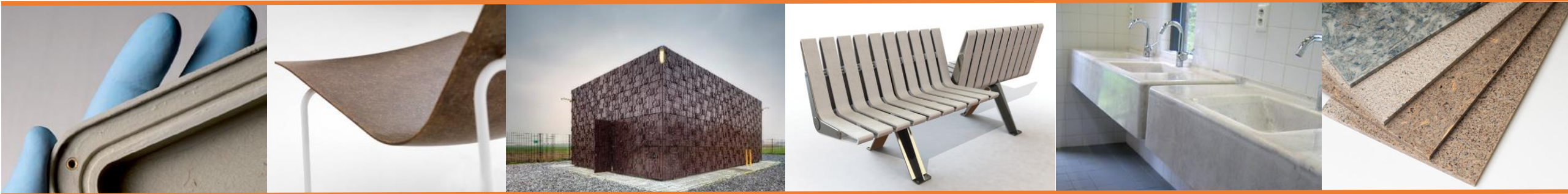


NPSP & Nabasco

Pushing the boundaries of bio-composites

04-12-2024



The world loves composites ... due to its advantages

- Light
- Low maintenance
- Double curved forming
- Function integration



... however composite waste is a growing problem

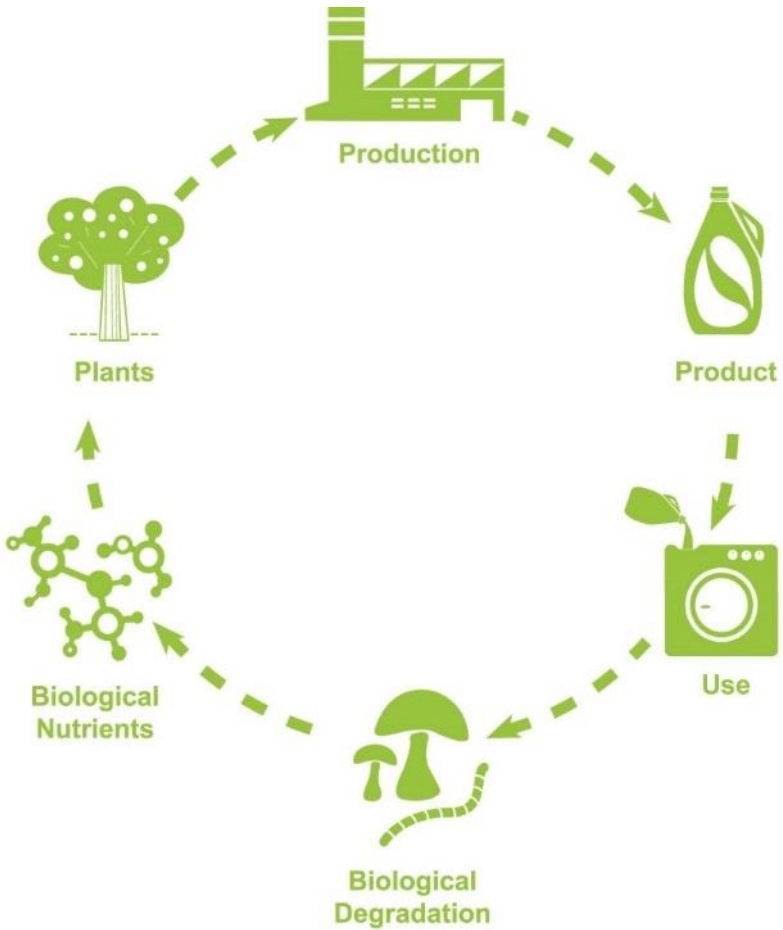


Fragments of wind turbine blades await burial at the Casper Regional Landfill in Wyoming.

