

EUROOPAN BIOJALOSTAMOT

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Tiivistelmä




1. Hankkeen nimi: Euroopan biojalostamot Biostamonex European Biorefineries
1. Hankkeen aikataulu: 2019
2. Hankkeen tilaaja(t) ja toteuttajat: henkilöt ja organisaatiot.: Tilaaja: Heinolan kaupunki.
Toteuttaja: Macon Oy: Mikko Ahokas
3. Hankkeen kohde: Selvitettiin ja listattiin Euroopan biojalostamot sekä niiden käyttämät raaka-aineet ja lopputuotteet
4. Miksi (elinvoima ja ”veronmaksaja”): Biotehtaan toteuttaminen Heinolaan töisi uusia kestävän kehityksen mukaisia työpaikkoja. Biotehtaan kannattavuutta selvitettiin kartoittamalla eurooppalaisia biojalostamoja sekä niiden tuotantoa ja käyttämiä raaka-aineita.
5. Mitä tutkittiin/selvitettiin
 - Selvitettiin eurooppalaiset biojalostamot ja niiden käyttämät raaka-aineet sekä lopputuotteet
6. Tavoite:
 - Listatata kattavasti eurooppalaiset biojalostamot sekä niiden käyttämät raaka-aineet että lopputuotteet, jotta alueelle ja mahdollisille investoijille tulisi käsitys mahdollista kilpailijoista, yhteistyökumppaneista sekä markkinapotentiaalista.
7. Hankkeen tulos/tuotos
 - Euroopasta tunnistettiin 150 erilaista biojalostamoja. Ne vaihtelivat bioetanolilaitoksista sellutehtaisiin. Eniten tunnistettuja laitoksia oli Saksassa, Ranskassa ja Suomessa.




Name of Production	Location	Production	Homepage	Contact information	
Hallein Mill (Austrocel Hallein GmbH)	Austria (15 km from Salzburg)	Commercial. Raw material: spruce (long fiber) Products: pulp for the production of textile fibers (viscose) from sulfite cooking process; electricity, district heating, biogas and lignosulfonate.	https://austrocel.com	AustroCel Hallein GmbH, PO Box 62, Salzachtalstraße 88, 5400 Hallein - Austria, Tel: +43 (0) 6245 890-0 Fax: +43 (0) 6245 890-224,	
Heiligenkreuz Pulp Mill (Lenzing Group)	Austria (Heiligenkreuz, Burgenland)	Commercial. Raw material: wood. Products: cellulose fiber, acetic acid (evaporation, extraction), furfural, magnesium	https://www.lenzing.com/en/lenzing-	Lenzing Fibers GmbH, Industriegelände 1, 7561 Heiligenkreuz, Austria	
Lenzing Pulp Mill	Austria	See previous			
Pischelsdorf Biorefinery (AGRANA)	Austria (Pischelsdorf)	Commercial. Raw material: cereals . Products: bioethanol, protein-rich animal feed, wheat starch and CO2. Process: http://www.alcobiofuel.com/media/ABF-Biorefinery-schema-002.png	https://www.agrana.com/en/products/bioethanol/#!by-products-bioethanol	AGRANA STÄRKE GMBH - PISCHELSDORF PLANT, STREET / NR.: Industriegelände, ZIP / CITY: 3435 Pischelsdorf COUNTRY: Austria, PHONE: +43 2277 90303-13112, FAX: +43 2277 90303-13133, E-MAIL:	
Aalst Plant (Tereos Starch & Sweeteners Europe)	Belgium (Dender River, in East)	Commercial. Raw material: wheat. Products: refined glucose syrups, native and modified starch, bioethanol, CHP.	https://www.tereos-starchsweete	SYRAL Belgium N.V., Burchtstraat 10, B-9300 Aalst, Tel.: +32 (0)53 73 33 33. Fax: +32 (0)53 73 30 33	
Alco Bio Fuel plant (a joint partnership of Alkogropu, Vanden Avenue Izegem,	Belgium (Port of Ghent)	Commercial. Raw material: mostly corn and wheat. Products: bio-ethanol, protein-rich feed DDGS, electricity, liquid CO2, corn oil.	http://www.alcobiofuel.com	ALCO BIO FUEL, Pleitstraat 1, B-9042 Gent (Sint-Kruis-Winkel), België, Tel: +32 (0)9 326 93 60, Fax:+32 (0)9 326 93 61,	
Avantium (Synvina, a joint partnership of BASF and Avantium)	Belgium (Antwerp)	Planned. Raw materials: n/a. Products: furandicarboxylic acid (FDCA), polyethylenefuranoate (PEF). Reference plant with planned capacity of 50000 t/a. Process: YXY technology platform for the conversion of plant-based sugars into chemical building blocks.	https://www.avantium.com	Pilot plant: Geleen Avantium – Brightlands Chemelot Campus, Urmonderbaan 22, 6167 RD Geleen, The Netherlands Headquarters: Zekeringstraat 29 1014 BV Amsterdam, The Netherlands	




