

# Welcome to Future-Fit PVC

The best way  
to a full system  
solution for  
sustainable  
PVC

To create a future that's fit for the next generation, we need a future-fit next generation of PVC. We're the vinyl experts, applying our knowledge to open up more sustainable ways to make and use our resins. This is our journey to fully sustainable PVC.

# The need for sustainable solutions is critical

The picture is clear; the way we use natural resources needs to change

Across the world, businesses and consumers alike are trying to adapt and turn the tide. The biggest challenge we collectively face is to find the smart, sustainable ideas that allow us to adapt the way we live, make and consume, without compromises.

Reducing carbon emissions and use of finite resources is urgent, only way to secure a future that's fit for future generations.



## For many decades, we've enjoyed the benefits of PVC as a material

Brilliantly versatile, adaptable to a huge range of applications, it represents great value and reliability to many sectors.

As with so many materials we use and depend on today, new approaches are needed to create more sustainable versions. We believe that because of all its positive attributes, PVC can and should play a role in the transition to a more sustainable future.

Only when  
you have  
our depth of  
expertise can  
you innovate  
in all the right,  
**informed and  
insightful  
ways** needed.





Our expertise,  
applied to  
the future





## Vestolit are part of Orbia, a community of companies bound together by a shared purpose: to advance life around the world

Orbia's business groups have a collective focus on ensuring food security, reducing water scarcity, reinventing the future of cities and homes, connecting communities to data and information services and expanding access to health and well-being through basic and advanced materials, specialty products and innovative, human-centered solutions.

At Vestolit, we're the vinyl experts, with over 70 years of resin production behind us. That's why it's in our hands to help make a sustainable transition work. Only when you have our depth of expertise can you innovate in all the right, informed and insightful ways needed.

## The journey to a fully sustainable way has begun

We already offer high quality general and specialty resins derived from bio-based feedstocks from non-food production sources, reducing CO<sub>2</sub> emissions by at least 50%.

But our vision is whole-system sustainability; premium PVC, using a full suite of non-fossil feedstocks, from bio-mass to recycled post-consumer waste to captured carbon.

From feedstock source to 100% renewable energy usage to sustainable derivatives; ours is an end-to-end, big picture approach to reducing carbon emissions.

# Our solutions

We have an evolving portfolio of sustainable PVC solutions, ever-more effective at reducing carbon emissions associated with the production of quality resins

Let our deep expertise find the right solution to help you make sustainable progress.

Principles of our product range:

