SGS Webinar

Certification of recycled content

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Agenda

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SGS at a glance

Nº1
World leader

96 000
Employees

2 700
Offices and laboratories

7
Global industries

Global Service Local Expertise

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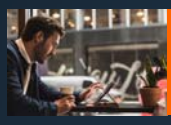
Global services tailored to your business

Testing



Consultancy

Inspection

Training

Certification

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What drives us to use recycled content?

- To compete against climate change
- Reduce greenhouse gas emissions by 55% in 2030

- Increase recycled content in products
- Reducing carbon and environmental footprints
- Improving product durability, reusability, upgradability and reparability (connection with Ecodesign Regulation)

EPD®

- EPD's based on a Life Cycle Analyses (LCA) according to EN15804
- Product Category Rules (PCR) are applicable
- Based on ISO14025
- LCA Indicators
  - Secondary raw materials
- (Current) CPR Essential requirement no. 7: Sustainable use of natural resources

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What drives us to use recycled content?

- Increasing demand from the market, initiated by:
  - Additional subsidies in Italy (CAM Regulation – see next slide)
  - Additional subsidies in Germany
  - Additional subsidies in France
  - Tax reduction for environmental investments in the Netherland (MIA\Vamil)
  - Dutch Building code requires declarations of construction products about their recycled content (no minimum content required yet) as per April 1st 2022.
  - Image of building developers, contractors and governments
  - Appreciated by LEED and BREEAM certification
- No legislation yet, but expected to come

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What drives us to use recycled content?

- Requirements CAM (Italy)
- Minimum quantity of recycled content, measured on weight of the finished insulation product

Type of insulation	Appearance of material		
	Insulation in the form of a panel	Crammed, blown or sprayed insulation	Insulation in mats
Cellulose		80%	
Fiberglass	60%	60%	60%
Rock wool	15%	15%	15%
Expended perlite	30%	40%	8% - 10%
Polyester fibres	60% - 80%		60% - 80%
Expanded polystyrene	From 10% to 60% depending on the technology of production	From 10% to 60% depending on the technology of production	
Extruded polystyrene	From 5% to 45% depending on product type and technology of production		
Expanded polyurethene	From 1% to 10% depending on product type and technology of production	From 1% to 10% depending on product type and technology of production	
Agglomerate of polyurethane	70%	70%	70%
Rubber agglomerate	60%	60%	60%
Reflective aluminum insulation			15%

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Marketing Declarations
It is a trend companies promote their products being sustainable, containing recycled content, containing bio-based content, compostable, etc.
Many times, it is a company declaration, not certification
CITUMEN
R2R
RECYCLING VAN
CIRCULAIRE DAKSYSTEMEN
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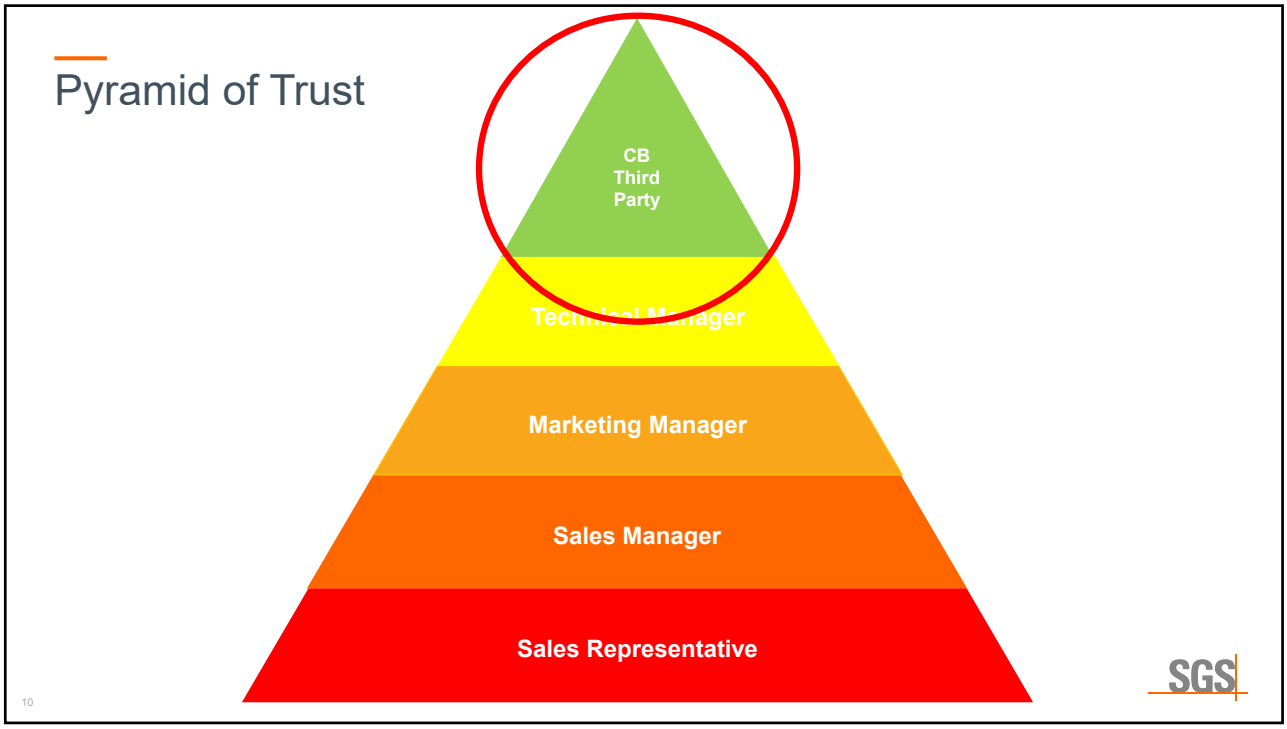
Pyramid of Trust
CB Third Party
Technical Manager
Marketing Manager
Sales Manager
Sales Representative
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Overview of certification schemes

