)
 - normally no interest for a binder
 - but exceptional if pellet quality is really bad
- Standard pellets:
 - an area which is controlled on quality, (good pellet needed)
 - as sulphur is limited Lignobond DD can max. be used at 1% dosage
 - Lignin is not yet classified in the DINPlus and ÖNORM
 - (work is ongoing to place Lignin into these standards)
 - currently only natural starch is used in the standards
 - pellet hardness tested with Lignotesters (Tekpro – BLT)
- all quality wood pellets
 - where standardized methods are out of interest



Which types of Lignins are used

- Lignobond DD
 - max dosage of 1% in standardized areas
 - up to 2,5% for non standardized pellets
- Xtreme 25:
 - low inclusion binder
 - reduces the amount of total sulphur in the pellets
 - or could further improve the binding properties
 - 0,5-1% in standard pellets
- Pelltech 1, Pelltech 2
 - for pellets which are difficult to press in terms of energy
 - reduces the total energy consumption
 - improves the pelleting process
 - often used in combination with natural starch



Raw materials for WP

- sawdust
- plane chips
- forest wood
- recycled wood
- chemical untreated wood from the wood industry
- chemical untreated old wood



Standardized pellets

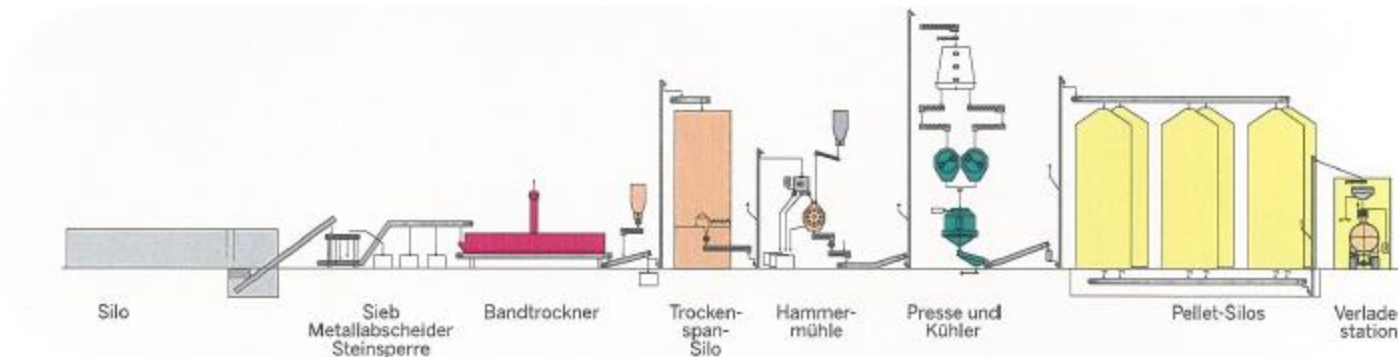
Standard	Pellets	ÖNORM	DIN51731	DINplus
diameter	mm	4-10	4-10	
length	mm	5 x D1	< 50 mm	5 x D1
raw density	kg/dm ³	< 1,12	1 < density <1,4	< 1,12
water content	%	< 10	< 12	< 10
ash	%	< 0,5	< 1,5	< 0,5
heat value	MJ/kg	➤18	17,5<HW<19,5	➤18
sulphur	%	< 0,04	< 0,08	< 0,04
nitrogen	%	< 0,3	< 0,3	< 0,3
chlorine	%	< 0,02	< 0,03	< 0,02
abrasion	%	< 2,3	-	< 2,3
pelleting aid	%	< 2	(no limit)	< 2



