


**Priserne stiger, forsyningssikkerheden
svinder og co2 udledningen er for høj
- 3 problemer med 1 løsning?**

By Ditte Lysgaard Vind
Partnership director **Lendager**
& founder **The Circular Way**



Op til 70% af nye materialer bruges i det byggede miljø.

40% af alt affald samt udledning af CO₂ ekvivalenter kommer fra det byggede miljø.

A photograph of a construction or demolition site. In the foreground, a large excavator with a yellow and black body is positioned over a massive pile of grey concrete rubble and debris. The excavator's arm and bucket are visible, partially obscured by the debris. In the background, there are several multi-story buildings, some with brick facades and others with more modern, dark-colored exteriors. The sky is overcast and grey. The overall scene is one of active construction or demolition work.

50% af den samlede udledning stammer fra
materialeproduktion og byggefasen.



CO2



WASTE



RESOURCES



CLIMATE



BIO DIVERSITY

WELCOME TO WASTELAND

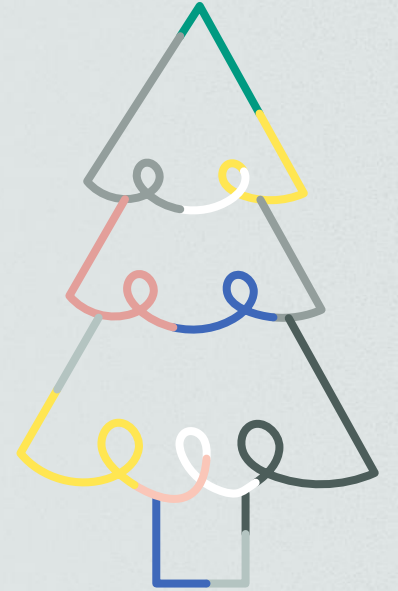
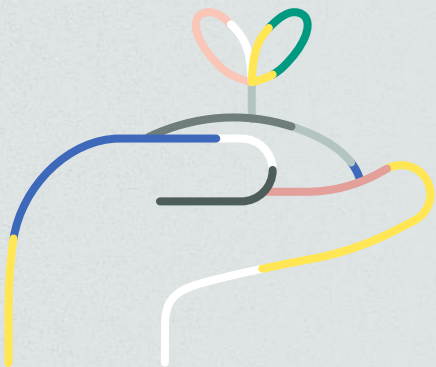
Imagine a world where there is no scarcity of resources. A world where our consumption, production and buildings do not have a negative impact on our climate. Where waste does not exist and economic growth and sustainability are each other's prerequisites – not opposites. That world is real: We introduce Wasteland – a world where waste is transformed into wealth.

Modern cities stand as proof of mankind's great achievements. Erected, renovated and expanded in a time of seemingly infinite resources and production possibilities. A world where everything old and natural has been replaced by new building materials, imported from afar. The consequence? The built environment has left an enormous environmental footprint that is responsible for 40% of global CO₂ emissions and while natural resources are becoming scarce.

Wasteland shows how innovation and interdisciplinary collaboration can help alleviate the massive global climate challenges we face. You will experience the most commonly used building materials – concrete, brick, wood, plastic, glass and metal – and see how they can be upcycled and become new designs with new functions and increased value again and again.

ENTERING A NEW WORLD

“A circular economy is restorative and regenerative by design, and aims to keep products, components, and materials at their highest utility and value at all times”



