

Wavin low-carbon solutions

New generation of bio-circular products



wavin

An Orbia business.

Embracing Bio-based Solutions in Construction: The Forward-Thinking Approach

What is the essence and significance of “bio-based” in construction today – and for the future we’re working towards? To answer this question, we need to understand its measurement, the advantages it brings, and its importance. This leaflet is your steppingstone if you’re facing sustainability challenges and seeking tangible solutions.

Why Bio-based Matters

The relentless extraction of resources is pushing our planet to its limits, with fossil fuels aggravating CO₂ emissions and climate change. We’re making the problem exponentially worse as we extract more from the earth than it can regenerate every year.

Enter Bio-based Solutions

The pivot to bio-based products marks a significant stride towards sustainability. Sourced from renewable sources – including plants, trees, and grass – these materials champion a greener future with their minimal CO₂ footprint, attributed to natural CO₂ absorption during growth. Quick to regenerate – often within 10 years – they offer a sustainable and practical alternative to traditional, high-emission resources. This transition isn’t just environmentally crucial – it’s a feasible and practical solution.

What Exactly are Bio-based Synthetics?

Bio-based synthetics maintain the quality of traditional materials while offering environmental benefits.

For example, ethylene (pivotal in creating synthetics like PP, PE, and PVC) can now be produced from biomass

via the biorefinery process – chemically identical to its fossil-based counterpart, with no loss in material quality.

Adopting bio-based synthetics means embracing all the benefits of traditional materials – durability, lightness, cost-effectiveness – while championing sustainability.

Wavin’s Commitment

Leading the change, Wavin transitions towards bio-based materials, ensuring quality and sustainability in construction. Our range of bio-circular products embodies this commitment, offering a sustainable alternative without sacrificing performance we’re used to from fossil-based materials.

Further in this leaflet, you’ll explore the transformative impact of bio-based solutions in construction, gain a better understanding of the high-quality of the end product, along with the industry edge that it provides you.

The journey towards exploring a sustainable future together begins with insight.

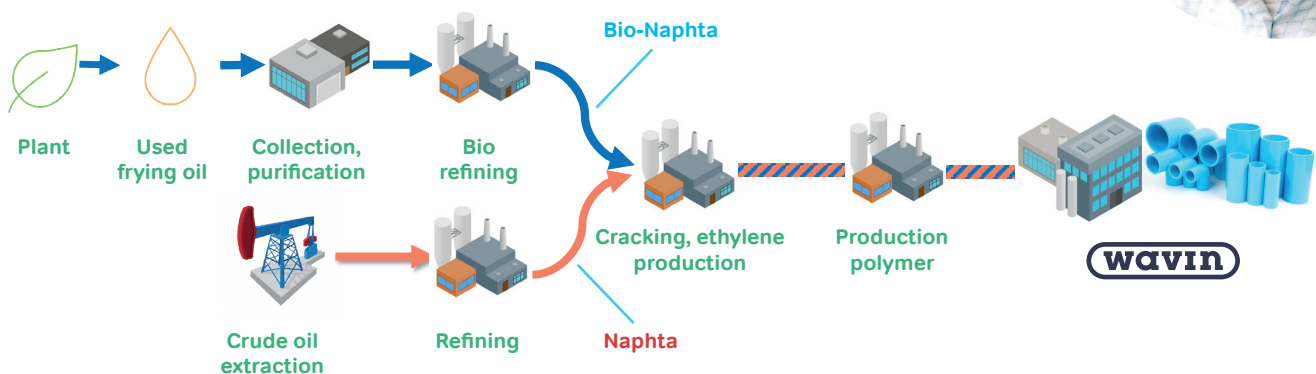
“We’re dedicated to minimizing our ecological footprint, actively seeking out and developing alternatives to fossil-based polymers and championing circular solutions.”

Ronald Bal

(Global Manager Sustainability - Circular Economy Wavin)



The supply chain of bio-based plastics:



Your Role in the Bio-based Revolution

Your decisions are pivotal in the shift toward sustainability. By choosing to incorporate bio-based products in your development projects, you become aligned with a global movement towards greener materials in various sectors. Your support for bio-based products matters. Increased demand enables further investment in sustainability – contributing to a greener future.

But how can we make sure that this move makes a real difference? Here, we'll highlight the importance of mass balance and certifications in ensuring the genuine impact of bio-based materials.



What Is Mass Balance in Bio-based Products?

Mass balance might sound complex, but it's really just a smart way to ensure that bio-based materials are used as promised in our products.

Imagine that we're mixing renewable and traditional, fossil-based materials in the same production chain. Tracking the bio-based content in this system is called mass balance reporting.

It might not be possible to pinpoint the bio-based content in each product exactly. But, this approach guarantees that the overall volume of bio-based material claimed is present in the process – similar to the concept of buying green energy. It's about keeping our promise to you and the planet.

The Power of ISCC Certification

ISCC (International Sustainability and Carbon Certification) confirms that the bio-based content of our products:

- ① Are from a verifiably bio-based production chain.
- ② Respect biodiversity, ethical practices and human rights.
- ③ Ensure sustainable sourcing and processing and do not conflict with food chains or sustainability practices.

We, and our suppliers undergo rigorous annual audits to maintain this certification, ensuring that the products you use contribute positively to the planet.