Bioro	Belgium	Biodiesel			
BioWanze S.A. (Südzucker, CropEnergies)	Belgium (Wanze)	Commercial. Raw material: wheat and sugar syrup. Products: bioethanol, liquid protein animal feed and gluten. Capacity: 300,000 m ³ bioethanol, 350,000 t feed and 55,000 t	http://www.suedzucker.de/en/Unternehmen/Konzer	Südzucker AG, Maximilianstraße 10, 68165 Mannheim, Phone +49(0)621/421-0	
Galactic Escanaffles	Belgium (Celles)	Commercial. Products: PLA resin Capacity 150	www.lactic.co	lace d'Escanaffles 23, 7760 Escanaffles, Telephone:+32 69 45 49 21, Fax:+32 69 45 49 26,	
Oleon NV 1	Belgium	Oleochemicals			
Oleon NV 2	Belgium	Oleochemicals			
Proviron	Belgium	Petrochemicals and biodiesel			
Almagest AD	Bulgaria (Ichtiman, 35 km from Sofia)	Commercial. Raw material: wheat, corn. Products: bioethanol, DDGS. Capacity: 30 000 000 L ethanol and 24 000 t of DDGS (high-protein animal feed) per annum.	http://www.almagest-bg.eu/en/contacts/	ALMAGEST AD, Verinsko village, Ichtiman municipality, Bulgaria, office@almagest-bg.eu, phone: +359 2 981 21 53, fax: +359 2 980 66 82	
Essentica Ethanol Factory	Bulgaria (Katunitsa)	Commercial. Raw material: wheat, corn. Products: bioethanol, DDGS, grain distillage. Capacity: over 30 000 000 L ethanol per annum. Process: http://www.essentica.eu/web/images/sche	http://www.e	MAIN OFFICE: 5 Dunav Blvd. Plovdiv 4003, tel: +359 32 306 783, fax: +359 32 606 910, E-mail: sales@essentica.eu , office@essentica.eu;	
Chrudim Plant	Czech	See Aalst plant	http://www.cukrovarytttd.cz/en/		
Dobrovice Plant	Czech	See Aalst plant	http://www.cukrovarytttd.cz/en/		
Paskov Mill (Lenzing Group)	Czech Republik (Paskov)	Commercial. Raw material: spruce (long fiber) Products: viscose pulp magnesium bisulphite cooking process. Other products not assigned in public sources. Probably	http://www.biocel.cz/en/production/quality-policy/	Lenzing Biocel Paskov a.s., Místecká 762, CZ-73921 Paskov, Czech Republic Telephone: +420 558 46 1111,	
Daka ecoMotion	Denmark	Biodiesel	http://www.dakaecomoti		
EMMELEV A/S	Denmark	Biodiesel	http://www.emmelev.dk/		
Inbicon Biomass Refinery (former DONG energy/)	Denmark (Kalundborg)	Demonstration plant. Raw material: wheat straw. Products: bioethanol (SHF process), lignin pellets, C5 molasses to biogas plants.	https://orsted	Ørsted, Kraftværksvej 53, Skærbæk, 7000 Fredericia, Denmark, +45 99 55 11 11,	
Altia Koskenkorva	Finland (Ilmajoki)	Commercial. Raw material: barley. Products: grain spirit, starch, raw material for animal feed and CO2.	https://www.altiaindustrial.com/fi/koskenkorvan-tehdas	Part of Altia Plc, Kaapeliaukio 1, P.O Box 350, 00101 Helsinki, Tel. +358 207 013 013, www.altiagroup.com	



Cellunolix Ethanol Plant (NEOT)	Finland (Kajanus)	Commercial. Raw material: saw dust, recycled wood. Products: bioethanol, lignin, turpentine, furfural, CO2, biogas, heat. Capacity currently 10 000 000 L ethanol per annum. http://www.vtt.fi/sites/BioCO2/PublishingImages/workshop-7-9-2017/7_Hietanen.pdf	http://www.st1biofuels.com	North European Oil Trade Oy, www.neot.fi , Henrikki Talvitie, CEO, tel. +358 (0)10 768 0855, henrikki.talvitie@neot.fi St1 Biofuels Oy, www.st1biofuels.com , Patrick Pitkänen, Head of Business Development and Sales. tel. +358	 
Enocell Mill (Stora Enso)	Finland (Uimaharju)	Raw material: pine, spruce, birch wood. Products: softwood pulp, dissolving pulp	http://biomaterials.storaenso.com	Stora Enso Enocell, Tehtaantie 2, PL 2, 81281 Uimaharju, 020 46122	 storaenso
Forchem Biorefinery	Finland	Tall oil based products			
Hämeenlinna Biolonix Plant (St1)	Finland				
Joensuu Bio-oil Plant (Fortum)	Finland (Joensuu)	Commercial. Raw material: forest residues and other wood based biomass. Products: bio-oil and heat and electricity. Capacity 50 000 t/a bio-oils. Process: pyrolysis as in https://1.bp.blogspot.com/-uzKWdm1m7OI/VxffSBq8yil/AAAAAAAAAik/p	www.fortum.com	Headquarters: Keilalahdentie 2-4, CD building, 02150 Espoo, Finland Tel: +358 10 4511	
Kraton Refinery (former Arizona Chemicals, currently)	Finland (Oulu)	Commercial. Raw material: crude tall oil. Products: fatty acids, resin and resin esters, pine pitch.	http://kraton.com	MANUFACTURING FACILITY: 17, Nuottasaarentie, Oulu, Finland 90400, +358 40 3413341	
Lahti Etanolix Plant	Finland				
Lappeenranta	Finland				
Metsä Bioproduct Mill (Metsä Group)	Finland (Äänekoski)	Commercial. Raw material: softwood, birch. Products: pulps to be used as raw materials for paper, tissue paper and paperboard; tall oil, turpentine, electricity, steam, district heat, bark-based solid fuel. Capacity 1.3 million t pulp per annum.	http://bioproductmill.com/about-the-bioproduct-mill	Sarvelantie 1, 44100 Äänekoski, PL 1000, 44101 Äänekoski, Tel. +358 10 4612	
Närpiö Etanolix Plant	Finland				
Neste Biorefinery in Kilpilahti Refinery	Finland		https://www.neste.com/fi/		
Pulp Mill 1 (UPM)	Finland	Products: pulp, paper, biofuels			
Pulp Mill 2 (UPM)	Finland				
Pulp Mill 3 (UPM)	Finland				
Sunila Mill	Finland				







