

Advanced Materials and  
Nanotechnology for Construction Cluster

## Branding innovations beyond the technical

*Life Cycle Assessment and the trade-offs of sustainable growth*

INDustrial TECHnologies 2018  
Vienna, 29<sup>th</sup> October 2018



**INDustrial TECHnologies 2018**  
Innovative Industries for Smart Growth

# *Wood-polymer composites as a sustainable, low maintenance commercial eco-alternative to timber*

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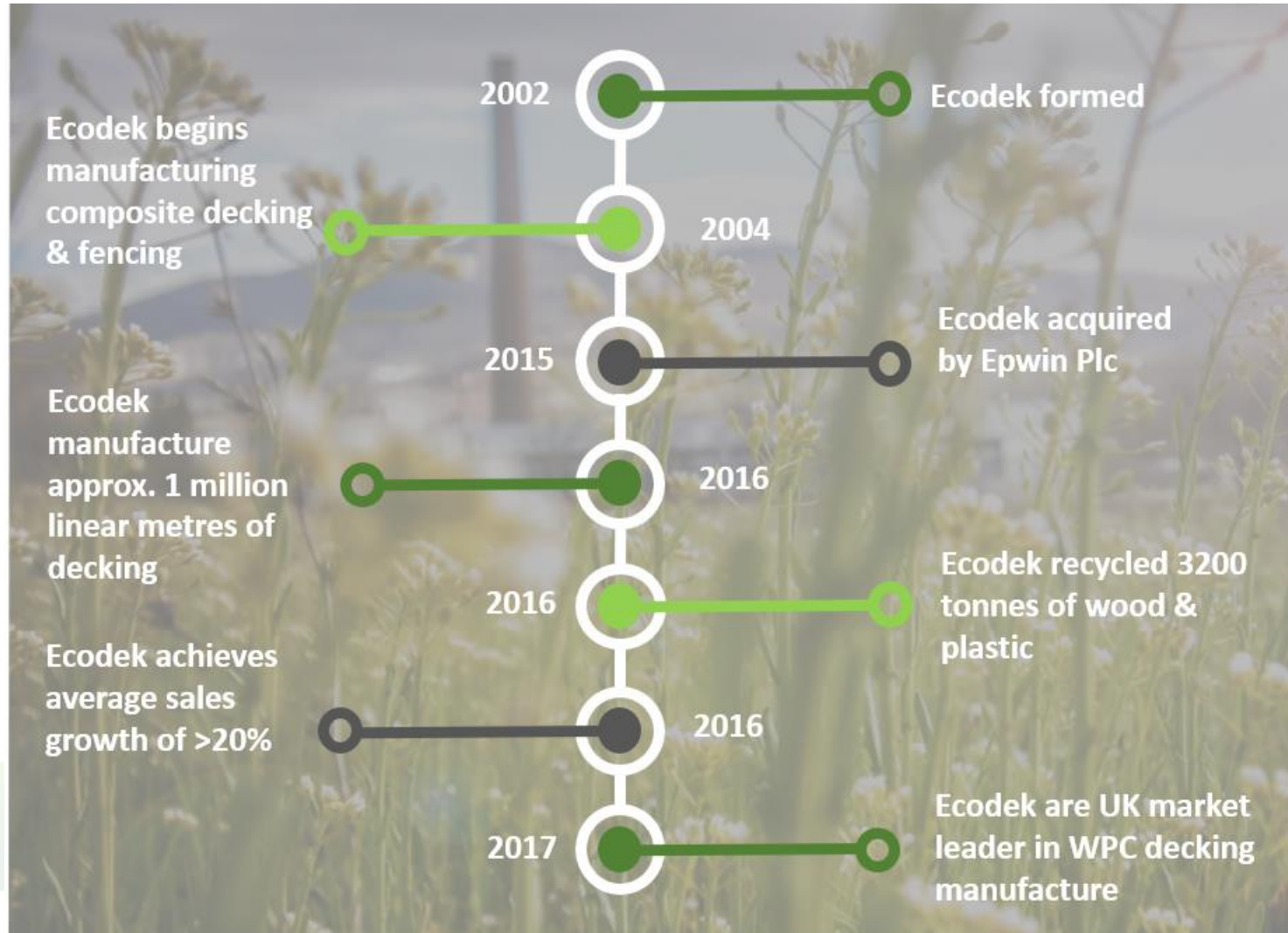
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# Ecodek – History



