

#### Leading The Way To A Sustainable Bio-based World





Every once in awhile, a new technology, an old problem, and a big idea turn into an innovation.

Dean Kamen

# Groundbreaking Technologies



There is clear international demand for plant-based materials to substitute for those derived from petro-chemicals. New Zealand's rich heritage of quality biologically based raw materials and bio-manufacturing innovation enables BPN to create high performance products from bio-based materials for the global market.

BPN has, through original research, developed a number of products and continues to develop more in biopolymers, bio-based specialty chemicals, bio-composites, bio-foams and moulded structures. We also have expertise in Liquid CO<sub>2</sub> processing over a range of applications.







Our New Zealand based company was formed in 2005 born of a desire by its shareholders to exploit specific niche areas of bio-research to create new bio-based chemicals, biopolymers and applications.

In keeping with today's style of doing business we are a small but agile company able to draw upon the skills of a large pool of talented research scientists sub-contracted from our shareholders Scion, AgResearch and Plant & Food Research.







ECOBE/

# Commercially Inspired

Utilising NZ's resources BPN's research has been focused on meeting the growing global consumer demand for green sustainable products.

We source environmentally responsible alternatives from sustainably sourced plant-derived material using natural extraction processes with scientifically proven functionality.





#### Packaging

ZealaFoam<sup>®</sup> EcoBeans for Loose Fill ZealaFoam<sup>®</sup> Lightweight Printable Film

#### Home & Leisure

Toys Helmets Bee Boxes Single Use Picnicware EcoBeans for Bean Bags Harakeke Decorative Tiles

### Natural Wellbeing

UV protection Anti-microbial Anti-oxidant Anti-inflammatory Anti-protease Moisture retention Skin whitening / reduction in melanin



#### Industrial Innovations

Liquid CO<sub>2</sub> Processing Bio-based Composites Tannin Additives for Plastics, Foams and Coatings

# ZealaFoam®

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ZealaFoam<sup>®</sup> is an expanded polylactic acid foam (E-PLA). It is an excellent material offering excellent impact resistance and insulation properties suitable for a broad range of existing commercial and commodity-focused products. We manufacture this versatile product from commercially available PLA beads which are plant-derived. We impregnate the beads with CO<sub>2</sub>, a green blowing agent, using our revolutionary patented technology. ZealaFoam<sup>®</sup> can be safely disposed of by industrial composting or burning.

BPN has developed a second generation of bio-based foam products. These incorporate biomass which can alter cost, appearance and functionality. BPN has worked with a number of available waste streams including pine bark, proteins from a number of plant sources and plant fibres. Excellent moulded products have been produced with a range of colours and textures.



# Good news for manufacturers

ZealaFoam<sup>®</sup> can potentially be substituted for almost any moulded polystyrene product. This means manufacturers can mould ZealaFoam<sup>®</sup> on existing EPS moulding equipment without the costly exercise of buying new moulding machines and re-tooling. We are happy to work with manufacturers to embed ZealaFoam<sup>®</sup> in the factory.









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