Life Cycle Thinking and Circular Economy

Can they co-exist in a healthcare context?

LCANZ summit 2023

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F&P Global Network

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F&P Ecodesign Program

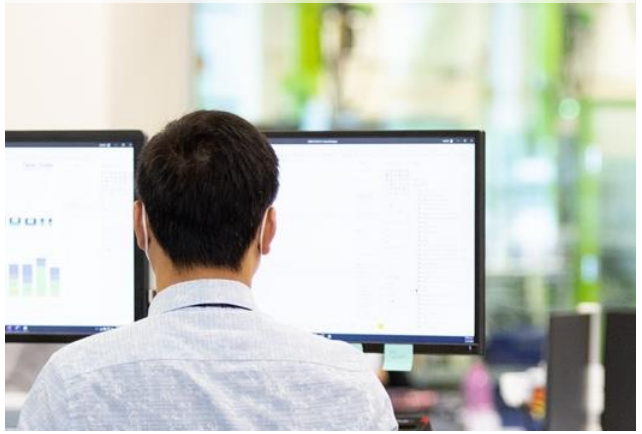
“Innovation which leaves a positive lasting impact on society and the environment”

Ecodesign & Sustainable Packaging

Sustainable Production

Sustainable Plastics

Life Cycle Assessment



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Environmental Impacts

Key Challenges/Opportunities:

- Carbon Footprint
- Water Footprint
- Healthcare Waste

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Customer Demand – Circular Economy

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Applying Circular Economy Thinking

Key Objectives:

- Designing for recyclability
- Using plastic waste as an input
- Keeping products in use for longer

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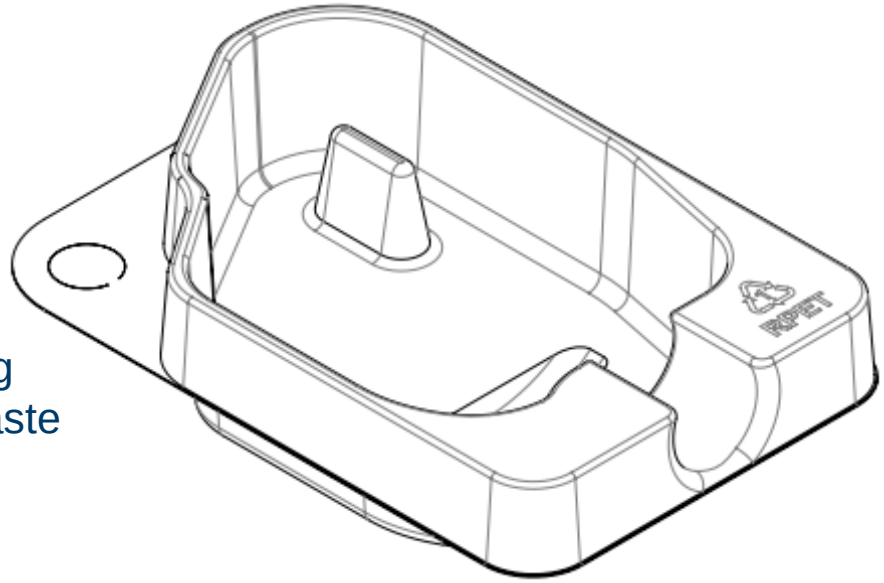
Case Study: Cannula & Filter Packaging

Recycled plastic

Recycled PET used in a packaging tray to close the loop on plastic waste



2.6 tonnes

Less virgin plastic content per year

6.6 tonnes

Less carbon emissions per year

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Customer Demand – Lifecycle Assessment

UK National Health Service (NHS) net zero target for emissions by 2045:

"…the long-term target is clear: before the end of the decade, the NHS will no longer purchase from suppliers that do not meet or exceed our commitment to net zero."

From April 2028:

- New requirements for carbon foot printing for individual products supplied to the NHS

https://www.england.nhs.uk/greenernhs/get-involved/suppliers/

Classification: Official

NHS

Delivering a 'Net Zero' National Health Service

https://www.england.nhs.uk/greenernhs/wp-content/uploads/sites/51/2020/10/delivering-a-net-zero-national-health-service.pdf

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Applying Life Cycle Thinking

Most environmental impacts happen upstream or downstream from F&P.

