



Welcome

**Vestolit Webinar**

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**High-Quality PVC  
for your  
Sustainable Solutions**





# Your Vinyl Experts

offering sustainable  
solutions!



# Your host today

**Jan Hesterkamp**

Global Business Development Director  
Business Unit Specialty Resins

Orbia Polymer Solutions (Vestolit)



# Agenda

1) Welcome & Introduction

2) High-Quality PVC for your Sustainable Solutions

Tom Wardrop

Dr. Benjamin Janhsen

3) Questions & Answers

4) Closing

# Housekeeping

- Please use the Q&A area for your questions or comments  
Unfortunately, no microphone or camera is available for attendees.
  
- Enjoy the webinar



# Your Vinyl Expert Speaker no 1

**Tom Wardrop, PE**

Climate Change Leader

Orbia Polymer Solutions (Vestolit)



# Your Vinyl Expert Speaker no 2

**Dr. Benjamin Janhsen**

Global Business Development Manager  
Technical Coatings and Specialties

Orbia Polymer Solutions (Vestolit)







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**wavin**

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**koura**

# High - Quality PVC for your Sustainable Solutions

Vestolit Webinar - January, 2024



**When we sell  
PVC resins,  
we also offer  
sustainability  
solutions**





Customer Expectations

# “Consumers care about sustainability—and back it up with their wallets”

McKinsey & NielsenIQ. 2023

- “Products making ESG-related claims accounted for 56 percent of all growth.
- Two-thirds of categories, products that made ESG-related claims grew faster than those that didn’t.
- Large and small brands alike saw growth in products making ESG-related claims, in 59 percent of all categories studied.
- Products that made claims such as “carbon zero” grew 8.5 percent more than peers that didn’t make them.”







# Life Cycle Assessment

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## LCA

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# Life Cycle Assessment (LCA)

"What environmental impact does my product have on the world?"

- Measures the environmental impact of a product or process
- Science and data-based approach
- Covers the whole life cycle
- Separated into different stages (production, use phase, end-of-life, etc.) - complete life cycle is from "cradle to grave"
- Includes a variety of different environmental impacts (much more than just a carbon footprint)
- For us: "Cradle to gate" (gate = our factory's gate). Our customers (or their customers) can use our input to cover the whole life cycle





# LCAs can bring value

## Green Claims Directive:

- Protects consumers from greenwashing
- Regulates misleading environmental claims that companies make in their advertising and product labelling
- Ensures traders provide consumers with clear and understandable information of environmental aspects
- Will apply to all companies in all sectors selling goods and services in the E.U.
- E.U. Parliament consideration in February 2024

Important tool to measure ecological consequences of our business

## Who benefits/can use LCA?

- Marketing (Differentiation from competition)
- Supply Chain Management/Procurement
- R&D (Develop more sustainable products)
- General Management (make better decisions, avoid risks)





# LCA's Dataset

- Generates a comparable and fact-based datasheet to measure environmental impacts
- Specific data (from the individual supplier) > generic data (industry average)
- Usually, an LCA is not shared in its complete form, as it contains a lot of data:
  - Global warming potential
  - Human toxicity potential
  - Ecotoxicity potential
  - Eutrophication potential
  - Acidification potential
  - Abiotic depletion potential
  - Depletion potential of the stratospheric ozone layer
  - Formation potential of tropospheric ozone photochemical oxidants



# Differentiation of some Acronyms related to LCA



## Product Carbon Footprint (PCF)

Focuses only on emissions that affect global warming (mainly CO<sub>2</sub>)



## Product Environmental Footprint (PEF)

Unified method of conducting an LCA (European Union)



## Environmental Product Declaration (EPD)

Summarizes LCA data in a somewhat standardized report to share with customers/public

# Environmental Product Declarations (EPDs) and verification



## EPD (Environmental Product Declaration)

Using the example of a food product:

