IEA Bioenergy

Task 42 Biorefining

Country Report
Germany

July 2014

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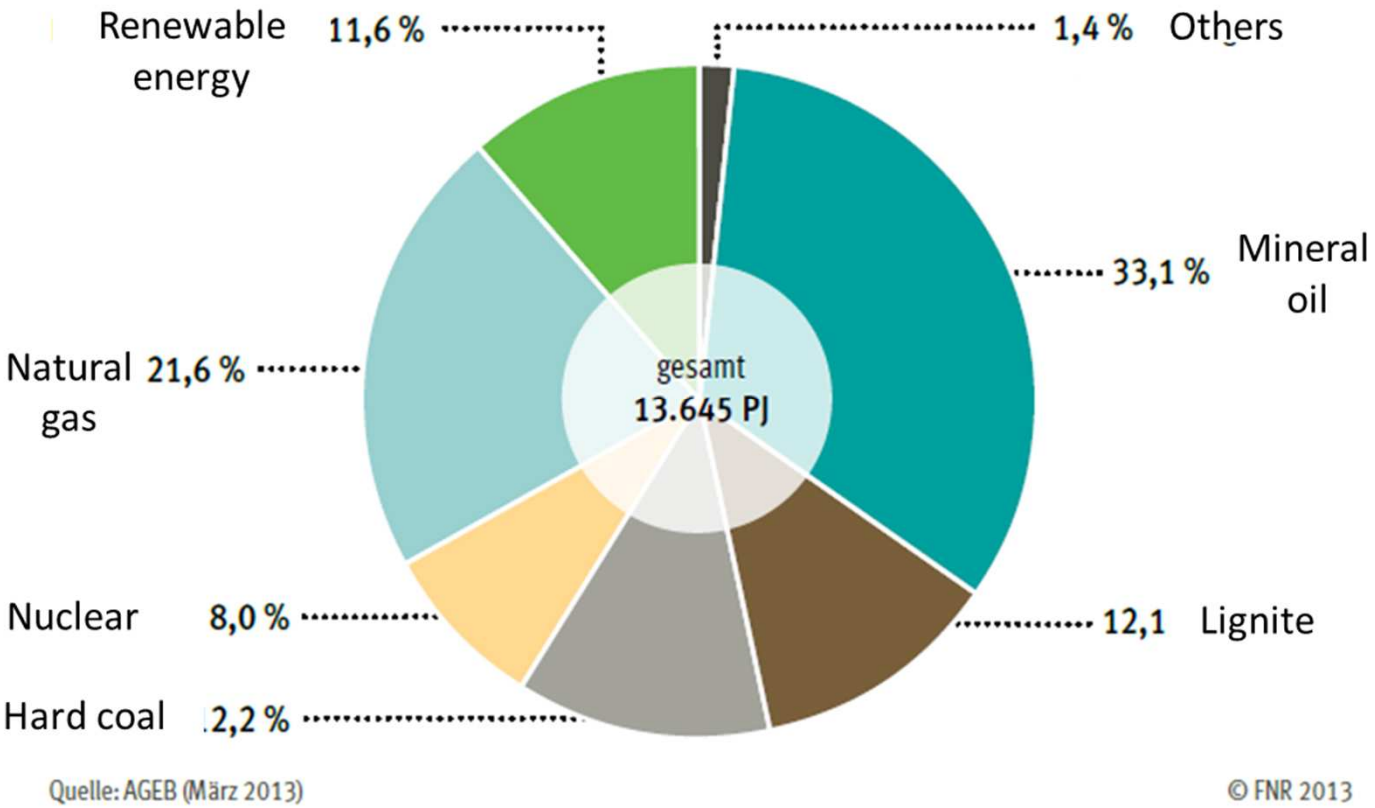
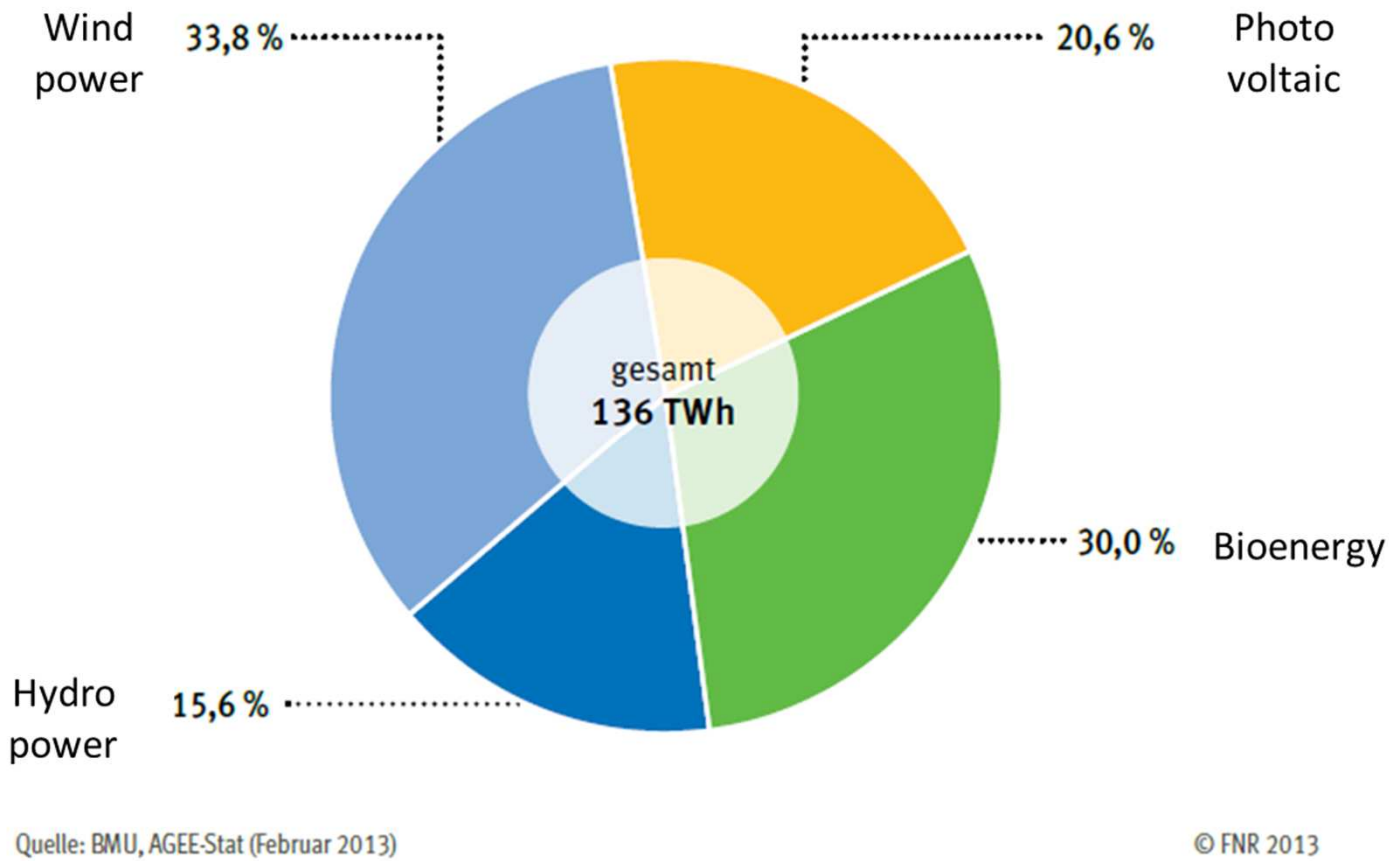
Content