- Environmental Product Declaration (EPD)
- Manufacturer own recycled content declaration (ISO14021)
- Requirements for verification of recycled and/or recoverd and/or by-product present (PdR:88)
- Bio based content (NCS 16785 based on EN 16785-1)
- REDcert – sustainable biomass energy sources
- ISCC – biomass energy sources
- ISCC Plus – recycled content and bio-based content
- Dutch KOMO guideline BRL7010 for recycled and bio-based content

There are more certification schemes, but these are mostly industry specific. For example the textile industry or packaging industry.

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Overview of certification schemes

	EPD	ISO14021	NCS 16785	REDcert	ISCC	ISCC Plus	BRL7010
Recycled content	✓	✓	⛔	⛔	⛔	✓	✓
Bio-based content	⛔	⛔	✓	✓	✓	✓	✓
Clear definition of recycled content	⛔	✓	⛔	⛔	⛔	✓	✓
Clear definition of bio-based content	⛔	⛔	✓	✓	✓	✓	✓
Custody of Chain	⛔	⛔	⛔	✓	✓	✓	⛔
Testing involved	⛔	⛔	✓	✓	✓	✓	✓
Sampling involved	⛔	⛔	⛔	✓	✓	✓	⛔
Auditting involved	⛔	⛔/✓	⛔	✓	✓	✓	✓
International recognized	✓	✓	✓	✓	✓	✓	⛔
Own waste considered as recycled content	?	⛔	⛔	⛔	⛔	⛔	⛔
Percentage m/m	✓	✓	✓	✓	✓	✓	✓
Percentage V/V	⛔	⛔	⛔	⛔	⛔	⛔	✓
Mass balance approach	⛔	⛔	⛔	✓	✓	✓	⛔

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Definitions

7.8.1.1 Recycled content and its associated terms shall be interpreted as follows:

a) **Recycled content**

Proportion, by mass, of recycled material in a product or packaging. Only pre-consumer and post-consumer materials shall be considered as recycled content, consistent with the following usage of terms.

1) **Pre-consumer material**

Material diverted from the waste stream during a manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.

2) **Post-consumer material**

Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.

b) **Recycled material**

Material that has been reprocessed from recovered [reclaimed] material by means of a manufacturing process and made into a final product or into a component for incorporation into a product.

c) **Recovered [reclaimed] material**

Material that would have otherwise been disposed of as waste or used for energy recovery, but has instead been collected and recovered [reclaimed] as a material input, in lieu of new primary material, for a recycling or a manufacturing process.