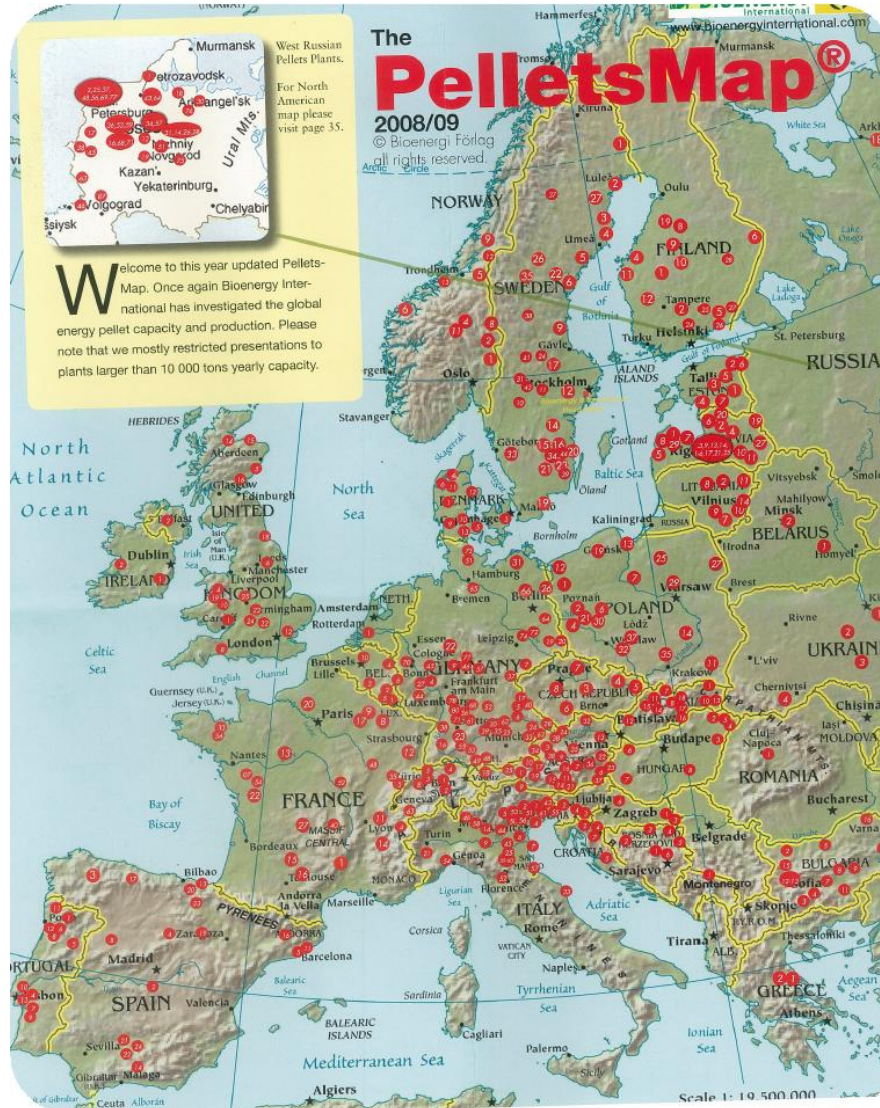
- customers can be found under:
- Feed Technology
 - under PPE (Pelleting performance enhancers)
 - non feed



The production process



Wood peletting within Europe



Wood pelleting producing companies

C-L



10	Shaw Resources, Mutsaersnaam	70 000	-
11	EnLigna, Mutsaersnaam	120 000	120 000
12	Luzon Rec. Wood Energy, Papeeteville	20 000	-
13	Luzon Recycled Wood Energy, St Paulin	25 000	-
14	Pinnacle Pellet, William's Lake BC	150 000	-
15	WestWood Fibre, Westbank BC	50 000	-
16	Pinnacle/Cantor, Houston Pellet, BC	130 000	-
17	FootHills, Grande Cashe	25 000	-
18	La Crete Premium Pellets, La Crete	75 000	-
20	Pellets, Ear Falls	15 000	-
22	Timber Creek, Ingersol	50 000	-
24	I.G Gramale, St Felicien	50 000	-
25	EcoFlame, Kipawa	30 000	-
26	Amos, PQ	50 000	-
28	Marwood, Fredericton	10 000	-
31	Pinnacle Pellet, Meadow Bank	275 000	0
33	Shaw Resources, Belledune	75 000	-
CHILE			
CP01	Anales BioPellets, Los Angeles	-	-
CP02	EcoPellets, Noviciado	-	-
CROATIA			
CP01	Spacva, Vinkovci	50 000	-
CP02	Finvest, Cabar	20 000	-
CP03	Pellets, Zagabria	40 000	-
CP04	Energy Pellets, Delnice	30 000	-
CP05	Visevica Komp, Perusic	25 000	-
CP06	Adriadrivo, Gradec	10 000	-
CP07	Drvenjaca, Fazine	7 300	-
CZECH REPUBLIC			
CP03	Favirnet, Zdice	5 000	-
CP04	Jesnik Biofuels, Opava	6 000	-
CP06	Braznice u Pisku, Pisek	4 000	-
CP07	Chodova planá, Tachov	6 000	-
CP08	Chasovice, Horovice	7 000	-
CP05	Leitinger, Paskov	100 000	65 000