- Country specific energy consumption
- Electricity, heat and biofuel production/consumption from renewables including biomass
- Biomass use in the chemical industry
- Biomass related (national) policy issues
- Biomass related sustainability issues
- Running commercial and demonstration biorefineries
- Major national stakeholders involved in the field of biorefining
- Germany's Bioregions
- Other issues

Primary energy consumption in 2012



Electricity production from renewables 2012



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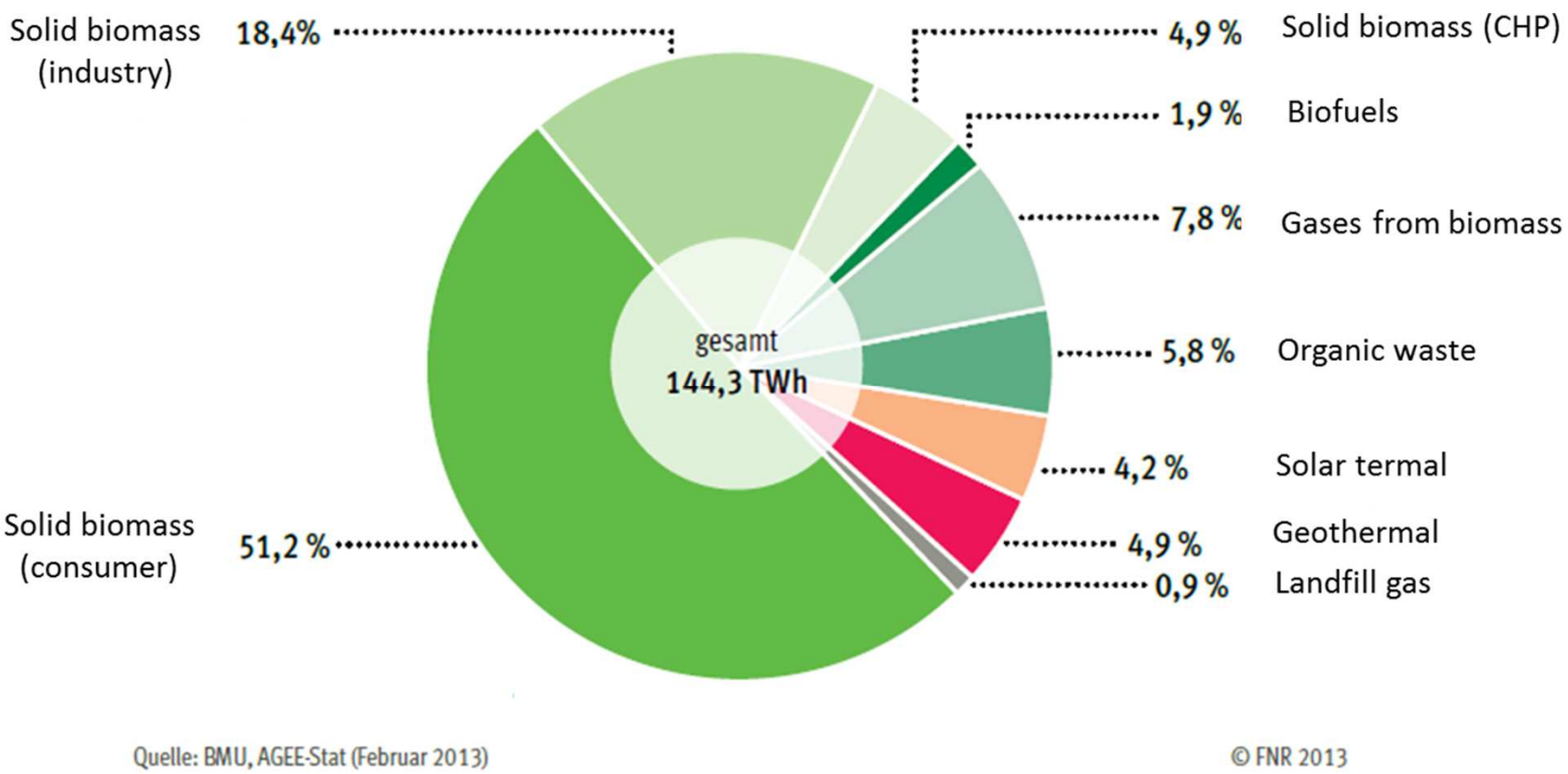
Heat production in 2012 from renewables (91% biogenic)