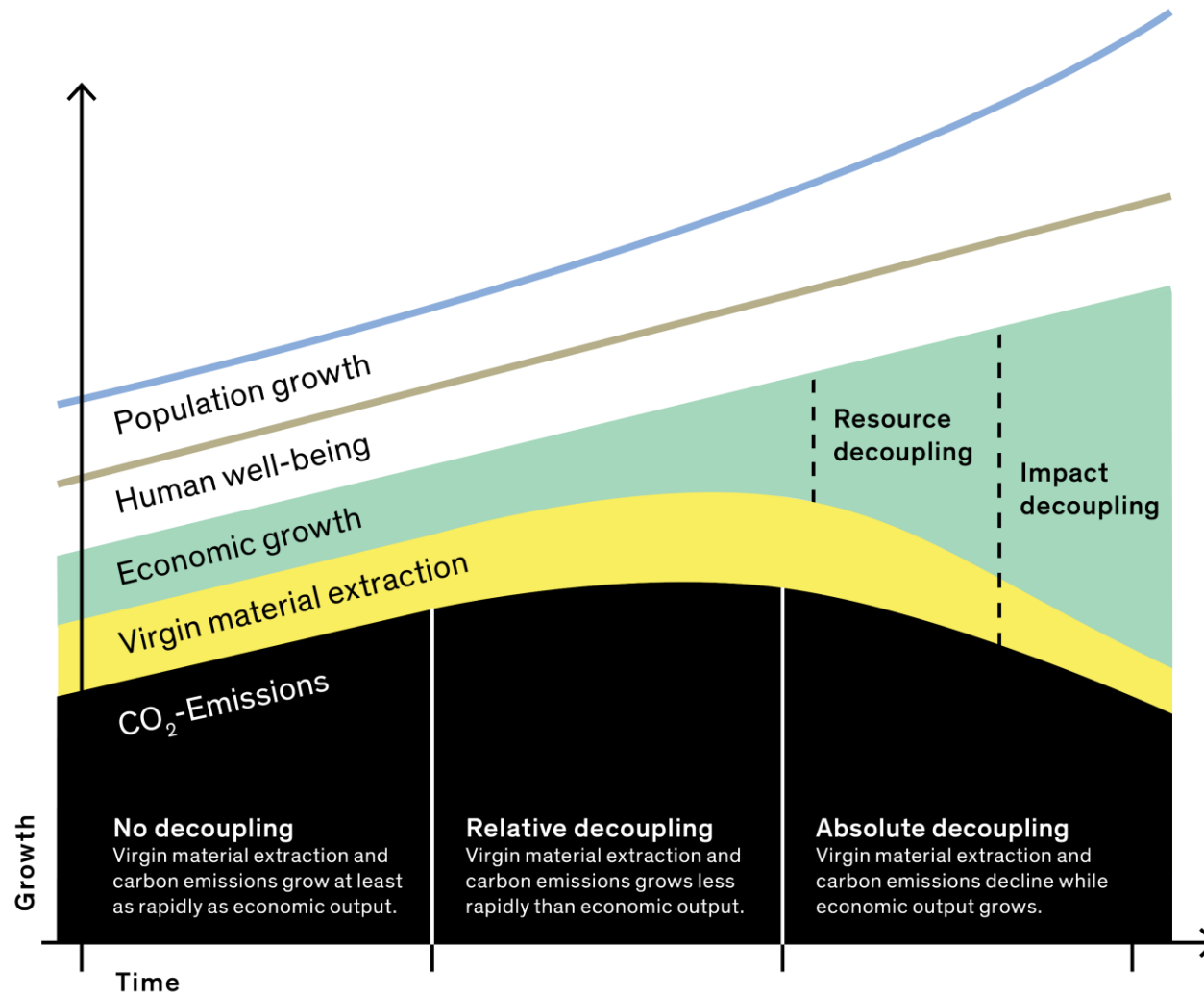