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Definitions

Recycled raw material

ISO 14021

- Pre-consumer material => *Material diverted from the waste stream during a manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.*
- Post-consumer material => *Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the products which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.*

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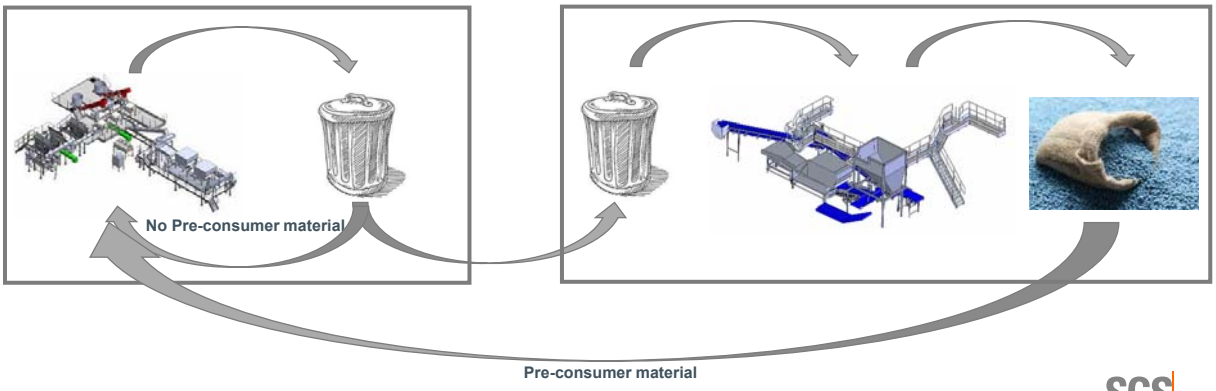
Definitions

Recycled raw material

ISO 14021

- Pre-consumer material



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Definitions

Recycled raw material

For definition of recycled raw material, standards like BRL7010 refer to ISO 14021.

EPD/LCA => definition of “secondary raw materials” is not as clear as the one in ISO 14021. Not clear whether own production waste can be included as well.

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The need for third party certification

- It gives more confidence to the market when an independent third party confirms the claim of a manufacturer
- Due to the complexity of definitions it makes sense an independent expert checks the interpretation of the manufacturer about what can be seen as recycled raw materials
- The calculation of the recycled content is sensitive for mistakes and therefore the evaluation of the calculation by an expert is very valuable

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The procedure of certification according to ISO 14021

Manufacturer

- Follow all the steps required by ISO 14021
  - Collect proof / statements from your raw material suppliers about the raw material being or containing recycled material
  - Write an interpretation document with the arguments why certain raw materials can be considered as recycled materials
  - Make the calculation of the recycled content

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The procedure of certification according to ISO 14021

SGS INTRON Certification

- Evaluate the proof / statements from suppliers
- Evaluate the interpretation document
- Check the calculation of the recycled content
- Perform an audit at the production location:
  - Check the whole production procedure:
    - Purchasing raw materials
    - Control of incoming raw materials
    - Recipe of the product to be made
  - How is it guaranteed no mistakes can be made
  - Check the mass balance between purchased quantity and produced quantity
  - Calibration of measuring devices

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Suggestions for improvements

- The end use of recycled raw materials should be judged and valued.
  - (high end usage or low end usage – recycled raw material used in same application/product or in a lower quality product / waterproofing in roads for example)
- The type of recycled raw material should be judged and valued
  - (what is the difference in ecological foot print when virgin raw materials are used instead of recycled raw materials)
- The origin of the recycled material is not taken into account. (What is the impact of shipping recycled raw materials from China to Europe for example?)

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Summary and conclusions

- The demand for construction products containing recycled and/or bio-based content is increasing by the market (image) and regulations
- A variety of initiatives for certification schemes have been developed
- There is a difference between these schemes in:
  - Definitions
  - Approach (audits/no audits, sampling/no sampling, etc.)
  - Chain of custody or not
- LCA / EPD is not enough
- Third party certification increases the trust in the claims on recycled and bio-based content significantly
- Preferably there should only be one or two certification schemes who are European or world wide recognized. Basically these certification schemes could be applicable for every industry.

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Summary and conclusions

- ISO 14021 would be the prefered standard for recycled content certification
- This standard need some adjustments:
  - Audits should be mandatory
  - Chain of Custody should be implemented
  - Some valuation should be implemented on:
    - Quality of end-use
    - Impact of virgin raw materials (encourage to concentrate on materials which have to highest impact)
    - Origin of recycled materials

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Questions?

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Thank you!

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