

ISCC Regional Stakeholder Dialogue, São Paulo, October 20, 2015

Update ISCC and ISCC PLUS and regulatory framework conditions in Europe

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2	Certification of Biomethane
3	Biodiverse Grassland
4	Biobased Economy, Food and Feed Markets
5	Latest ISCC Facts & Figures

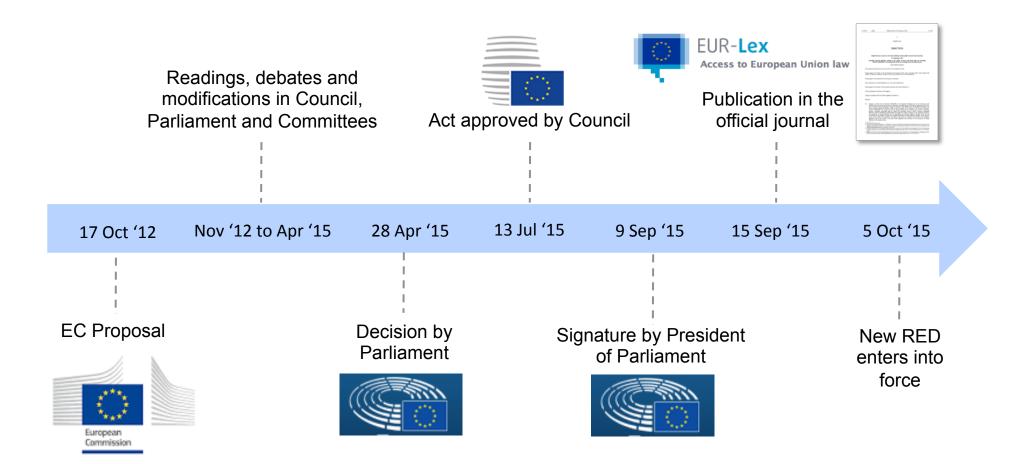


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After many years of institutional debate, the amended RED directive entered into force on 5 October 2015



Directive amending RED/FQD: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:JOL_2015_239_R_0001&from=EN



The amended RED affects the biofuel policy until 2020 and poses many challenges to the biofuel industry

DIRECTIVES

DIRECTIVE (EU) 2015/1513 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 9 September 2015

amending Directive 98/70/EC relating to the quality of petrol and diesel fuels and amending Directive 2009/28/EC on the promotion of the use of energy from renewable sources

'ANNEX IX

Part A. Feedstocks and fuels, the contribution of which towards the target referred to in the first subparagraph of Article 3(4) shall be considered to be twice their energy content:

- (a) Algae if cultivated on land in ponds or photobioreactors.
- (b) Biomass fraction of mixed municipal waste, but not separated household waste subject to recycling targets under point (a) of Article 11(2) of Directive 2008/98/EC.
- (c) Bio-waste as defined in Article 3(4) of Directive 2008/98/EC from private households subject to separate collection as defined in Article 3(11) of that Directive.
- (d) Biomass fraction of industrial waste not fit for use in the food or feed chain, including material from retail and wholesale and the agro-food and fish and aquaculture industry, and excluding feedstocks listed in part B of this Annex.
- (e) Straw
- (f) Animal manure and sewage sludge.
- (g) Palm oil mill effluent and empty palm fruit bunches.
- (h) Tall oil pitch.
- (i) Crude glycerine.
- (j) Bagasse.
- (k) Grape marcs and wine lees.

- 7% cap on food/feed crop biofuels
- Provisional ILUC factors
- 0.5% mandate for advanced biofuels
- New obligations for Voluntary schemes:
 - Regular reporting to the Commission
 - Transparency
- Review clause for:
 - ILUC factors
 - Default values
 - Energy content of transport fuel
- Annex IX: feedstocks and fuels, the contribution of which towards the target (...) shall be considered to be twice their energy content
- New requirements will be incorporated into ISCC system documents for re-recognition



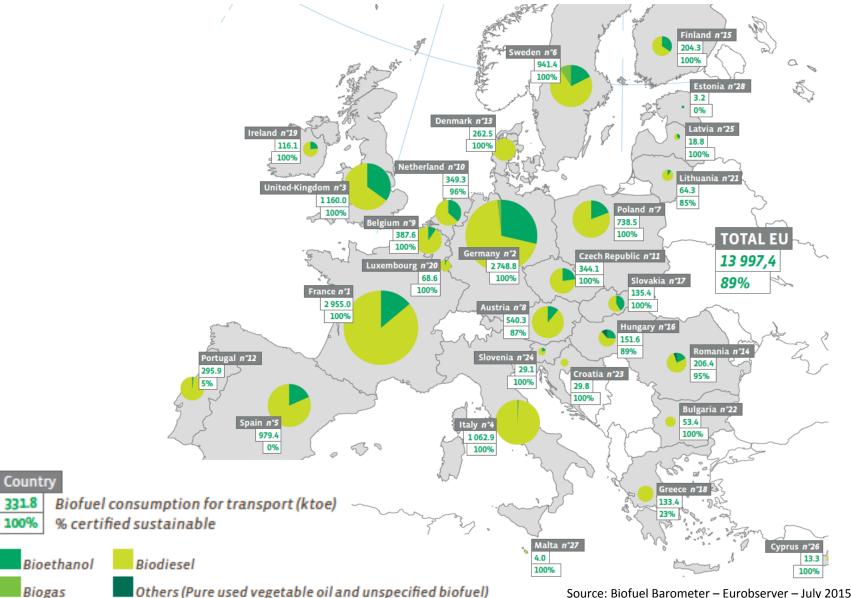
Minimum biofuel incorporation target in EU Member States

Country	Overall target	Target for petrol	Target for diesel
France	7.57%	7.00%	7.70%
Poland	7.10%		
Slovenia	7.00%		
Sweden	6.41%	3.20%	8.78%
Germany	6.25%	2.80%	4.40%
Finland	6.00%		
Lithuania	5.80%	3.34%	6.45%
Austria	5.75%	3.40%	6.30%
Denmark	5.75%		
Portugal	5.50%		
Netherlands	5.50%	3.50%	3.50%
Belgium	5.09%	2.66%	5.53%
Ireland	4.94%		
Bulgaria	4.94%	3.34%	5.53%
Hungary	4.90%	4.90%	4.90%
Romania	4.79%	3.00%	5.53%
Luxembourg	4.75%		
Czech Republic	4.57%	2.73%	5.53%
Slovakia	4.50%	2.73%	6.27%
Italy	4.50%		
Malta	4.50%		
Spain	4.10%	3.90%	4.10%
United kingdom	3.90%		
Greece	2.64%		
Croatia	2.06%		
Mean target	5.15%	3.58%	5.81%

Source: Biofuel Barometer – Eurobserver – July 2015.