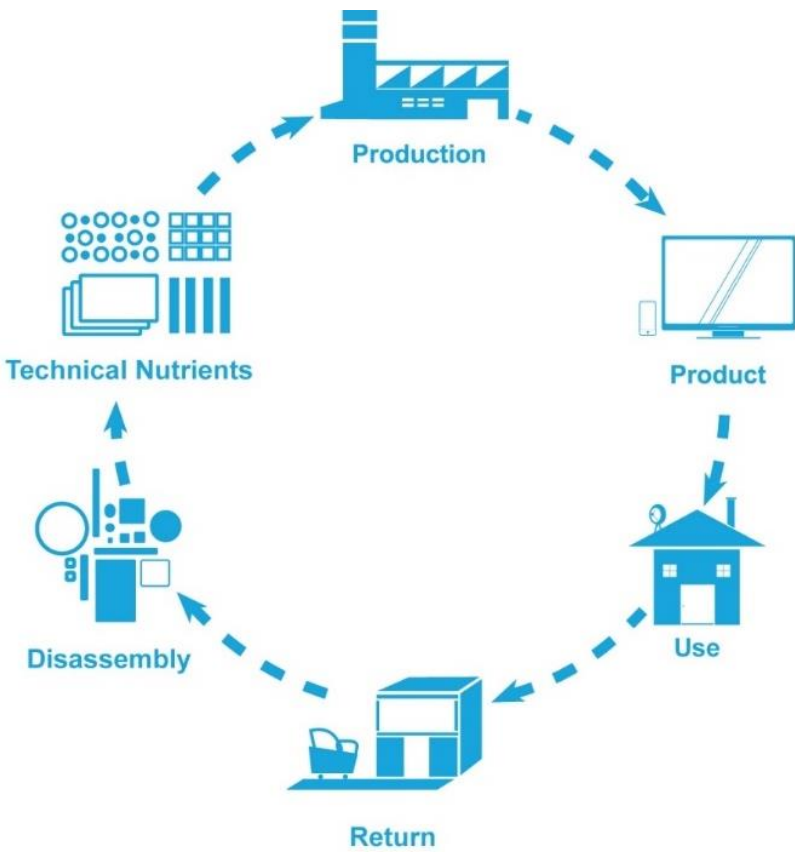


“Repurposing is good, but we can’t turn all turbine waste into playgrounds.”

Solution: Redesign with low CO₂ and circular approach



Biological cycle



Technical cycle

Source: Ellen MacArthur Foundation, Partners for Innovation,

 np sp

 nabasco

(But it was long road)

NPSP: History in pushing boundaries in biocomposites (1/2)



1998-2003

Nuna 1
Pushing boundaries

2003-2006

Mushrooms
Biobased batch manufactured



2006-2009

Noses trains
Proving durability

2009-2014

Building projects
Scaling up with BAM, Heijmans, ...



2014-2017

Patents
Focus only on bio-based composites and production

NPSP: History in pushing boundaries in biocomposites

(2/2)



2017-2022

Spin-offs

Partnerships to launch and scale Nabasco-based products.