**Always highest  
quality**

**No technical or  
functional loss vs  
fossil-feedstocks**

**Drop-in products,  
built for today  
and tomorrow**

**Independently  
certified**

**Can be adapted to  
your product needs**

# Inside the Process

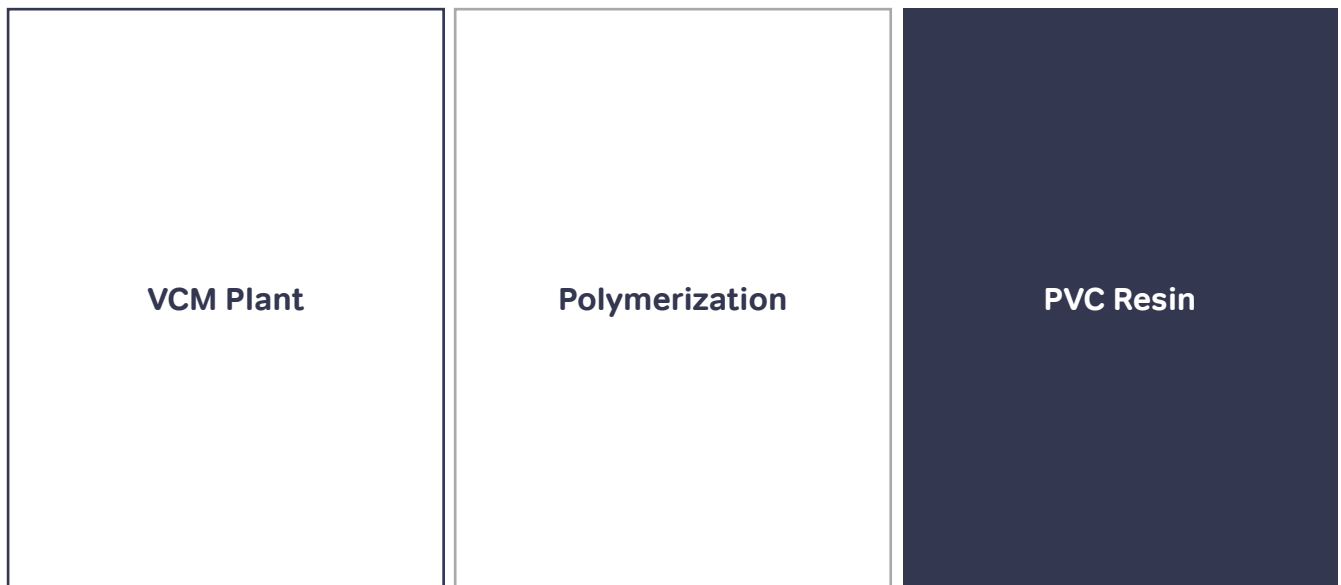
## From fossil-based PVC



Using ethylene from fossil feedstock leads to a GWP of approximately 1.45.

Using chlorine from salt and electrical energy (2.5 – 3.5 MWh per ton of Chlorine; GWP per MWh: 0.08 – 0.77 in EU, Germany: 0,31)