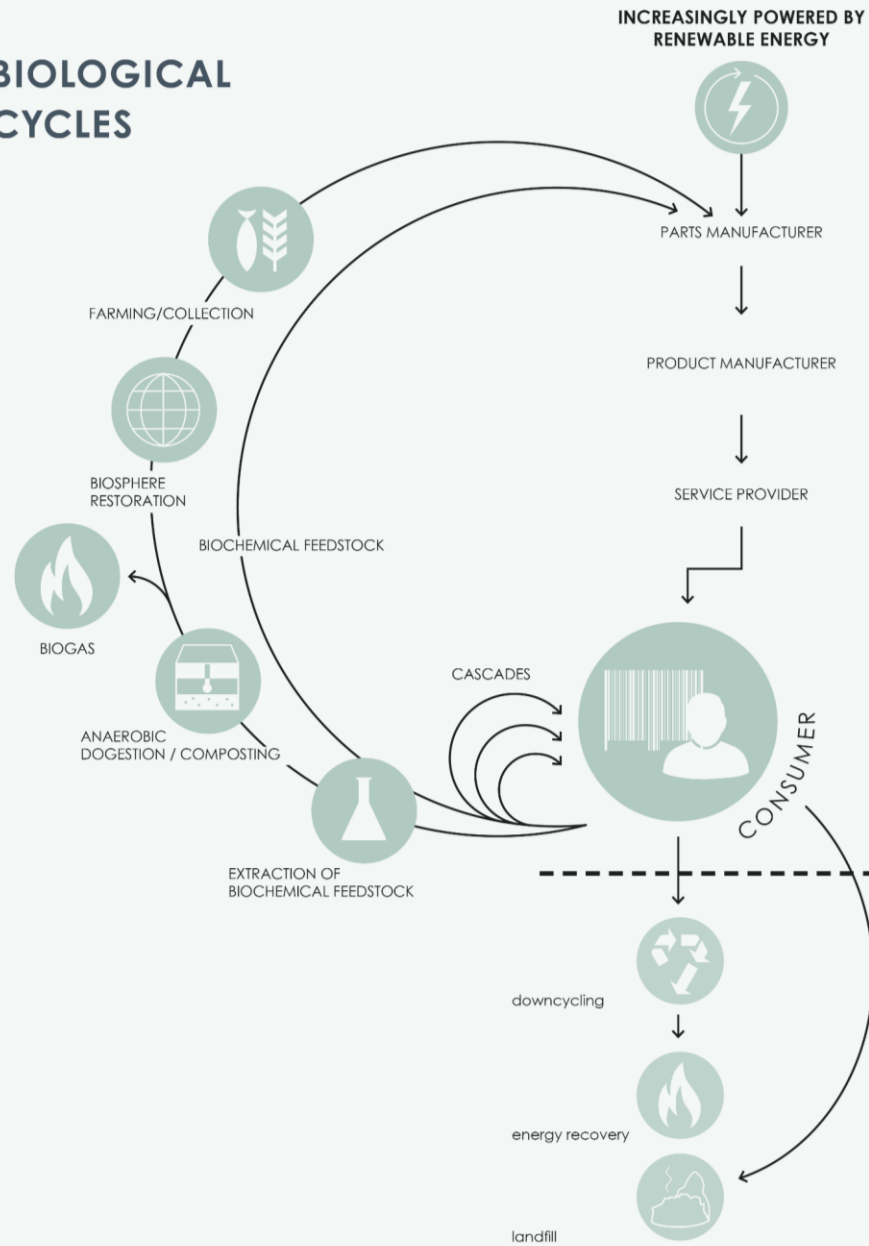