Biofuel consumption in the transport sector in EU Member States (kilo tons of oil equivalents)



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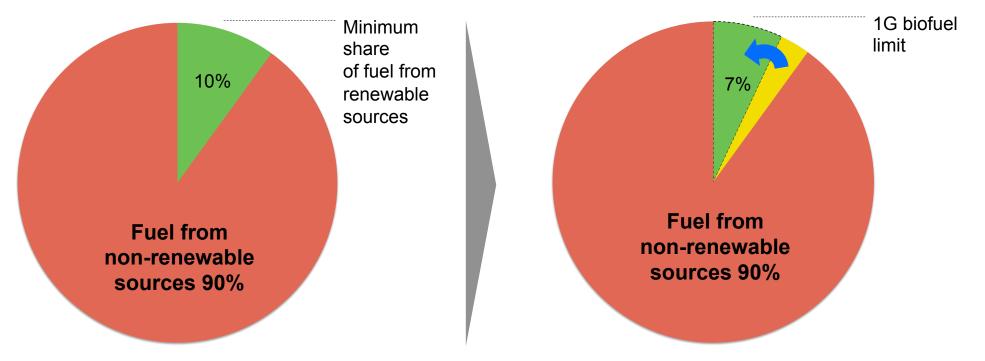
Source: Biofuel Barometer - Eurobserver - July 2015.

Use of food crops for the production of biofuels is limited to 7% of total fuel consumption

Old RED Directive, Art. 3 Par. 4: (Each Member State shall ensure that the share of energy from renewable sources in all forms of transport in 2020 is at least 10 % of the final consumption of energy in transport in that Member State.

Amended RED Directive:

For the calculation of biofuels (...), the share of energy from biofuels produced from (...) **food crops** (...) shall be **no more than 7 %** of the final consumption of energy in transport in the Member States in 2020.





Increasing GHG emission savings requirement for old and new installations

60 % 60 50 % 50 40 35 % 30 20 10 0 until Oct 4, 2015 Oct 5, 2015 2017 2018 2020 New installations Old installations

Amended RED GHG saving requirements

Amended RED GHG saving requirements:

- Today: 35 % (existing installations)
- 60 % for new installations starting operations after October 5, 2015
- 50 % for installations operational before October 5, 2015 from January 1, 2018 onwards



% GHG saving compared

to fossil fuel

The amended RED defines "renewable liquid and gaseous transport fuels of non-biological origin". Certification under ISCC possible

DIR 2015/2013



- Liquid and gaseous fuels other than biofuels whose energy content comes from renewable energy sources other than biomass, and which are used in transport
- "Renewable liquid and gaseous transport fuels of non-biological origin" are listed under Annex IX (feedstocks and fuels, the contribution of which towards the target referred to(...) shall be considered to be twice their energy content

Examples

- Organic municipal solid waste (e.g. plastic waste) and other industrial wastes (e.g. end-of-life tires)
- Feedstocks from carbon capture:
 - CO₂ from naturally occurring sources (such as geological emissions) or waste sources
 - Other, CO₂ and/or CO and/or hydrogen containing gaseous waste streams



New annex IX contains list with feedstock and fuels that can be considered twice their energy content towards national targets (I)

Annex IX, Part A: Feedstocks and fuels, the contribution of which towards the target referred to in the first subparagraph of Article 3(4) shall be considered to be twice their energy content:

- a) Algae if cultivated on land in ponds or photobioreactors
- b) Biomass fraction of mixed municipal waste, but not separated household waste subject to recycling targets (...)
- c) Bio-waste (...) from private households subject to separate collection (...)
- d) Biomass fraction of industrial waste not fit for use in the food or feed chain, including material from retail and wholesale and the agro-food and fish and aquaculture industry, and excluding feedstocks listed in part B of this annex
- e) Straw
- f) Animal manure and sewage sludge
- g) Palm oil mill effluent and empty palm fruit bunches
- h) Tall oil pitch
- i) Crude glycerine
- j) Bagasse
- k) Grape marcs and wine lees
- I) Nut shells
- m) Husks
- n) Cobs cleaned of kernels of corn
- o) Biomass fraction of wastes and residues from forestry and forest-based industries (e.g. bark, branches, pre-commercial thinnings, leaves, needles, tree tops, saw dust, cutter shavings, black liquor, fibre sludge, lignin and tall oil)
- p) Other non-food cellulosic material (...)
- q) Other ligno-cellulosic material (...) except saw logs and veneer logs
- r) Renewable liquid and gaseous transport fuels of non-biological origin



New annex IX contains list with feedstock and fuels that can be considered twice their energy content towards national targets (II)

Annex IX, Part A: Feedstocks and fuels, the contribution of which towards the target referred to in the first subparagraph of Article 3(4) shall be considered to be twice their energy content (continued):

- s) Carbon capture and utilisation for transport purposes, if the energy sources is renewable in accordance with point (a) of the second paragraph of Art. 2
- t) Bacteria, if the energy source is renewable (...)

Annex IX, Part B: Feedstocks, the contribution of which towards the target referred to in the first subparagraph of Article 3(4) shall be considered to be twice their energy content:

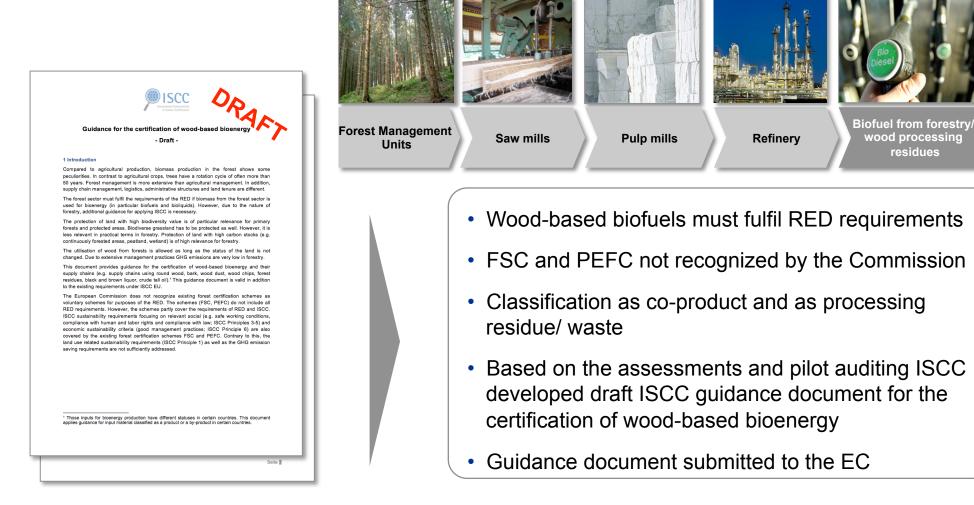
- a) Used cooking oil
- Animal fats classified as category 1 and 2 in accordance with Regulation (EC) No 1069/2009 of the European Parliament and of the Council (*)

(*) Regulation (EC) No 1069/2009 of the European Parliament and the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption (...)