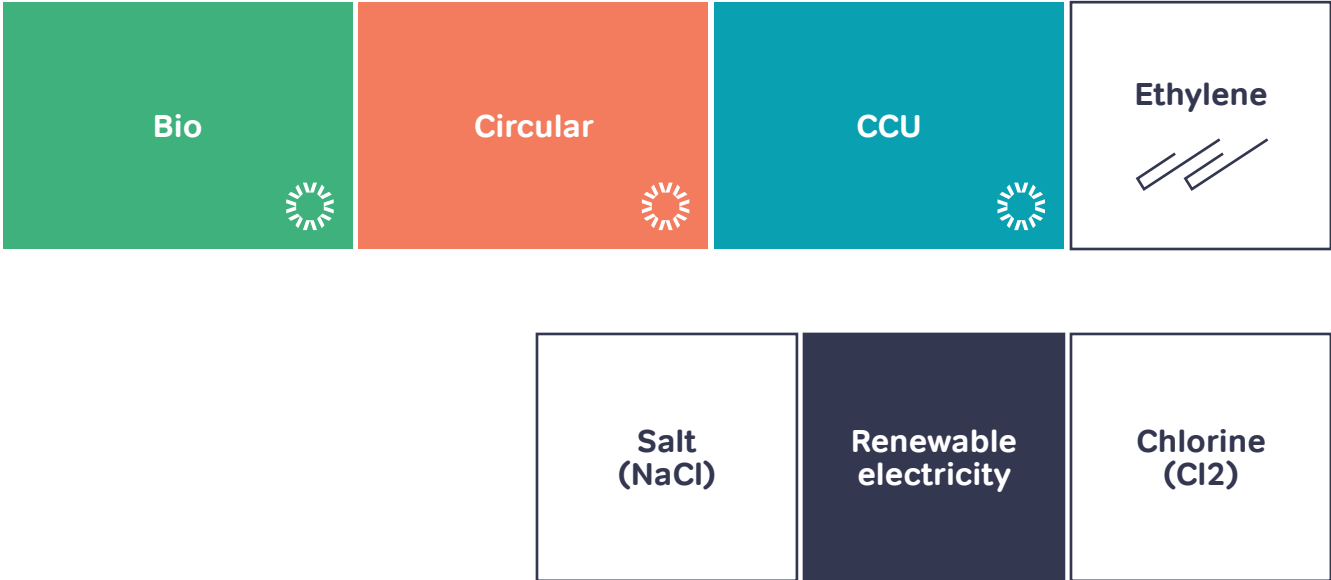




**The production of 1t PVC has the same effect on the global warming as the emission of 1.9 - 2.6t CO<sub>2</sub>.**

# 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.

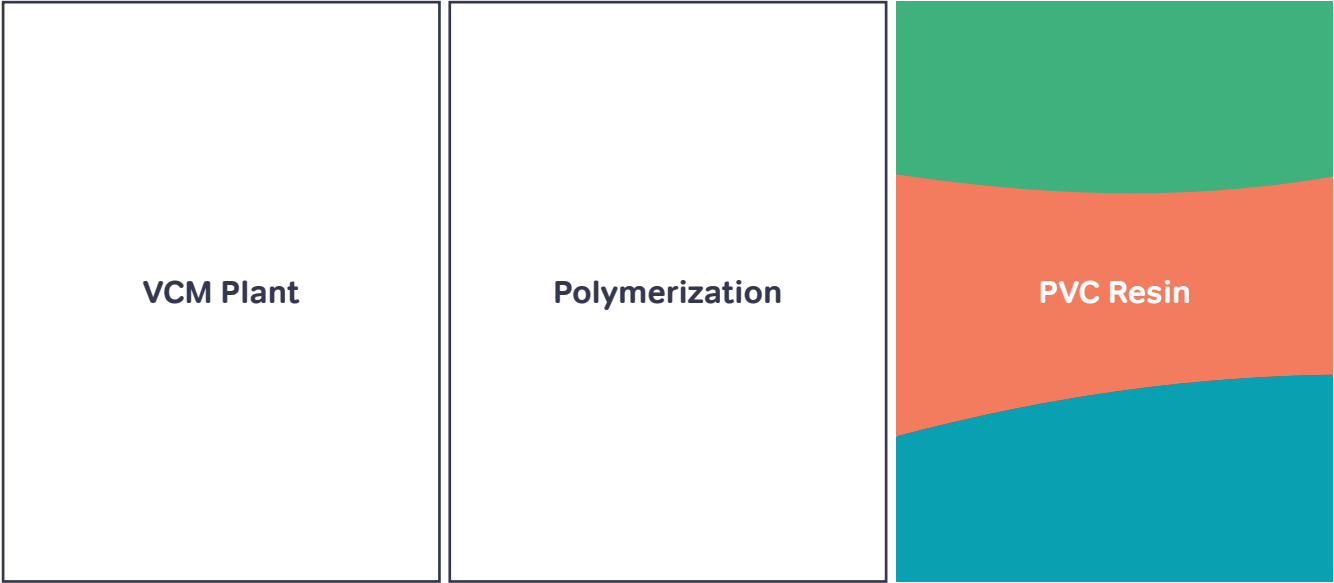
### FUTURE-FIT BIO



**A core source for today, for scale.**  
Feedstock is oil extracted from plants or bio-mass, like rapeseed oil, or from the recycling of used bio-materials like used cooking oils.

Bio-attributed PVC, produced using non-food production vegetable oils  
100% renewable energy use  
Mass balance production approach  
ISCC+ certified

**> More than 60% lower carbon emissions vs fossil feedstocks**



# FUTURE-FIT CIRCULAR



**A growing source, aligned to recycling growth.** Feedstock is pyrolysis oil obtained through chemical recycling of waste plastics.

- Circular PVC, produced using pyrolysis oil from recycling post-consumer waste
- Chemically recycled waste saves materials from landfill or incineration
- Mass balance production approach
- ISCC+ certified