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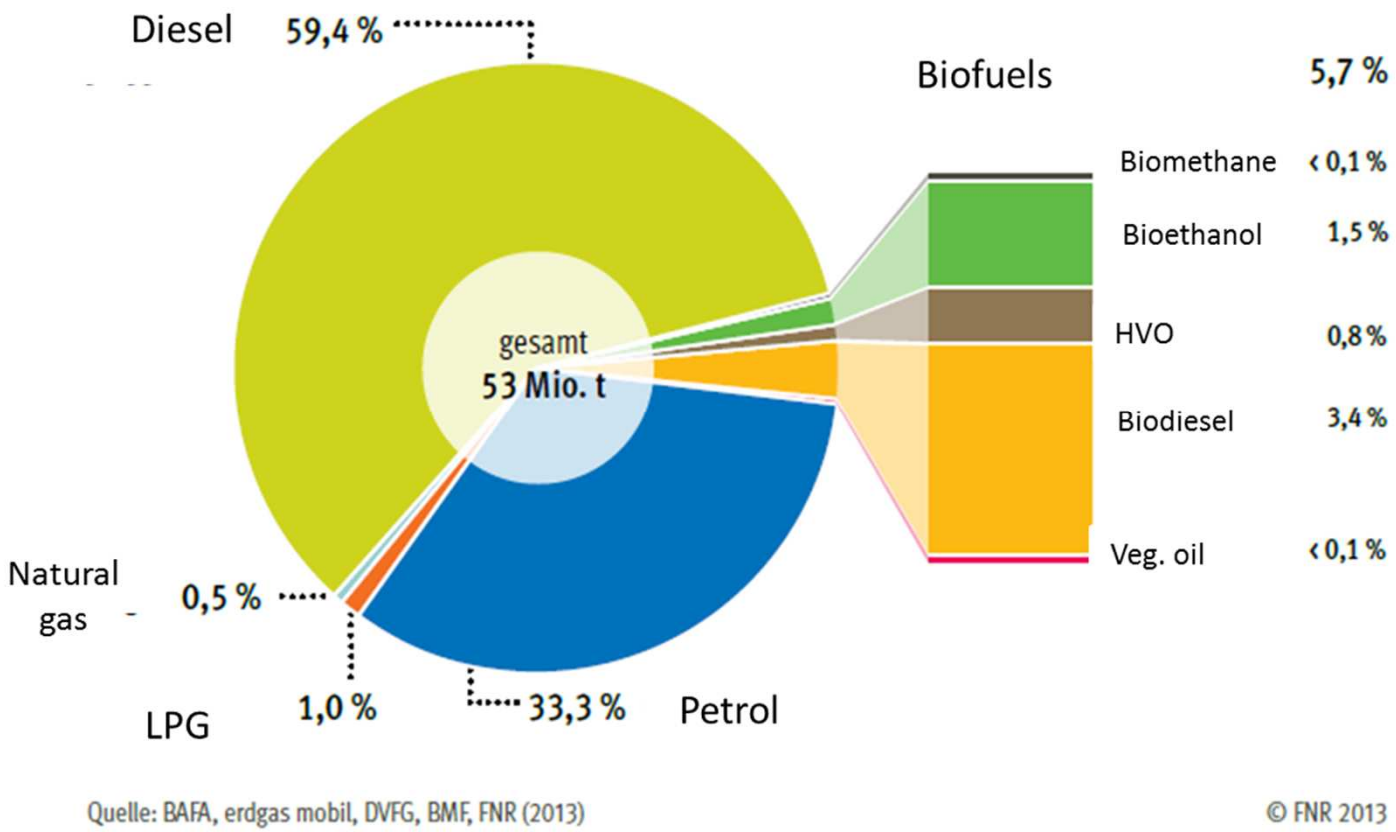
Biofuel consumption in 2012