- An LCA can be seen as the detailed recipe, including the ingredients and steps required to make a certain product
- An EPD can be seen as the nutrition label on a package: it describes the nutrition facts but does not uncover the secrets how the product is made
- An EPD presents the main results but does not show confidential input
- It enables comparison between products that serve the same purpose
- A single EPD does not say much about the degree of sustainability of a product: it only gives meaning / value when comparing it to another EPD



## Verification

Verification ensures that:

- The LCA study has been carried out according to ISO and EN standards
- It is an independent quality check



# The stages of an LCA

## Life Cycle:

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Cradle-to-gate  
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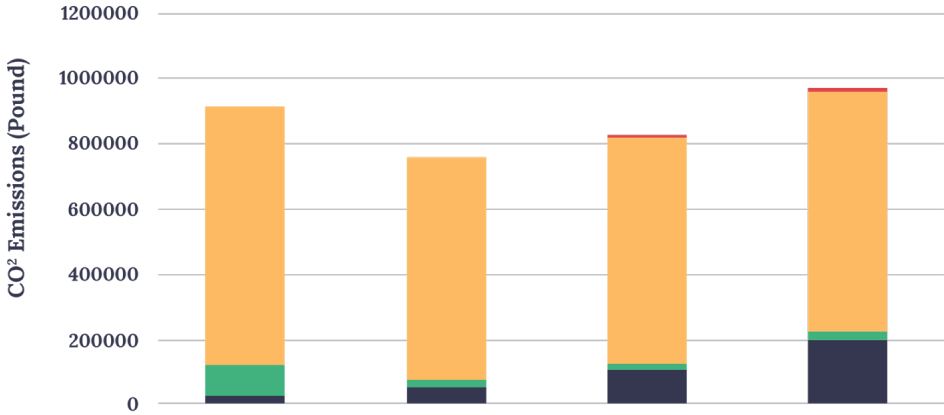


Vestolit's cradle-to-gate  
LCA covers stages **A1-A3**

Focus today: Global warming potential  
In scope next year: EN15804+A2 (18 additional impact categories, such as eutrophication, ozone depletion, etc.)

# Pipes LCA

CO<sub>2</sub> Emissions During the Life Cycle of Pipe Material

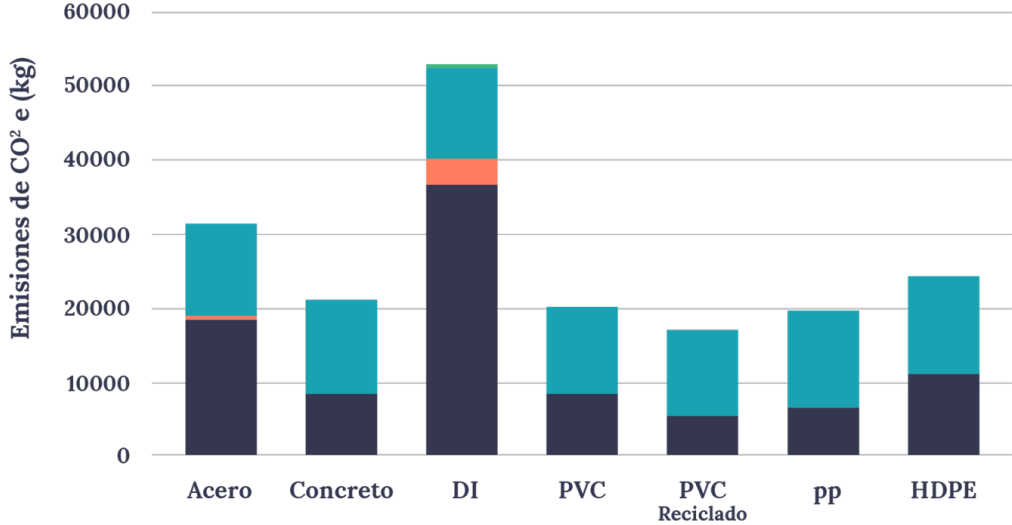


	PCCP	PVC	HDPE	CIPP
Disposal	279	1061	2245	6971
Operation	793251	686604	700303	742967
Installation	97457	17922	17922	21310
fabrication	23326	56492	1065572	199183