Biofuels produced out of feedstocks mentioned in Annex IX, Part B, do not count towards the national target of advanced biofuels (0.5%)



Certification of wood-based biofuels

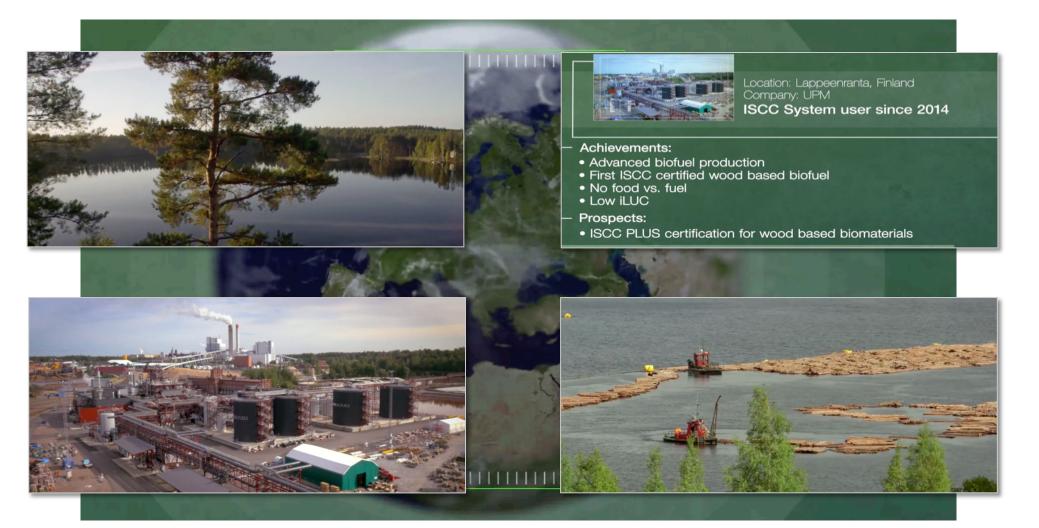




residues

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Certification of wood-based supply chains: Example UPM in Finland



Trailer available at www.iscc-system.org



Mandatory sustainability requirements in the US/ Californian biofuels market



Renewable Fuels Standard 2 Overview

Fuel	RIN Code	% reduction from displaced gasoline/diese1 (2005 baseline)	Definition			
Renewable fuel	D6	20%	Fuel produced from renewable biomass and that is used to replace or reduce the quantity of fossil fuel present in a transportation fuel.**			
Advanced biofuel	D5	50%*	Renewable fuel other than ethanol derived from corn starch.			
Biomass-based diesel	D4	50%	Includes both biodiesel (mono-alkyl esters) and non-ester renewable diesel (including cellulosic diesel). It includes any diesel fuel made from biomass feedstocks.			
Cellulosic biofuel	D3	60%	Renewable fuel derived from any cellulose, hemicelluloses, or lignin each of which must originate from renewable biomass.			

Certification & Quality Assurance Programs; Business and buyers want verification RIN & LCFS credits



The Governor issued an Executive Order which will require additional reductions:

- GHG emissions reductions to 40% below 1990 levels by 2030 (interim step toward existing 80% by 2050 goal).
- All state agencies to implement appropriate measures
- ARB to update its climate change program scoping plan
- ARB has stated that the LCFS will play a major role in meeting the Governor's targets.
- Strong internal commitment to incorporate sustainability into the LCFS—and other programs.





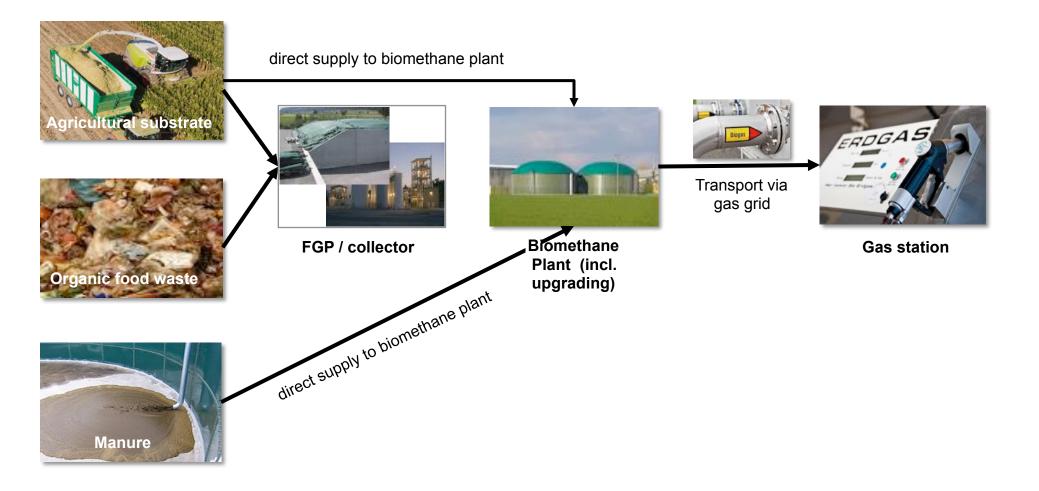
Source: EPA, Genscape; CARB, June 2015

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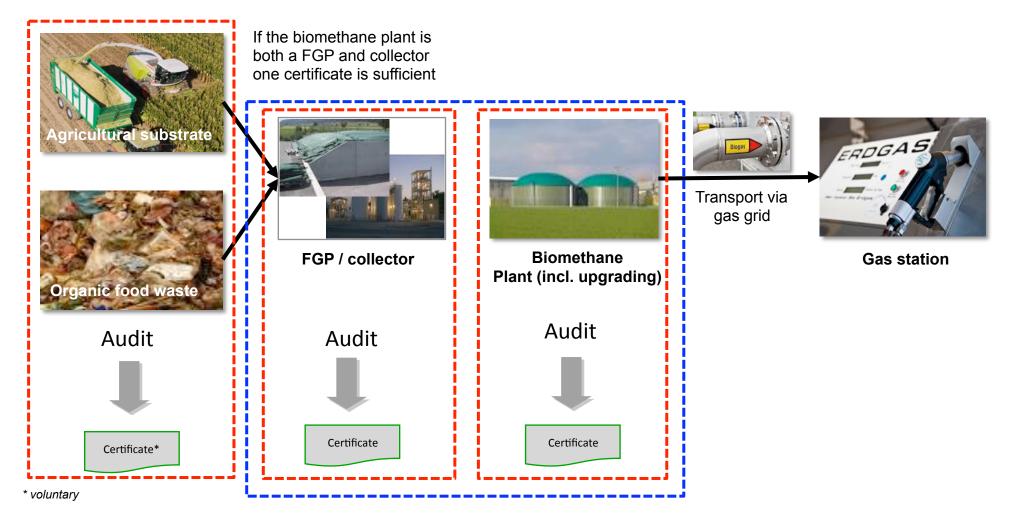


