



ISCC Solutions for a Sustainable Bio-based and Circular Economy

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Regional Stakeholder Dialogue Latin America, Antigua, January 21, 2020

Solutions to tackle plastic waste are urgently needed

Almost 350 million tons of plastic were produced in 2017

More than 90% of plastic is not recycled

Each year 9 million tons of plastic waste end up in the ocean

More than a third of plastic is used for packaging

Packaging waste accounts for half of the plastic waste

Roughly 5 grams of plastic every week find their way into the human organism

Sources: Geyer (2017); Jambeck et al. (2015); National Geographic (2018), Eco-Business (2019)

Regulators and Governments commit to taking measures for a drastic reduction of plastic waste

California proposes phaseout of single-use plastics by 2030

KEY POINTS

- California lawmakers introduced legislation this week to phase out single-use plastic food containers and other packaging that can't demonstrate it's recyclable or compostable.
- Proponents of the legislation say it could help reduce the problem of plastic littering

Circular economy: More recycling of household waste, less landfilling


Press Release | **PLASTIC USE** | 19-04-2018 - 12:44

Canada to ban single-use plastics as early as 2021

10 June 2019

European parliament votes to ban single-use plastics

Vote by MEPs paves way for law to come into force by 2021 across EU




The directive will target common beach litter as well as polystyrene cups and those made from oxo-degradable plastics. Photograph: Nic Bothma/EPA

The European parliament has voted to ban single-use plastic cutlery, cotton buds, straws and stirrers as part of a sweeping law against plastic waste that despoils beaches and pollutes oceans.

China's recycling ban has sent America's plastic to Malaysia. Now they don't want it -- so what next?

By Ian Watson, Jo Shelley, Sugam Pokharel and Ushar Daniels, CNN
Updated 09:22 GMT (13:22 HKT) April 27, 2019



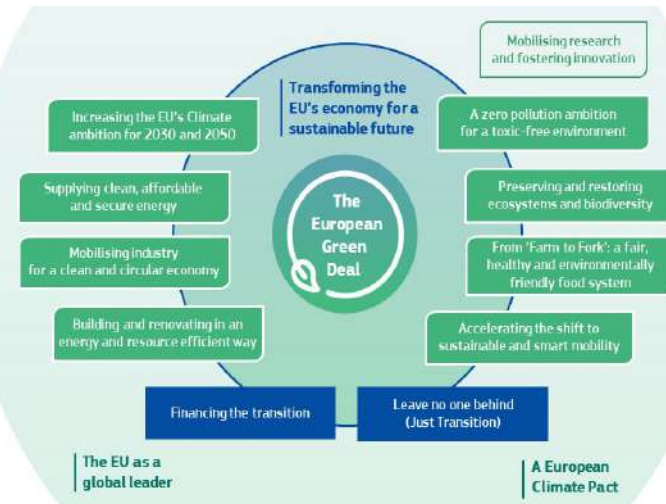
Seremban, Malaysia (CNN) — Dozens of laborers and factory operators sit hand-cuffed in rows on the pavement at an industrial park in Malaysia. They've been detained in a government raid on unlicensed plastic recyclers as the country seeks to curb a growing illicit industry.

EUROPEAN COMMISSION

Brussels, 11.12.2019
COM(2019) 640 final

COMMUNICATION FROM THE COMMISSION

The European Green Deal



The diagram illustrates the European Green Deal as a comprehensive strategy to transform the EU's economy for a sustainable future. It includes key pillars such as increasing climate ambition, achieving a zero-pollution environment, restoring ecosystems, transitioning to a fair food system, accelerating sustainable mobility, ensuring a just transition, financing the transition, and positioning the EU as a global leader under the European Climate Pact.

Sources: BBC (2019), CNBC (2019), CNN (2019), European Parliament (2018), The Guardian (2019)



Many global brand owners communicates their efforts to contribute to the bio-based and circular economy

Selection

Coca-Cola *“To increase the amount of recycled content in plastic bottles from “a paltry 7%” to 50% by 2030.”*

*„2030 goal: **Ensure 90% of product packaging is recyclable.**“*

P&G



Unilever

*„Unilever has committed to ensure all of its plastic packaging is **designed to be reusable, recyclable or compostable by 2025**“*

*“We recently unveiled a new target to **reduce 35% of virgin plastics content** across our beverage brands by 2025, driven by **increased use of recycled content** and **alternative packaging materials.**“*

