

TRANSITIONING NEW ZEALAND TO A CIRCULAR BIOECONOMY

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LCANZ Summit 27th November 2019

Carbon MUST stay in the ground

From 2010 to 2050
To meet the target of

2°C

Fossil Carbon has to
remain unused

Oil Reserves



33%

Gas Reserves



50%

Coal Reserves



80%

World plastics production 2018

40.000
Eiffel Towers

The puddled iron (wrought iron) of the Eiffel Tower weighs 7,300 tons, and the addition of lifts, shops and antennae have brought the total weight to approximately 10,100 tons.

https://en.wikipedia.org/wiki/Eiffel_Tower



In 2018, world plastics production totaled around 359 million metric tons.

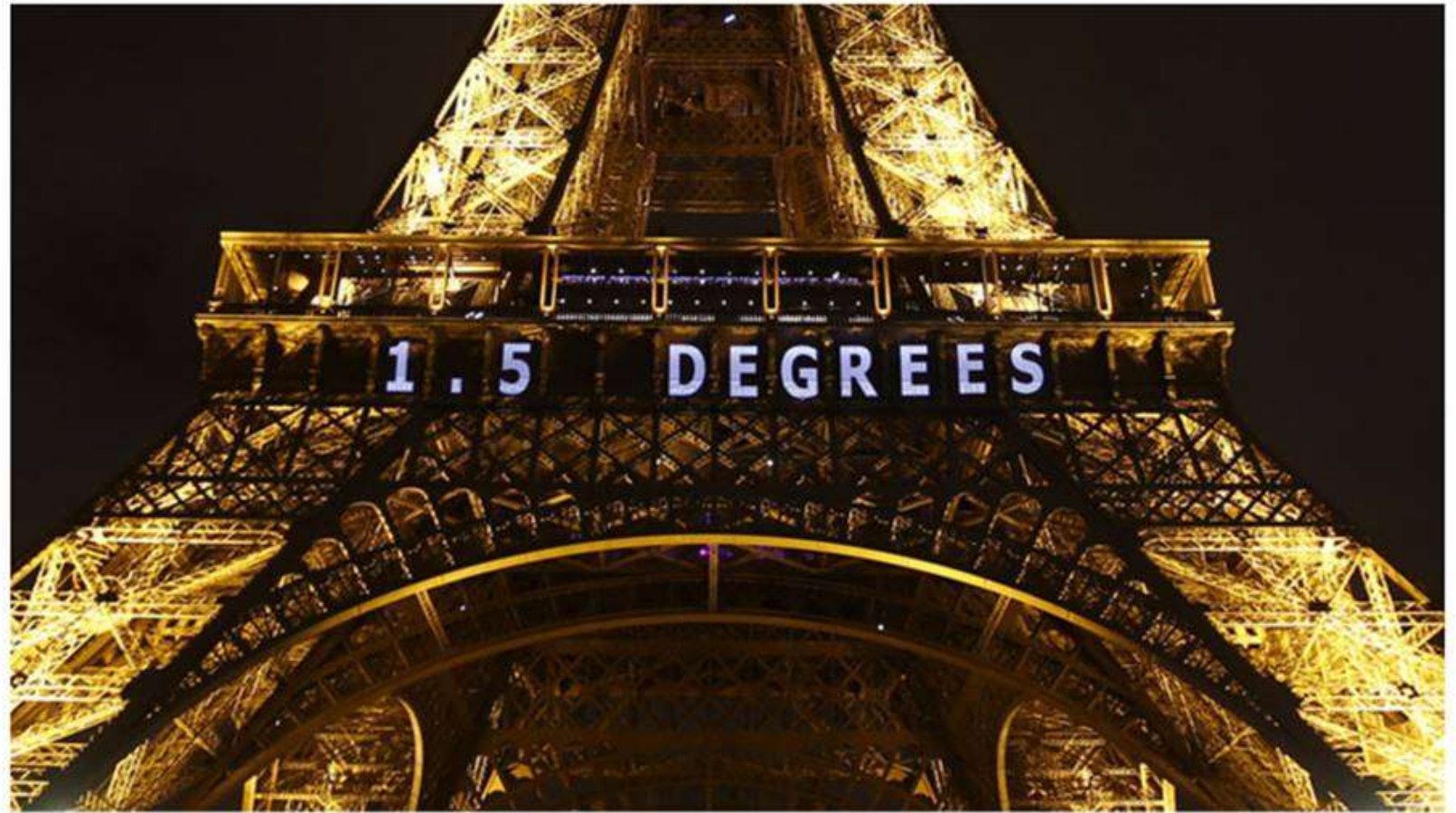
<https://www.statista.com/statistics/282732/global-production-of-plastics-since-1950/>

