



Sustainability certification for the circular economy and bioeconomy with ISCC PLUS

ISCC PLUS at a glance



- Build based on officially recognized ISCC EU scheme
- Mutual governance, sustainability and traceability approach
- Extensive ISCC PLUS stakeholder dialogue established
- Developed for different voluntary markets
- Extended raw materials and products coverage
- Adapted to new processes and technologies
- New specified ISCC PLUS trainings and events
- Licensing scheme with high brand-owner acceptance

These raw materials are used under ISCC PLUS

Bio



Corn



Canola



Sugarcane



Cotton

Bio-circular



Tall Oil



UCO



Forestry residues



Straw

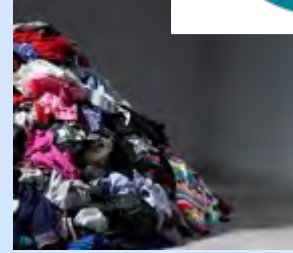
Circular (technical)



Mixed Plastic Waste



End-of-life tires



Waste textiles



CO₂ (post-industrial)

Renewable



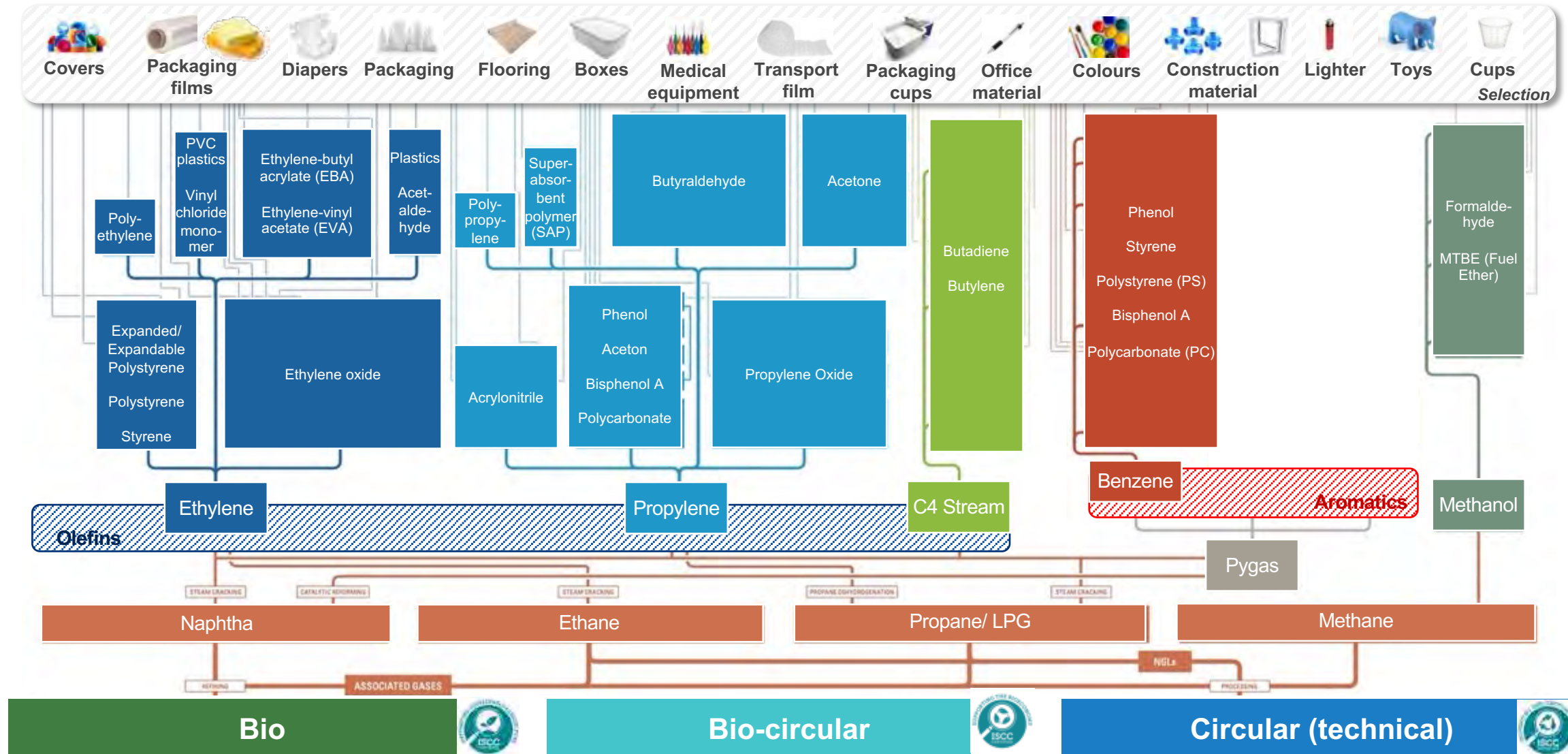
Hydrogen



Power-to-X



ISCC certification applies for the entire supply chain



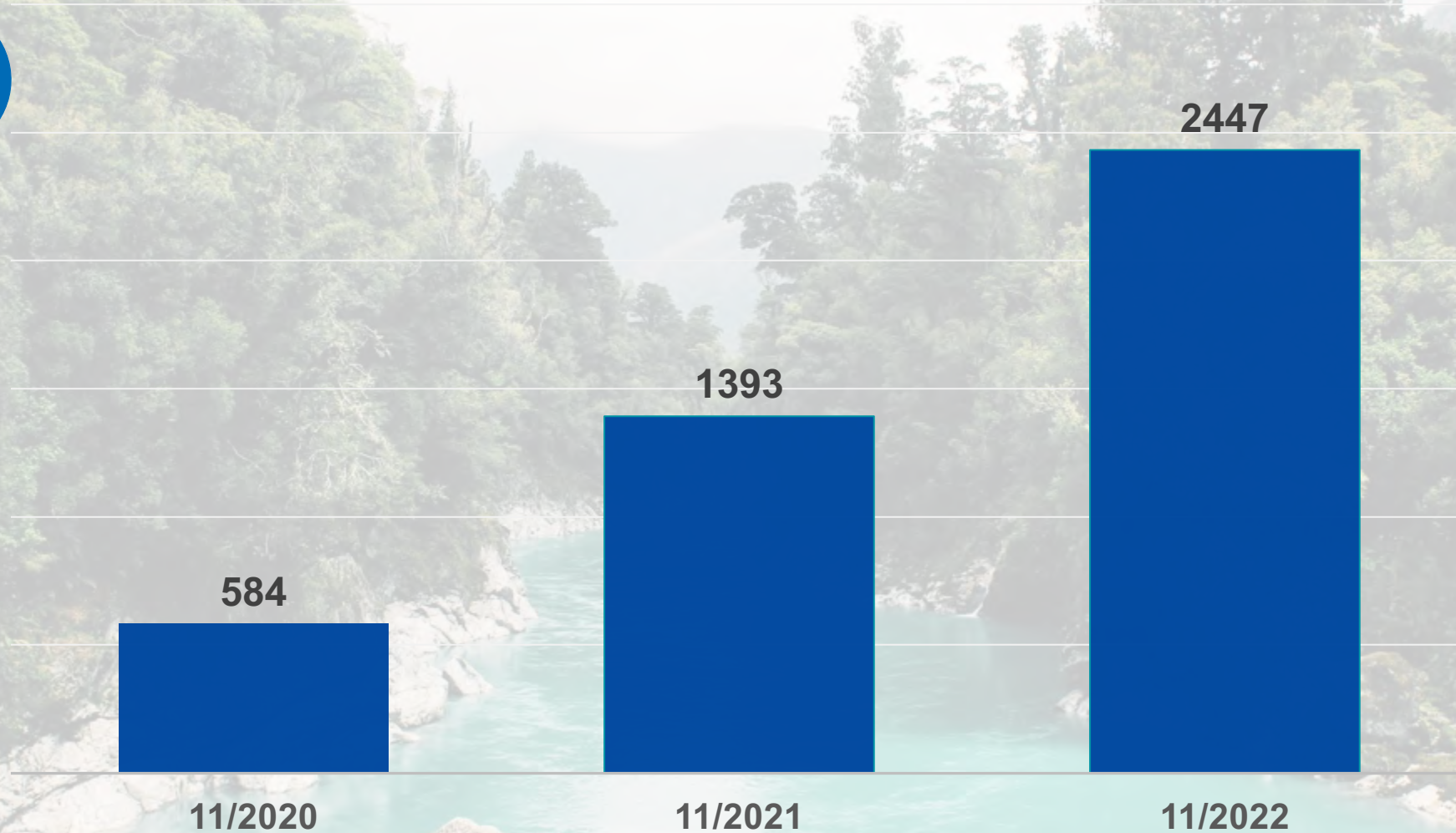
Source: Meo Carbon Solutions based on ISCC (2020), Petrochemical Europe, petrochemistry.eu