PEPSICO

*„Nestlé has pledged to **phase out all plastics that are not recyclable** or are hard to recycle for all its products worldwide between 2020 and 2025.“*



Nestlé

DANONE

*„Evian pledged to **make all of its plastic bottles from only recycled plastic by 2025.**“*



ISCC contributes to the development of the bio- and circular economy

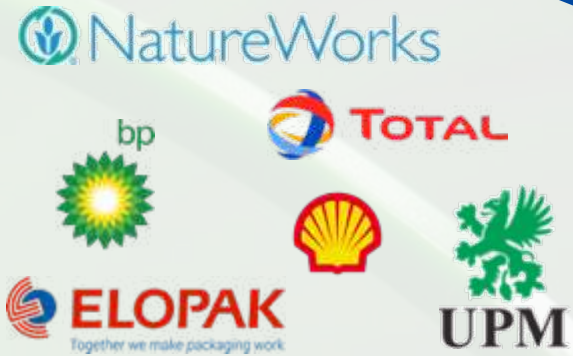
ISCC's objectives:

- **Supporting companies to achieve their sustainability targets** and to implement the **SDGs**
- **Verification of the implementation** of social and ecological sustainability criteria
- Monitoring of **deforestation-free supply chains**
- Contributing to the implementation of a **circular and bio-based economy**
- **Protection of high biodiverse** and high **carbon stock land**
- Calculating and reducing **GHG emissions**
- Establishing **traceability** in global supply chains
- Allowing for **credible** and **justified claims** and logo use

ISCC provides solutions for credible certification for a sustainable bioeconomy and circular economy