2022-2024

Pilot Factory

Ability to produce small batches



> 2026

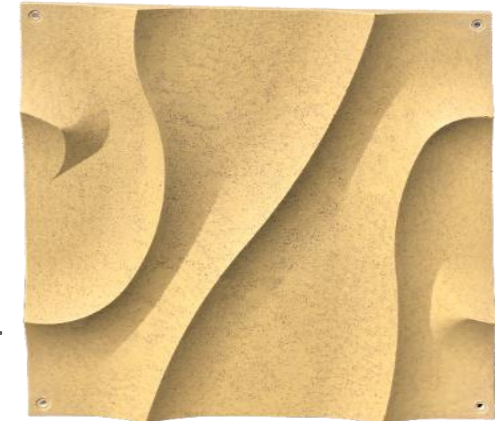
100% Bio-Based

Certifying Nabasco 8040 for different uses

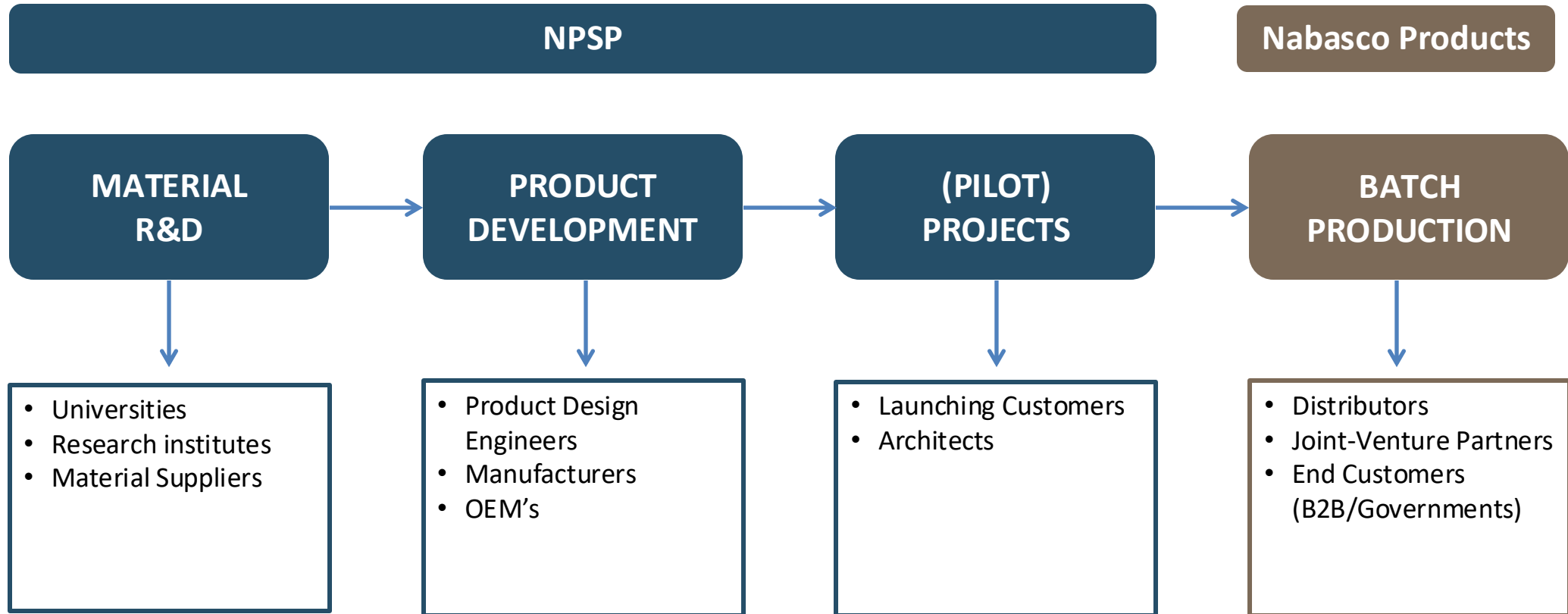
2024-2026

Nabasco Products

Own production of facades, traffic signs & casings for electronics



What do we do?