DEP71	Unormeno Pellets, Florzheim	10 000	10 000
DEP72	EnLigna, Torgau	120 000	-
DEP73	Eko Holz und Pellethandel, Neumünster	-	-
DEP74	Woodox, Leipzig-Wiederitzsch	-	-
DEP77	Baust Holzbetriebs, Eslohe	20 000	15 000
DEP78	Momheimer Holzwerk, Graselnbach	10 000	-
DEP80	BK Bioenergie Brennstoffwerk Kehl, Heidelberg	50 000	-
DEP19	Neue Energie Gesellschaft, Grossenhain	30 000	-
DEP22	PowerPellets Vertrieb, Eslohe	15 000	15 000
GREECE			
GRP01	Bioenergy Hellas, Larisa	10 000	8 000
GRP2	Sakkas, Karditsa	20 000	-
HUNGARY			
HUP02	Beregi Zöldvonal 1, Olaszliska	20 000	-
HUP03	Beregi Zöldvonal 2, Nyírlugos	33 000	-
HUP04	Nyir-Pellet, Nyírbony	33 000	-
HUP05	Nyírségi Energetikai, Nagyhalász	50 000	-
HUP06	Corvinus Energetikai, Szombathely	30 000	-
HUP07	Fannon Pellet Kft, Belezna	10 000	10 000
HUP08	Agritrade Srl	100 000	-
IRELAND			
RIP01	D Pellet Ltd, Kilkenny	70 000	15 000
RIP02	Irish Woodpellets Ltd, Galway	2500	-
ITALY			
ITP01	Sitta, San Giovanni al Natosone	30 000	25 000
ITP02	Biocalor, Romans d'Isongo, Friuli Venezia Giulia	20 000	15 000
ITP04	Segitfrml, Perono, Friuli Venezia Giulia	-	15 000
ITP05	PST la Pademontana di Pizzato Pierantoni, Veneto	-	10 000
ITP06	La Tesser, S Michele de Piave di Cimadolmo, Veneto	40 000	30 000
ITP07	Il Truciolo, Canda, Veneto	25 000	CLOSED
ITP14	Ardeco, Casal Maggiore	-	-
ITP17	C&B Calor, Limbiate	-	>15 000
ITP19	Do Carlo, Verdeno Inferiore, Lombardia	25 000	20 000