UPM Lappeenranta Biorefinery	Finland (Lappeenranta)	Commercial. Raw material: crude talloil. Products: biodiesel, nafta. Process description: http://www.upmbiofuels.com/upm-biofuels/production/Pages/Default.aspx	http://www.upmbiofuels.com/Pages/default.aspx	VISITING ADDRESS: UPM Lappeenranta Biorefinery, Kaukaantie 16, 53200 Lappeenranta MAILING ADDRESS: UPM Lappeenranta Biorefinery. FI-15100 Lappeenranta Phone +44 20 3326 8600, info@trilantic.com	 
Abengoa Biorefinery Lacq Plant (Bought by Trilantic Europe in 2017)	France (Lacq)	Production was stopped in 2017, restarted in 2018. Commercial. Raw material: corn. Products: bioethanol, DDGS for animal feed, electricity.	https://www.abengoa.com		 
Artenay Plant (Tereos)	France (Artenay)	Raw material: sugar beet. Products: suryp, bioethanol, animal feed, vinasse fertilizer. Capacity 65000 t ethanol per annum. Process: https://tereos.com/sites/default/files/uk_inf	https://tereos.com/en/our-activities/products/co-products	Headquarters: Tereos, 11 rue Pasteur, 02390 ORIGNY-SAINTE-BENOITE, Tél : 03 23 09 32 32; Mail: infotereos@tereos.com	
Avril (Diester)	France	Oil plants			
Avril (Diester)	France	Oil plants			
Avril (Diester)	France	Oil plants			
Avril (Diester)	France	Oil plants			
Avril (Diester)	France	Oil plants			
BASF Health and Care Products France	France (Boussens)	Products: natural fatty alcohols, methyl esters, glycerin, phytosterols and specialty			
BASF Health and Care Products France	France (Meaux)	manufacture of surfactants for the cosmetics and detergents industry and in the			
Bio-based Succinic Acid Plant (BioAmber)	France (ARD, Pomacle)	Demonstration plant. Raw material: corn. Products: succinic acid (by fermentation), Capacity 3000 t succinic acid per annum.	https://www.bio-amber.com/bioamber/en/icis-special-supplement	BIOAMBER CANADA INC. MONTRÉAL, QUÉBEC, CANADA HEAD OFFICE: 1250 René-Lévesque Blvd. West, Suite 4310, Montréal, Québec, Canada H3B 4W8	 BASF We create chemistry 
Bucy Plant (Tereos)	France	Similar to previous			
Connantre-Morains	France	Similar to previous			





D.R.T. Derivatives Résiniques and Terpeniques	France (St Girons)	Commercial. Raw material: pine and derivatives (for instance tall oil). Products: a variety of derivatives. Process sheet http://www.drt.fr/typo3temp/pics/f30f50231	http://www.drt.fr	DRT - Head Office: 30 rue Gambetta , BP 206 – 40105 DAX CEDEX – FRANCE Tél : 00.33.5.58.56.62.00, Fax :	
Distillery Arcis sur Aube (Cristal Union)	France (Arcis sur Aube)	Commercial. Capacity: 25,000 t beet / day, int	https://www.cristal-union.fr/sites-de-production/site-arcis	Address : Route d'Arcis-sur-Aube - CS 70053 - 10700 VILLETTE-SUR-AUBE Tel : 03 25 37 11 00 / Fax : 03 25 37 02 45	
Distillery Bazancourt II (Cristal Union)	France (Bazancourt)	Commercial. Raw material: sugar beet. Products: bioethanol, conditioning, dehydrated products, sugar	https://www.cristal-union.fr/sites-de-production/site-bazancourt	Address : 115 Route de Pomacle - Les Sohettes - CS 20003 - 51110 BAZANCOURT, Tel. : 03.26.03.31.81 / Fax :	
Distillery Cristanol (Bazancourt I) (Cristal Union)	France (Bazancourt)				
Distillery Toury (Cristal Union)	France				
Gattefossé Holding	France				
Kraton Refinery	France (Berre)	See Oulu		394, Avenue Lazare Ponticelli et des Poilus de la Guerre 14-18, CS 80215, 13131 Berre l'Etang Cedex,	
Lestrem Starch Biorefinery (Roquette)	France (Lestrem)	Commercial. Raw material: wheat, potato, maize, pea. Products: starch, food, feed, bulk and fine chemicals, succinic acid, ethanol	www.roquette.com/		
Lillebonne Plant	France	See Aalst plant	https://www.tereos.com		
Lillers Plant (Tereos)	France (Lillers)	See Aalst plant. Capacity 65000 t/a bioethanol.			
Nesle Plant (Tereos)	France	See Aalst plant			
Oleon S.A.S.	France	Oleochemicals			
Origny Plant (Tereos)	France	See Aalst plant			