# Theory – What is Wood Polymer Composite

## WOOD POLYMER COMPOSITE

### ADVANTAGES

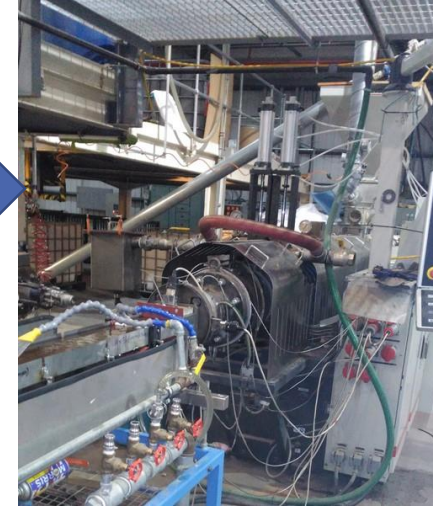
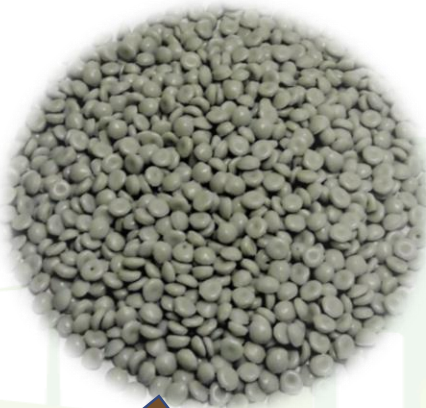
- Architectural and modern contemporary aesthetics
- Reversible ribbed and grooved profile
- Very robust, and has a high strength to weight ratio
- High recycled content and sustainable properties
- Resists algae and mould and almost maintenance free
- Extruded manufacture ensures consistent colour and dimensions

### DISADVANTAGES

- Medium initial cost compared to other decking – timber, WPC & RMB
- Does not replicate wood grain effect as well as natural timber
- Uniform repetitive



# Theory – Ecodek's WPC Manufacture



# Life Cycle Assessment – Manufacture

The manufacturing process is carbon negative.

An average tree locks up 2kg of CO<sub>2</sub> per year, so it can replace the same amount of carbon as 300,000 trees every year.



A TOTAL EQUIVALENT OF:

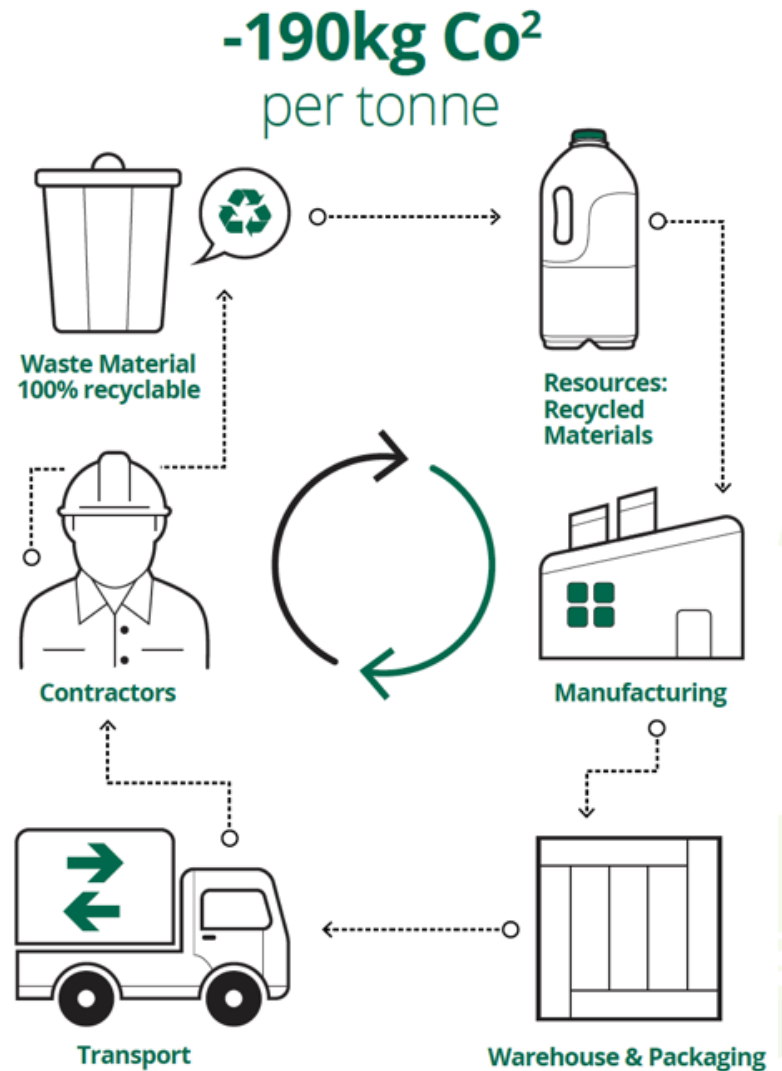
**111**  
MILLION  
4 - PINT  
MILK  
BOTTLES



That's over  
**2200**  
kilometres

— Since —  
**2002**

We have produced  
enough decking to stretch  
from Wrexham to Sicily.





# Examples





# Questions



THANK YOU

 **ecodek**<sup>®</sup>

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SMART-Plant



FISSAC



GELCLAD



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