Agricultural substrates, manure and organic food wastes are relevant feedstocks. Biomethane can be transported via the gas grid





The whole supply chain has to be certified





Working group "Methane Reduction and Avoidance" established in Southeast Asia



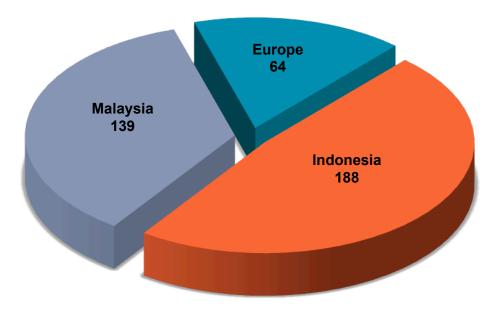




- Working group "Methane Reduction and Avoidance" (WGMR) was set up in the framework of the ISCC Technical Committee Southeast Asia
- Working group was established in March 2015
- Until today, methane capture is methodology that has been studied and used the most
- Not all mills have the capacity to install methane capture facilities
- Purpose of the working group:
 - To explore methodologies implemented in palm oil mills to reduce methane emissions from open ponds other than methane capture
 - To collect and/or conduct studies on the calculation of methane reduction compliant with methodologies accepted by the RED
 - Create awareness for urgency of topic and produce results in as quickly as possible (threshold for minimum GHG reduction and implementation in FQD is coming up)



Around 400 certificates are valid in the palm oil sector – ISCC is ready to certify palm oil operations in Latin America



Certificates per type	Indonesia	Malaysia	Europe
Cultivation of palm*	108	93	/
Oil Mill	131	95	/
Refinery	34	22	31
Biodiesel Plant	7	21	43

Numbers as of 15 September 2015. Each certificate may be issued for more than one product and type of operation. *Includes certificates for central offices and first gathering points of palm



Only few palm oil mills have implemented technical measures to reduce methane emissions from POME ponds



Oil mill without methane capure

Oil mill with methane capture

→ Within ISCC, options can be integrated. Different options and specific GHG data must be evaluated



Significant improvement of GHG performance of PME if captured methane could be purified and further used

Methane captured at palm oil mills



Local heat/ power production

Regional/ national energetic use

Feedstock for the chemical industry

Fuel for gas cars









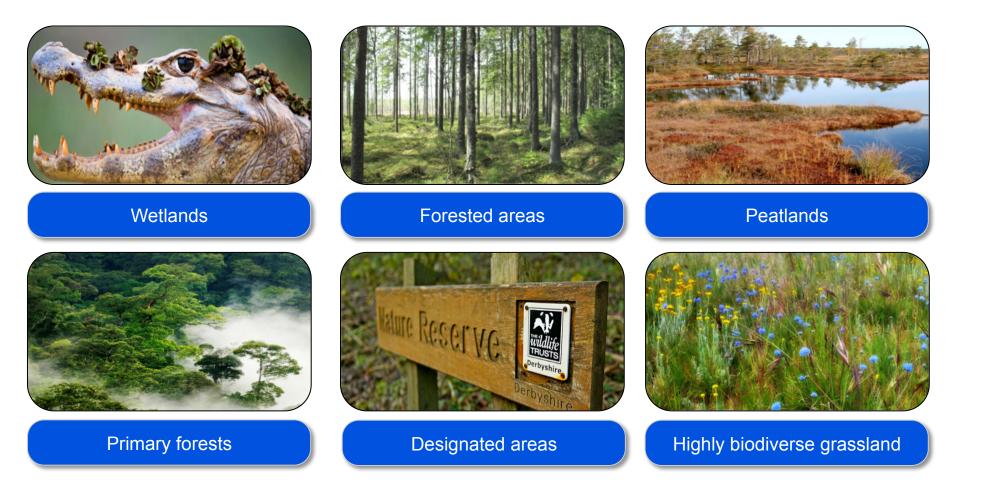


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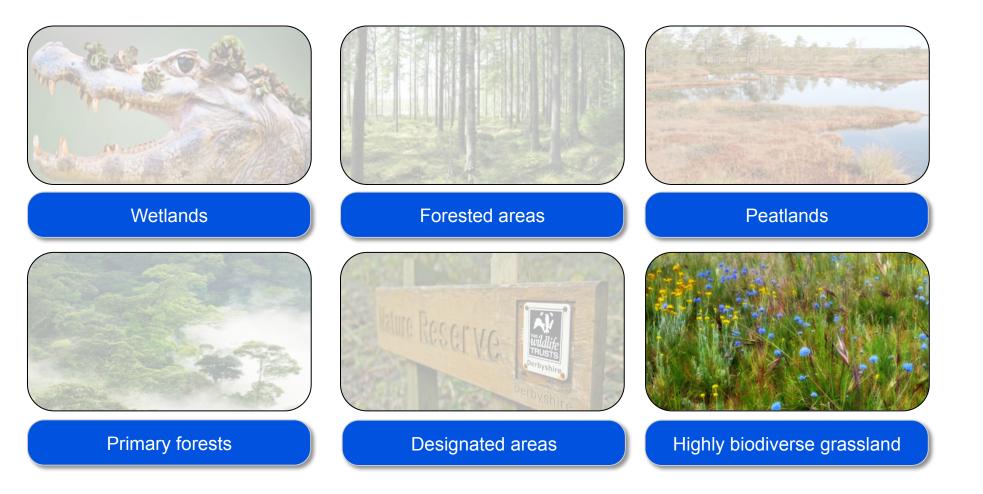


Within ISCC, biodiverse and carbon rich areas are protected. Land use change after January 2008 is not allowed





Since 1 October 2015 the Regulation of the EC regarding highly biodiverse grassland applies





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ability of Biofuels and Bioliquids established by Article 25(2) of Directive 2009/28/EC, () 011.350, 231.21992, p. 58. () 011.40, 53.2009, 88.		level. Therefore, this Re	gulation provides geographic ranges only for those highly biodiverse g	ble at international rrasslands for which
(²) OJ L 140, 5.6.2009, p. 88.	344			nmittee on Sustain-
	12	(²) OJ L 140, 5.6.2009, p. 88.		