Figure 04: Decoupling

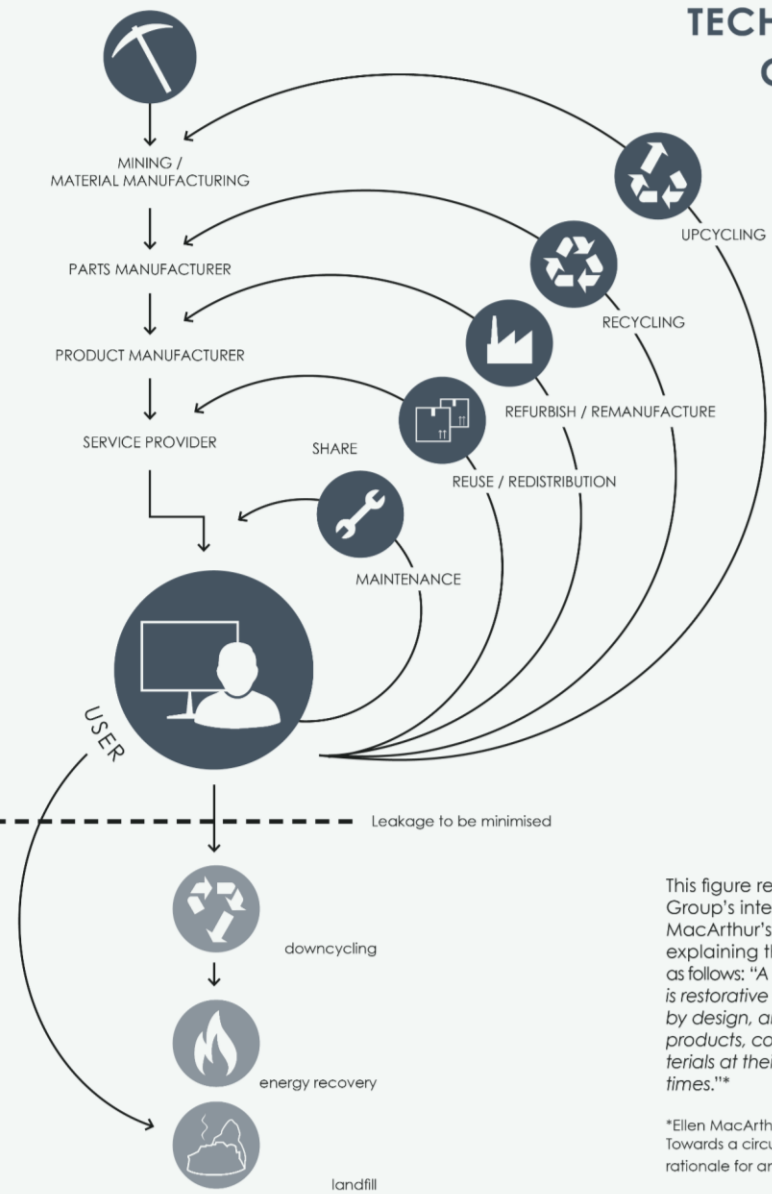
This graph shows a future scenario of the relationship between economic growth and CO₂-emissions/virgin material extraction when adhering to the circular economy.

The graph is based on a model developed by the The European Environment Agency, 2015. Decoupling Demystified.

BIOLOGICAL CYCLES



TRADITIONAL LINEAR ECONOMY



This figure represents Lendager Group's interpretation of Ellen MacArthur's butterfly diagram – explaining the circular economy as follows: "A circular economy is restorative and regenerative by design, and seeks to keep products, components and materials at their highest utility at all times."^{*}

^{*}Ellen MacArthur Foundation, 2015. Towards a circular economy: Business rationale for an accelerated transition.



Hvad gør vi så?