Our youngest solution: Nabasco® 80-series

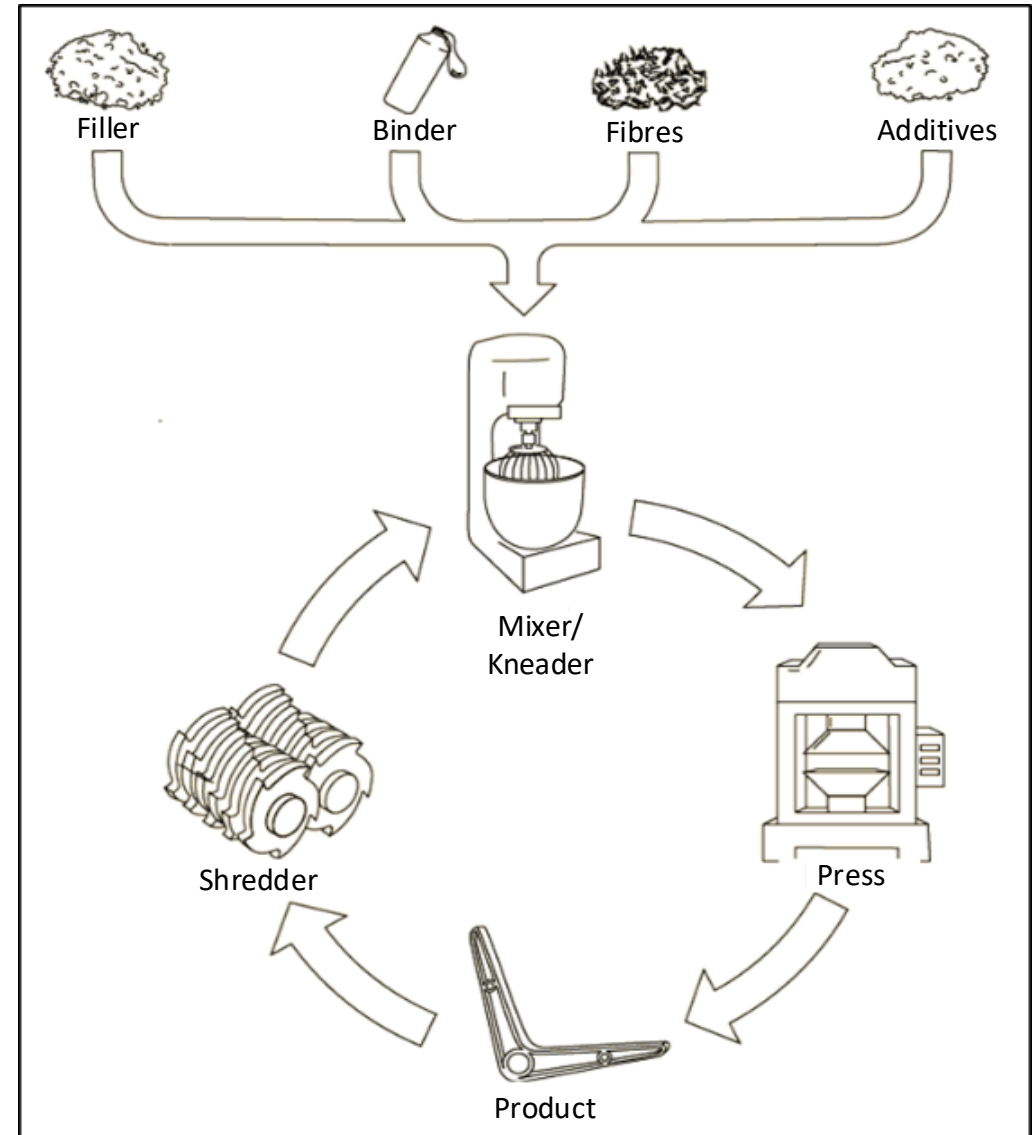


Production

The 80-series are made with Bulk Moulding Compound technique – see figure.

Near full bio-circularity

- Bio-based waste fibres and waste based filler(s)
- Partially bio-based resin, 100% bio-resin possible
- At end of life shredded and reused as filler for new bio-composites
- New, higher values recycling being investigated
- <https://www.youtube.com/watch?v=tAYni4SfEOc>