Examples

Bio-based economy

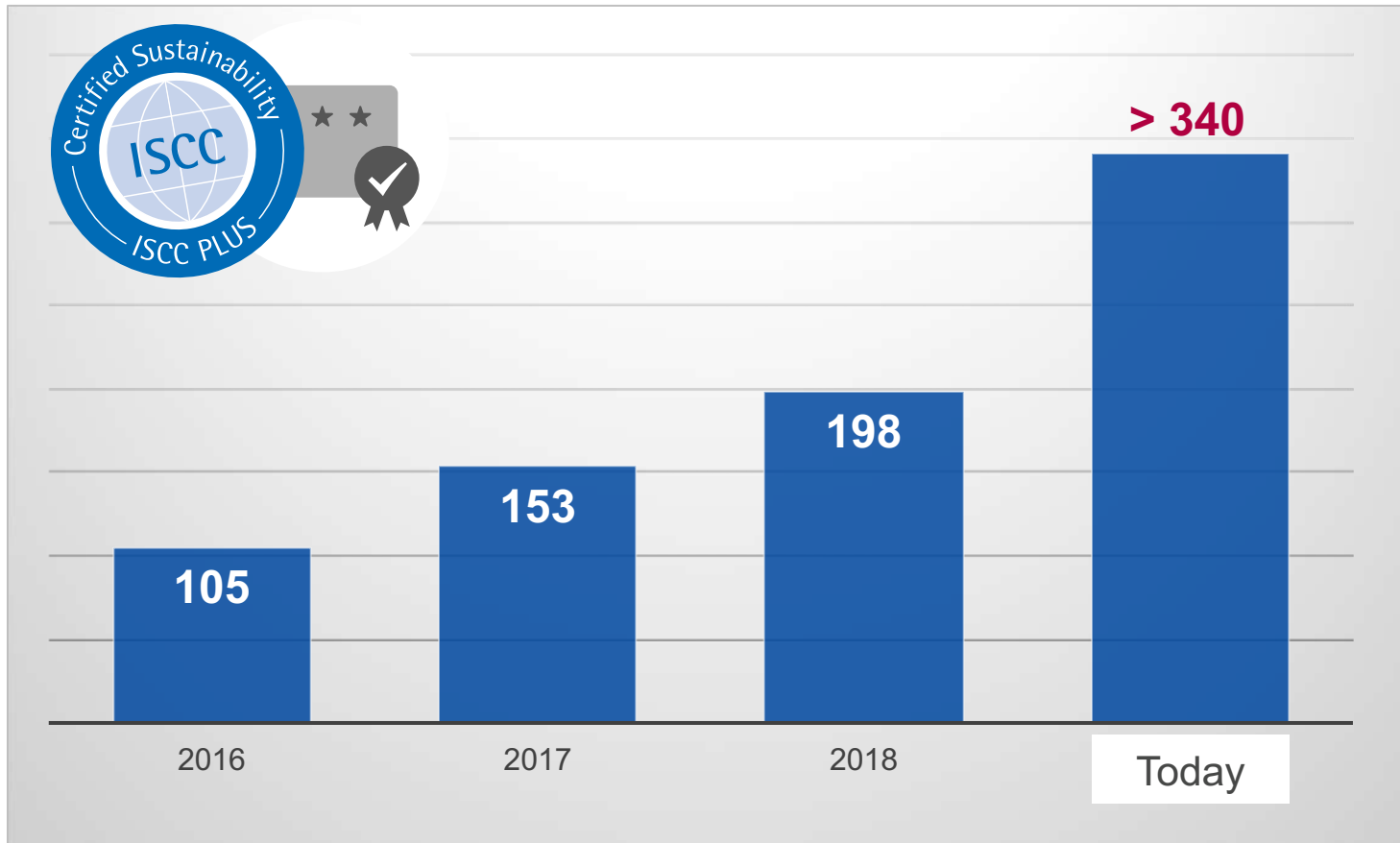


Circular economy



The market demand for ISCC PLUS certification is growing rapidly

Number of ISCC PLUS Certificates



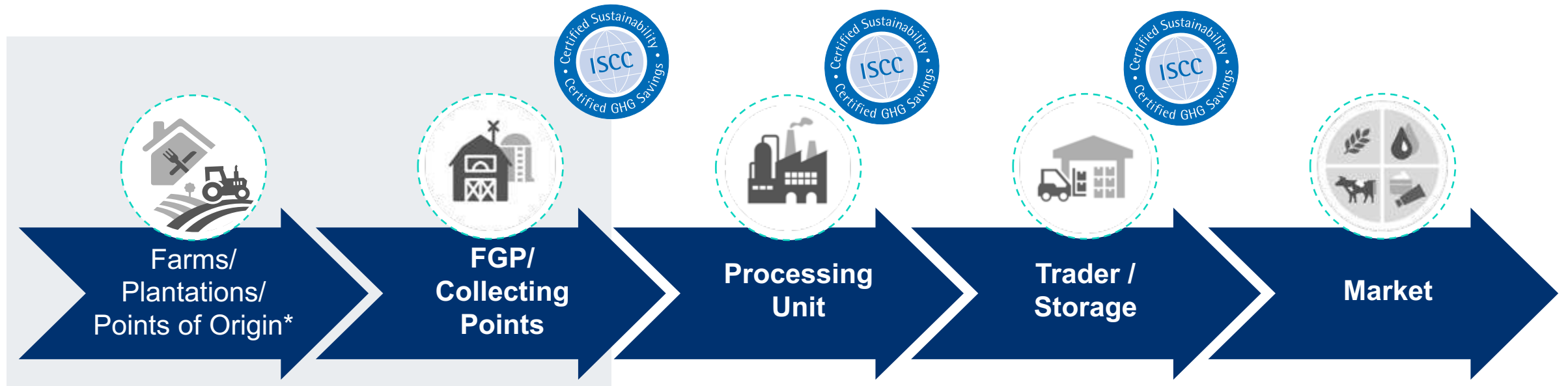
New ISCC Website for bio- and circular economy