Upcycle studios

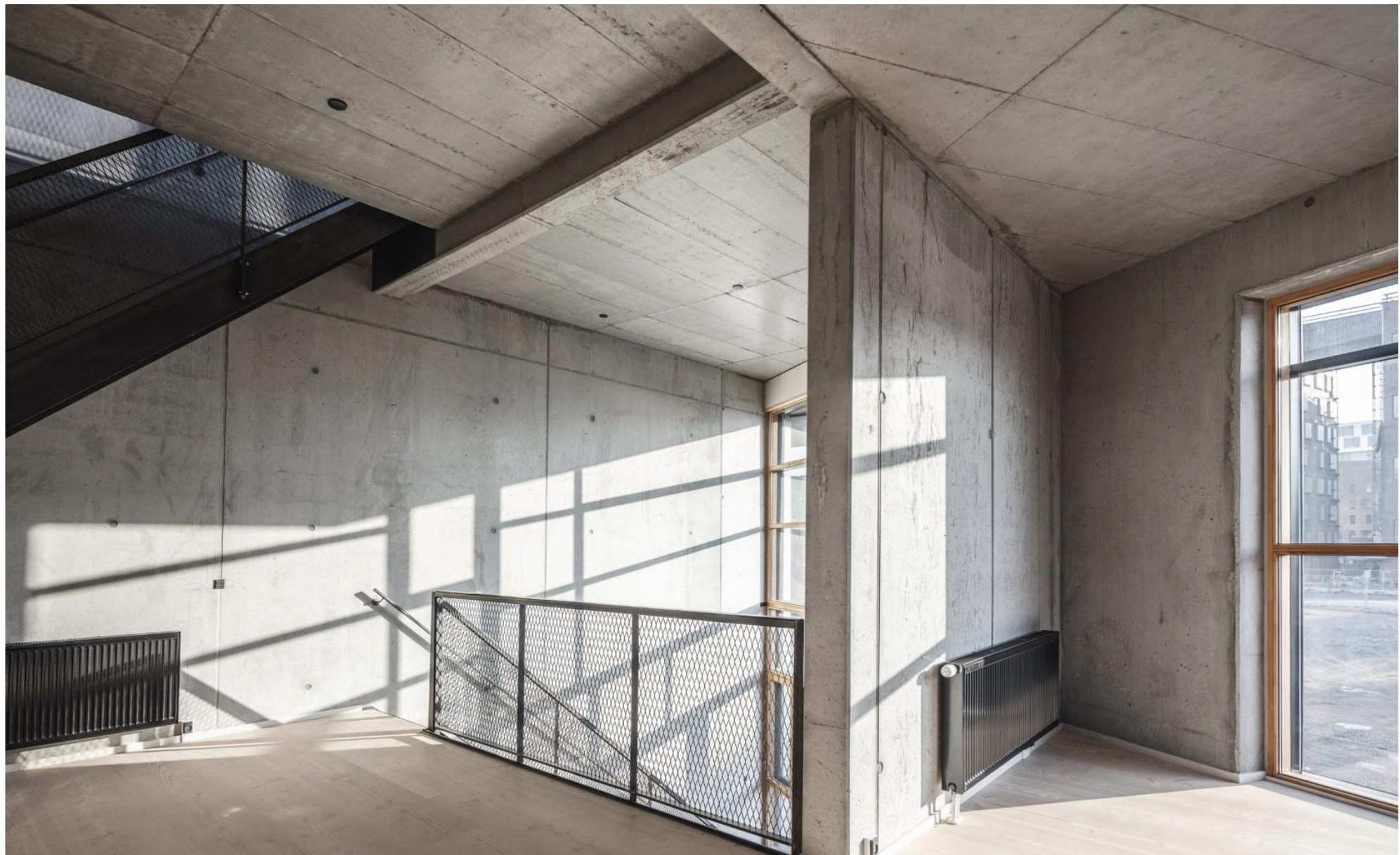


CONCRETE









UPCYCLE CONCRETE RESULTS FOR UPCYCLE STUDIOS



AS BUILD

25 tonnes CO₂-eq/rowhouse
8 % saving

POTENTIAL IF BUILD PER OPTIMISED SCENARIOS*

31 tonnes CO₂-eq/rowhouse
11 % saving



-86,239 DKK/rowhouse 74