Key Objectives:

- Consider the whole lifecycle early in the design phase to prioritise design efforts
- LCAs for data driven decision making in Ecodesign
- Iterate and improve on existing product

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Life Cycle Assessment at F&P

- Current focus: LCA studies for internal understanding and decision making

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Example: 950 System LCA

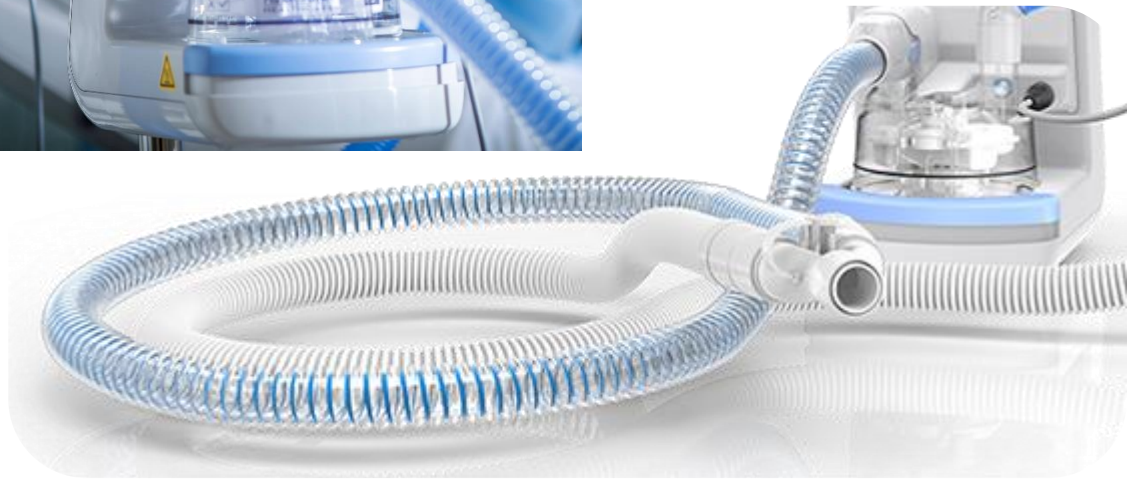
LCA study conducted by thinkstepANZ for F&P:

