Soya Certification Options

1. Chain of Custody models

There are currently many certification options available, and these fall into the below Chain of Custody (CoC) model categories. To offer a consistent and transparent assessment of the certification options offered by different schemes, the categories are taken from the ISEAL 'Chain of Custody Models Guidance' document from 2016.[1] Categories are listed below in descending order of level of connection and transparency between the product and the sustainability claim, with Identity Preservation models providing the greatest connection, and certificate trading models the least.

1.1 Identity Preservation (IP)

In an IP model, certified material from a single source is kept separate from all other material throughout the supply chain, allowing maximum traceability from production to end use. This also results in separate documentation for each batch of single-source certified product from other certified and non-certified product.

It should be noted that there are limited situations where this would be applicable for a bulk commodity such as soya. If a company were to sell beans to the final consumer without processing then it would be possible to provide traceability to one IP source, but otherwise certified volumes are likely combined as part of processing.

1.2 Segregation

The segregation model ensures that produce from multiple certified sources is kept separate from that of uncertified sources throughout the supply chain, and that output quantities should correspond to the input quantities. Information on the origin of each certified source may be unavailable. Each organisation within the supply chain ensures that the minimum supply chain requirements for the segregation model are met. These specific requirements will be different for each scheme.

Mixed IP

This model can be considered a sub-type of IP and includes features of IP and Segregation models. In a mixed IP model, volumes of certified product from several IP sources are combined into a single volume, but the origin information of all composite volumes remains available.

1.3 Mass balance

A mass balance model involves the use of both certified and uncertified product. The volume of certified product entering the operation is controlled, and an equivalent amount can then be sold as certified. The physical mixing of certified and uncertified product is allowed but not required – the important thing is that the quantities of both are controlled and documented. Prior to entering the operation, the product may follow an IP or segregation model. There are three different types of mass balance model (described below) which are made distinct by two factors: whether physical mixing of product types occurs, and at what point segregation of product types is lost.

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[1] *'Chain of custody models and definitions'*, ISEAL, 2016.

Batch-level mass balance
This model maintains product segregation until mixing occurs for a specific batch of product. Volumes or certified and non-certified product are recorded so that the proportion of each in the final product is known. This type of model means that specific end-use claims can be made as the final product is assured of containing at least a proportion of certified product. For example, if one-third of the final product consists of certified product, the supply chain operator can either claim that all products contain 33% certified content, or label 33% of products as certified.

Site-level mass balance
In this model, segregation is maintained until the manufacturing or processing stage in the supply chain where mixing occurs and the proportions of certified and non-certified product at site level are recorded. This means that these proportions are known for an entire site (e.g. a factory), but not within an actual product. The amount of product leaving the site that is being sold as certified must be equivalent or less than the amount of certified product entering the site.

Group-level mass balance
Here, mixing or reconciliation of certified and non-certified product can occur at any point in the production process as long as quantities are recorded and controlled. **A 'group' refers to any combination of more than one site where quantities of certified and non-certified product are tracked – for example, it can be a company, region or country.** The amount of product being sold by the group as certified must be equivalent or less than the amount entering. The ability to independently audit these claims is strongest in a batch-level model, weaker at site-level and weakest at group-level.

1.4 Certificate 'book and claim' trading
The certificate trading model is a CoC model in which the administrative record flow is not connected to the physical flow of materials or products throughout the supply chain. This is because traders buy certificates (or 'credits') from certified producers instead of the product itself. Therefore, it is different from the other Chain of Custody models. It is also referred to as 'book and claim', although this is a trademark of 'GreenPalm'.

Certificates are given to certified producers when they grow a certain quantity of produce. They can then be purchased by traders to cover the amount of produce they have bought from an uncertified supply chain. The equivalent amount is then sold into the supply chain as uncertified produce by the certified producer.

In a certificate trading system, the credit and certificate transactions are usually completed electronically. For this reason, this model cannot guarantee that the physical output actually contains items from a certified source. However, it can be a useful first step towards supporting a sustainable producer of soya as it can drive demand for sustainable produce.

2. Certification schemes
There are a number of schemes that facilitate the certification of soya according to these different CoC models. Each section below offers information on a particular scheme, describing its certification options and which types of CoC model they support. The schemes use varying

terminology to describe the same CoC models, so the above categories are referred to in an effort to offer a consistent summary of each scheme.