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The amount of ISCC PLUS certified companies increases significantly since several years



Valid ISCC PLUS Certificates





There are 360 ISCC certificates in North America.
230 of these are ISCC PLUS certificates



Examples



Highlights of ISCC PLUS Developments in 2022

**New ISCC PLUS
System Document V3.4**
in public consultation

Mechanical Recycling
according to EN 15343

Ongoing inclusion of
new materials

Extension of
attribution options

Highest number of
participants for **Technical
Committee for the
Circular and Bio
Economy**

Extensive stakeholder
dialogue on **packaging
directives, plastic tax**

Extended requirements
when **renewable energy**
is used as a feedstock

Strong growth of **ISCC
licensing scheme**

Highest number of
participants for **ISCC
PLUS Training**

ISCC PLUS Stakeholder Committee Circular Economy and Bioeconomy

ISCC PLUS stakeholder events:

- Two meetings per year
- **Next TC Circular and Bio Economy: 17 November 2022. Please register**
- **Working groups:** mass balance and attribution; logos and claims



Register [here](#) for the upcoming TC

Co-Chairs



Mr Frederic Dreux (*Unilever*)



Mr Jason Pierce (*Eastman*)





ISCC PLUS Training

Circular Economy and Bioeconomy

Online Training

ISCC PLUS Training

ISCC PLUS Training “Circular Economy and Bioeconomy”

- Next training course: **7 - 8 December 2022**
- Open for auditors, companies and interested parties

[More information and agenda](#)



Deepen your
understanding of
ISCC PLUS
certification



Become familiar
with certification
and audit
requirements



Learn about chain
of custody options,
mass balancing,
yield calculations
and attribution
options



Discover new
market
opportunities and
stay ahead of your
competition

ISCC has published its impact report with an extended data basis and several case studies from the chemical industry

More than

15,000

newsletter and social media subscribers

More than

5,000

certified companies

ISCC is governed by

200+

members

ISCC operates in more than

100

countries

ISCC offers

6

training courses

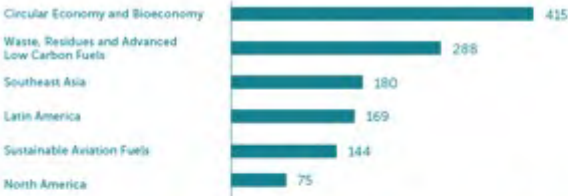
ISCC is engaged in stakeholder dialogues

4 and **4**

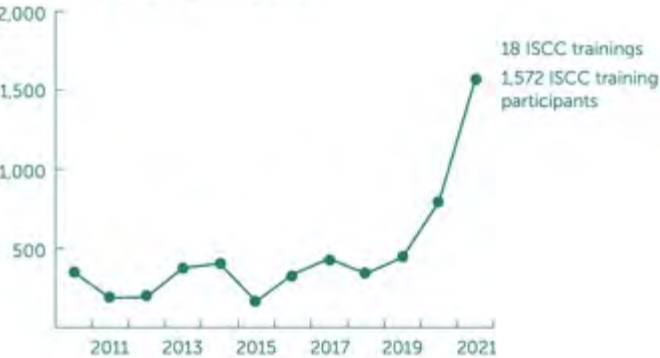
Technical Committees Regional Committees



Participants in ISCC Technical and Regional Committee Meetings in 2021



ISCC trainings and participants



... of ISCC more accurately than we were able in our
... Impact Report of 2018.