Roquette-Bioethanol-Beinheim	France	Commercial. Raw material: cereal. Products: bioethanol. Commercial. Capacity 160,000 t/a bioethanol	www.roquette.com	Roquette Frères, Address : Route du Rhin CS 20004, 67930 Beinheim France Phone : +33 (0)3	
Ryssen Alcools S.A.S., (CropEnergies)	France (Loon-Plage)	Capacity 100,000 m ³ bioethanol for fuel applications, 90,000 m ³ bioethanol for traditional and technical applications. Similar to Zeitz?	http://www.ryssen.com	Ryssen Alcools Port 4208 4208, Route de la distillerie, F-59279 Loon-Plage, France Phone: +33 (0) 3 28 28 18 29 Fax: +33 (0) 3 28 64 02 73	
Saint Louis Sucre Eppeville	France (Eppeville)	Raw material: sucrose and molasses from sugar production (sugarcane). Products: bioethanol, vinasse. Capacity 64,000 t/a	http://www.saintlouis-sucre.com	Sugard factory - Packaging plant - Distillery: 90, rue du Maréchal Leclerc, 80400 EPPEVILLE, Tél :	
Soufflet (SMBE)	France (Nogent sur)	Commercial. Raw material: wheat straw. Products: bioethanol. Capacity 100,000 t/a	https://www.soufflet.com/	C.R.I.S & F.H.P., Quai du Général Sarraill, 10400 Nogent-sur-Seine,	
Stearinerie Dubois	France	Fatty acid ester and lipid production			
Tembec Tartas (currently owned by Ravonier Advanced)	France (Tartas)	Commercial. Raw material: wood. Products: dissolving pulp, lignosulfonates. Capacity 300 000 t/a pulp.	http://rayonier.com	Corporate Headquarters, 1301 Riverplace Blvd. Suite 2300, Jacksonville, FL 32207	
TOTAL La Mède	France	Oil based biodiesel.			
ADM Hamburg AG - Hamburg Plant-	Germany	Rapeseed based production	https://www.adm.com/adm-worldwide/		
ADM Hamburg AG -	Germany	Rapeseed based production			
ADM Mainz GmbH	Germany	Rapeseed based production			
Baerlocher GmbH	Germany	Oleochemicals?		Baerlocher Lingen, Branch Office of Baerlocher GmbH	
Barby Plant (Cargill)	Germany (Barby)	Commercial. Raw material: wheat. Products: s	https://www.cargill.de/en/barby-location	Cargill Deutschland GmbH, Monplaisirstraße 22, 39249 Barby, Germany Tel.: +49 (0)39298 60-0, Fax: +49	
BASF Personal Care and Nutrition GmbH	Germany (Illertissen)	Products: conjugated linoleic acid, glyceride, sterol esters, emulsifiers and enzymes for	https://nutrition.basf.com		
BASF Personal Care and Nutrition GmbH	Germany (Düsseldorf)	Products: a variety of ingredients based on natural, regrowing raw materials for	https://nutrition.basf.com		

BIO.Diesel	Germany	Biodiesel			
BIOETON Deutschland GmbH	Germany (Kvritz)	Oil based products			
Biopetrol Rostock	Germany	Biodiesel			
Biowerk Sohland	Germany	Biodiesel			
Biowert Biorefinery	Germany (Odenwald)	Commercial. Raw material: meadow grass and synthetic materials (?). Products:	http://www.b	Biowert Industrie GmbH, Gewerbegebiet Ochsenwiesen,	
BKK Biodiesel GmbH	Germany	Biodiesel			
Bunge Deutschland	Germany	Rapeseed oil based products			
Cargill GmbH	Germany	See previous			
Cremer Oleo GmbH	Germany	Oil based products			
CropEnergies Bioethanol GmbH	Germany (Zeitz)	Commercial. Raw material: wheat, maize, barley, triticale, sugar syrups. Products: bioethanol, DDGS,	http://www.cropenergies.com/en/Bioet	CropEnergies AG, Maximilianstraße 10, D-68165 Mannheim	
EAI Thüringer Methylesterwerke	Germany	Biodiesel			
Ecogreen	Germany	Oleochemicals			
ecoMotion GmbH 1	Germany	Biodiesel			
ecoMotion GmbH 2	Germany	Biodiesel			
ecoMotion GmbH 3	Germany	Biodiesel			
Emery Oleochemicals	Germany	Oleochemicals			
Evonik Industries AG	Germany	This means Rheticus i.e. Joint venture of Evonik and Siemens for CO2 fermentation?			
Fuel 21 and Klein Wanzleben Refinery (Currently Nordzucker)	Germany (Klein Wanzleben)	Commercial. Raw material: sugar beet. Products:	https://www.nordzucker.com/en/company/about-	Küchenstraße 9 38100 Braunschweig, Germany Phone: +49 531 2411-0 Fax: +49 531 2411-100	
german biofuels	Germany	Rapeseed based production			
Glencore	Germany	In Europe only biodiesel and oils?			
Gulf Biodiesel Halle	Germany	Biodiesel			
IOI Oleo GmbH 1	Germany	Oleochemicals			