 **Moving PVC towards circular economy**

# FUTURE-FIT CCU



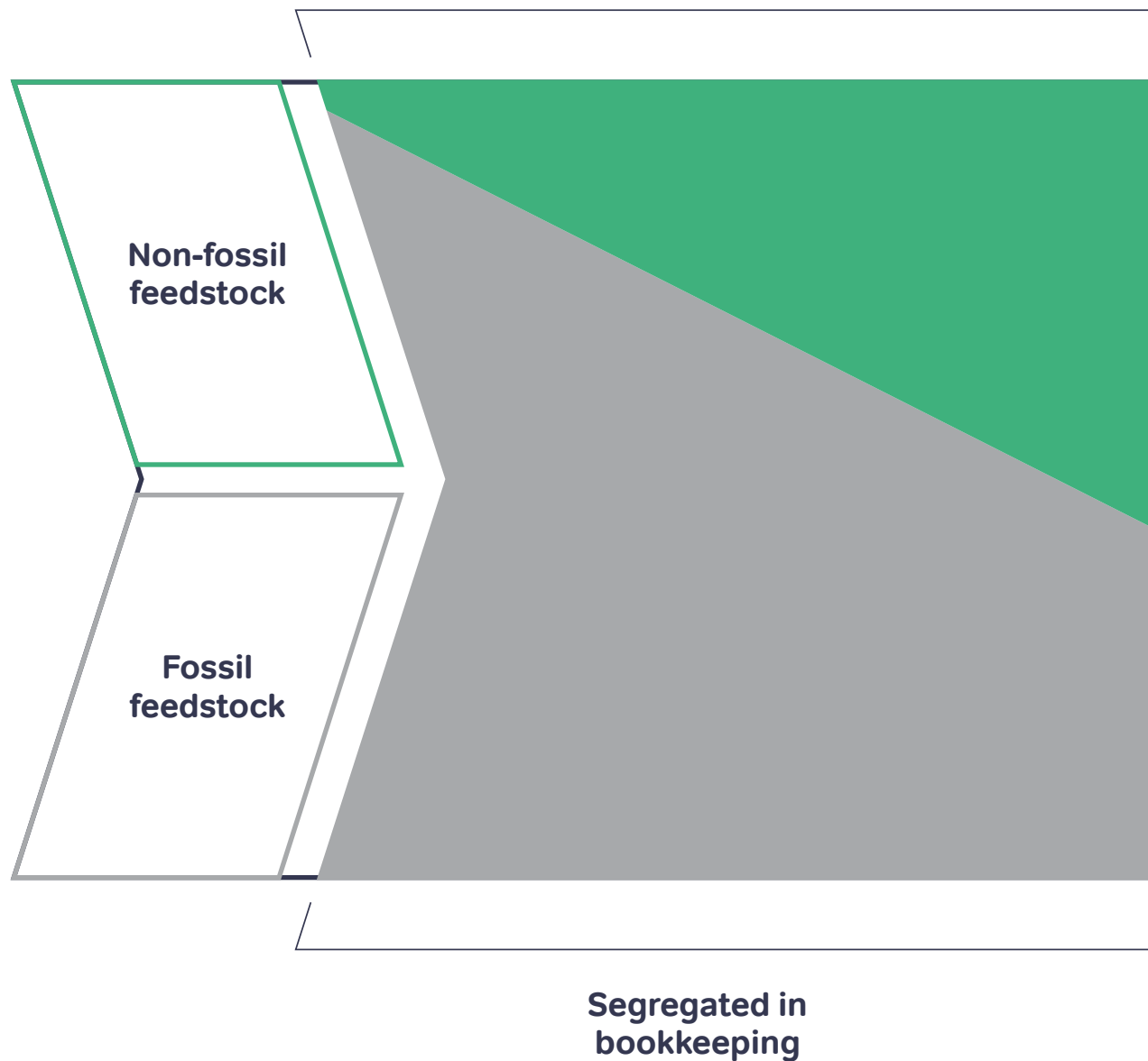
**A future prospect, requiring scaled technologies.** Feedstock is atmospheric carbon, captured and converted to ethanol, using technology currently in its infancy, but uniquely avoids need for steam cracker to generate ethanol.

- PVC produced from carbon capture from industrial off-gas
- 100% renewable energy in the production process
- Mass balance production approach
- ISCC+ certified

 **Pathway to carbon neutral production, making PVC a part of the solution to fight carbon emissions by utilizing it as a carbon sink**