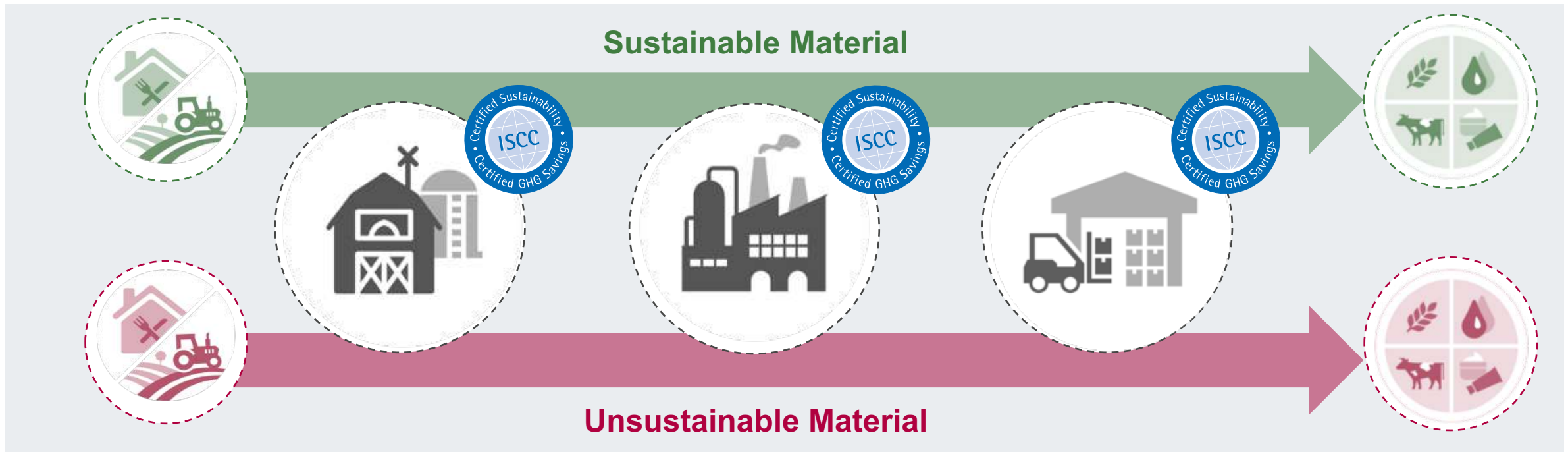
ISCC supports the transition to a circular and bio-based economy

www.iscc-system.org/about/circular-economy/

ISCC certification provides full traceability along the supply chain

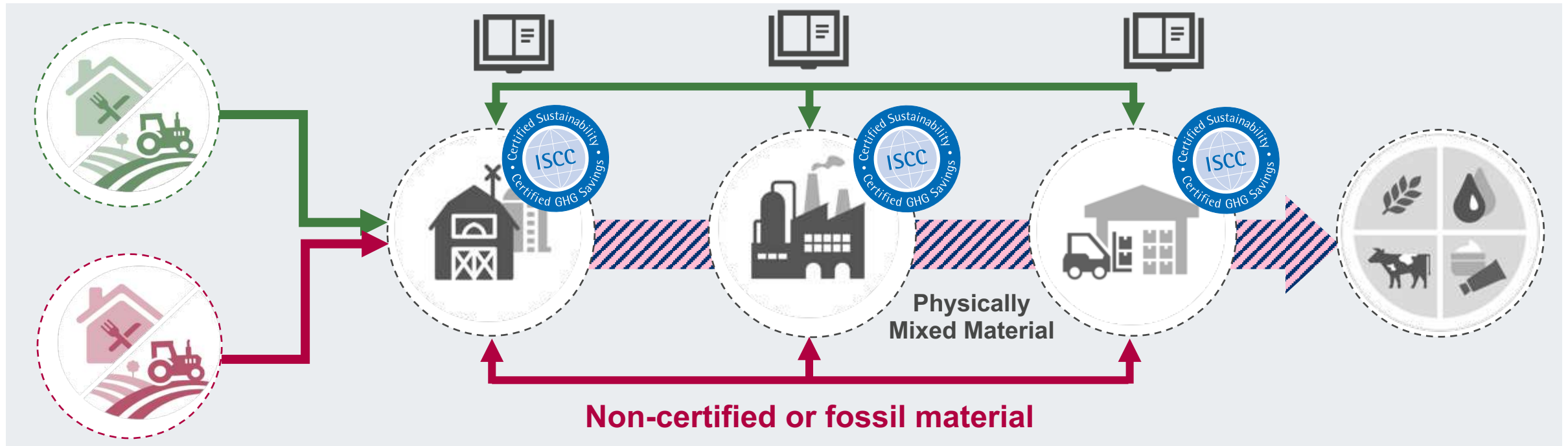


ISCC allows physical segregation in the supply chain if this is requested by customers




- **Physical segregation** of sustainable certified and non-certified material
- Deliveries **physically contain** 100% certified material
- **Possible claim:** 100% based on certified sustainable sources

Mass balance approach is mainly applied, e.g. to support the bio- and circular economy