IOI Oleo GmbH 2	Germany	Oleochemicals			
Kao Chemicals GmbH	Germany	Oleochemicals			
KFS Biodiesel GmbH	Germany	Biodiesel			
KFS Biodiesel GmbH	Germany	Biodiesel			
KFS Biodiesel GmbH	Germany	Biodiesel			
KL Biodiesel GmbH &	Germany	Biodiesel			
KLK Emmerich	Germany	Oleochemicals			
Kraton Refinery	Germany	See previous			
KWST GmbH	Germany (Misburg)	Commercial. Raw material: sugar beet molasses. Products: bioethanol, potassium sulfate, biogas. Process: BIOSTILL.	http://www.kwst.de	Kraul & Wilkening u. Stelling GmbH, Lohweg 39, D-30559 Hannover Phone: +49 511-51005-0, Fax: +49 511-51005-1	
Louis Dreyfus Commodities	Germany (Wittenberg)	Biodiesel			
MBF Mannheim	Germany	Biodiesel			
NEW Natural Energy	Germany	Biodiesel			
Nordische Oelwerke (Walter Carroux	Germany	Biodiesel			
Oleon GmbH	Germany	Oleochemicals			
Osterländer Biodiesel GmbH &	Germany	Biodiesel			
Peter Greven GmbH	Germany	Oleochemicals			
Petrotec AG	Germany	Oleochemicals			
PROKON Pflanzenöl GmbH Magdeburg	Germany	Biodiesel			
Renewable Energy Group Europe (REG)	Germany	Oil based products			
Sasol Olefins &	Germany	Oleochemicals			






Süd-Chemie AG (Clariant)	Germany (Straubing)	Demonstration plant. Raw material options: wheat and cereal straws, corn stover or sugar cane bagasse. Products: bioethanol ,enzymes	www.clariant.com	Clariant Produkte (Deutschland) GmbH, Budapest Strasse 2, 94315 Straubing	
Suiker Unie GmbH	Germany (Anklam)	Raw material: sugar beet. Products: sugar, bioethanol, animal feed, fertilizer, biogas. Capacity 70 000 m3/a bioethanol.	https://www.suikerunie.com	Bluthslusterstrasse 24, D-17389 Anklam, G	
TECOSOL GmbH	Germany	Biodiesel			
Ullrich Biodiesel	Germany	Biodiesel			
Verbio Diesel Bitterfeld GmbH &	Germany	Biodiesel			
Verbio Diesel Schwedt GmbH & Co.	Germany	Biodiesel			
Verbio Ethanol Schwedt GmbH & Co. KG	Germany (Schwedt)	Commercial. Raw material: rye. Products: bioethanol, biogas, fertilizer (inorganics). Capacity 200 000 t/a bioethanol.	https://www.verbio.de/en/group/	VERBIO Ethanol Schwedt GmbH & Co. KG, Passower Chaussee 111, 16303 Schwedt/Oder, Germany	
Verbio Ethanol Zörbig GmbH & Co. KG	Germany (Zörbig)	Commercial. Raw material: rye. Products: bioethanol, biogas, fertilizer (inorganics). Capacity 100 000 t/a bioethanol.	https://www.verbio.de/en/group/	VERBIO Ethanol Zörbig GmbH & Co. KG, Thura Mark 18, 06780 Zörbig, Germany	
Vesta Biofuels	Germany	Biodiesel			
Agrár-Béta Mezőgazdasági Kft.	Hungary (Dombóvár)	Under construction? Raw material: corn.	http://www.agrar-beta.hu/index.html	Agro-Bioethanol Ltd. - Dombóvár, Birkamajor, Phone: 06 74 / 565-302, Fax: 06 74 / 565-303, E-mail: info@agrarbioethanol.hu	
Hungrana Bioeconomy Company	Hungary (Szabadegyháza)	Commercial. Raw material: corn. Products: bioethanol. Capacity 150 000 t/a bioethanol.	http://www.hungrana.com	GENERAL CONTACT DETAILS: Address: Hungrana Kft., 2432 Szabadegyháza, Ipartelep, Hungary E-mail: info@hungrana.hu, Phone: +36 (25) 578 111 Fax: +36 (25) 578 112	
Kall Ingredients Kft	Hungary (Tiszapüspöki, close to the town of	Commercial. Raw material: corn. Products: bioethanol, biogas, fertilizer (inorganics). Capacity 100 000 t/a bioethanol.	http://www.kallingredients.com	KALL Ingredients Ltd., H-5211 Tiszapüspöki, Fehértó part 1., T: +36 56 815 810, F: +36 22 301 438, info@kallingredients.hu	