Regulation sets criteria and geographic ranges of highly biodiverse grassland to comply with the RED and FQD

Highly biodiverse grassland may include heaths, pastures, meadows, savannahs, steppes, scrubland, tundra and prairies

Article 1:

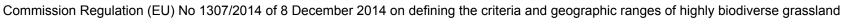
 Definition of terms grassland, natural, non- natural highly biodiverse grassland and human intervention

Article 2:

Definition of geographic ranges of the EU in which grassland shall always be regarded as highly biodiverse

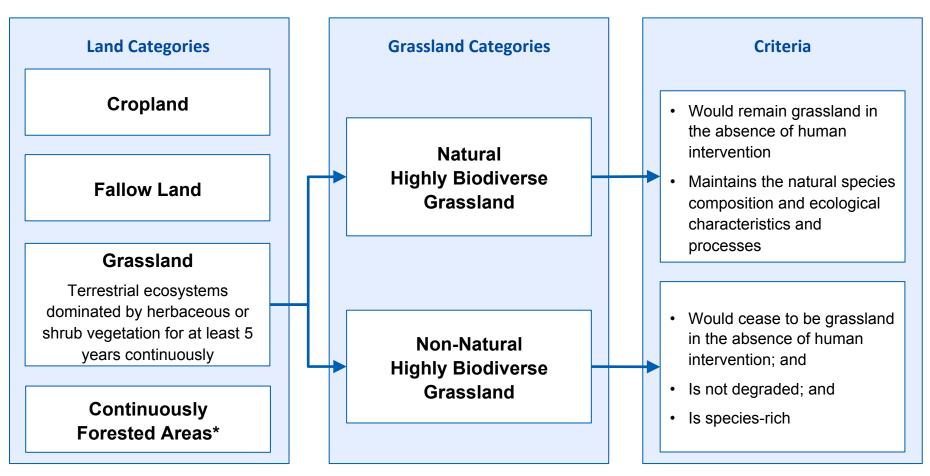
Article 3:

 Where evidence is provided that harvesting of raw material is necessary to preserve grassland status, no further evidence for compliance has to be shown





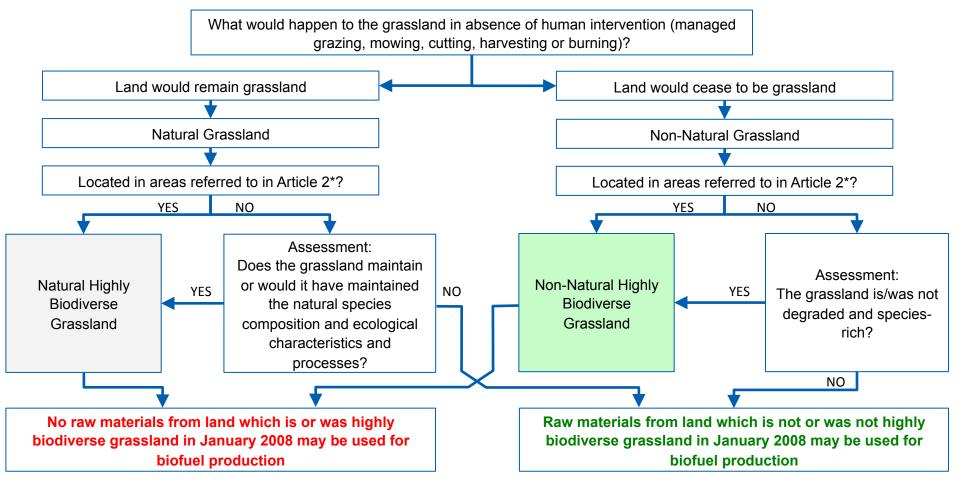
With the new regulation in place a conversion of grassland is possible if it can be demonstrated that it is not highly biodiverse



* Excluding agroforestry systems, which include land-use systems where trees are managed together with crops



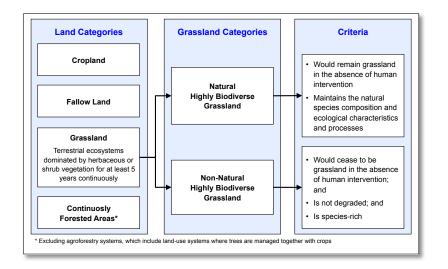
ISCC has developed a guidance to assess status of grassland. Until recognition by EC conversion of grassland remains prohibited



* Commission Regulation (EU) No 1307/2014 of 8 December 2014 on defining the criteria and geographic ranges of highly biodiverse grassland



Highly biodiverse grassland: Assessment of High Biodiversity



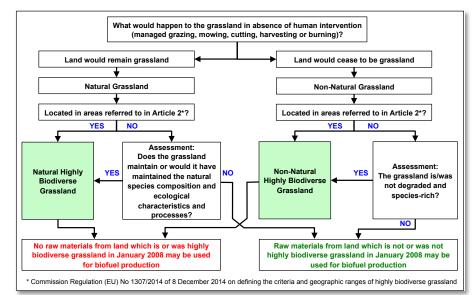
Independent expert:

Establishes case by case whether a specific area is, or was highly biodiverse grassland

- External, independent and no conflict of interest
- Tertiary education with a focus on biology and/or biodiversity, Specific qualification for the purpose of assessing the biodiversity of an area
- Knowledge of local conditions and relevant tools

CB auditor:

Establishes whether an assessment is/was necessary (depending on the land category), whether it came to the conclusion claimed by the operator and whether the expert that conducted the assessment fulfilled all requirements





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State of affairs of sustainability certification in different markets

Energy	 Mandatory sustainability requirements in the EU biofuels markets already in place since 2010 Sustainability requirements for solid biomass (e.g. for wood pellets) under discussion
Food	 Procurement guidelines and zero net deforestation for 2020 by Consumer Goods Forum Company specific programs (e.g. Unilever, McDonalds)
Feed	 European Feed Association (FEFAC) committed to responsibly produced soy; standard being developed, benchmarking of different schemes by ITC Initiatives to foster regional supplies (e.g. Danube soy)
Chemistry	 Government supported initiatives (INRO, GreenDeal) to define sustainability requirement for biobased chemicals Several companies already certified (e.g. SABIC, Braskem, NatureWorks, Neste, Elopak)