■ fabrication ■ Installation ■ Operation ■ Disposal

Sustainable Solutions Corporation for Uni-Bell. LIFE CYCLE ASSESSMENT OF PVC WATER AND SEWER PIPE AND COMPARATIVE SUSTAINABILITY ANALYSIS OF PIPE MATERIALS, 2017

CO<sub>2</sub> Emissions LCA Pipes D:700 mm



■ Fabricación ■ Transporte ■ Instalación ■ Operación ■ Reciclaje

Andrés Ariza. Univ. Andes. ESTADO DEL ARTE DE LOS COSTOS DE TONELADAS DE CARBONO EQUIVALENTE PARA SER INCLUIDOS EN DISEÑOS MULTIOBJETIVO DE SISTEMAS HIDRÁULICOS URBANOS, 2022





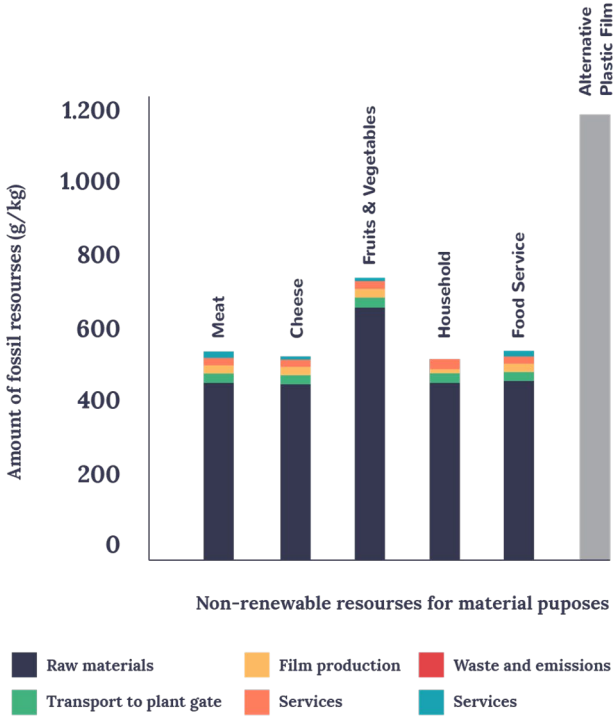
# PVC Cling Films LCA

PVC environmental impact related to GWP associated to PVC film and EPS tray production and its disposal at the end of life is very small compared with the packaged food.

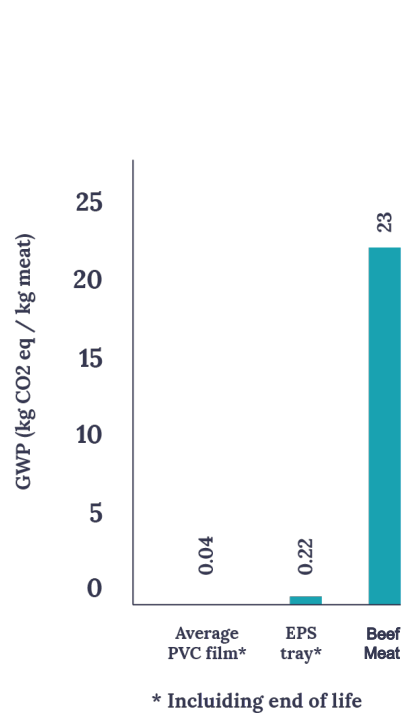
GWP is generally aligned for both alternative plastic and PVC films, Cumulative Energy Demand and fossil resource consumptions are lower for PVC.

PVC cling-film saves much more resources than it consumes.