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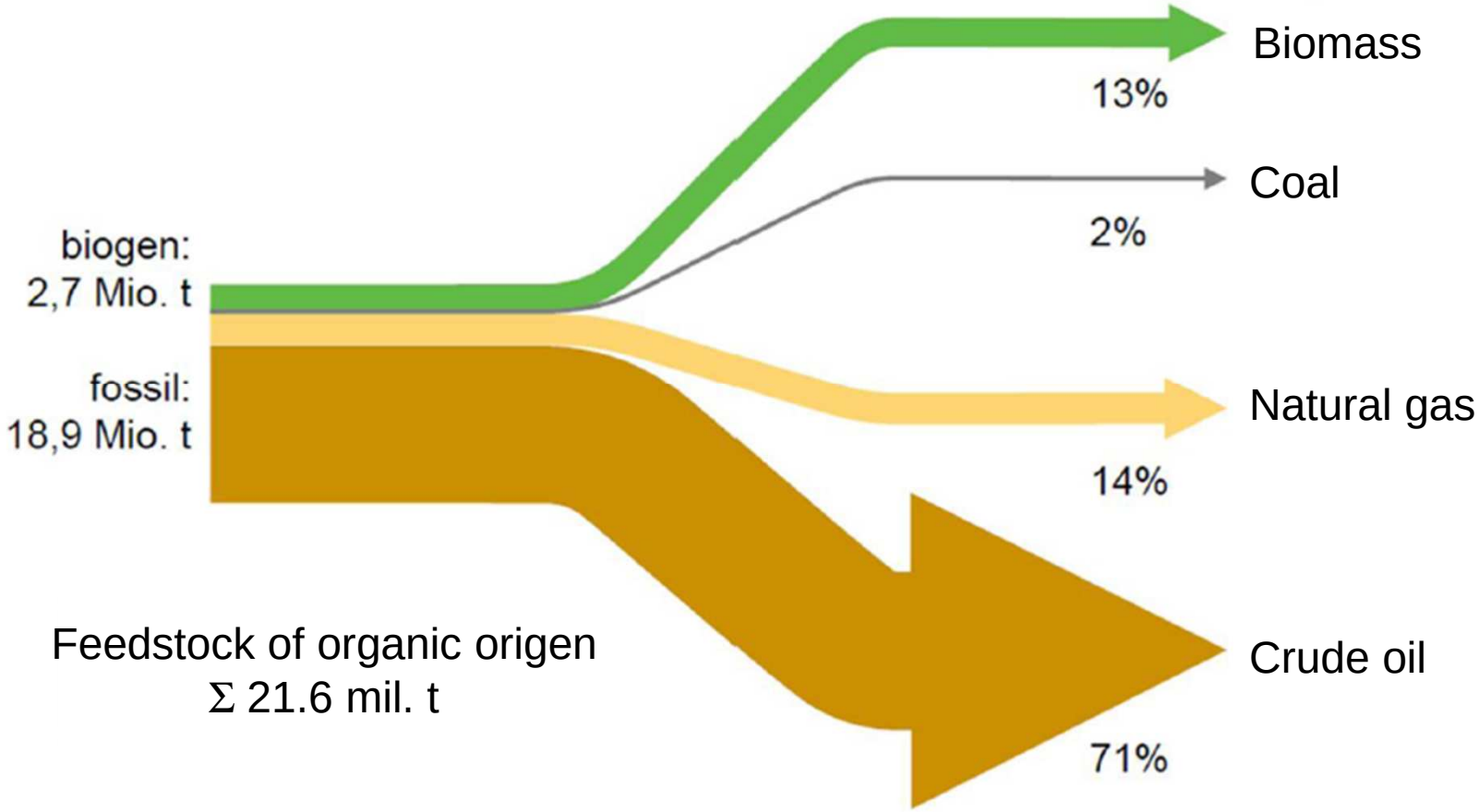
Biomass use in the chemical industry in 2011