DKP06	Braznice u Pisku, Pisek	4 000	-
CZP07	Chodova planá, Tachov	6 000	-
CZP08	Chasovice, Horovice	7 000	-
CZP05	Leitinger, Paskov	100 000	65 000
DENMARK			
DKP01	Vapo AS, Vildbjerg	90 000	60 000
DKP03	Vattenfall (Dong), Køge	150 000	80 000
DKP04	Bodilsen Traepillefabrikken, Nykøbing	20 000	-
DKP05	Skandinavisik BioBrændsel Ind., Assens	20 000	-
DKP06	DLG Service, Års	60 000	-
DKP09	Dansk Træemballage, Ribe	40 000	-
DKP10	Din-Traepiller, Vamdrup	20 000	-
DKP11	Genfa Traepiller, Vinderup	18 000	-
DKP12	Steens BioBrændsel, Kjellerup	40 000	-
DKP13	Rodekro Biofabrik A/S	30 000	30 000
ESTONIA			
EEP01	Hansa Graanul, Parkula	110 000	CLOSED
EEP02	AS Flex Hear, Rakvere	105 000	91 000
EEP03	Graanul Invest/Delcotec, Paide	40 000	-
EEP04	Vapo Oy, Toosti Turvas, Pärnu	15 000	CLOSED
EEP05	Graanul Invest, Paide	105 000	-
EEP06	Graanul Invest, AS Pellets, Rakvere	10 000	-
EEP07	Graanul Invest, Parkula	100 000	-
FINLAND			
FIP01	Parkanon Pellets, Parkano	25 000	-
FIP02	Vapo Oy, Turengin Pelletitehdas, Turenki	70 000	-
FIP04	Vapo Oy, Kaskinen, Syväsaatanantie	45 000	-
FIP03	Vapo, Haaminan Pannujalostus Oy	CLOSED	0
FIP06	Vapo Oy, Ilomantsin, Savotantie	70 000	-
FIP08	Vapo Oy, Kärsämäki	40 000	-
FIP09	Vapo Oy, Haukisevan, Peräsemmijoki	60 000	-
FIP10	Paahotopu Oy, Korkeakoski	25 000	-
FIP11	Vapo Oy, Ylistaro, Kylänpää	40 000	-
FIP12	Nordic Pellets, Soini	40 000	20 000
FIP19	Vapo Oy, Haapavesi	65 000	-
FIP24	Vapo Oy, Vilppula	100 000	-
FIP25	Versowood Oy, Vierumäki	60 000	30 000
FIP26	Paahotopu Oy (Versowood), Paahotopu	20 000	10 000
FIP27	L&T Biowatti, Laumäki	20 000	400
FIP28	L&T Biowatti, Suonenjoki	30 000	-
FRANCE			
FRP01	Cogra, Meide	16 000	16 000
FRP04	Savoie Pan, Tourmon	30 000	25 000

madolmo, Veneto			
ITP07	Il Truciolo, Canda, Veneto	25 000	CLOSED
ITP14	Ardeco, Casal Maggiore	-	-
ITP17	C&B Calor, Limbiate	-	>15 000
ITP19	Do Carlo, Verdeno Inferiore, Lombardia	25 000	20 000
ITP21	Savoie Pan, Ligna Tech Italia, Pinerolo, Piemonte	-	-
ITP33	Rossikol, Sambuceto	30 000	-
ITP43	Friul Pellet, Captiva del Friuli, Friuli Venezia Giulia	40 000	10 000
ITP44	BINI Fernando, Cremona, Lombardia	-	>15 000
ITP45	Braga, Casal Maggiore, Lombardia	25 000	-
ITP46	Vicari Trading, Como, Lombardia	-	>15 000
ITP50	Produttori Sementi Verona, Caldiero, Veneto	25 000	10 000
ITP51	Priant, Vazzola, Veneto	15 000	12 000
ITP52	Elle-Bi, Cereseto Gudi	30 000	-
ITP54	Mallarini, Liguria	-	10 000
ITP55	Pe.Pe., Azzana Decimo	30 000	10 000
ITP56	Bordignon Giuseppe, Selva del Montello, Veneto	15 000	-
ITP57	Eurocom, Marche	>15 000	7 500
ITP58	Geminati, Lombardia	-	15 000
ITP59	Imola Legno, Emilia Romagna	>15 000	5 000
ITP60	Italtruciolo, Emilia Romagna	30 000	25 000
ITP61	Melinka Italia, Veneto	-	15 000
ITP62	Pedemontana Legnami, Vazzola, Veneto	-	15 000
ITP53	Energy Pellets, Riese Pio X	30 000	-
JAPAN			
JPP01	Meiken	15 000	-
JPP02	Forest Energy (Mitsubishi), Hita	25 000	-
JPP03	Forest Energy (Mitsubishi), Kadokawa	25 000	-
LATVIA			
LVP01	Lantmännen Agroenergi, Talsi	90 000	47 000
LVP02	BBG, Zengales Granulas, Lecava	25 000	CLOSED
LVP03	Latgranula/locakalna, Riga	24 000	-
LVP04	CED, Karrinkains, Cesu	12 000	-
LVP05	Eastern Biofuels, Sia Marama, Liepaja	48 000	0
LVP06	BBG, Gaujas Granulas, Riga	84 000	CLOSED
LVP07	BBG, Vidzemes Granulas, Cesvaine	12 000	CLOSED
LVP08	Kurzemes Granulas, Ventspils	42 000	-
LVP09	Graanul Invest, Laumkaise	120 000	60 000
LVP10	Latgran, Jumelgava	75 000	-
LVP11	Latgran, Jekabpils	110 000	-
LVP13	Nordic Bioenergy, Riga	15 000	CLOSED



