

NX CONSER™ Duetto

Building a sustainable future
through biodegradable plastics

About NEXTCHEM

NEXTCHEM is MAIRE's company dedicated to Sustainable Technology Solutions. Leveraging our deep expertise in nitrogen, hydrogen, carbon capture, fuels, chemicals, and polymers, we deliver groundbreaking solutions and processes that fully enable the energy transition.

Building on the rich legacy of our group for over 70 years, we are dedicated to developing and offering technology solutions, processes, basic engineering designs, as well as proprietary equipment and catalysts, to drive global decarbonization efforts forward.

Shifting paradigms in plastic production

The volume of non-degradable waste from plastics is continually rising, causing irreversible harm to biodiversity or releasing CO₂ emissions when incinerated.

Conversely, biodegradable plastics, derived from fossil sources, naturally decompose in the environment through the action of living organisms, effectively addressing the issue of plastic waste accumulation.

Considering this landscape, governments are implementing bans on non-biodegradable plastics. For instance, China is set to transition to biodegradable packaging by 2025, demonstrating a proactive approach to environmental protection. Therefore, the biodegradable is set to drastically increase in the coming years and companies need to develop an offer to fulfil the expected demand.

Our solutions to sustainable plastics

NX CONSER via its NX CONSER™ Duetto technology can provide solutions for production of the monomers needed for the production of PBS¹.

PBS¹ is a biodegradable plastic that can be employed in the manufacturing of packing and films for consumer and industrial applications. PBS¹ is produced from the Polycondensation of BDO² and DMS³ and NX CONSER can enable its clients to produce these compounds from C4 fractions such as butane.

NX CONSER can also offer a Biobased alternative production of PBS by producing DMS³ and BDO² from bio-derived succinic acid.

1. Polybutylene succinate
2. Butanediol
3. Dimethyl succinate

NX CONSER™ Duetto

Pioneering monomer
production for sustainable
PBS plastics

Applications

PACKAGING

bags, films, and food containers

AGRICULTURE / FISHERIES

fishing nets, mulch films, plant pots

DISPOSABLE ITEMS

cutlery, plates and straws

MEDICAL USE

sutures and drug delivery systems

TEXTILES

eco-friendly fibers and
non-woven fabrics

AUTOMOTIVE & ELECTRONICS

various components

BLENDS & COMPOSITES

compound with other
polymers for improved properties

FOAMS

forms biodegradable packaging
and insulation materials

Your benefits

1

Production of
compostable material
starting from one
feedstock

2

CAPEX and OPEX savings
enable to get unrivalled low
production costs

Technical overview

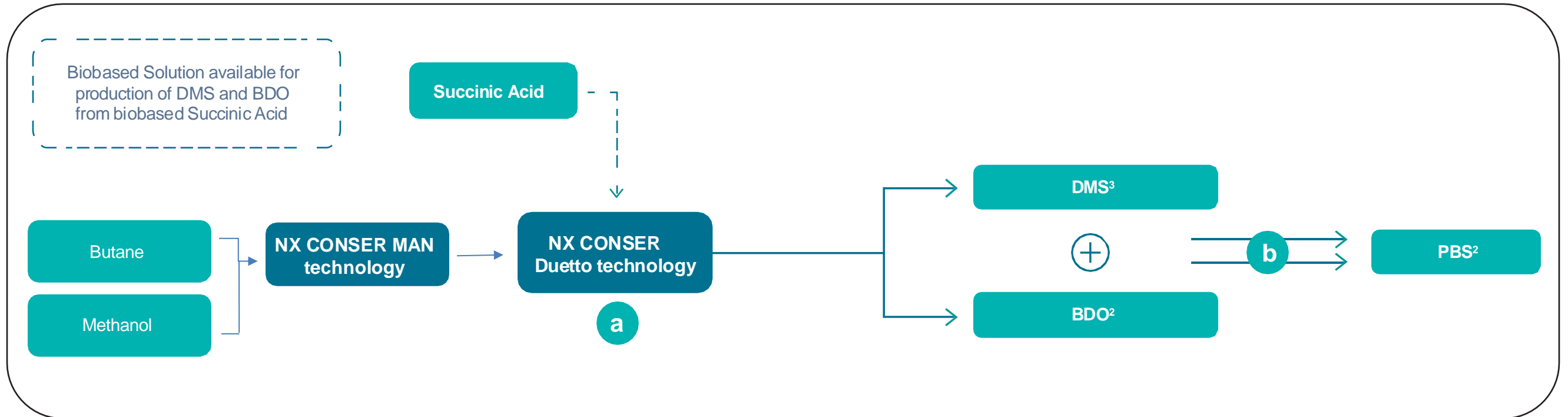
a

NX CONSER™ Duetto process leverages the conversion of Butane into Maleic Anhydride for further esterification and hydrogenation to DMS³ and BDO².

b

Leveraging a third-party technology BDO² and DMS³ can be polymerized to produce PBS¹.

NX CONSER
Proprietary technology



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