Feedstock of organic origen
Σ 21.6 mil. t

Biomass related (national) policy issues

Various policy strategy paper exist that aim to foster the transition to a bio-based economy. The different papers address important issue such as feedstock, High-tech research strategy, biorefinery roadmap as well as a general policy strategy for a bioeconomy.

Biomass related (national) policy issues

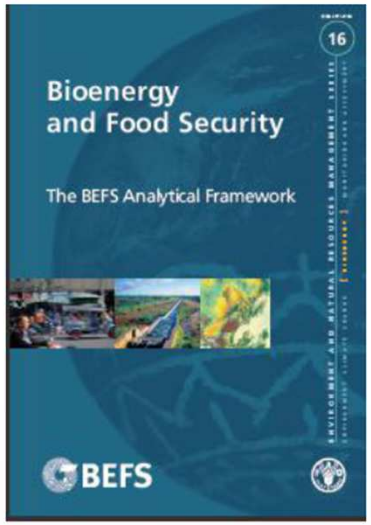
Bioenergy issues are regulated based on EU-Directive (2009/28/EC) and implemented into national law by the BLE , all related laws and regulations are provided at:
http://www.ble.de/EN/02_Control/05_SustainableBiomassProduction/SustainableBiomassProduction_node.html;jsessionid=991BA4491CCB74BFFFEC094470A66683.1_cid325

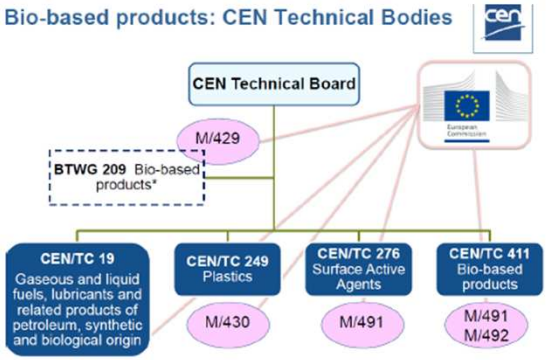
In order to foster investment in the field of renewable energy an inventive scheme (Erneuerbare-Energien-Gesetz or short EEG) was introduced in 2000. The scheme has boosted investment in the field of renewable energy, including bioenergy, but has also unintended site-effects. The law is updated on a regular basis, with the last update in 2014.
www.erneuerbare-energien.de

No comparable law exist for the material use of biomass, consequently no level playing field exist for the utilisation of biomass

Biomass related sustainability issues

Sustainability is a global and cross-sectoral issue and is discussed at national, European and international level





Biomass related sustainability issues

Biomass is needed as feedstock and its sustainable appropriation is increasingly important. Therefore an initiative encompassing various stakeholders along the supply chain has started. The aim of the German initiative is to reach an industrial agreement with companies on a voluntary certification scheme of biomass to the point of first processing.