Pannonia Ethanol	Hungary (Dunaföldvár)	bioethanol and animal feed. Capacity 450 000 000 L/a bioethanol.	http://www.p	Factory: H-7020 Dunaföldvár, Sas u. 7., +36 1 696 15 00,	
Rossi Biofuel	Hungary	Biodiesel	https://www.rossibiofuel.hu/en/		
Carbery	Ireland (Ballineen)	Commercial/ status unclear? Raw material: cheese whey. Products: bioethanol. Capacity 10 500 000 L/a bioethanol.	https://carber	CARBERY IRELAND: Carbery, Ballineen, Co Cork, Ireland, T: +353 (0)23 8822200, F: +353 (0)23 8817511	
Ambrogio Pagani SpA	Italy	Oleochemicals			
BASF Italia S.r.l.	Italy	Oleochemicals			
Caserta Levulinic Acid Plant (GFBiochemicals)	Italy (Caserta)	Commercial. Raw material: cellulosic biomass. Products: levulinic acid. Capacity 10 000 t/a levulinic acid. Process: http://www.gfbiochemicals.com/_static/fron	http://www.gfbiochemicals.com/company/	info@gfbiochemicals.com, +39 344 2379251	
Cereal Docks SpA	Italy	Biodiesel			
Dp Lubrificanti S.r.l.	Italy	Biodiesel			
Eco Fox S.r.l.	Italy	Biodiesel			
Ecoil	Italy	Biodiesel			
Eigenmann &	Italy	Oleochemicals			
Eni	Italy (Gela and	Oil based biodiesel.			
FACI SpA	Italy	Oleochemicals			
Green Oleo S.r.l.	Italy	Oleochemicals			
Ital Bi Oil S.r.l.	Italy	Biodiesel			
Ital Green Oil S.r.l.	Italy	Oil based products			
Italmatch Chemicals	Italy	Oleochemicals			
Llsap Biopro	Italy	Biodiesel			
Masol Continental	Italy	Biodiesel			
MATER-BIOTECH (Novamont)	Italy (Rovigo)	Commercial. Raw material: sugars. Products: 1	http://novamont.it/eng/pa	Novamont S.p.A., Via G. Fauser 8, 28100 Novara, Italy, Phone	

Matrica	Italy	Oil based materials.			
Novamont MaterBi	Italy	See previous			
Novamont Orego-Bi	Italy	See previous			
Novaol S.r.l.	Italy	Biodiesel			
Oil.B S.r.l.	Italy	Biodiesel			
Oxem SpA	Italy	Biodiesel			
Pfp Italia S.r.l.	Italy	Biodiesel			
SO.G.I.S. Industria	Italy	Oleochemicals			
Spiga Nord SpA	Italy	Oleochemicals			
Temix Oleo S.r.l.	Italy	Oleochemicals			
Cassano Succinic Acid Plant (Reverdia)	Italy (Cassano Spinola)	Commercial. Raw material: starch and sugars. Products: succinic acid (fermentation). Capacity 10 000 t/a succinic			
Crescentino Bioethanol Plant (Beta Renewables)	Italy (Crescentino)	Commercial/ Shut down (to be confirmed). Raw material: agricultural waste (wheat straw, rice straw) and energy crops (Arundo	http://www.	Strada Ribrocca, 11 - 15057, Tortona (AL), Italy - Tel: +39-0131-810-1	
Mater-Biotech	Italy	See previous			
Saluzzo Plant	Italy	See Aalst plant			
Biopetrol Industries	Netherland	Biodiesel			
Abengoa Bioenergy Europoort Plant (currently owned by Alco Bio Fuel)	Netherlands (Rotterdam)	Commercial. Raw material: corn, wheat. Products: bioethanol, DDGS. Capacity 450 000 t/a bioethanol.	http://www.a	LCO ENERGY Rotterdam B.V., Merwedeweg 10, Havennr. 5629, 3198 H Europoort Rotterdam Tel: +31 (0) 181 24 25 00,	
Glencore	Netherlands	In Europe only biodiesel and oils?			
Greenmills	Netherlands	Biodiesel			
Musim Mas Europe	Netherlands	Glycerine refining			
Peter Greven	Netherlands	Fatty acids etc.			
Rotterdam Neste	Netherlands	Oil based biodiesel.			