More and more companies commit to zero-deforestation (I)



Ensure traceability of palm oil and palm kernel oil to our supplier mills by December 31, 2015 and to plantations by 2020 to ensure zero deforestation in our palm oil supply chain



Working with governments and other partners to embed no-deforestation objectives into national and international policies



McDonald's is committed to eliminating deforestation from our global supply chains



We support a zero-tolerance approach to deforestation

MARS

Our deforestation policy targets our four raw materials with the greatest impacts on forests: beef, palm oil, pulp and paper and soy. By 2020, these supply chains will be deforestation free



More and more companies commit to zero-deforestation (II)



Danone committed to a forest footprint policy in 2012 to eliminate deforestation impacts from its supply chain by the year 2020



No Deforestation of High Carbon Stock (HCS) Forests or High Conservation Value (HCV) Areas



ĽORÉAĽ

L'Oréal committed to zero deforestation and says it will source 100 percent renewable raw materials from sustainable sources by 2020



"... to ensure that products have not led to deforestation and that Nestlé and its suppliers are responsible stewards of the forests and forested areas from which they are sourcing materials"



The recently released FEFAC soy sourcing guidelines are criticised by NGOs as not sufficiently addressing deforestation



Sources: www.fefac.eu, www.feednavigator.com



Bio-based chemicals are a strong driving force behind the ISCC PLUS growth





ISCC PLUS certified oilseeds are taking off: ADM production facilities recently received ISCC PLUS certification for feed and food markets

HOME BUSINESS & MARKETS & WORLD & POLITICS & TECH & OPINION & BREAKINGVIEWS & MONEY

Press Release | Fri Aug 21, 2015 5:30am EDT

ISCC PLUS certified oilseeds are taking off

Reuters is not responsible for the content in this press release.

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ISCC System GmbH / ISCC PLUS certified oilseeds are taking off . Processed and transmitted by NASDAQ OMX Corporate Solutions. The issuer is solely responsible for the content of this announcement.

Cologne, 21 August 2015

Sustainable Edible Oils

In order to enhance the sustainability of their softseed supply chain, several ADM Oilseeds production facilities in Europe have been ISCC PLUS-certified. This enables them to supply the food industry with certified sustainable edible oils from crops including rapeseed and sunflower seeds.

"ISCC remains one of Europe's most respected sustainability schemes, which makes ISCC PLUS the perfect infrastructure to ensure sustainability throughout the supply chain - from the farm to the consumer," explains Albrecht Baetge, ADM, Sustainability Manager Europe. "ISCC's existing structure and experience are clear advantages of the ISCC PLUS standards for food and feed oils compared to other programs, and therefore easily complies with sustainability requirements of major food oils customers."

Through the ADM Sustainable Oilseeds Program, which is based on ISCC PLUS principles, participating rapeseed and sunflower growers in Poland, Slovakia, Hungary and the Czech Republic are developing environmental management systems and implementing sustainable agricultural practices that address soil fertility, water protection, energy efficiency and biodiversity protection. Farms are subject to audits to help ensure

Joint ISCC and ADM press release from 21 August 2015



Number of certificate	certificate holder ≑	certified _{\$} as	in put 🗢	add-ons \$	product _{\$}	valid from ^{\$}	valid until ÷	issued by	map -	certificate \$	audit report ^{\$}
ISCC-PLUS- Cert-DE105-83276801	ADM Paraguay S.R.L., Villeta - Central, Paraguay	ОМ	Soybean	-	FEED	19.08.2015	18.08.2016	PCU	۲	₹	
ISCC-PLUS- Cert-10015104	ADM Europoort B.V., Europoort Rotterdam, Netherlands	OM, RE	Rape/canola, Soybean	GHG	FEED, FOOD	29.06.2015	28.06.2016	SGS	۲	₹À	
ISCC-PLUS- Cert-10015103	ADM Prague s.r.o, Prague, Olomouc, Czech Republic	OM, RE	Rape/canola, Sunflower	GHG	FEED, FOOD	05.06.2015	04.06.2016	SGS	۲	1	
ISCC-PLUS- Cert-10015095	ADM Szamotuly Sp. z o.o., Szamotuly, Poland	OM, RE	Rape/canola	GHG	FEED, FOOD	05.05.2015	04.05.2016	SGS	۲	₹	
ISCC-PLUS- Cert-10015092	ADM Hamburg Aktiengesellschaft, Hamburg, Germany	OM, RE	Rape/canola, Soybean, Palm	GHG	FEED, FOOD	25.03.2015	24.03.2016	SGS	۲	Ż	
ISCC-PLUS- Cert-10015088	ADM Spyck GmbH, Kleve, Germany	OM, RE	Rape/canola, Sunflower	GHG	FEED, FOOD	19.02.2015	18.02.2016	SGS	۲	₹	
ISCC-PLUS- Cert-10015089	ADM Spyck GmbH, Straubing, Germany	OM, RE	Rape/canola	-	FEED, FOOD	19.02.2015	18.02.2016	SGS	۲	1	
ISCC-PLUS- Cert-10015087	ADM Mainz GmbH, Mainz, Germany	OM, RE	Soybean	GHG	FEED, FOOD	12.02.2015	11.02.2016	SGS	۲	Z	



Argentina: First ISCC PLUS certificate for Camelina production in South America







- Certificate has been issued for Argentinian company Chacraservicos
- Camelina is used in food, feed and biochemical industry, as well as for biodiesel or jet fuel production
- Camelina is low in demand and can be grown on areas where cultivation of other crops is not viable (i.e. interesting crop alternative for marginal or abandoned fields)
- ISCC article from 5 October 2015 with further information on Camelina certification (see www.iscc-system.org)



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Brazil: First ISCC PLUS certificate for sugar cane production and ethanol plant