Use both waste- & biobased materials



Fibers



Resins



Fillers

Products: Public Space



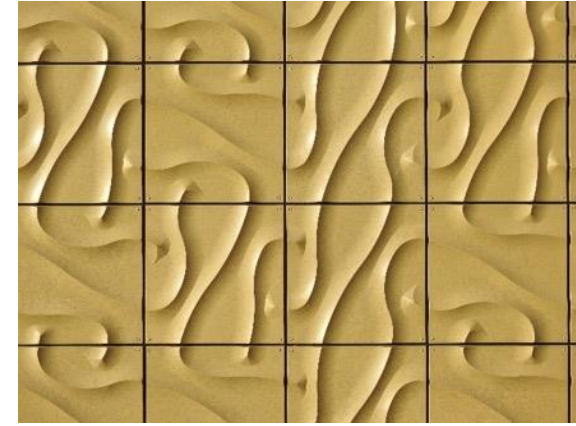
Products: Electronics & Cabinets



Products: Transport & Mobility



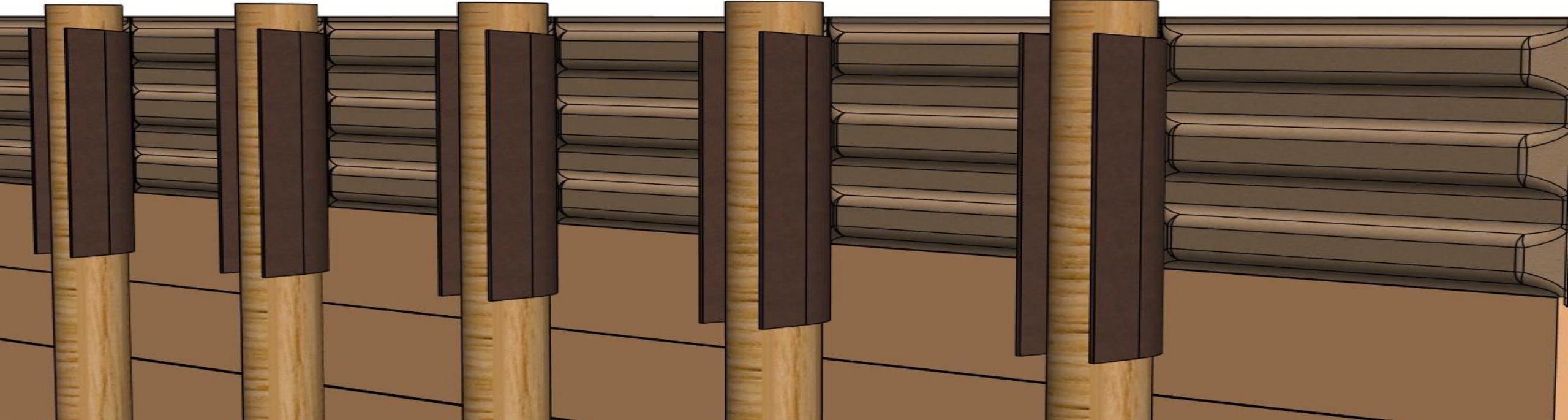
Products: Facade elements



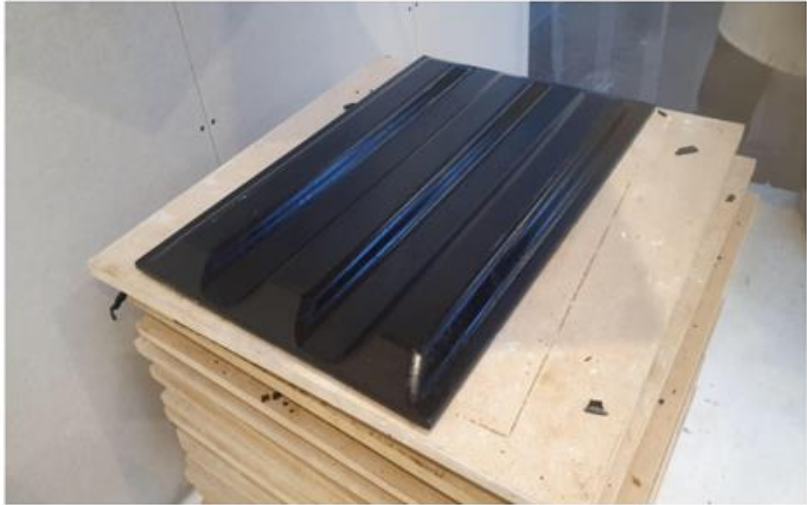
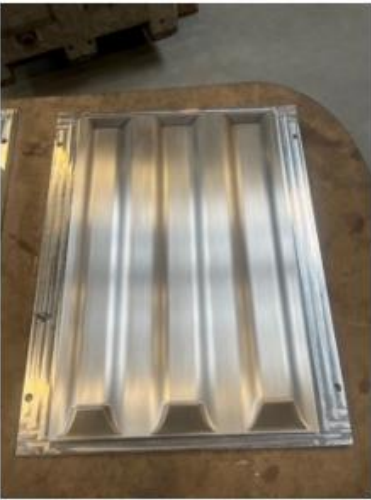
NPSP & Nabasco Pilot Plant @KD Lab, Delft