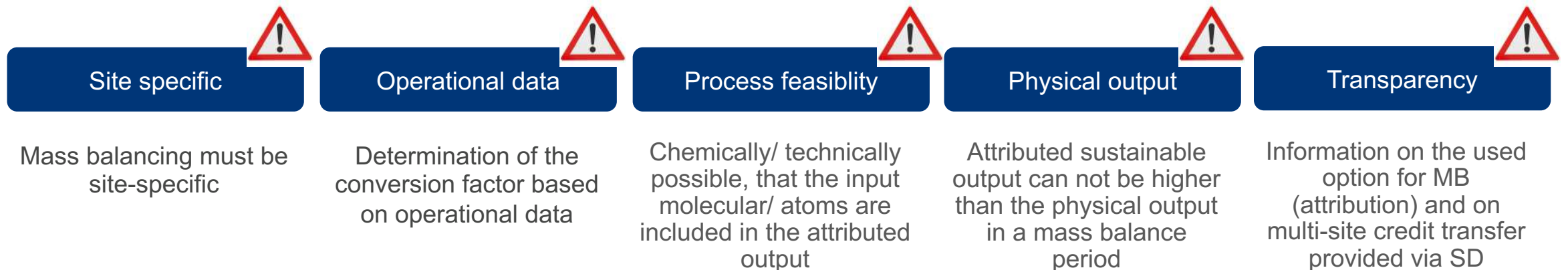


- Sustainable, unsustainable or fossil material mixed, **segregated in bookkeeping**
- No entity sells more certified products than sourced (**conversion factors applied**)
- **Possible claim:** e.g. “linked to 100% recycled sources/ biogenic sources”

ISCC mass balancing options

Option	Approach	Principle	EMA- White paper 
1 Mass Determination	Attribution Approach	Free attribution to one or several outputs	Mass allocation
2 Energetic Determination			LHV
3 Trace-the-Atom	Molecular Approach	Determination based on chemical reaction	Carbon counting
4 ¹² C/ ¹⁴ C Analysis	Measurement	Measurement of sustainable share	

ISCC sets crucial guard rails for credible and transparent attribution of the determined sustainable share



Different logos and claims, depending on the chain of custody option applied

Bio-based economy



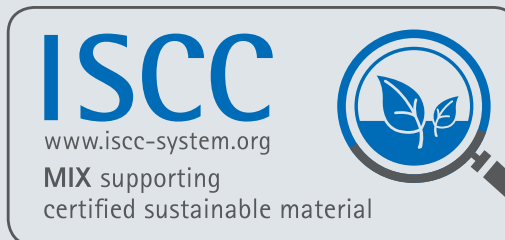
Circular Economy



Physical Segregation



Mass Balance





ISCC PLUS Training

Bio-based and Circular Economy

17 – 18 March 2020 in Cologne, Germany



- Comprehensive two day training on ISCC PLUS **certification** and **requirements**
- Insights into the **practical certification** of the **circular and bio-based economy**
- Certification of **complex supply** chains in the **chemical** and downstream **industries**
- Physical segregation and **mass balancing** under ISCC PLUS
- Logos and claims for **attributed** products
- **Auditing requirements**



SABIC announced in 2019 the introduction of ISCC certified circular polymers in Davos



Tupperware®

walki



سابك
sabic



Source: <https://www.sabic.com/en/news/17390-sabic-pioneers-first-production-of-certified-circular-polymers>
<https://www.sabic.com/en/news/21664-sabic-demonstrates-leadership-in-sustainable-packaging-solutions-at-k-2019>



PRESS RELEASE

Sittard, The Netherlands, 1st February 2019

SABIC PIONEERS FIRST PRODUCTION OF CERTIFIED CIRCULAR POLYMERS

SABIC, a global leader in the chemical industry, has announced another major milestone in its groundbreaking project to pioneer the production of certified circular polymers using a feedstock from mixed plastic waste.

The latest achievement – the production of the first certified circular polymers – is part of what is known as a ‘market foundation stage’. Launched in January, this stage is an important step towards creating a new circular value chain for plastics, during which, initial volumes of pyrolysis oil from plastic waste are introduced as feedstock at SABIC’s Geleen production site in The Netherlands. The patented pyrolysis oil, known as TACOIL, has been produced by UK-based PLASTIC ENERGY Ltd at their plant in Spain from the recycling of low quality, mixed plastic waste otherwise destined for incineration or landfill.


As part of the market foundation stage, SABIC has begun to produce and commercialize the first monthly volumes of certified circular polymers - polyethylene (PE) and polypropylene (PP)-, prior to the projected start-up in 2021 of the commercial plants planned by SABIC and PLASTIC ENERGY in the Netherlands to manufacture and process the alternative feedstock.