We invite you to take part in our sustainability jour-
... and to share our efforts to continuously grow, seek
... v challenges and find new ways in making this world
... re sustainable. To those who have worked with us,
... thank you for your trust in ISCC – your support keeps
... mission alive!

»To those who
have worked with
us, we thank you for
your trust in ISCC –
your support keeps
our mission alive!«



Gernot Klepper
Gernot Klepper

Results from over 16,000 certification audits,
multiple certification stories from ISCC
certified brands and much more!

The ISCC Impact Report provides case studies on recent developments

Example circular

FOREWORD 01. VISION AND MISSION 02. IMPACT OF OUR WORK 03. CONCLUDING REMARKS

Governance and Transparency Sustainability Requirements Greenhouse Gas Emissions Traceability and Chain of Custody Integrity and Quality

New circular plastics join ISCC

There is increasing public awareness of the need to stop using fossil oil and gas to produce the chemicals and plastics we rely on – recognising that these useful substances need to become fully decoupled from the consumption of finite resources. In addition, more and more companies are now replacing fossil feedstock with recycled and renewable raw materials for their production. ISCC supports this transition to circular economy and bioeconomy models. Cyclix, Orkla, Regenyx, Trinseo, Tupperware® and Vynova are companies active right

across the value chain all active in stopping waste going to landfill, instead converting it into a valuable product.

ISCC PLUS certified Cyclix International is a US-based post-use plastic feedstock management company founded by Agilyx and ExxonMobil. Cyclix works with its consortium of industry members from various parts of the plastic supply chain to develop innovative recycling solutions for all types of post-use plastics. It does this by sourcing post-consumer plastic waste that would otherwise be destined for landfill. This material channels back into circular pathways through lab analysis, logistics optimisation and AI – ensuring that it meets individual member specifications along the way.

Regenyx, a joint venture between Agilyx and AmSty, recently gained ISCC PLUS certification and takes Cyclix sourced post-use plastics and uses a pyrolysis process to convert it to its original feedstock form, Recycled Styrene Monomer (RSM). The recycled material can be used to make new circular polystyrene. Regenyx has diverted a significant amount of polystyrene from ending up as waste in landfills. Regenyx transitioned its Tigard, Oregon facility to a Renewable Energy Credit (REC) program, offsetting its energy usage through the purchase of credits for 100% renewable wind energy. "We are proud of the work that has been done at the Regenyx facility to accelerate the available capacity of recycled content for producers," stated Tim Stedman, CEO of Agilyx. "The advancements we have made at Regenyx, along with ISCC PLUS certification, are further concrete proof that we have created a circular recycling pathway for polystyrene recycling."

Many companies rely on the mass balance approach to track recycled or renewable raw materials as they are converted into chemicals and plastics alongside conventional feedstocks. Trinseo received certification for four