Fossil resources for material purposes per kg of PVC film



GWP of PVC film and packaged product: meat case study



Life Cycle Engineering for Vinyl Films & Sheets Europe (VFSE). Life Cycle Assessment – applied to the PVC cling-film production





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# Vestolit's LCA

## USA

- Assessment in 2024
- LCA 2018

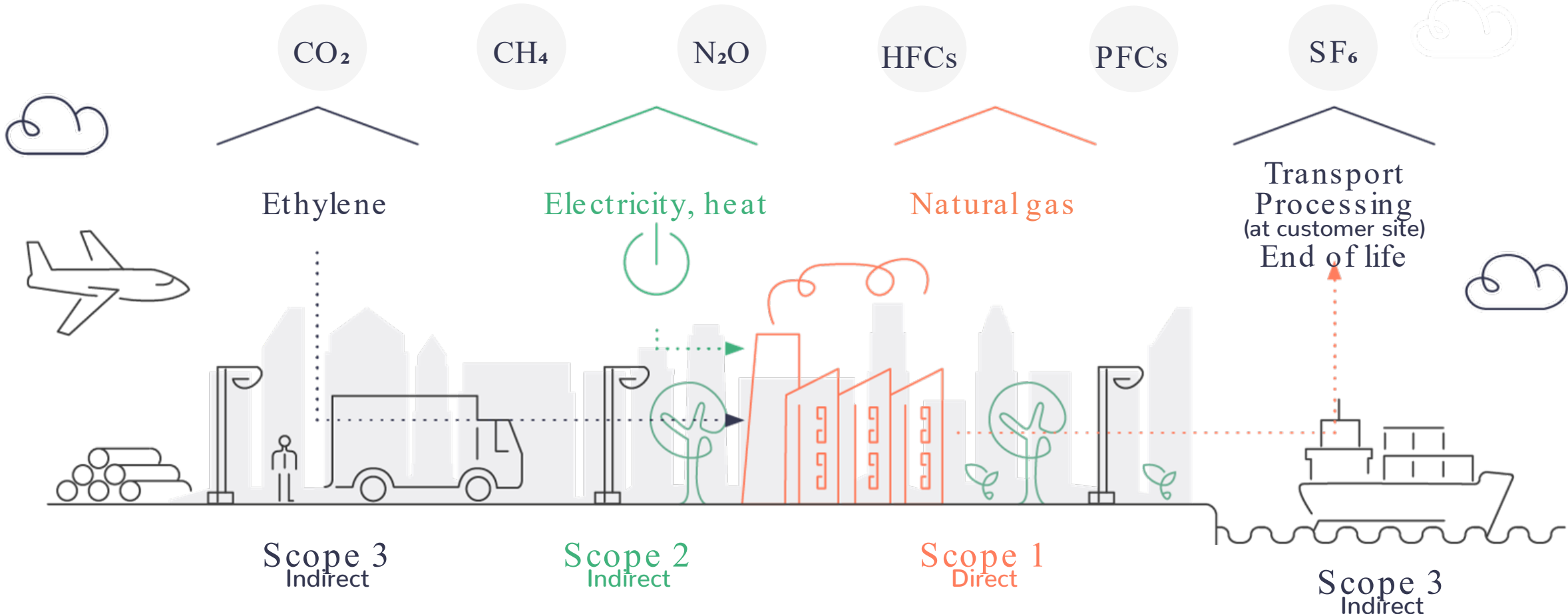
## Germany

- All Marl's Resins
- PCF

## Colombia, Mexico

- Cartagena 2023-2024
- Altamira 2023- 2024
- La Presa 2023-2024
- Altamira II 2024-2025
- Tlaxcala 2024-2025
- Provinilo
- Los Andes University 2022
- ANIQ 2017