2.1 The Round Table on Responsible Soya (RTRS)[2]

RTRS is a civil organisation that promotes responsible production, processing and trading of soya on a global level. RTRS certification can be used for segregation, mass balance and certificate trading models. It includes a non-GMO module designed to support those wishing to acquire non-GMO soya through segregated supply chains, and a non-GMO credits system (see below). In addition, the RTRS RED standard includes compliance with the requirements of the EU Renewable Energy Directive. RTRS standard certificates last five years and an annual surveillance audit by independent accredited third parties is required.

2.1.1 Segregation

RTRS recognises the segregation model, with RTRS-certified soya is kept physically separate from other sources of non-RTRS-certified soya.

2.1.2 Mass balance

It also recognises the mass balance model. Soya from an RTRS-certified source may be mixed with sources of non-certified soya, provided the mixing process is monitored. Equivalent percentages of certified and non-certified soya may then be sold on the marketplace. RTRS uses two different types of mass balance model, rather than the three described in section 1.3.

Site Mass Balance (SMB)
Equivalent to the site-level mass balance model described in section 1.3, this accounting system is only applicable to a single certified site. The soya that enters a facility (input) must leave that same facility (output) to continue through the supply chain. This means the organization needs to ensure that the output of RTRS mass balance material supplied to customers from the physical site does not exceed the input of RTRS mass balance material received at the physical site, using either a) a continuous balancing system or b) a fixed inventory period.

Country Material Balance (CMB)
This is the RTRS equivalent of a group-level mass balance model (section 1.3). It aims to streamline the process of mass balance from multiple operators in a single country. In the CMB model, RTRS-certified operators are allowed to aggregate the mass balance accounting systems of several certified physical sites as one single accounting system at national level.

This is more flexible than SMB as soya can enter one certified facility, but the soya moving to the next stage in the chain can come from a different, certified facility to continue on in the supply chain. The accounting system is for the whole company – not just individual sites.

2.1.3 Certificate trading
Credits
For every certified tonne of soya produced, the RTRS certified producer is granted one credit. These credits can be purchased through the RTRS Trading Platform, supporting the certified

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[2] *RTRS Chain of Custody* (webpage)*; How to use the RTRS Trading Platform* (RTRS Association webpage)*;* RTRS Association website (with links to pages on CMB and the different RTRS credits)

producer. Once the credit is purchased the physical soya cannot be traded as 'certified' so there is no physical link between the credit purchase and the physical product.

Credits can be purchased in two ways: by direct trade or blind trade. Direct trade is when you want to support a producer you already know, and together a volume and price can be agreed. Alternatively, buyers can conduct a 'blind trade' by placing a bid, specifying the volume of soya needed and the price offered. An alert is sent to all producers and the first to accept gets the support. All credit payments go directly to the producer.

RTRS regional credits
These allow buyers to specify a region or country, focusing market benefits to increase uptake in key areas.

RTRS non-GMO credits
These credits do not offer segregation and chain of custody like non-GMO physical soya. Instead, a sample of soya is tested by an accredited third-party laboratory which validates the GMO status. Credits that are non-GMO can be traded through the RTRS trading platform.

RTRS non-Paraquat credits
This model is designed to help farmers make an opportunity out of the requirement to progressively reduce the use of the toxic herbicide Paraquat.

2.2 Cefetra – The Certified Responsible Soya (CRS) standard[3]
Cefetra is a supplier of raw materials to the feed, food and fuel industries, and as such is heavily involved in soya supply chains. It is the owner of the CRS standard, which is used in accordance with one type of CoC model: an 'Area Mass Balance' model.

2.2.1 A mass balance and certificate trading combination
For its CRS standard, Cefetra uses an 'Area Mass Balance' CoC model because, it says, it was 'found to be one of the most effective systems for scaling up sustainable production'. This model combines the mass balance and certificate trading models. Cefetra monitors the flow of certified soya from specific regions of South America to specific European ports, and it does this by splitting countries of origin into sub-regions. Brazil is divided in three regions (i.e. North, Central and South Brazil), and Argentina and Paraguay are divided into northern & southern regions. This is the basis of the mass balance calculation, which incorporates the flow of soya from certified farms (crushed in a specific region) into the European ports.