http://www.inro-biomasse.de/en.htm

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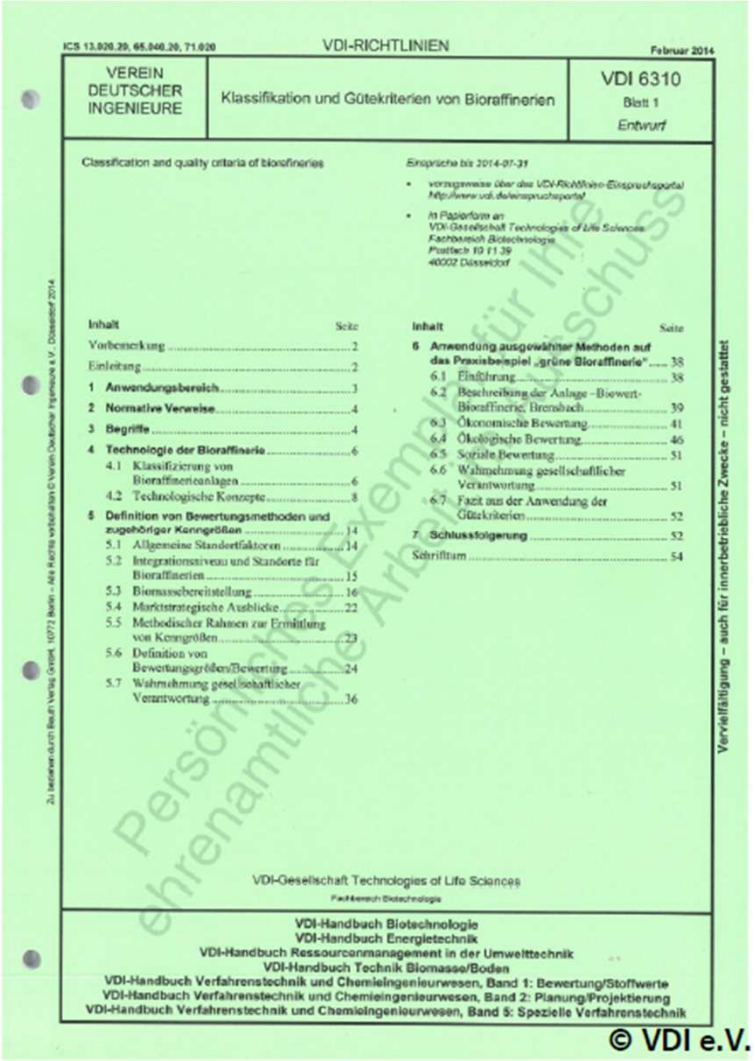
Guidance for economic operators

The Association of German Engineers (VDI) has produced a guidance document (VDI 6310) “Classification and quality criteria of biorefineries.

The Green-print version is published in May 2014 and the final version is expected to be published late 2014 or beginning 2015.



ICS 13.020.20, 65.040.20, 71.020 VDI-RICHTLINIEN Februar 2014

VEREIN DEUTSCHER INGENIEURE	Klassifikation und Gütekriterien von Bioraffinerien	VDI 6310 Blatt 1 *Entwurf*

Classification and quality criteria of biorefineries

Einsprüche bis 2014-07-31

- *vorzugsweise über das VDI-Richtlinien-Einspruchsportal http://www.vdi.de/einspruchsportal*
- *in Papierform an VDI-Gesellschaft Technologies of Life Sciences Fachbereich Biotechnologie Postfach 10 11 39 40002 Düsseldorf*

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VDI-Gesellschaft Technologies of Life Sciences

Fachbereich Biotechnologie

VDI-Handbuch Biotechnologie
VDI-Handbuch Energietechnik
VDI-Handbuch Ressourcenmanagement in der Umwelttechnik
VDI-Handbuch Technik Biomasse/Boden
VDI-Handbuch Verfahrenstechnik und Chemieingenieurwesen, Band 1: Bewertung/Stoffwerte
VDI-Handbuch Verfahrenstechnik und Chemieingenieurwesen, Band 2: Planung/Projektierung
VDI-Handbuch Verfahrenstechnik und Chemieingenieurwesen, Band 5: Spezielle Verfahrenstechnik