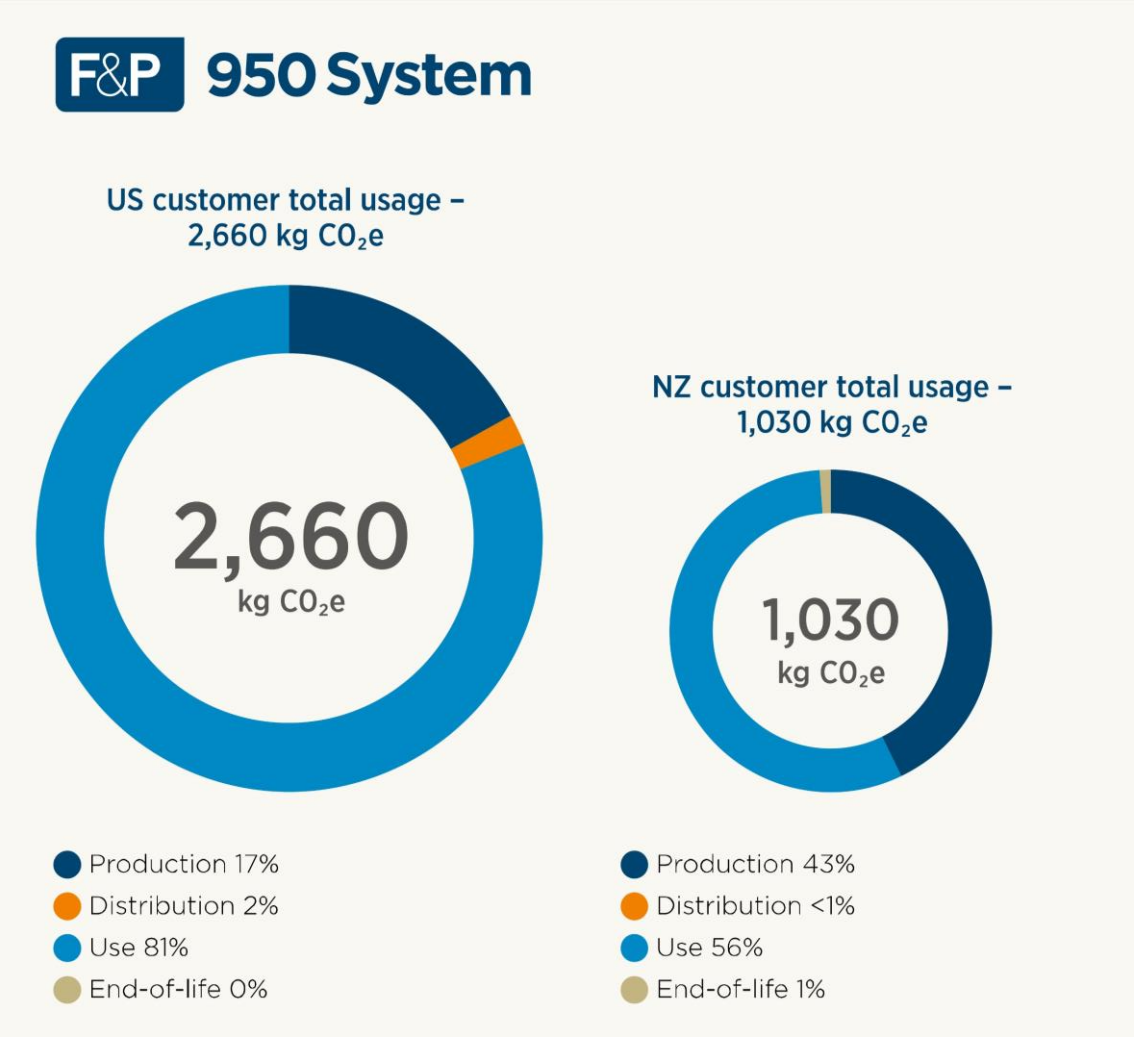
- Cradle-to-grave
- 7 year use life of the 950 system with consumables