CRS Area Mass Balance Credits
This is the certificate trading aspect of the model. Credits supplied according to the area mass balance model, are linked to the physical soya imported into the specific European ports. This means that the physical flows transported from South-America to Europe are the starting point for certification, Cefetra puts efforts to certify farms in the same regions where it also sources its soya. In this way, Cefetra knows for sure impact is realized on farms in the same region where the physical soy is originated, and certified soya is embedded in the supply chains to Europe.

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[3] Cefetra CRS webpage

These credits are bought by supply chain operators and are specific to different producer regions. Like RTRS regional credits, they ensure that a certain quantity of physical soya has been certified according to the CRS standard in that same region. An important difference is that under CRS these credits are also linked to the physical flows imported by Cefetra into the European union.

2.3 ADM – The Responsible Soybean Standard[4]

ADM is a globally operating food processor and supplier which owns the Responsible Soybean Standard. It engages with segregation and certificate trading models, as well as a version of a mass balance model.

2.3.1 Segregation

The standard can be applied to segregated models where certified product is handled separately to non-certified product.

2.3.2 Mass balance

ADM uses a CoC model that it refers to as 'Area Mass Balance'. Using the system of area mass balance, a verified crop can be mixed with the same species of an unverified crop, and the quantity of that verified crop is monitored throughout the chain. This means that at any point in the chain the output of the verified crop can never exceed the input of the same verified crop. ADM's mass balance model does not feature a certificate trading element, and therefore has greater physical connection to the certified product along its supply chain. This model also enables focus to be placed on specific regions as, similarly to the CRS standard, the quantities of certified soya being produced in different regions can be monitored.

2.3.3 Certificate trading

Supply chain operators can purchase certificates or credits that equate to a certain amount of certified soya produced.

2.4 ProTerra[5]

The ProTerra Foundation, based in the Netherlands, is a not-for-profit organisation that promotes sustainability in the feed and food industries. As well as general product sustainability, the ProTerra Standard places emphasis on non-GMO. It supports IP, segregated, mass balance and certificate trading CoC models.

2.4.1 IP

This standard can be applied at the IP level, which involves the use of segregation and traceability procedures to maintain the identity of specific lots of agricultural or processed products throughout all stages of production, maintenance, transportation, storage and processing.

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[4] *ADM Responsible Soybean Standard*, Version 2, 2018
[5] *ProTerra Standard*, Version 4.1, 2019

2.4.2 Segregation

The ProTerra Standard states that, in a segregated chain of custody, each economic operator will use a system of facilities, equipments and procedures to keep ProTerra certified material physically separated from GMO material in the whole CoC.

2.4.3 Mass balance

The standard states that a running total mass balance shall be maintained as a system for control of the input quantities and equivalent output of certified material/products in each stage of the supply chain, taking into account conversion rates in case of processing.

2.4.4 Certificate trading

The ProTerra Standard also incorporates a certificate system – ProTerra Certificates – which differs from blind credit trading in that it contains more information on production origin.

2.5 ISCC[6]

ISCC (International Sustainability & Carbon Certification) is an independent multi-stakeholder organisation that governs the ISCC certification system, which covers all sustainable feedstocks. ISCC operates the ISCC EU and the ISCC PLUS schemes. All CoC models can be applied under both schemes, except for the book and claim option. In addition, system users of the ISCC EU standard must comply with the requirements of the EU Renewable Energy Directive and the EU Fuel Quality Directive. IP, segregated and mass balance models meet these requirements, but certificate trading models do not, and thus are not allowed, neither under the ISCC EU nor PLUS schemes.

2.5.1 IP

Also referred to by ISCC as 'Hard IP', in this CoC model certified and non-certified produce cannot be mixed, and certified produce with different sustainability characteristics (e.g. origin) must be kept separate throughout the supply chain.

2.5.2 Segregated

ISCC refers to their segregated model as 'bulk commodity' or 'Soft IP'. Here, certified and non-certified produce cannot be mixed in the supply chain, but certified produce with different sustainability characteristics can be mixed.

2.5.3 Mass balance

Mass balance models can also be certified using the ISCC standard.

2.6 Cargill Triple S

This standard is owned by global food and feed trader Cargill, and operates by using one CoC model: site-level mass balance.