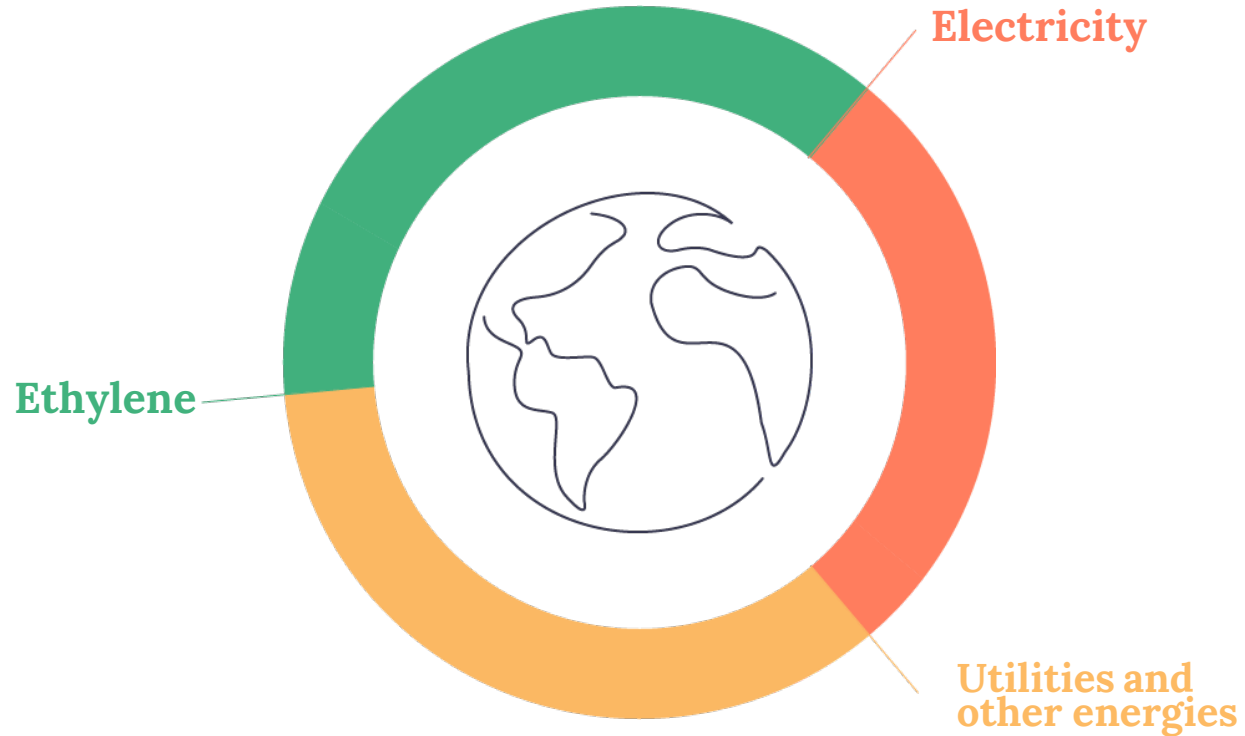
# Today we are offering a product carbon footprint