Sas van Gent Plant (Cargill)	Netherlands (Sas van Gent)	Commercial. Raw material: wheat and corn. Products: Starches, starch derivatives, wheat proteins and glucose, bioethanol. Capacity	https://www.cargill.com/bioindustrial/ethanol	Sas van Gent, Sweeteners: Cargill B.V. Nijverheidsstraat 1, 4551 LA Sas van Gent, The Netherlands Visiting address: Westkade 115, 4551 LA Sas van Gent, Tel +31 (0)115 45 90 00		
Shell Chemicals	Netherlands	Biodiesel?				
Suiker Unie Vierverlaten	Netherlands (Vierverlaten)	Raw material: sugar beet. See Anklam.				
Wilmar Trading	Netherlands	Oleochemicals				
Borregaard Sarpsborg	Norway (Sarpsborg)	Commercial. Raw material: wood. Products: cellulose, lignin, bioethanol, vanillin, biogas. Capacity n/a for bioethanol	https://www.	Borregaard Norway (S/P), Hjalmar Wessels vei 6, 1701 Sarpsborg, Norway Telephone +47 69 11 80 00, Fax +47 69 11 87 70, E-mail:		Borregaard
Chelmza Alcohol Production Plant (Bioetanol AEG)	Poland (Chelmza)	Commercial. Raw material: sugar industry resi	http://www.bioetanol.aeg.pl/en/web/fi	ALCOHOL PRODUCTION PLANT (CHEŁMŹA), Tel./Fax. 056 675 16 20		
Goswinowice Ethanol Plant (Bioagra S.A).	Poland (Goswinowice)	Raw material: corn. Products: bioethanol, ani	https://bioagra.pl/aktualnosc/proekologicz	"Goświnowice", Głębinów 30, 48-300 Nysa tel.: 077 433 40 29, 077 435 71 66, 077 435 71 67, fax: 077 435 40 86, e-		
Orlen	Poland	Biodiesel				
Caima Mill (Altri)	Portugal (Caima)	Raw material: eucalyptus. Products: dissolving pulp,, energy. Capacity 100 000 t/a pulp.	http://www.altri.pt/en/wat-we	HEAD OFFICE: Rua do General Norton de Matos, 68 – r/c, 4050-424 Porto, PORTUGAL		
Beta Renewables / Energochemica	Slovakia (Strážske)	Under construction (to be confirmed). Raw material: agricultural waste (wheat straw, rapeseed straw, corn stover) and energy crops (switchgrass). Products: bioethanol, animal feed, heat and power, ethylene, ethylene oxide. Capacity 55000 t/a	http://www.energochemica.eu/ http://www.betarenewables.com/en/p	ENERGOCHEMICA TRADING A.S., Pribinova 25, Bratislava 811 09, Slovak republic tel.: +421 2 599 80 202, mail.: officeba@energochemica.eu		 BETARENEWABLES

ENVIRAL and Clariant	Slovakia (Leopoldov)	Under construction. Raw materials: Agricultural waste (wheat straw). Products: bioethanol, fertilizers, power and heat. Capacity 50 000 t/a bioethanol. Process: Surliquid® from Clariant	https://www.	Trnavská cesta, 920 41 Leopoldov, Slovakia, Phone: +421 33 73 52 411, enviral@enviral.sk	 ENVIRAL Member of Envien Group	
ENVIRAL	Slovakia (Leopoldov)	Raw material: corn. Products: bioethanol, biogas. Capacity 145,000 m3 bioethanol per annum.	https://www.enviral.sk/en/about-us/company			
Abengoa Teixeira Plant ((Bought by Trilantic Europe in	Spain (A Coruña, Betanzos)	Operation n/a. Raw material: wheat and barley. Products: bioethanol, animal feed. Capacity 96 000000 L/a bioethanol, 120 000	https://www.	Address: Estrada N-634, Km 664.3, 15310 Teixeira-Curtis Phone +44 20 3326 8600,		
Abengoa Valle de Escombreras Plant (V)	Spain	Operation n/a. Raw material: wheat and barley. Products: bioethanol, animal feed. Capacity 151 000000 L/a bioethanol, 110 000	https://www.	Address: Carretera N-343, Km 7,5, Valle de Escombreras, 30350 Cartagena, Murcia		
BASF Espanola S.L.	Spain	Oleochemicals				
Succinity (BASF/Purac)	Spain (Montmelo)	Commercial. Raw material: sucrose, glucose and glycerol. Products: succinic acid. Capacity 10 000 t/a succinic acid.	http://www.s	Spain, Montmelo, Sales Office & Manufacturing Facility, Gran Vial 19-25, 08160 Montmeló (Barcelona), Spain Phone +34 93 568 6300, Fax +34 93	 Succinity BIOBASE YOUR SUCCESS	
Bio Oils	Spain	Biodiesel				
Biocom Energía	Spain	Biodiesel				
Hebron S.A.	Spain	Oil based products				
Infinita Musim Mas	Spain	Biodiesel				
Kao Corporation S.A.	Spain	Oleochemicals				
Kao Corporation S.A. Mollet del Vallés	Spain	Oleochemicals				
Saras	Spain	Biodiesel				
Sniace Torrelavega	Spain (Torrelavega)	Commercial?. Raw material: wheat, barley. Ca	http://www.sniace.com/seccion2.php?&id=75&area=	Madrid Office: Telephone: +34 91 768 40 70, Email: sniace@sniace.com Address: Avda. de Burgos 12 4		
UNDESA (Unión	Spain	Oleochemicals				
Abengoa	Spain	See previous				
AAK Sweden AB	Sweden	Oleochemicals				