Quantifying Environmental Benefits

Through mass balancing and Environmental Product Declarations (EPDs), we provide tangible evidence of the environmental benefits of choosing bio-based products, emphasizing the significant impact of your sustainable choices.

“While sustainable materials come at a premium compared to traditional raw materials, we believe the investment is justified by the significant environmental benefits they offer.”

Ronald Bal

(Global Manager Sustainability
- Circular Economy Wavin)



Introduction of bio-circular ranges

Wavin has introduced multiple successful bio-based ranges. These ranges are delivered according to the mass balance method with the ISCC certificate. This guarantees a **75% CO₂** reduction.

1. Wavin Apollo drinking water pipes – Kiwa certified

Wavin Apollo PVC drinking water pipes are unique in that during the extrusion process, the material is provided in longitudinal and circumferential direction which improves the strength.

This makes pipes even more resistant to scratches, point loads and impact loads at low temperatures, pressure, and they are lighter in weight. Naturally, our pipes are Kiwa-certified.

2. Wavin Ventiza Air distribution system

Wavin Ventiza air distribution system is known for its distinctive oval product design. It is ideal for situations with low installation height and concrete floors. In addition, the ducts have the lowest wall roughness leading to less noise pollution.

3. PE-RT underfloor heating

PE-RT underfloor heating pipes are extensively used throughout Europe to distribute heated water. Biobased underfloor heating is particularly compelling for biobased and circular dry underfloor construction concepts, specifically designed for re-use or recycling.

4. PE-RT TIGRIS Alu drinking water pipes

The Tigris PE-RT Alu pipe system is ideal for hot & cold water applications. It offers a unique combination of strength, rigidity, and flexibility. It is available with biobased plastics, contributing to a significantly lower carbon footprint.

5. Wavin PE pressure pipes

Wavin PE pressure pipes are durable, corrosion-resistant, and ensure safe, long-lasting potable water distribution. As the other systems, PE pressure pipes are now available also as bio-based range.



Why Choose Wavin's Bio-based Products

Choosing Wavin's bio-based materials significantly lowers CO₂ emissions, making your projects more sustainable without compromising on quality.

Our commitment to transparency and ethical practices is underlined by the ISCC. We also perform rigorous Life Cycle Analysis (LCA) on all our bio-based products, offering you detailed, quantifiable CO₂ savings data, highlighting your project's eco-credentials for clients and within the industry.

“The push for sustainability is urgent; we need alternatives that lower fossil fuel and raw material use. Despite the hurdles, bio-circular materials stand out as a superior choice today, and we're committed to evolving these solutions further.”

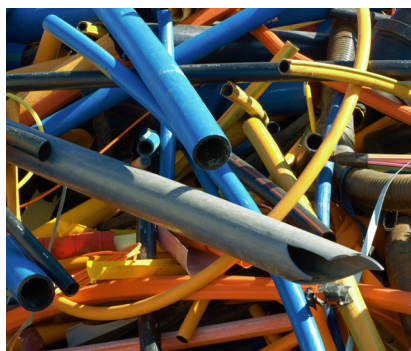
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Advantages:

- ① Reduction in CO₂ footprint by at least 75%, dependent on type of polymer and bio-based feedstock.
- ① Use of circular and renewable materials.
- ① Retention of product properties identical to fossil-based counterparts.
- ① Choosing bio-based products signals a commitment to progressive environmental change.

We are already making progress:



Wavin Take Back Service

Insufficient synthetic raw materials are currently returned. Wavin wants to increase and facilitate this return flow.

This is why Wavin, in Europe as well as Latin America offers a collection and recycling service for all contractors replacing used plastic pipes.

These pipes are not disposed of as construction or demolition waste, but collected for recycling.



Wavin Recycore

PVC U3 pipes with Recycore® Technology are applicable in any project.

Every PVC pipe with Recycore® Technology contains the optimum amount of recycled plastic. Wavin offers a full range of 3-layer PVC pipes for internal and external sewers in all required diameters: from 32 millimetres up to 630 millimetres. For internal sewers, the percentage of recycled material is at least 30%, for external sewers it can add up to more than 50%.



Wavin Aquacell

Wavin AquaCell infiltration / attenuation units made from 100% recycled plastic.

The Wavin AquaCell infiltration units equip contractors, civil engineers and installers with a powerful new advance in the construction of surface water management tanks.

AquaCell units are made from 100% recycled and recyclable plastic, and it represents the future of sustainable drainage.

Discover our broad portfolio at wavin.com

- Drinking water distribution
- Waste water drainage
- Indoor climate solutions
- Urban climate resilience solutions



Wavin is part of Orbia, a community of companies working together to tackle some of the world's most complex challenges. We are bound by a common purpose: To Advance Life Around the World.

Building & Infrastructure

Orbia's Building and Infrastructure business Wavin is an innovative solutions provider for the global building and infrastructure industry. Backed by more than 60 years of product development experience, Wavin is advancing life around the world by building healthy, sustainable environments for global citizens. Whether it's to improve the distribution of clean drinking water, to make sanitation accessible for everyone, to create climate resilient cities, or to design comfortable living spaces, Wavin collaborates with municipal leaders, engineers, contractors, and installers to help future-proof communities, buildings and homes. Wavin has 12,000+ employees around 65 production sites worldwide, serving over 80 countries through a global sales and distribution network.

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