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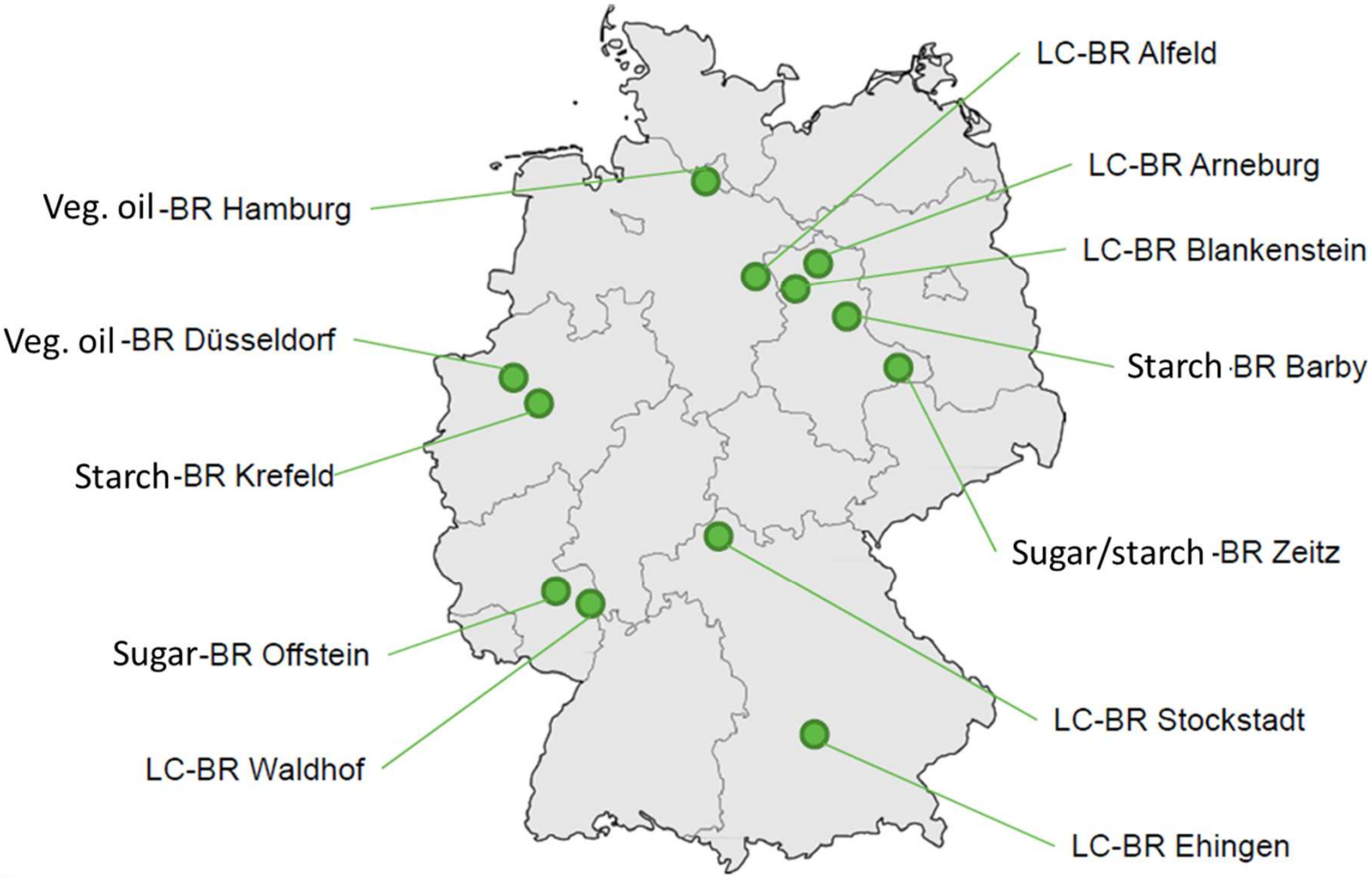
Running commercial bottom-up biorefineries