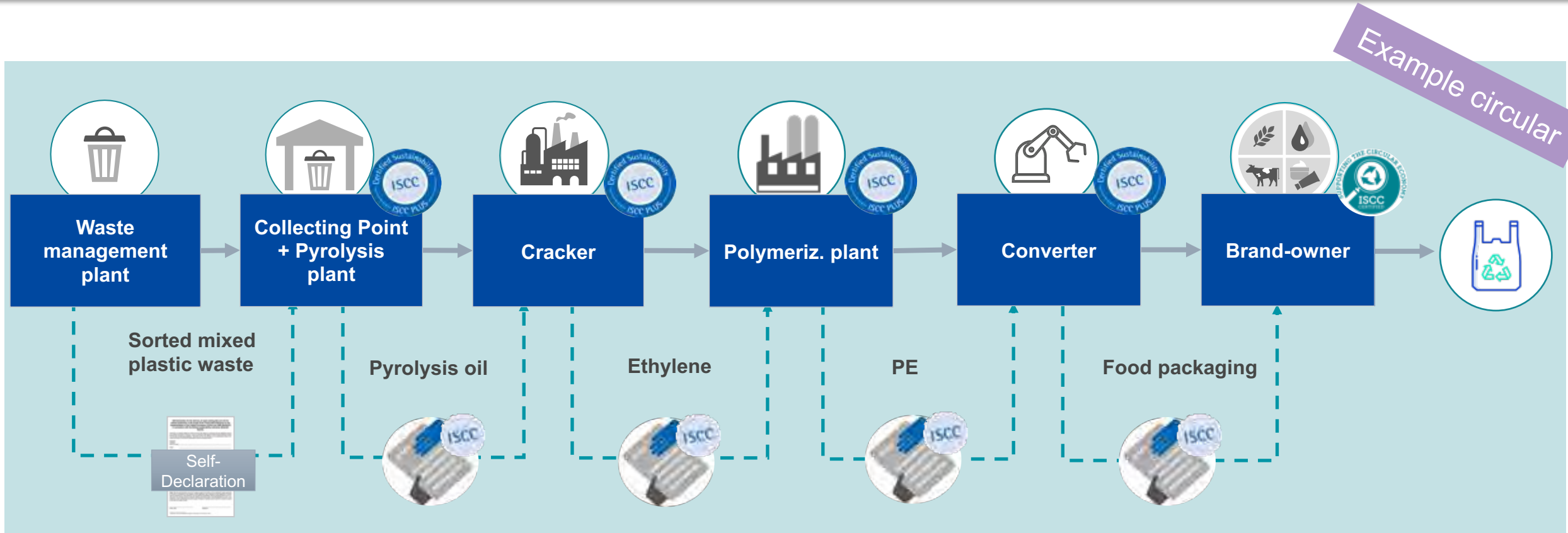
product families manufactured at three European sites: polystyrene produced in Tessenderlo, Belgium; polycarbonate produced in Stade, Germany; synthetic rubber produced in Schkopau, Germany and ethylbenzene styrene monomer produced in Terneuzen, the Netherlands. Intermediate products from Trinseo are used to produce packaging, consumer electronics, construction products, medical devices, home appliances and tyres. Francesca Reverberi, Vice President and Chief Sustainability Officer of Trinseo, says, "The mass balance certification is another step taken by Trinseo towards helping >

»The advancements we have made at Regenyx, along with ISCC PLUS certification, are further concrete proof that we have created a circular recycling pathway for polystyrene recycling.«