Contribution Analysis

# Global Warming Potential

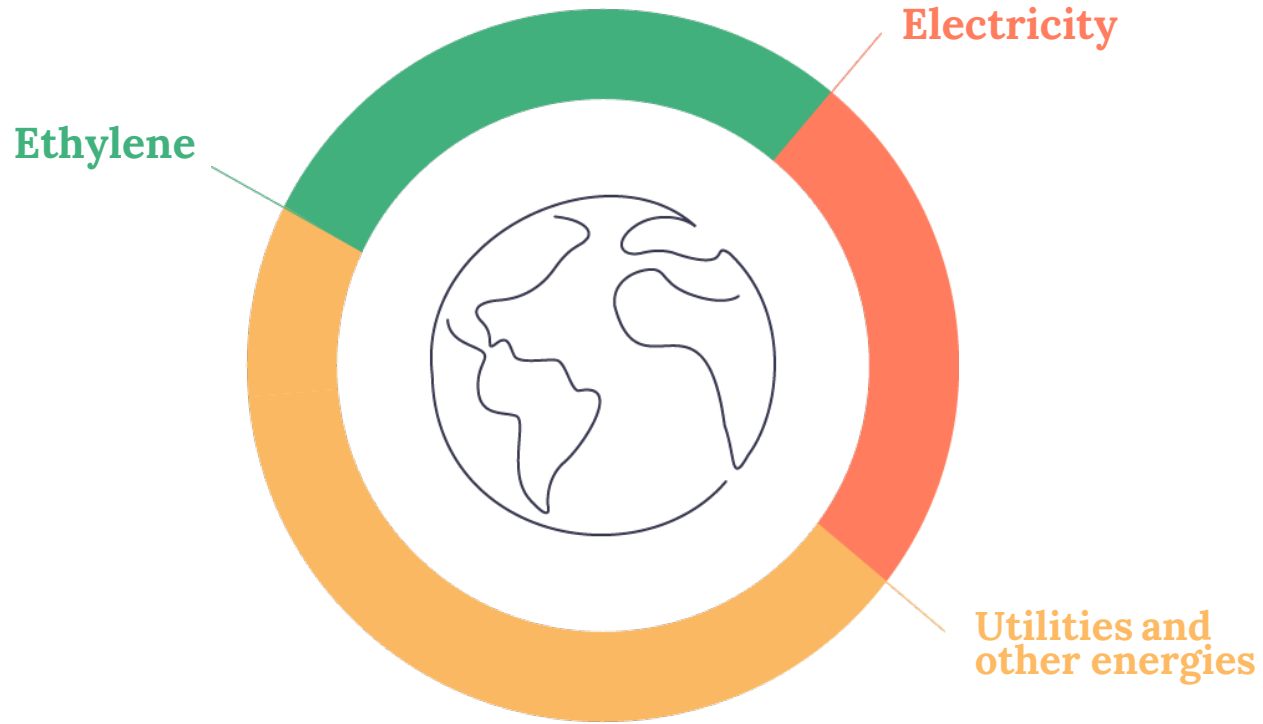


S-PVC (in  $t_{CO2eq}/t_{PVC}$ )



Contribution Analysis

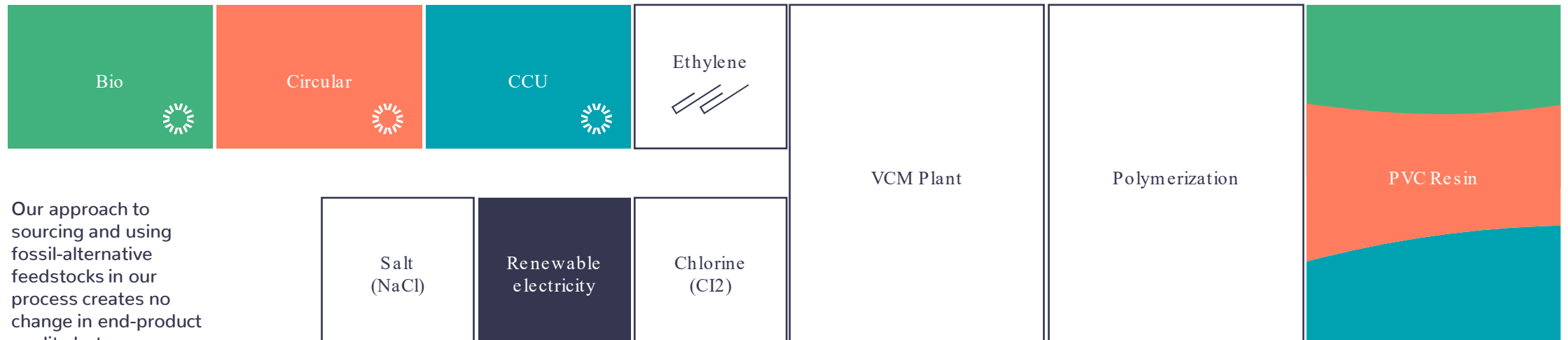
# Global Warming Potential



Paste-PVC (in  $t_{CO2eq}/t_{PVC}$ )

# Inside the Process

## To FUTURE-FIT® PVC



Our approach to sourcing and using fossil-alternative feedstocks in our process creates no change in end-product quality but ensures that you reduce your carbon footprint, provable through LCA or EPC declarations.



### FUTURE-FIT® BIO

Feedstock is oil extracted from plants or bio-mass, like rapeseed oil, or from the recycling of used bio-materials like used cooking oils.