SBIR; to a 100% biobased riverbank protection



Production



Building



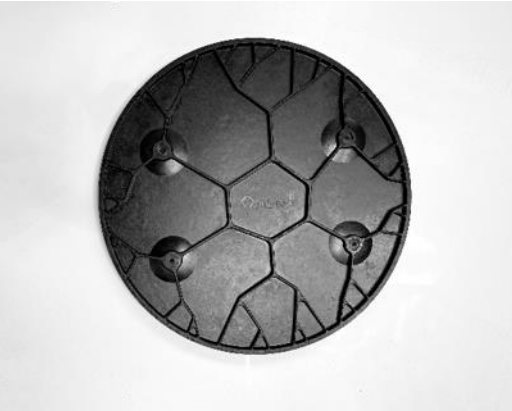
Results



From demo to state of the art series



And widening the scope



Next generation



Market/ PMC

Towards market readiness ...



Agrodome
Advies & Ontwikkeling

Environmental Product Declaration

In accordance with the EN 15804 +A2 and the NMD Bepalingsmethode, v1.1

Nabasco Facade panel 8012 Fire

Scope of the declaration
Type of the EPD is Cradle to grave, including modules A-D
According to the EN 15804 +A2 and the NMD Bepalingsmethode, version 1.1
The LCA was carried out by Agrodome B.V. (NL)
Based on production data from NPSB B.V.

Release date: 28 November 2024
Validity: 5 years
Functional unit: 1 m²

Sustainability in numbers

Since its founding in 2003, NPSB has been engaged in the research, development and production of composite products for outdoor use that are as environmentally friendly as possible. We do this by taking concrete steps, with our vision and mission as a guideline. By measuring and analyzing the environmental impact of our materials and products via the Life Cycle Analysis method we ensure that our composite materials keep in line with the requirements of our materials Nabasco 8012 and Nabasco 8040 is currently by an external party.

We have determined the CO₂ emissions of our materials (A1-A3) according to the methodology: cradle-to-gate.

LCA of Nabasco® 8012, 8012FJ and 8040:

	CO ₂ EMISSION	CO ₂ STORAGE	NET CO ₂
	Kg CO ₂ eq/ kg material	Kg CO ₂ eq/ kg material	Kg CO ₂ eq
8012	1,212	0,174	
8012 FJ	1,430	0,134	
8040	0,755	2,274	

Our mission

"Making an impact with highly bio- and waste-based composite materials and products and positioning them as a viable alternative to less sustainable conventional materials such as glass composites, aluminum and tropical hardwood."

Over Nabasco | Duurzaam | Partners | FAQ | Nieuws | Contact

TOPKwaliteit & 100% Duurzaam

Nabasco®Sign

In een wereld die steeds meer naar duurzaamheid beweegt, komen talloze alternatieven voorbij. Ook op het gebied van duurzame verkeersoplossingen zijn er steeds meer keuzes met elk hun voor- en nadelen. Bij POL Heteren willen we echter niet kiezen tussen duurzaamheid en kwaliteit.

Met Nabasco®Sign introduceren we het meest milieuvriendelijke en tegelijk ook hoogwaardige verkeersbord dat laat zien dat topkwaliteit en duurzaamheid prima samen gaan.

De markt vraagt om duurzaamheid

Het is logisch dat er in de branche van verkeersvrije oplossingen steeds meer vraag komt naar duurzame alternatieven. In een markt waarin jaarlijks tienduizenden borden worden vervangen is de impact op het milieu groot en is er in toenemende mate behoefte aan een duurzaam alternatief.

Het is een uitdaging die we als POL Heteren graag aangaan. Samen met NPSB, de koploper op het gebied van alternatieve composieten, hebben we de afgelopen jaren volop geïnvesteerd en geïnoveerd met als resultaat het beste en meest milieuvriendelijke en duurzame verkeersbord van Europa.

[MEER OVER NABASCO](#)

Let's push the boundaries of bio-composites together!

Let's get in touch:
sales@nabasco.nl

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www.npsp.nl](https://www.npsp.nl)