Tim Stedman, CEO of Agilyx

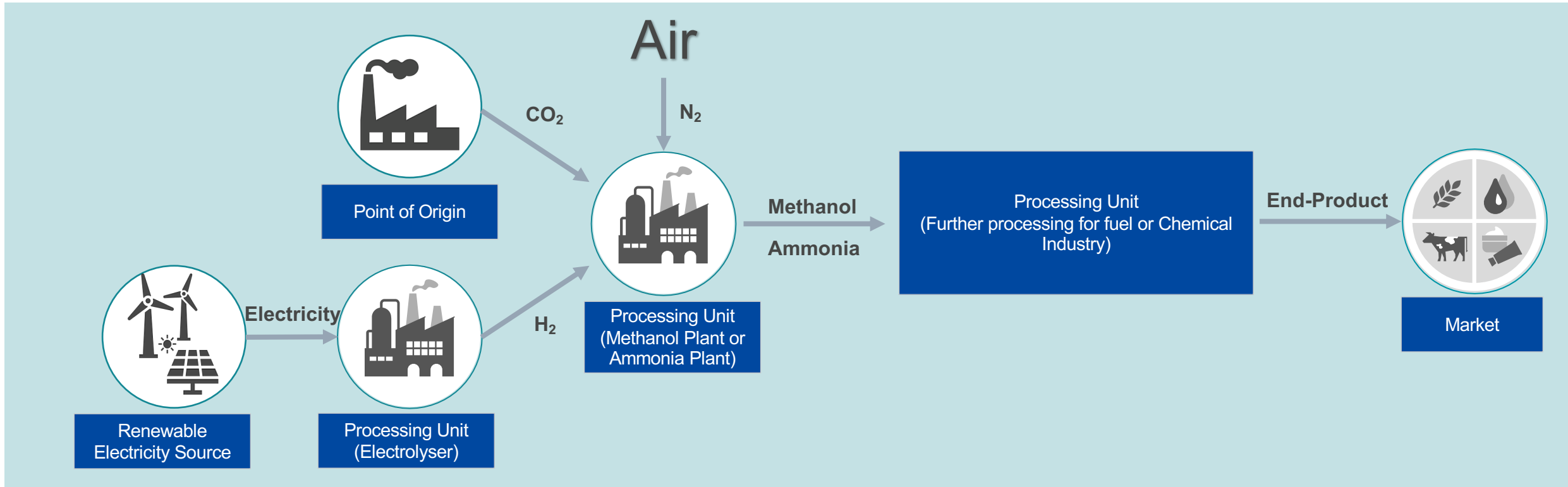


ISCC certification ensures sustainability, traceability, feedstock identity, and correct claims



Certified parties issue **sustainability declarations** on certified recycled volumes to next element in supply chain based on **documentation of all incoming and outgoing volumes** in site-specific mass balance

Renewable electricity, H₂ and Power to X also covered under ISCC PLUS



ISCC certifies different chain-of-custody approaches and creates transparency on the approach chosen

Physical Segregation



Controlled Blending



Mass Balance



Why mass balance approach?

- Integration of sustainable raw material into supply chains, existing processes and assets
- Mix with conventional feedstock
- Cost-efficient scale-up of sustainable volumes
- Traceable and credible handling of sustainable material
- Achieve ambitious targets and increase recycling rates
- Chemical recycling with certified mass balance is key where mechanical recycling does not work. Complementary loop. Can be integrated via mass balance approach
- Support of the circular economy and bioeconomy

Key principles for mass balance accounting under ISCC



- Physical connection with the supply chain, traceability, raw material identity
- Site-specific mass balances
- Correct determination of site-specific sustainable yields
- Verification of conversion factors based on operational data and certified volumes
- Chemical/ technical feasibility
- Verified claims towards customers and consumers. Claims must reference mass balance approach
- Independent third-party certification (annually) at all players across entire supply chains
- There is lots of experience on mass balance methodology and certification already



More and more brand owners become ISCC certified or ISCC licensed.