Plastics challenge – more than a waste challenge

Without significant intervention, by 2050 plastic production will represent

15%

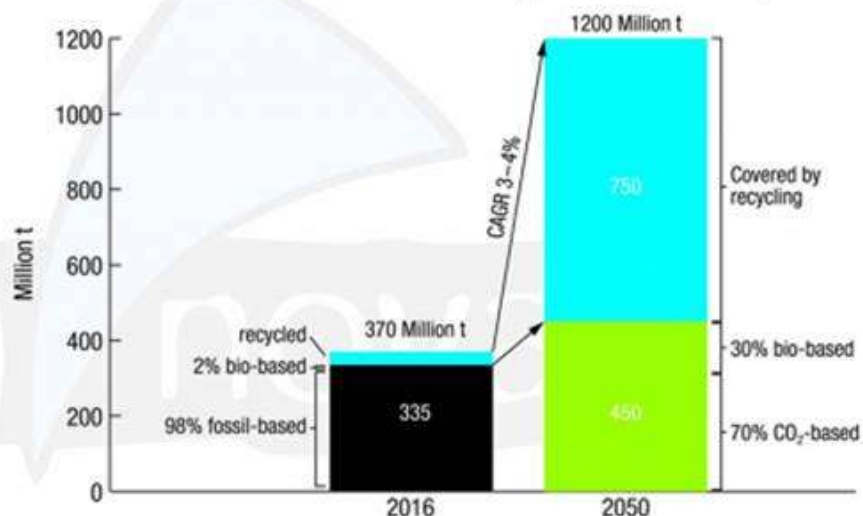
of the global carbon budget



Scenario - World plastics production 2050

120.000 Eiffel Towers

World Plastic Production and Carbon Feedstock
in 2016 and Forecast for 2050 (in Million tonnes)



The virgin plastic production of 335 Million t in 2016 will increase to 450 Million t in 2050, completely based on renewable carbon. The total demand for plastics of 1,200 Million t in 2050 will be mainly covered by recycling.