Example: 950 System LCA

Use

Production





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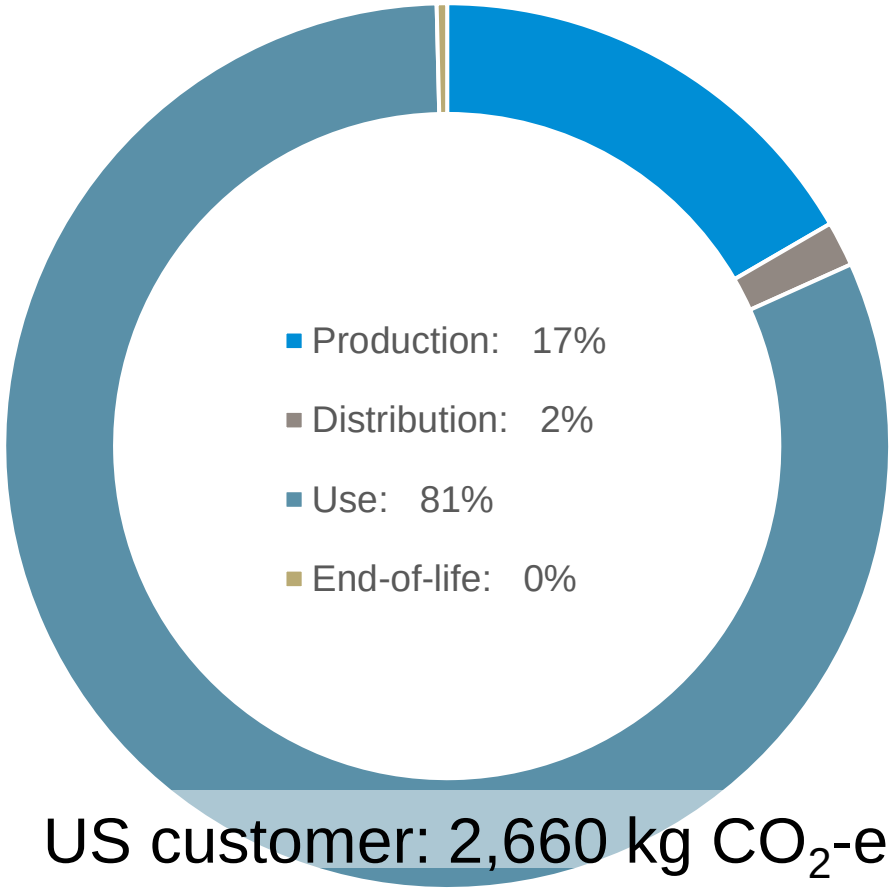
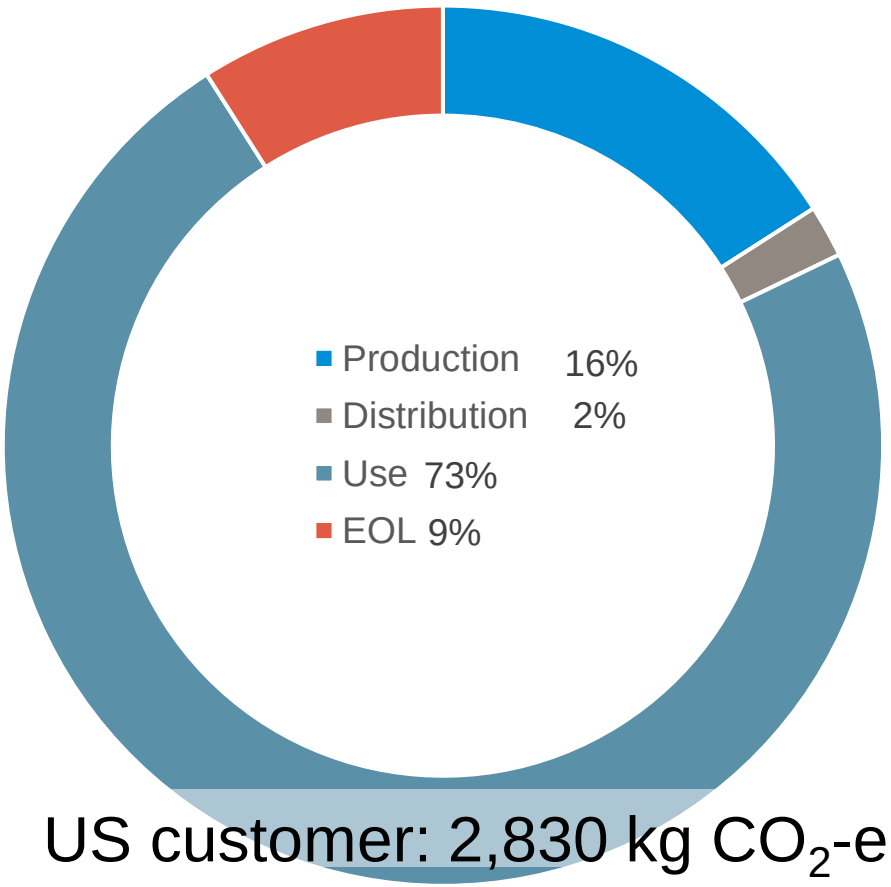
Product End of Life in LCA

- What if 950 System consumables were not landfilled at end of life (as originally assumed), and were incinerated?



US customer: 2,660 kg CO_2-e



US customer: 2,830 kg CO_2-e

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End of Life Impacts and Solutions

Circular Economy

- Keeping products and materials in use

LCA and LCT

- Understanding impacts of potential solutions across the life cycle
  - End of Life treatment
  - Cleaning and sterilisation for reuse
  - Product design changes

Healthcare Context

- Barriers and possibilities

Learning from LCA

- Hotspots and trade-offs: use, materials, packaging
- Considering multiple environmental impact categories






Note: Product and packaging images are for illustration only, and do not necessarily indicate an LCA study has been completed for items pictured

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Can LCT and Circular Economy co-exist at F&P?

- Each approach provides a different, valuable lens. Together they help us identify any gaps in our decision making
- Our Ecodesign Program takes a low carbon, circular economy approach
- Applying both lenses challenges us to think outside the box (or circle)

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Questions?

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