ODEBRECHT



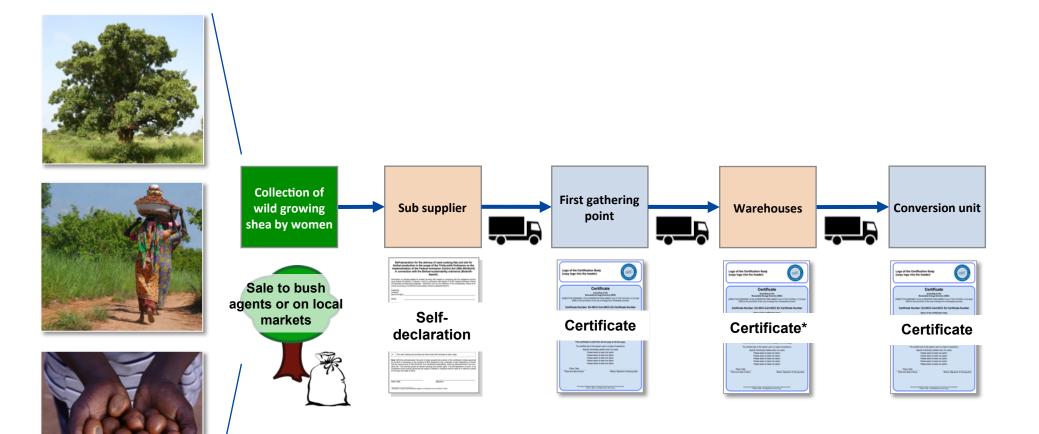




- Certificate has been issued for Usina Conquista do Pointal
- Production of bioethanol as feedstock for chemical / bioplastics industry
- So far, 320 ISCC certificates for ethanol plants have been issued
- Further ethanol plants in South America in Bolivia, Costa Rica, Guatemala, Nicaragua, Panama and Peru ISCC certified

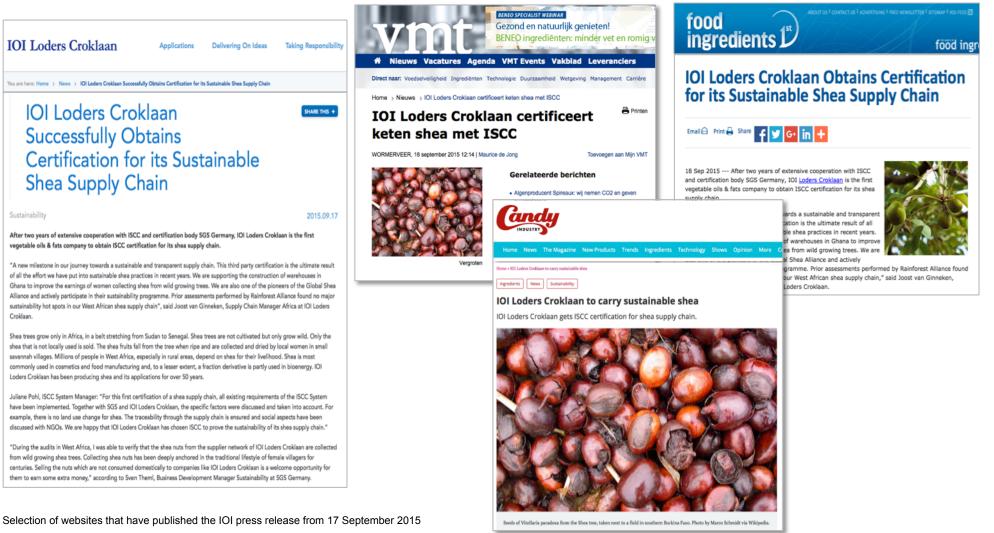


In July 2015 the first ISCC certificates for the collection of wild growing shea have been issued





IOI's press release on the shea certification has been internationally shared on various websites





ISCC supports companies and initiatives striving for sustainable and deforestation-free food, feed and biochemcial supply chains

- Unilever: ISCC PLUS (with Add-ons Environmental Management and Biodiversity and Classified Chemicals) fully recognized. ISCC PLUS is considered fully equivalent to the Unilever Sustainable Agriculture Code
- Sustainable Agriculture Initiative: ISCC supports the the Sustainable Agriculture Initiative, SAI.
- Consumer Goods Forum: ISCC is one of the recommended standards to prove the compliance with the criteria set by the Consumer Goods Forum (currently for soy)
- IDH: ISCC cooperates with the sustainable trade initiative (IDH)
- Forum Sustainable Palm Oil: ISCC PLUS is one of the recognized standards in the German forum
- INRO: ISCC is recognized by the German Initiative for sustainable supply of raw materials for the industrial use of biomass (INRO)
- Green Deal: ISCC is a partner of Green Deal the Dutch initiative to set up sustainability criteria for biobased polymer products
- Declaration of Abu Dhabi: ISCC is one of the first signatories of the Abu Dhabi declaration initiated by GlobalGAP, International Trade Center and SAI















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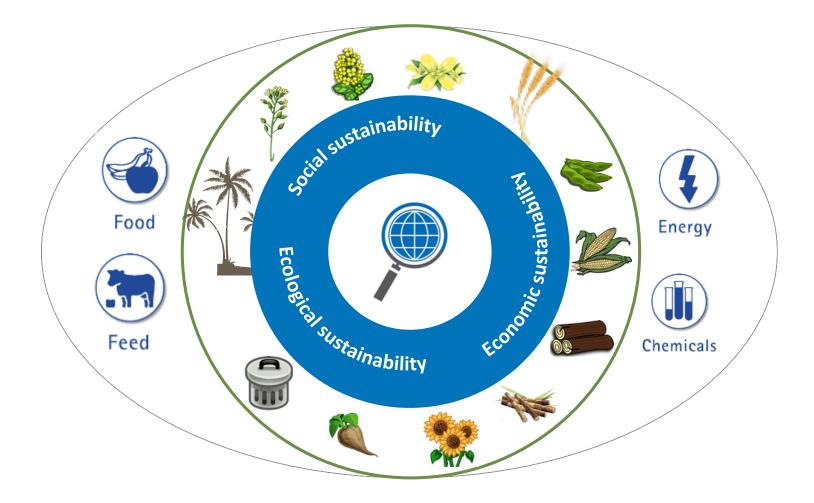


ISCC is a multistakeholder initiative. It is governed by an association with around 80 members. ISCC is open to new members



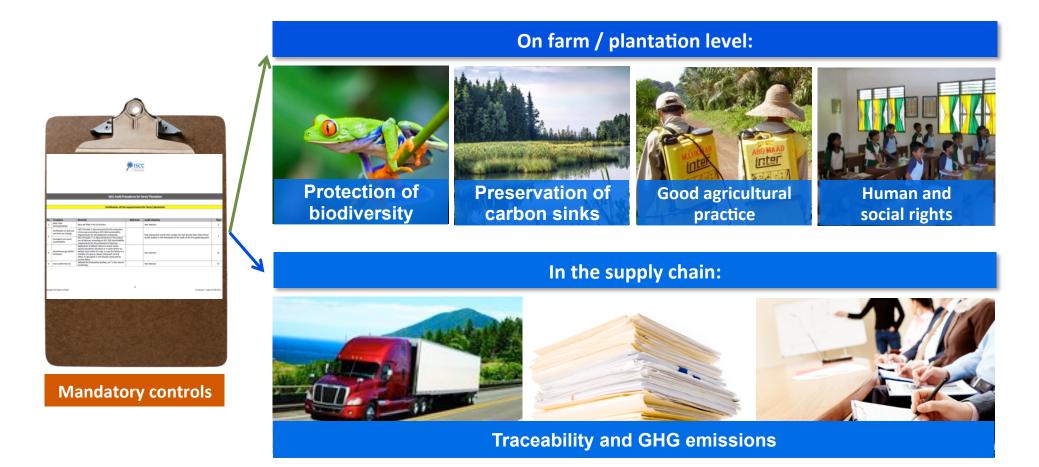


ISCC is a globally leading certification system for all kind of agricultural and alternative feedstock