Wood pelleting producing companies

S-U



Agri Pellets, Nischni, Kalin Republic	11 000	10 000
Euro Techno Pellemaks, Volgoda	70 000	10 000
Topgran, Galich, Kostroma Region	10 000	-
Ecoles	25 000	20 000
Ecopel, Kirovsk, Leningrad Region	60 000	-
Ecoenergy, Pskov Region	60 000	-
Biomag Ecotechnology, Petrozavodsk, Karelia Republic	10 000	10 000
Veek, Pskov Region	10 000	-
Grinlat, Rostov-na-Donu	100 000	100 000
Enisey, Krasnoyarsky Region	40 000	25 000
Kruglov CP, Nizny Novgorod	10 000	-
KosmoEnterprise, Irkutsk	10 000	-
Lesnye Technology, Tver Region	10 000	-
Plussky, Leningrad Region	10 000	6 000
Reley, Kostroma Region	10 000	-
Stod, Tver Region	50 000	25 000
EMC Dnepr, Smolensk	140 000	-
Biogran, Karelia	12 500	-
Granula, Moscow Region	20 000	2 000
Green Power, Leningrad Region	20 000	20 000
DOK N°5, Moscow Region	30 000	25 000
Ruskhimprom, Perm Region	20 000	6 000
VEEK+Salotti, Lodeinje Pole	20 000	-
VEEK+Salotti, Lomonosov	10 000	5 000
DOK Salon Parketa, Bryansk	10 000	10 000
SERBIA		
Bio Energy Point, Boljevac	35 000	-
Bio-therm, Vuckovica	18 000	8 000
Vsotech, Novi Sad	12 000	-
Zelena Drina, Bajina Basta Closed	23 000	10 000
O3, Bajina Basta	10 000	-
Briko, Nova Varos	11 000	-
Forest Enterprise	31 000	-
Cvijanovic & Compo	15 000	-
SLOVAKIA		
Drevomax, Rajecke Teplo	5000	4200
Biomasa, Kysucky Lieskovec	12 000	9 800
Amico Drevo, Oravsk Podzámok	10 000	-
BIMPEX, Ltd. Pre ov	10 000	-
Ekosolar, Ltd, Pie any	-	-
P.E.A. Lozorno	-	-