Three Sources of Renewable Carbon



Biosphere - Biomass



Atmosphere – CO_2



Technosphere - Recycling

The Consequences

ENERGY



Decarbonization

MATERIALS



Renewable

Scion - making impact three ways



Forests and
landscapes

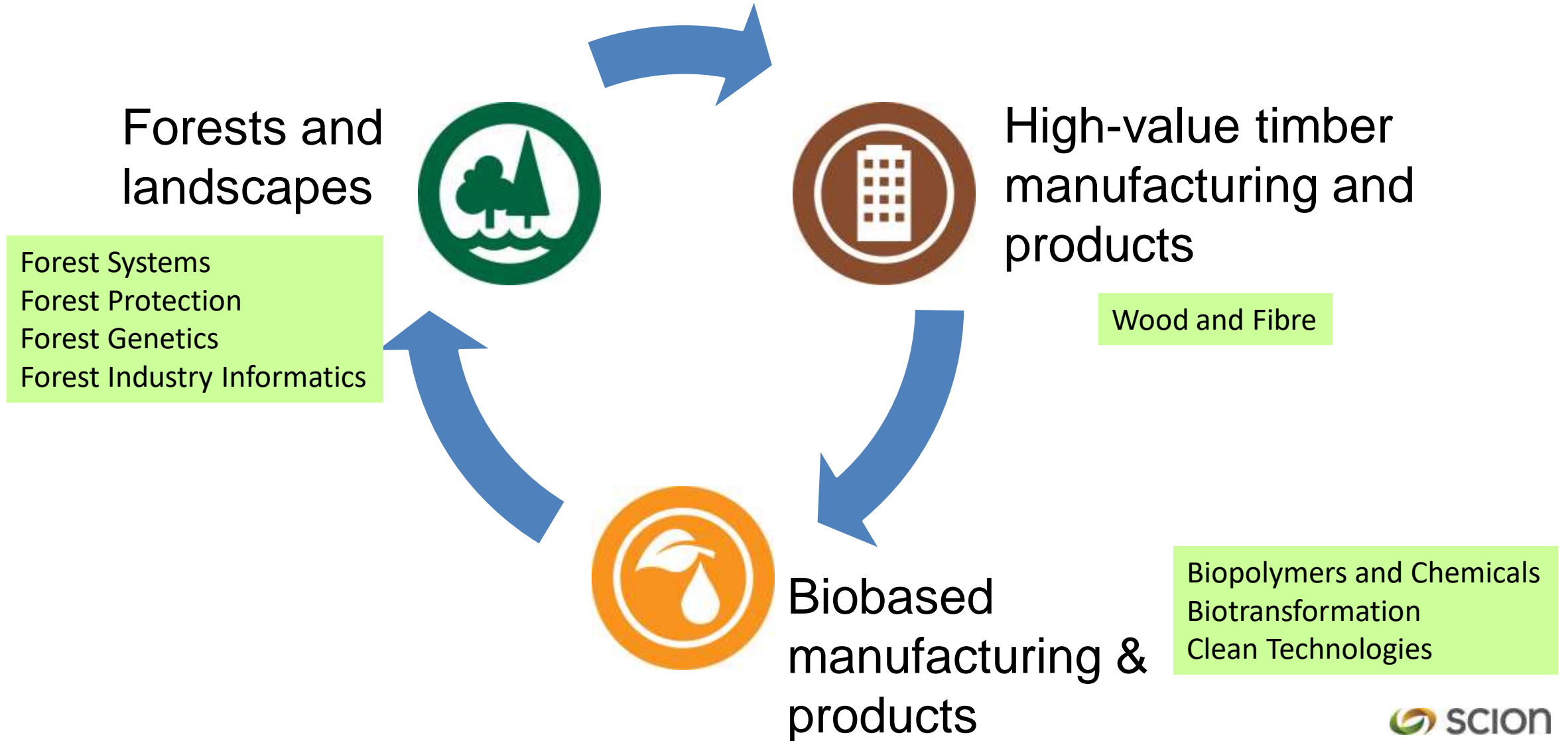


High-value timber
manufacturing and
products

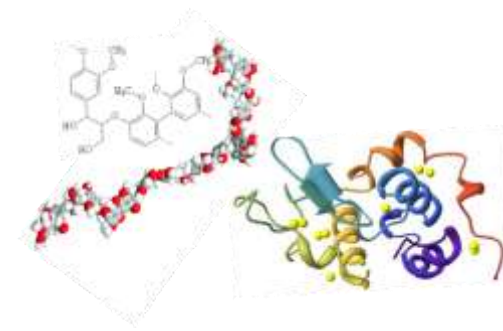


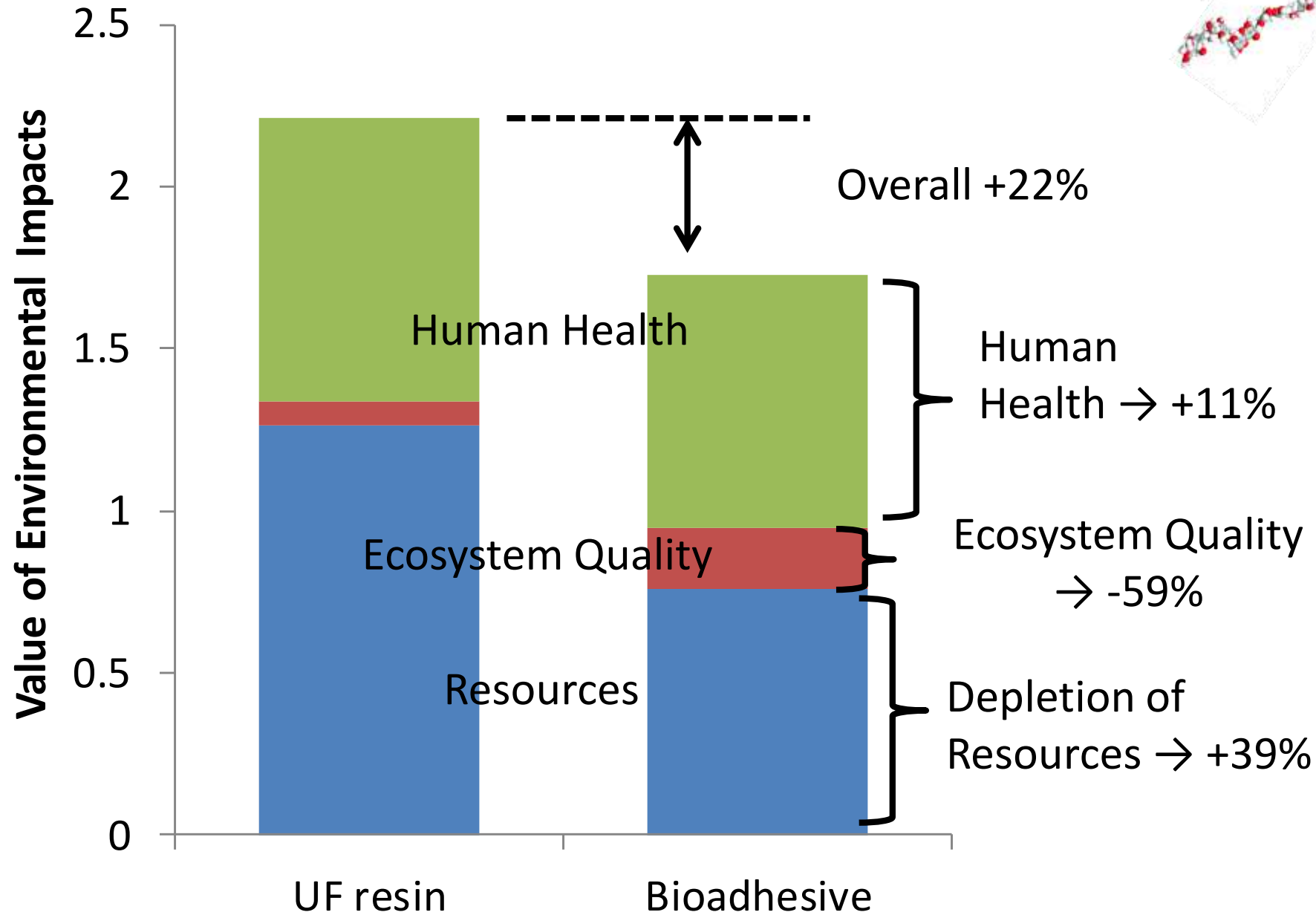
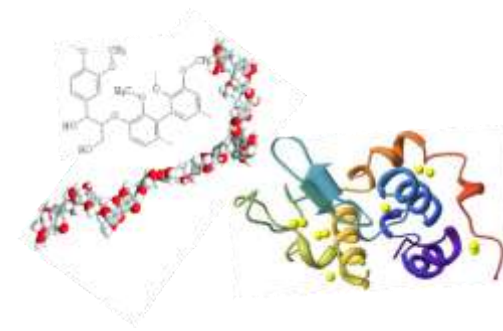
Biobased
manufacturing and
products

Circular carbon capture, use and recycling



Ligate™







Ministry for the
Environment
Manatū Mō Te Taiao

scion **NZ** New Plastics Economy Roadmap

In collaboration with



**Sustainable
Business
Network**



**Circular
Economy
Accelerator**

Take home messages

- It is not easy to make the right choice – but we can make an informed choice
- We are in a transition period
- Designers play the major role in sustainability

Thank you!

www.scionresearch.com



Prosperity from trees *Mai i te ngahere oranga*

Scion is the trading name of the New Zealand Forest Research Institute Limited