Farmers /plantations have to meet a balanced set of ecological / social criteria, others get audited against traceability and GHG emissions



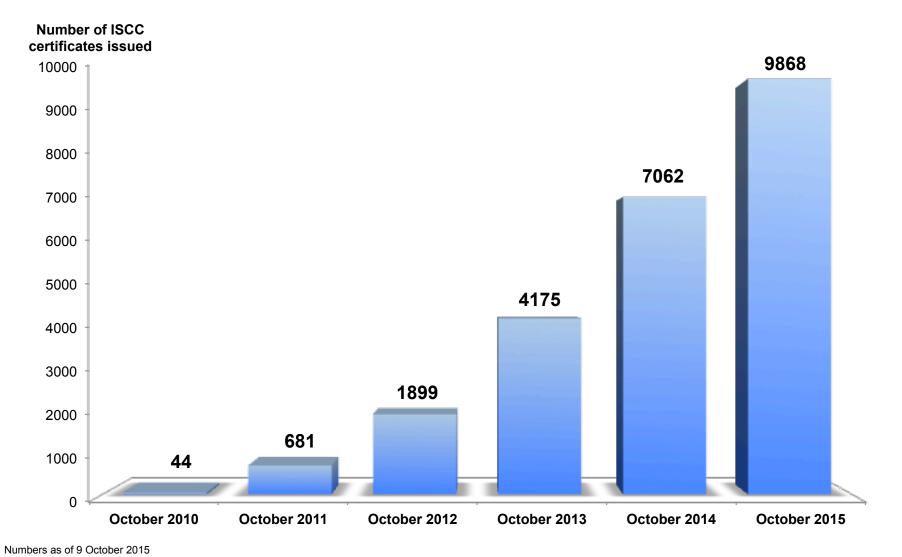


Currently, more than 3,000 system users in 100 countries



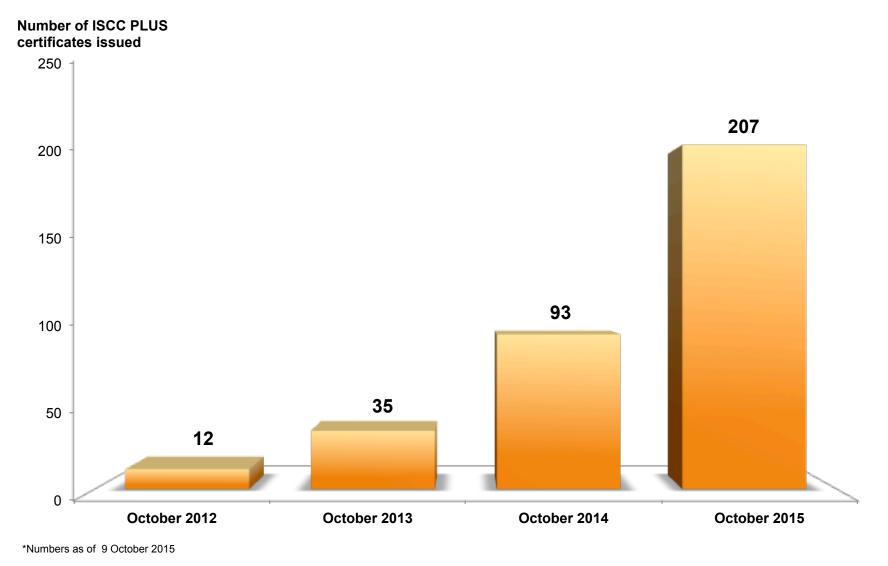


Since 2010 almost 10,000 ISCC certificates have been issued



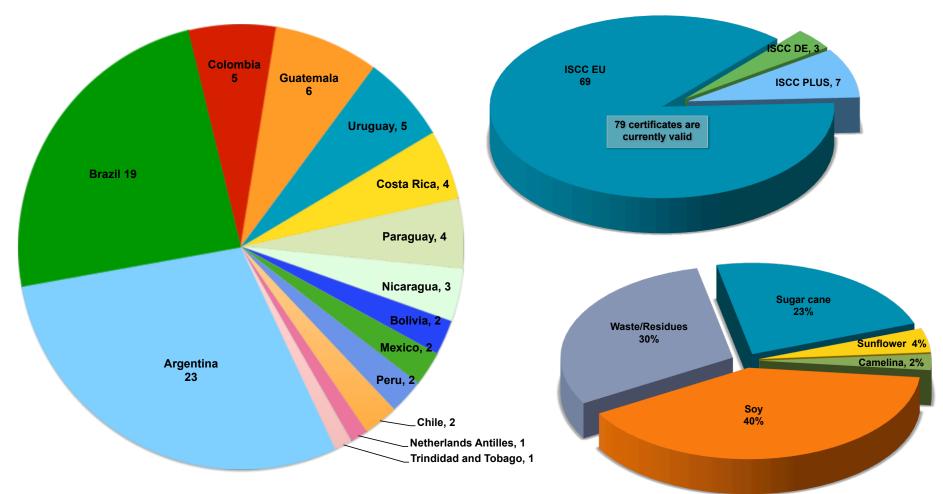
ISCC International Sustainability & Carbon Certification

Development of ISCC PLUS certificates since 2010





ISCC in South America – Valid certificates



*Numbers as of 2 October 2015. Each certificate may be issued for more than one product and type of operation.



Upcoming ISCC trainings and events in 2015 and 2016

- ISCC Basic Training Cologne (Germany), 27 – 29 October 2015
- ISCC Plantation Audit and Land Use Assessment Training Implementation of Deforestation-free supply chains Jakarta (Indonesia), 2 – 3 December 2015
- Meeting of working group "Land Use Change" Jakarta (Indonesia), 4 December 2015
- 6th ISCC Global Sustainability Conference Brussels (Belgium), 17 February 2016