“Certified circular polymers are a disruptive innovation and SABIC’s market foundation stage is a critical phase in their development”, said Frank Kuijpers, General Manager Corporate Sustainability at SABIC. “It will act as a bridge moving from a linear economy to a circular one and will enable the value chain to become familiar with the products and consider how they can best be implemented in their own markets. It will allow confidence in this pioneering product to grow before SABIC goes into full scale production.”

The polymers are certified through the International Sustainability and Carbon Certification plus (ISCC+) scheme that certifies circular content and standards across the value chain from source to end product. The ISCC+ certification works on what is known as a “mass balance system”, meaning that for each tonne of circular feedstock fed into the cracker and substituting fossil-based feedstock, a tonne of the output can be classified as circular.

Certified circular polymers will help SABIC’s customers to meet consumer demand for more sustainable products and will contribute to closing the loop on reutilizing plastic waste.

Companies increasingly communicate their ISCC PLUS certified products for industrial applications



NatureWorks

NatureWorks Announces 100 Percent Third-Party Certified Sustainable Feedstock by 2020

ISCC certified PLA



Hpm™

ISCC Sustainable Choice

ISCC www.iscc-system.org contributing to responsible sourcing of bio-based materials

ISCC certified medical devices



SIG

ELOPAK
Together we make packaging work

SIGNATURE PACK: 100% linked to plant-based renewable material

ISCC www.iscc-system.org contributing to responsible sourcing of bio-based materials

ISCC certified beverage cartons



Braskem

I'm green

be green and be recyclable

ISCC certified PE

Examples of press releases: DSM introduced ISCC certified bio-based and recycled alternatives for its engineering plastics portfolio.



As an immediate step, today, DSM Engineering Plastics is launching bio-based grades of its Arnitel® and Stanyl® product portfolio manufactured via a mass-balancing approach of bio-based feedstock. The Stanyl bio-based grades are already available with the globally recognized sustainability certification ISCC Plus.

<https://www.dsm.com/corporate/news/news-archive/2019/2019-10-17-dsm-to-introduce-bio-and-or-recycled-based-alternatives-for-its-entire-engineering-plastics-portfolio.html>

Examples of press releases: Eastman introduced its carbon renewal technology supporting ISCC certified production



EASTMAN

Eastman in the circular economy

Eastman's recycled materials will be certified by International Sustainability & Carbon Certification (ISCC), an independent agency for tracking sustainable content in a variety of industries. Costa said Eastman will work across the value chain – with Eastman customers, potential feedstock suppliers, product manufacturers, brands, and non-governmental organizations such as the Ellen MacArthur Foundation (EMF) and others – to implement this large-scale circular solution for recycling waste plastics. Eastman became a member of EMF's Circular Economy 100 Network earlier this year.

“The problem of waste plastics is not one that can be solved by a single company, but Eastman is taking definitive action to do our part,” Costa said. “Beginning commercial production of carbon renewal technology is a proof point of our determination to act quickly and decisively to accelerate the circular economy. Bringing this project to fruition so quickly – just eight months after we announced our intention to be a leader in chemical recycling – required innovation by some of the world's brightest minds and effort by thousands of members of the Eastman team.”

Source: https://www.eastman.com/Company/News_Center/2019/Pages/Eastman-begins-commercial-operation-of-innovative-chemical-recycling-technology.aspx

Examples of press releases: Jindal Films announced its ISCC PLUS certification

Jindal
Films



Jindal Films has identified different sources of **ISCC PLUS certified polypropylene**, made of various vegetal renewable sources like sunflower, soybean, rapeseed, tall oils and other vegetal oils **via a mass balance approach**. These are ethically sourced and used to produce naphtha, which is itself converted into propylene, before being polymerized into polypropylene and introduced into Jindal Films' production process. As a result, without any compromise in the final film properties or its food contact approvals, Jindal Films is proud to announce a film range made out of these ISCC PLUS certified sustainable sources, through the mass balance concept used along the supply chain according to ISCC requirements.

<https://www.jindalfilms.com/jindal-films-highlights-labelexpo-sustainability-barrier-conformable-and-high-yield-film-solutions/?geo=eu>

More and more companies rely on the credibility of the ISCC certification system for the bio-based and circular economy



Independent ISCC certification guarantees:

- Sustainability
- Segregation or mass balance
- Traceability
- Feedstock identity
- Conversion factors/ volumes
- Add-ons (e.g. GHG/ LCA)
- Logos and claims



Many thanks for your attention!

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