USP07	Great Lakes Renewable Energy, Hayward-Rice Lake, Wisconsin	-	-
USP08	Corinth Wood Pellets, Corinth	-	-
USP09	Allegheny Pellet, Youngville, PA	-	-
USP10	Associated Harvest, Lafargeville, NY	-	-
USP11	Bald Eagle Pellet, Tyrone, PA	-	-
USP12	Barfoot Pellet Company, Troy, PA	-	-
USP13	Dry Creek Products, Arcade, NY	-	-
USP14	Emerex Pellet Fuel, Mifflintown, PA	50 000	-
USP16	Greene Team Pellet Fuel, Garards Fort PA	-	-
USP17	Hamer Pellet Fuel, Kenova, WV	-	-
USP18	Hassell & Hughes Lumber Company, Collinswood, TN	-	-
USP20	Lignetics of West Virginia, Glenville WV	-	-
USP26	PA Pellets, Ulysses PA	36 000	30 000
USP28	Penn Wood Products, East Berlin PA	-	-
USP29	Potomac Supply Corporation, Kinsale VA	-	-
USP31	Turman Hardwood Flooring, Galax VA	-	-
USP32	Wood Pellets Co., Summerhill PA	-	-
USP34	Anderson Hardwood Pellets, Louisville KY	35 000	-
USP35	Barnes Brothers Hardwood Flooring, Hamburg AR	-	-
USP36	CKS Energy, Amory MS	-	-
USP38	Fiber Resources, Pine Bluff AR	-	-
USP39	FutureFuel Chemical Company, Batesville AR	-	-
USP40	Hassell & Hughes Lumber, Collinswood TN	-	-
USP41	Nature's Earth Pellet, Reform AL	-	-
USP43	Rock Wood Products, The Rock GA	8 000	-
USP44	Somerset Hardwood Flooring, Somerset KY	-	-
USP45	Southern Kentucky Hardwood Flooring, Gamaliel KY	-	-
USP48	Wybush Wood Products, Harrison AR	-	-
USP49	American Wood Fibers, Circleville OH	-	-
USP50	Bay Lakes Companies, Oconto Falls WI	-	-
USP51	Bert & Wetta Sales, Larned KS	-	-
USP52	Christopher Lumber Company, Crockett TX	-	-
USP53	Dejno's Inc, Kenosha WI	-	-
USP54	Elkhorn Industries, Superior WI	-	-
USP55	Fiber By-Products, White Pigeon MI	-	-
USP56	Good Times Wood Products, Rusik TX	-	-
USP57	Heartland Pellets / Pope & Talbot Inc, Spearfish SD	-	-

USP08	Cvijanovic & Compo	15 000	-
SLOVAKIA			
SKP01	Drevomax, Rajecke Teplo	5000	4200
SKP07	Biomasa, Kysucky Lieskovec	12 000	9 800
SKP08	Amico Drevo, Oravsk Podzámok	10 000	-
SKP10	BIMPEX, Ltd. Pre ov	10 000	-
SKP11	Ekosolar, Ltd, Pie any	-	-
SKP12	P.E.A. Lozorno	-	-
SKP13	Ecodrim, Košice	10 000	-
SKP14	Helioplast, HeliPeleta, Ludanice	8 000	-
SKP15	Italia Design, Trencin	12 000	-
SKP16	Jugi, Poltar	8000	-
SKP17	KT Service, Banska Bystrica	15 000	-
SKP18	MT Pellet, Záva ná Pucubá	6 000	-
SLOVENIA			
SIP02	Profiles, Hrusevje	15 000	-
SIP03	PE Enerles, Postojna	50 000	48 000
SIP04	M.A.D.J., Cerknica	24 000	-
SOUTH AFRICA			
SAP05	Zebra Pellets (GF Energy), Sabie	80 000	-
SAP06	Biotech Fuels, Howick	65 000	-
SOUTH KOREA			
KRP01	Drying Engineering, Kusan	300	300
KRP02	Drying Engineering, Gusan-Si	14 000	-
KRP03	Natural Forest Coop Fed., Yyoju-Gun	constr.	0
KRP04	SK, Hwasan-Gun	constr.	0
SPAIN			
ESP01	Ecoforest, Toledo	-	40 000
ESP02	Caryse, Villaseca de la Sagra	150 000	-
ESP03	Ecowarm de Galicia, A Coruna	25 000	12 500
ESP04	Ribsa, Burgos	60 000	20 000
ESP05	Rebrot i Paistatge, Barcelona	25 000	5 000
ESP08	Tresmasa, Salamanca	constr.	0
ESP09	Empasa, Navarra	-	30 000
ESP11	Grans del Lluçanès, Sant Martí d'Albars	9 600	1 500
ESP13	Enerpellet, Mixolka	25 000	15 000
ESP14	Energia Oriental 1, Granada	20 000	-
ESP16	Natural 21 / Farpla, Lleida	70 000	10 000
ESP17	Pellets Asturias, Asturias	constr.	0
ESP19	Rebi, Soria	25 000	constr.
ESP20	Enerpellet, Vittoria, Basque Country	15 000	0
ESP21	Enerpellet, Cordoba	15 000	-
ESP22	Reciclaños Lucena, Lucena	30 000	5 000
ESP23	Biogar, Legunso-Alava	15 000	1 000
ESP24	Bionem Agroforestal, Cordoba	25 000	2 000