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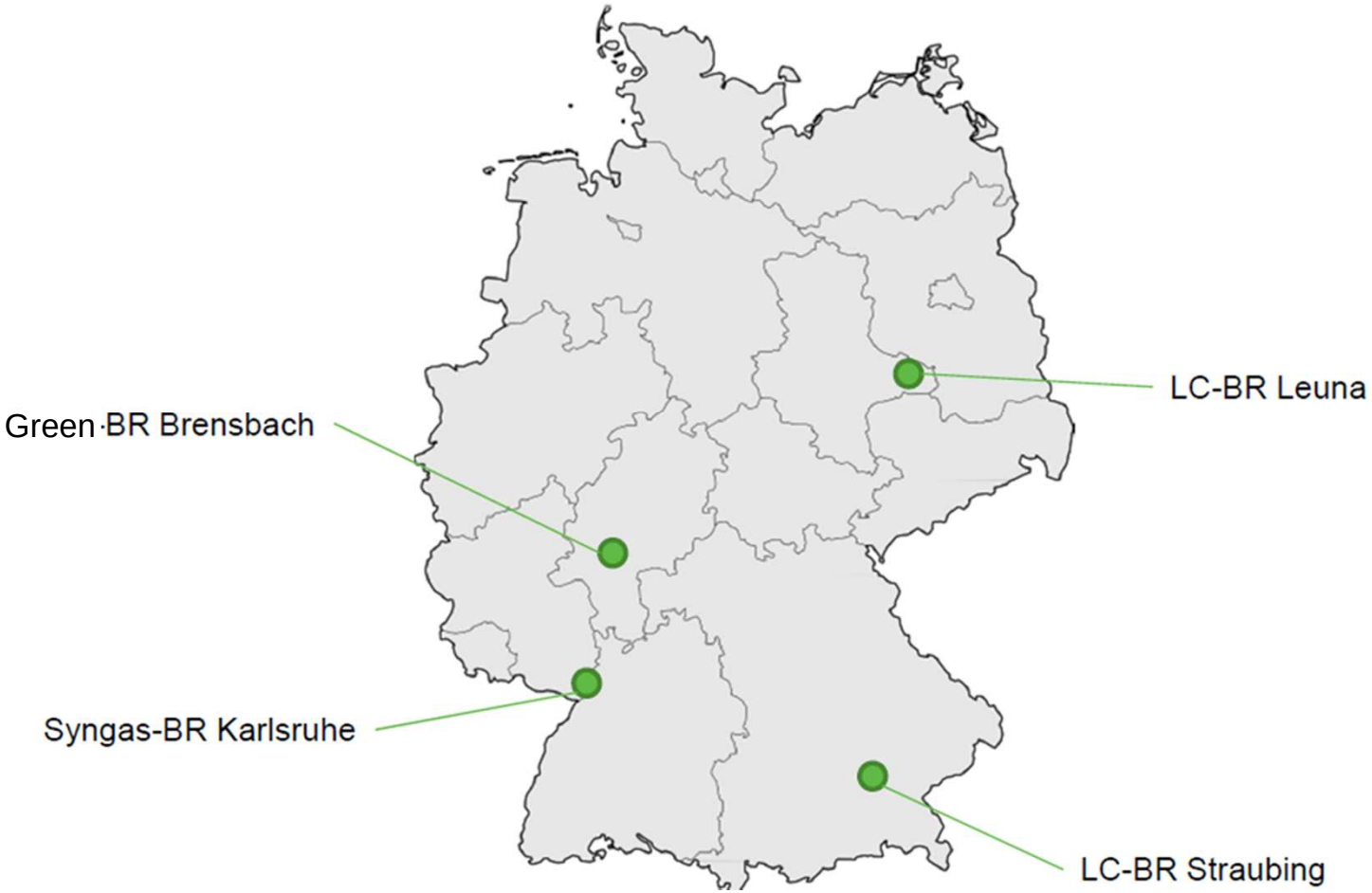
Commercial and demonstration top-down biorefineries



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Selected national stakeholders involved in the field of biorefining

Companies	Federations/ networks	Research/ Science	Ministries/ Authorities	NGOs
www.basf.de	www.dechema.de	www.ti.bund.de	www.bmel.de	www.wwf.de
www.beiersdorf.de	www.staerkeverband.de	www.iinas.de	www.bmbf.de	www.nabu.de
www.evonik.de	www.ovid-verband.de	www.nova-institute.eu	www.bmu.de	www.welthungerhilfe.de
www.fuchs-europe.de	www.vci.de	www.umsicht.fraunhofer.de	www.fnr.de	www.brot-fuer-welt.de
www.henkel.de	www.ibbnetzwerk-gmbh.de	www.dbfz.de	www.ble.de	
www.nordzucker.de	www.vdp-online.de	www.cbp.fraunhofer.de	www.errma.com	
www.suedzucker.de	www.biorn.org/de/	www.kit.edu		
www.linde-engineering.com	www.bio.nrw.de/en/home	www.ifeu.de		
www.cargill.com				

Germany's bioregions

Germany's "bioregions" provide a platform for industrial development, facilitating the organic interaction of corporate and institutional resources.

A searchable web-based biotech database covering more than 1,200 companies and research institutes can be found on the biotechnology information portal of the Federal Ministry of Education and Research.
www.biotechnologie.de/BIO/Navigation/EN/database.html

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www.IEA-Bioenergy.Task42-Biorefineries.com