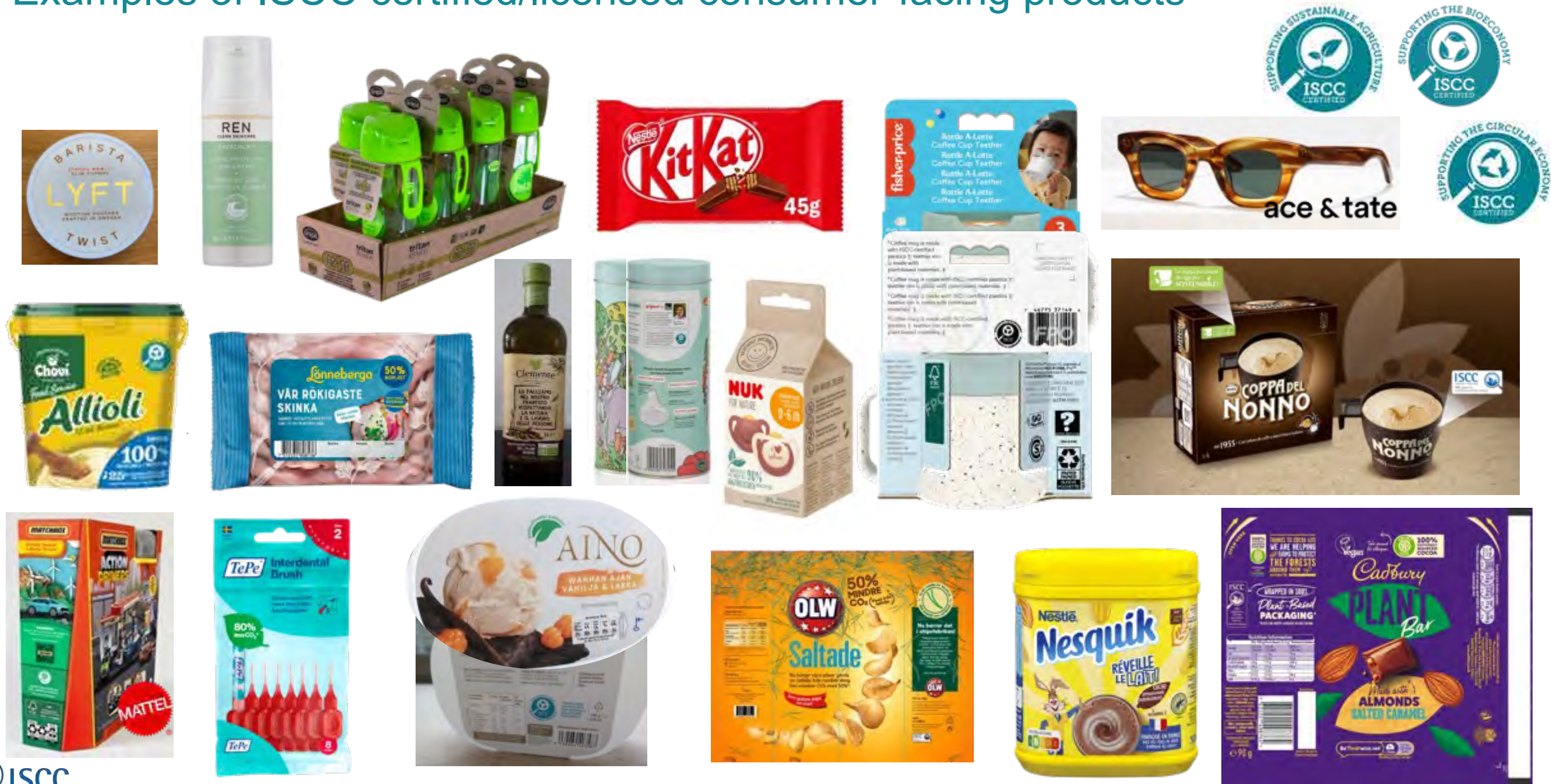
An example of the North American market: ISCC certified playset



Mattel - Toys

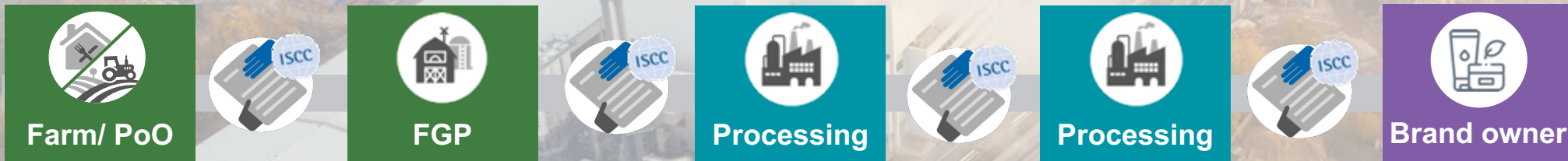
ISCC certified product

Examples of ISCC certified/licensed consumer-facing products



ISCC GHG module: alignment of GHG calculation methodologies across supply chain

Example supply chain



- Fully covered cradle-to gate or cradle-to-grave product carbon footprint
- Individual values based on primary data
- Separate reporting of GHG emission sources and carbon offsets
- 3rd party verification allows for credible claims



ISCC Registration and Certification Process





Many thanks for your attention!

Dr Jan Henke

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Contact via our [webform](#)

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