Domsjö Pulp Mill (Aditya Birla Group)	Sweden (Örnsköldsvik)	Commercial. Raw material: wood (spruce and pine). Products: cellulose, lignin, bioethanol, biogas. Capacity 230 000 t/a cellulose. Process: https://4.bp.blogspot.com/ --	http://www.domsjo.adityabirla.com/en/sidor/Cellulose.aspx	Domsjö Fabriker AB, SE-891 86 Örnsköldsvik Visiting address Hörneborgsvägen 17, Phone +46 (0)660-756 00 E-post info@domsjoe.com	
Gothenburg Ethanol (Etanolix) Plant	Sweden (Gothenburg)	Commercial. Raw material: food industry waste. See previous.			
Kraton Refinery	Sweden	Commercial. Raw material: tall oil. See Kraton Chemicals O		MANUFACTURING FACILITY: 15, Mässvägen 820 22, Sandarne,	
Lantmännen Agroetanol A.B.	Sweden (Norrköping)	Commercial. Raw material: grain, residues. Products: bioethanol, protein and CO2. Overview: https://www.lantmannenagroetanol.se/sites/images/floden-agroetanol-	https://www.lantmannenagroetanol.se/en/	Tel. +46 (0) 10 556 01 50, Visit: Hanholmsvägen 69 Norrköping, Mail: Box 932 SE-601 19 Norrköping	
Örnsköldsvik SEKAB Biorefinery	Sweden (Örnsköldsvik)	Demonstration plant. Raw material: residues from agriculture and forestry, energy crops. Products: ethanol, biogas and lignin. Process: E-tech.	http://www.sekab.se	SEKAB BioFuels & Chemicals AB, Hörneborgsvägen 12, 892 50 Domsjö, SWEDEN Telephone: +46 (0)660-793 00, Fax: +46 (0)660-	
Perstorp Specialty Chemicals AB	Sweden (Perstorp)	Products: polyols, formate, organic acids, form	https://www.perstorp.com/en/about/sit	Perstorp Specialty Chemicals AB, Industriparken, 284 80 Perstorp, Sweden	
Pulp Mill	Sweden	?			
SEKAB ETECH	Sweden	See previous			
Södra	Sweden (Värö)	Raw material: wood. Products: pulp, energy. Capacity 700 000 t/a pulp.	www.sodra.com	Väröbacka, Sweden, Tel +46 (0)340 628 000, Fax +46 (0)340 628 100	
Södra Cell Mönsterås	Sweden (Mönsterås)	Raw material: wood. Products: pulp, energy. Capacity 750 000 t/a pulp.	www.sodra.com	Södra Cell Mönsterås, Box 501, SE-383 25 Mönsterås, Sweden Tel: +46 (0)499 150 00 Fax: +46 (0)499 154 60	
Södra Cell Mörrum	Sweden (Mörrum)	Raw material: wood. Products: dissolving pulp, paper energy, biodiesel from tall oil. Capacity 425 000 t/a pulp.	www.sodra.com	Visiting address: Södra Cell Mörrum , 375 86 Mörrum Phone : 0340-628 000, info@sodra.com	

SunPine	Sweden (Piteå)	Raw material: crude tall oil. Products: bio-oil, https://www.s	Sunpine AB, Cisternvägen 53, 941 43 Piteå info@sunpine.se, +46 911 23 28 00		
Procter & Gamble	Switzerland	Biodiesel			
BASF Tuerk Kimya Sanayi ve Ticaret Ltd.	Turkey	Oil based products			
May Group	Turkey	Oil based products			
Argent Energy	United	Biodiesel			
Celtic Renewables	United Kingdom (UK)	Planned. Raw material: whisky production residues. Overview: http://www.celtic-renewables.com/images/cms/process/1424695691CR_process.jpg	http://www.celtic-renewables.com/process/	Sighthill Campus, Edinburgh Napier University, Edinburgh, EH11 4BN, Scotland, UK +44 (0)131 455 3313,	
CRODA Europe Ltd	United	Oleochemicals			
Ensus Ltd. - Wilton (CropEnergies)	United Kingdom (Wilton)	Commercial. Raw material: wheat. Products: bioethanol plants, DDGS, CO2. Capacity 400 000 m ³ bioethanol per annum and 350 000 t/a DDGS.	http://www.cropenergies.com/en/Unternehmen/Stan	Ensus UK Limited, The Granary, 17a High Street, Yarm, TS15 9BW, UK Phone: +44 (0)1642 794040	
Ensus UK Limited	United	See previous			
Esterchem Limited	United	Oleochemicals			
Grimsby Pulp Mill (Lenzing)	United Kingdom	Commercial. Raw material: wood. Products: p https://www.lenzing.com/	Lenzing Fibers Grimsby Ltd., Energy Park Way, DN31 2TT		
Manchester Biorefinery (Cargill, previously Royal)	United Kingdom (UK)	Commercial. Raw material: wheat. Products: bioethanol.	Plant: Guinness Road, Trafford Park, Manchester, M17 1PA Tel: +44 (0) 161 872 5959, Fax :+44		
Selby Plant (Tereos)	United	See Aalst plant			
Vivergo Fuels	United Kingdom (Hull)	Commercial. Raw material: wheat. Products: bioethanol, animal feed. Capacity 330 000 t/a bioethanol.	https://vivergo	Vivergo Fuels - Plant, S039 Saltend, Hedon Road, Hull, East Yorkshire, HU12 8DS, United Kingdom Tel. 01482 700850	
Wissington Factory (British Sugar)	United Kingdom (Wissington)	Commercial. Raw material: sugar beet. Capacity https://www.britishsugar.co.uk/about-sugar/our-	British Sugar plc, Wissington Factory, College Road, Wissington, King's Lynn, Norfolk,	