2.6.1 Mass balance

Cargill Triple S engages with site-level mass balance CoC. The soybeans from Triple S farms must physically flow into the Cargill supply chain to be counted in the mass balance management system. Each step of the supply chain where Triple S beans flow must physically receive beans from the previous step of the supply chain. The mass balance period is 18 months

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[6] *ISCC 203 Traceability and Chain of Custody*, Version 3.0, 2016

for the first gathering point (the 1st location where the beans are collected from the farmer) and 12 months at each stage in the supply chain after the 1st gathering point. An independent auditor verified the mass balance system at each location once per year to verify that the whole system balances.

2.7 Donau Soja[7]/Europe Soya[8]

The Donau Soja Association is an international non-profit organisation based in Vienna; its goal is to promote the development of a sustainable and European protein supply. It offers three different standards: the Europe Soya Standard, which can be applied to all soya grown in Europe; the Donau Soja Standard, which has the same features as the Europe Soya Standard but can only be applied to soya grown in the Danube region; and a Non-GM Standard. Note that non-GM is a key feature of each of these standards, not just the specialised Non-GM Standard. The standards describe features that are in line with an IP CoC model (as outlined below).

2.7.1 IP

The Donau Soja Organisation implements an IP system – which it refers to as 'hard IP' – within the Donau Soja and Europe Soya inspection system to guarantee safe products of verified European origin.

Donau Soja/Europe Soya certified produce is kept physically separate from non-certified produce through each stage of the supply chain. Full segregation, continuous documentation and correct declaration on all accompanying documents and packages are required by all partners throughout the supply chain. Only if these conditions are met can a company succeed in the certification process and trade or produce products labelled as Donau Soja/Europe Soya. To ensure traceability of raw soybeans, an IT-based lot certification system is in use when trading and transporting Donau Soja/Europe Soya soybeans from the primary agricultural collector through to the primary processor. Certificates of traceability confirm compliance with the Donau Soja/Europe Soya requirements of processed soya products (such as meal, oil, protein concentrate, protein isolate and lecithin).

Additionally, the Europe Soya inspection systems offers an optional quantity equivalence system[9] upon application with Donau Soja Organisation.

2.7.2 Protein Partnerships: certificate trading similarities

Donau Soja Association established the Donau Soja Protein Partnership Agreement (DSPPA)[10] to support small and medium-sized farms in disadvantaged regions, especially outside the EU (Serbia, Croatia, Moldova, Ukraine, Bosnia & Herzegovina), in their entry into sustainable non-GM soya production. The programme is similar to a certificate trading scheme in that it provides companies that do not yet have a physical supply of certified soya in their supply chains with an

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[7] *Donau Soja Guidelines,* March 2020
[8] *Europe Soya Guidelines,* March 2020
[9] The **quantity equivalence system (QES)** allows for joint processing with Approved By-Europe Soya (AB-ES) soya beans, AB-ES beans are non-GM, originating from Europe, traceable, and not exceeding maximum residue levels of pesticides permitted in the EU. The QES is similar to a mass balance CoC, however, compliance with the cornerstones (non-GM, European origin, traceable and produced according to specific environmental standards) is given at any time.
[10] *Donau Soja Protein Partnership Communication*

opportunity to support the production of sustainable soya in Europe and work towards setting up a physical supply in their value chain. Companies at downstream stages of the value chain (e.g. retailers) can become 'protein partners' and support the identification, training and certification of potential soya producers in Europe. Through this process, the programme is designed to establish a physical flow of goods in Europe and make certified sustainable soya from Europe available for the European market.

2.8 2BS Voluntary Scheme[11]

This scheme was developed by an association of French economic operators involved in grain production and the biofuel supply chain.

2.8.1 Mass balance

The standard states that it is designed to ensure the use of appropriate mass balance systems in conformity with the EU Directive 2009/28/EC. These systems ensure that the amount of certified produce sold by a supply chain operator does not exceed the amount purchased.

2.9 U.S. Soy Sustainability Assurance Protocol (USSSAP)[12]

This scheme is governed by the U.S. Soybean Export Council (USSEC) and covers soya produced in the USA.

2.9.1 Mass balance

The USSEC states that mass balance international verification is available for this standard. Shipment-specific record keeping ensures proper accounting of mass balance of certified soya up to the point of export.

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[11] *Main Concepts and Notions Developed in the 2BSVS* (webpage)
[12] *U.S. Soy Sustainability Assurance Protocol*, 2018