% more expensive

-13,469 DKK/rowhouse
12 % saving



904 tonnes waste in total

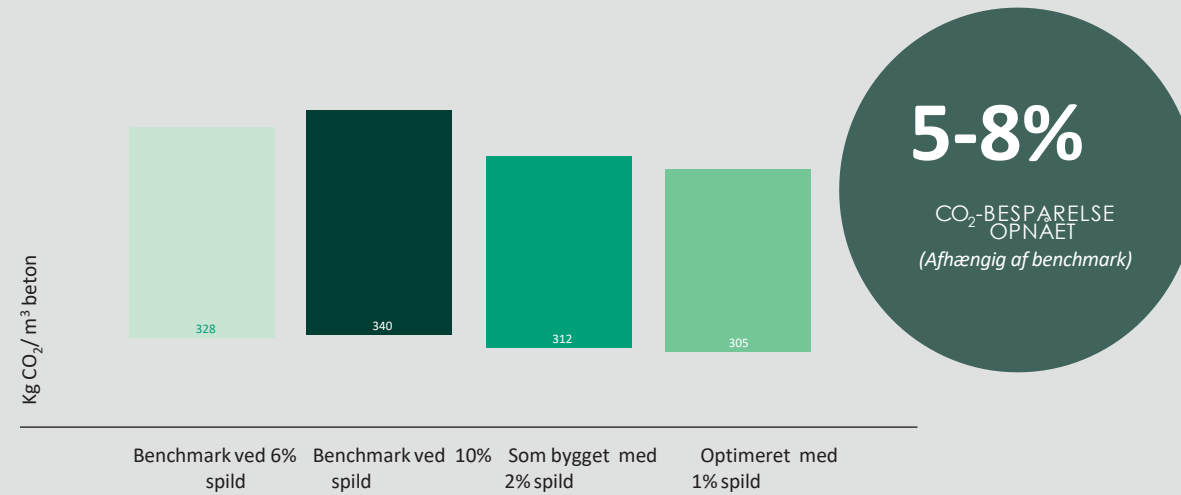
904 tonnes waste in total

* Best case

904 tons affald

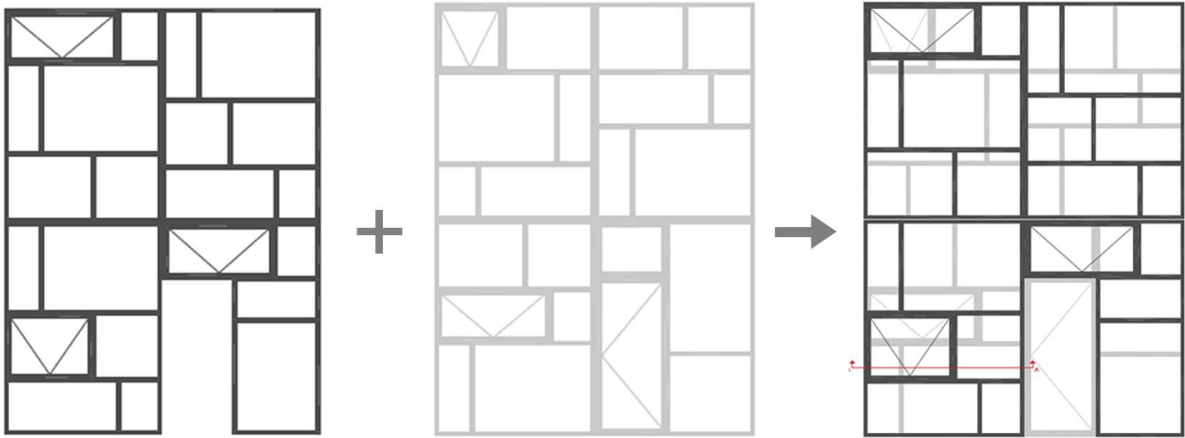
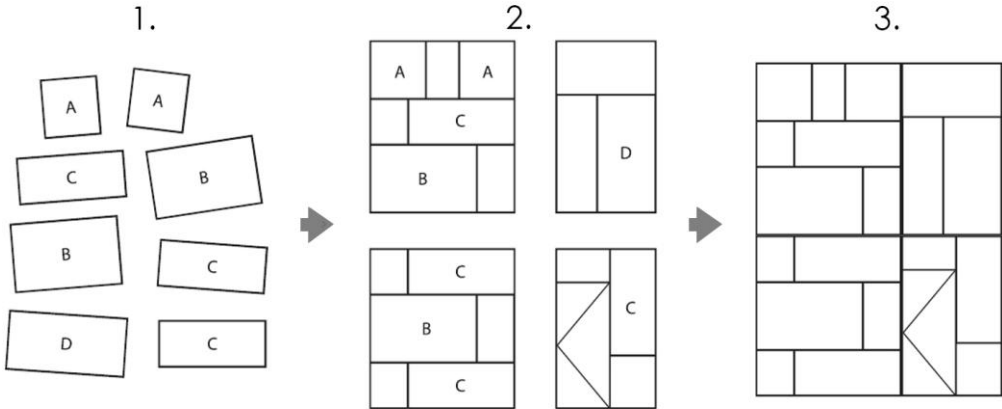