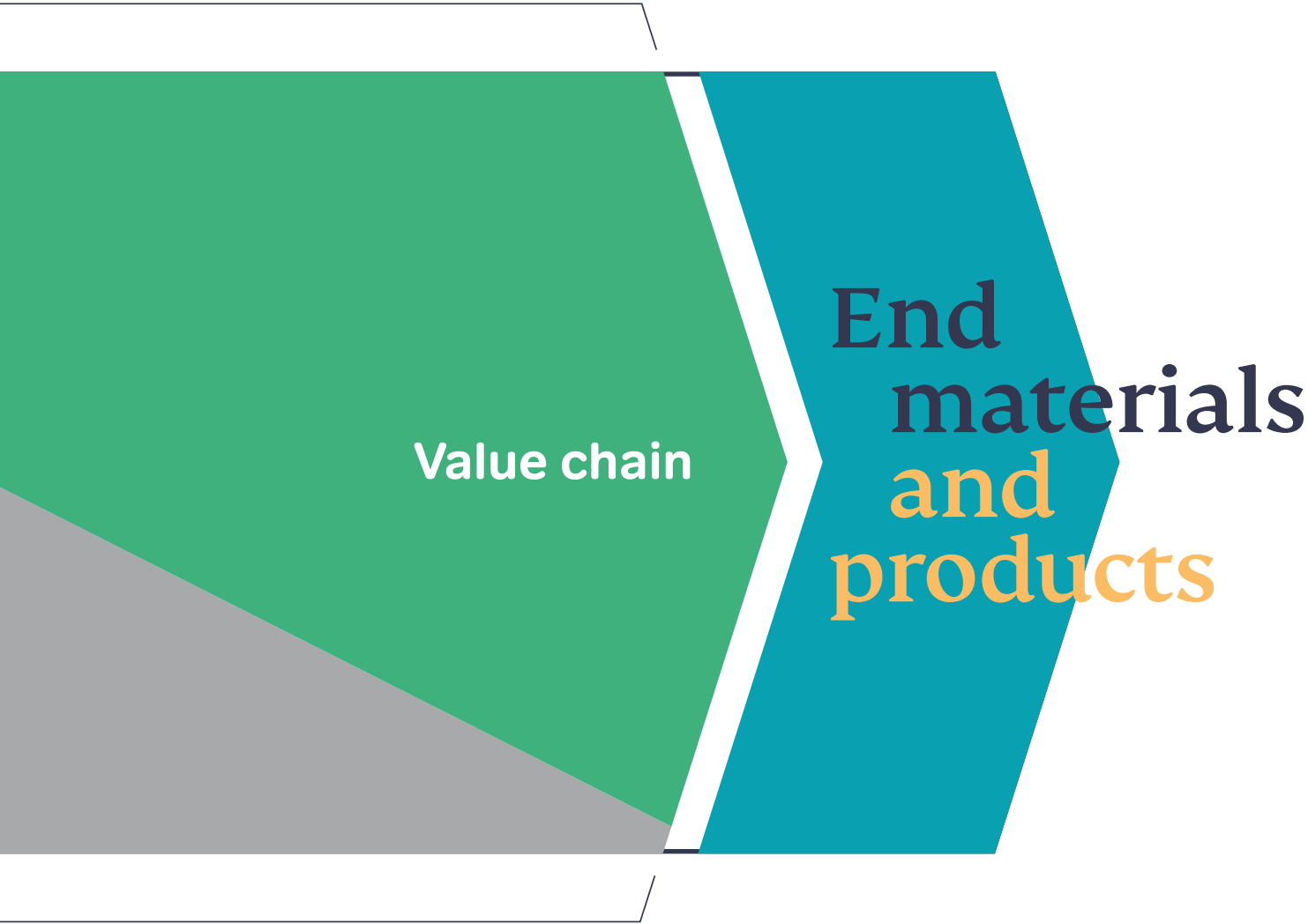
# Using Mass Balance

With this approach, no change is needed to operation or production; it involves the combined use of both fossil and non-fossil feedstocks in the supply chain, tracked and certified throughout the process, meaning final products can be independently certified by ISCC+ as having employed sustainable feedstocks.