USP51	Bert & Wetta Sales, Larned KS	-	-
USP52	Christopher Lumber Company, Crockett TX	-	-
USP53	Dejno's Inc, Kenosha WI	-	-
USP54	Elkhorn Industries, Superior WI	-	-
USP55	Fiber By-Products, White Pigeon MI	-	-
USP56	Good Times Wood Products, Rusik TX	-	-
USP57	Heartland Pellets / Pope & Talbot Inc, Spearfish SD	-	-
USP58	Koetter and Smith, Borden IN	-	-
USP59	Maeder Brothers Quality Wood Pellets, Westman MI	-	-
USP60	Marb Wood Shaving Supply, Marathon WI	-	-
USP61	Michigan Wood Pellet Fuel, Holland MI	-	-
USP62	Michigan Wood Pellet, Grayling MI	-	-
USP64	Northcut Woodworks, Crockett TX	-	-
USP66	Ozak Hardwood Products, Seymour MO	-	-
USP67	Patterson Wood Products, Nacogdoches TX	-	-
USP68	Pennington Seed Inc, Greenfield MO	-	-
USP69	Pike Pellets, Griggsville IL	-	-
USP71	Vulcan Wood Products, Kingsford MI	-	-
USP73	Bear Mountain Forest Products, Cascade Locks OR	-	-
USP74	CNZ Corporation, Sheridan WY	-	-
USP75	Enchantment Biomass Products, Rudoso Downs NM	-	-
USP76	Eureka Pellet Mills, Missoula MT	-	-
USP77	Forest Energy, Show Low AZ	-	-
USP78	Lignetics, Sandpoint ID	-	-
USP79	Southwest Forest Prod., Phoenix AZ	-	-
USP80	Sunizona Greenhouses, Wilcox AZ	-	-
USP81	West Oregon Wood Products, Columbia City, OR	50 000	-
USP83	West Oregon Wood Products, Banks OR	50 000	-
USP84	Bear Mountain Forest Products, Brownsville OR	-	-
USP85	Bayou Pellets, Louisiana	75 000	-
USP86	Maine Wood Pellets, Athens ME	-	-
USP87	Bayou Wood Pellets, West Monroe LA	-	-
USP88	Piney Woods Pellets, Wiggins MS	-	-
USP89	Badgerland Pellets, Plymouth WI	-	-
USP90	Great Lakes Renewable Energy, Hayward	-	-
USP91	Pallets & Crates International, El Paso TX	-	-
USP92	SunRise Agra Fuels Development, Bird Island MN	-	-
USP93	Spur Mountain Timber, Bountiful UT	-	-
USP94	Briar Creek, Sylvania GA	15 000	-
USP95	Confluence Energy, Kremmling CO	-	-

Some companies in WP

 www.fisker.as	 www.cogra.fr	 www.pkt.it	 www.pellets-mandi.be	 www.helsingepellets.se
 www.muench-gubbl.net	 www.tsi-ibc.net	 www.latgran.com	 www.laxapellets.se	 www.ptn.nl
 www.turboden.it	 www.gratenau.com	 www.bionorr.com	 www.windhager.com	 www.booforsjo.com
 www.sre.se	 www.buhlergroup.com	 www.sp-e.de	 www.gmepellets.se	 www.mhgsystems.com
 www.storaenso.com/pellets	 www.piazzetta.it	 www.gee-energy.com	 www.biodest.com	 www.vadep.com
 www.stela.de	 www.rebrot-paisatge.com	 www.salmatec.com	 www.vapo.fi	 www.renewablefuels.co.uk
 www.agrobransle.se	 www.Outdoorboilersofeurope.eu	 www.poyry.com	 www.cpin europe.nl	 www.sodra.com
 www.graanulinvest.com	 www.andritz.com	 www.lamec-pellets.com	 www.dalapellets.se	 www.bioenergyinternational.com