### FUTURE-FIT® CIRCULAR

Feedstock is pyrolysis oil obtained through chemical recycling of waste plastics.



### FUTURE-FIT® CCU

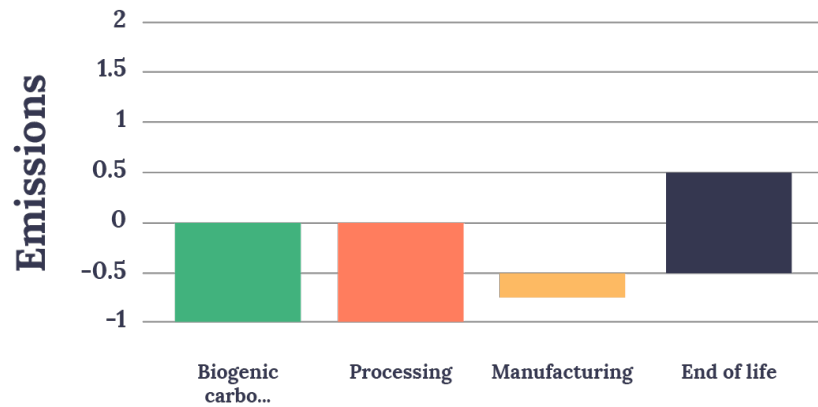
Feedstock is atmospheric carbon, captured and converted to ethanol, using technology currently in its infancy, but uniquely avoids need for steam cracker to generate ethanol.



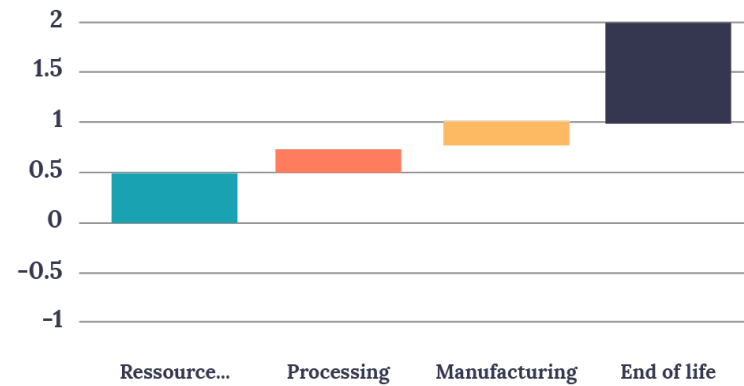
# Including and excluding biogenic carbon

- Following ISO 21930
- When biogenic carbon enters a system, it is reported as a negative value
- When it leaves the system, it is reported as a positive value

## Biogenic case



## Fossil case



# Vestolit's Next Steps

In 2024, Vestolit will complete LCAs of key resins from sites in Mexico and Colombia. Building off that work, we will work to generate LCAs for other sites and resins in the following years.

Marl (Germany) will keep updating the work that has already been carried out for each resin.

Along with our customers, main information to be disclosure will be selected, according to end customers requirements.





# Q&A



# Closing

# Closing

## Feedback

Please answer a couple of questions for us.  
You will find a link to the questionnaire here in the chat.

## Materials

Today's slides will be uploaded to our website soon.

## Point of contact

Reach out to your personal contact or email us at:

[Customer-Service.Europe@vestolit.com](mailto:Customer-Service.Europe@vestolit.com)

[Customer-Service.LATAM@vestolit.com](mailto:Customer-Service.LATAM@vestolit.com)

[Customer-Service.USA@vestolit.com](mailto:Customer-Service.USA@vestolit.com)



A man and a woman are seen from behind, holding hands and looking out over a landscape at sunset. The man is wearing a light blue shirt and the woman is wearing a white t-shirt. In the background, there are several wind turbines on a hillside. The sun is low on the horizon, creating a warm, golden glow. The text "Thanks' for joining today's webinar" is overlaid in the center of the image.

Thanks' for joining  
today's webinar



# V vestolit

Vestolit is an Orbia business and  
part of the Polymer Solutions group.