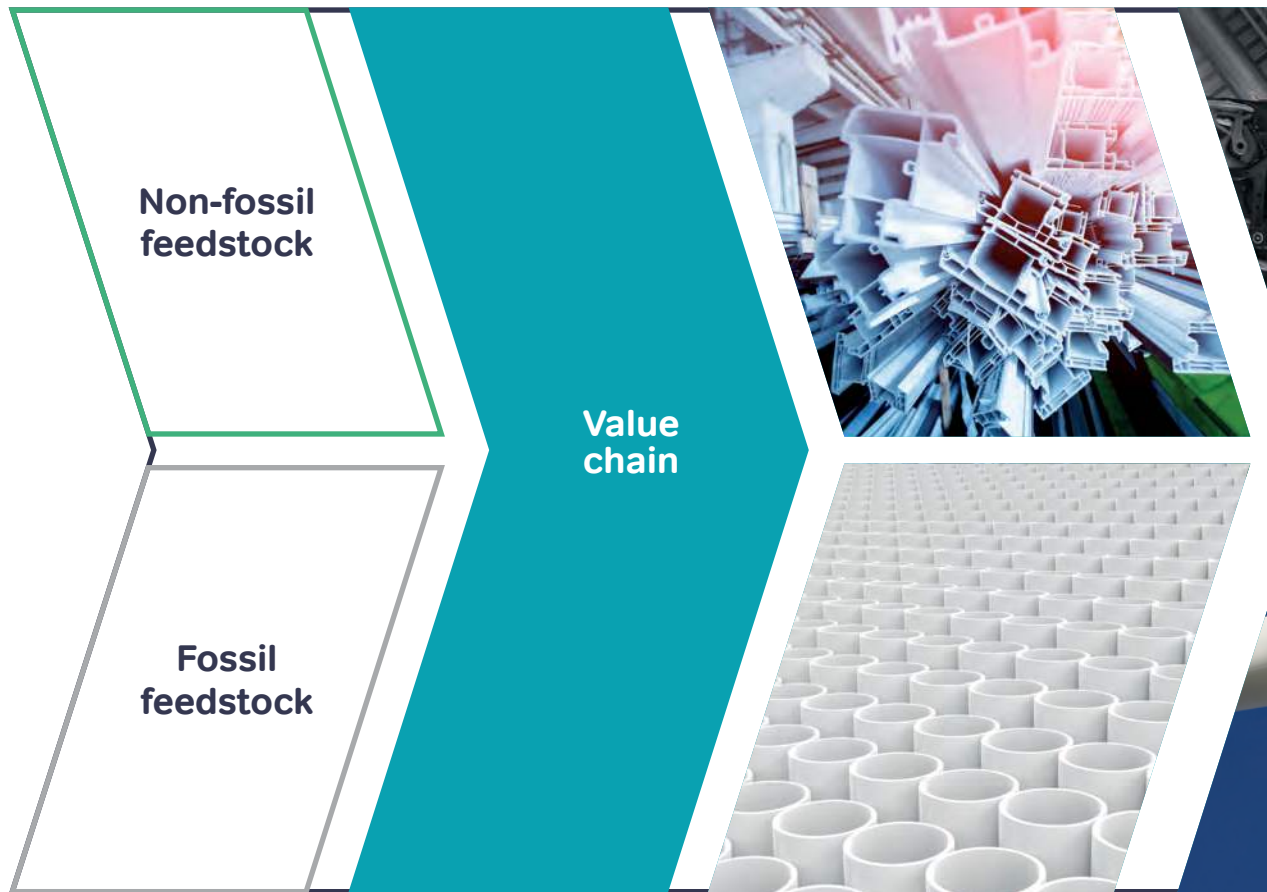


Physically combined  
materials



# Using Mass Balance

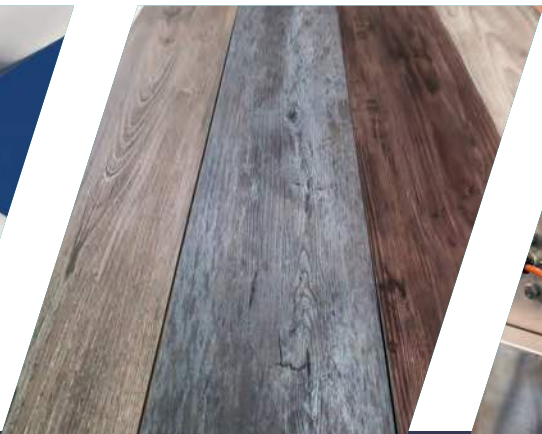
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## Profiles and Pipes

The outcome and intention of Mass Balance is to allow our customers and us to facilitate greater defossilization over time.

**End materials  
and products**



**Coatings  
and Foams**

**Wallpaper  
and Flooring**

**Medical Devices  
and Films**



Let's work  
together  
to make  
Future-Fit  
PVC work  
for you.

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