CO2 SAVING





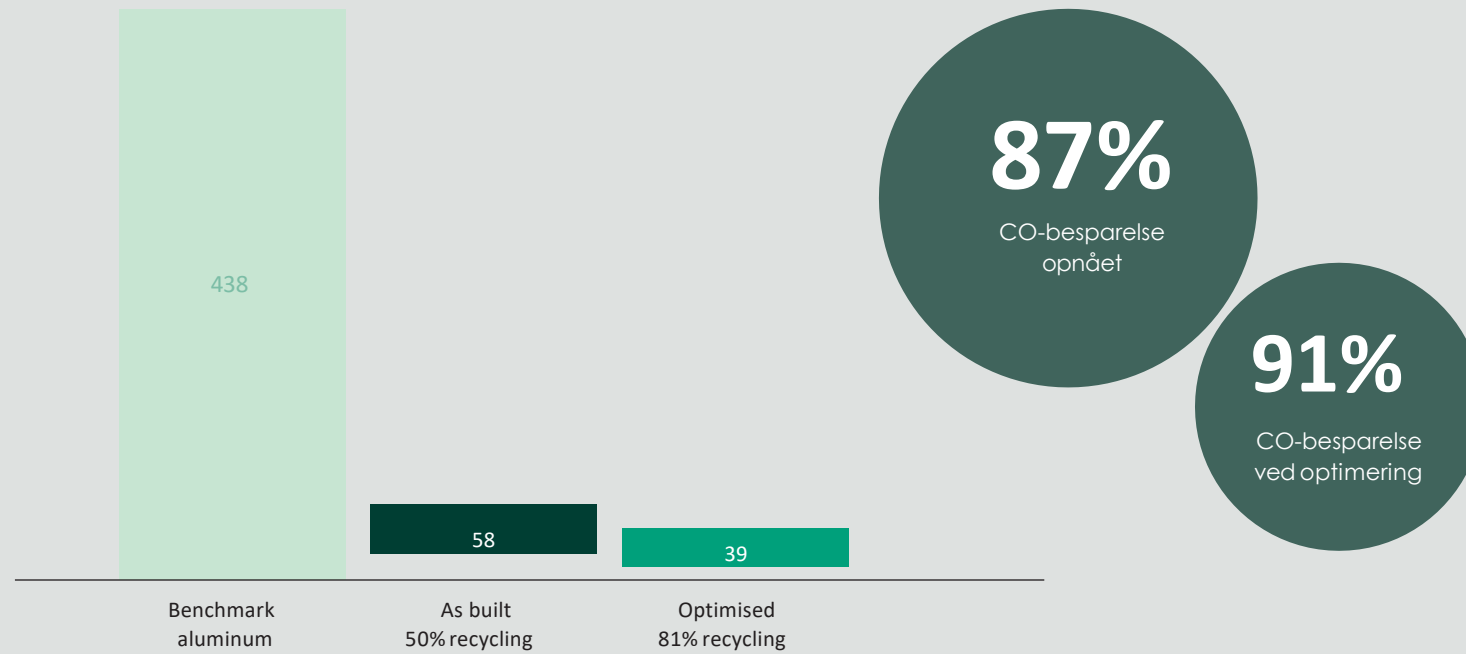
WINDOWS







CO2 SAVING



A photograph of a modern building's interior. The left wall is made of light-colored concrete. A large, multi-paned window with a wooden frame is on the right, looking out onto a city street. Sunlight casts long shadows from the window frame onto the concrete wall. In the bottom left, a staircase with a metal mesh railing is visible.

45%

Reuse
UP concrete

50-85%

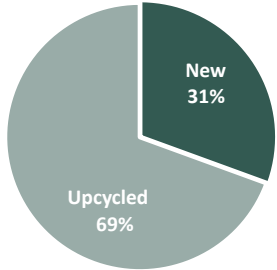
Reuse
Krone UP Windows
by Lendager

100%

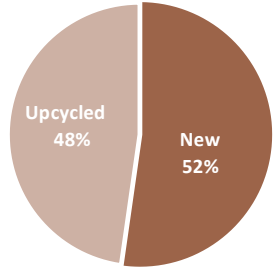
Recycled wood
Dinesen Offcuts
by Lendager



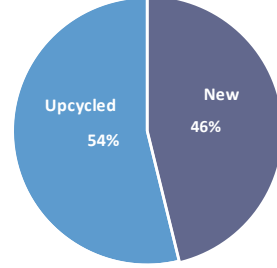
Material
distribution by weight



CO₂-eq distribution



Cost distribution



**UPCYCLE
STUDIOS**



65 tonnes CO₂-
eq
45 % saving



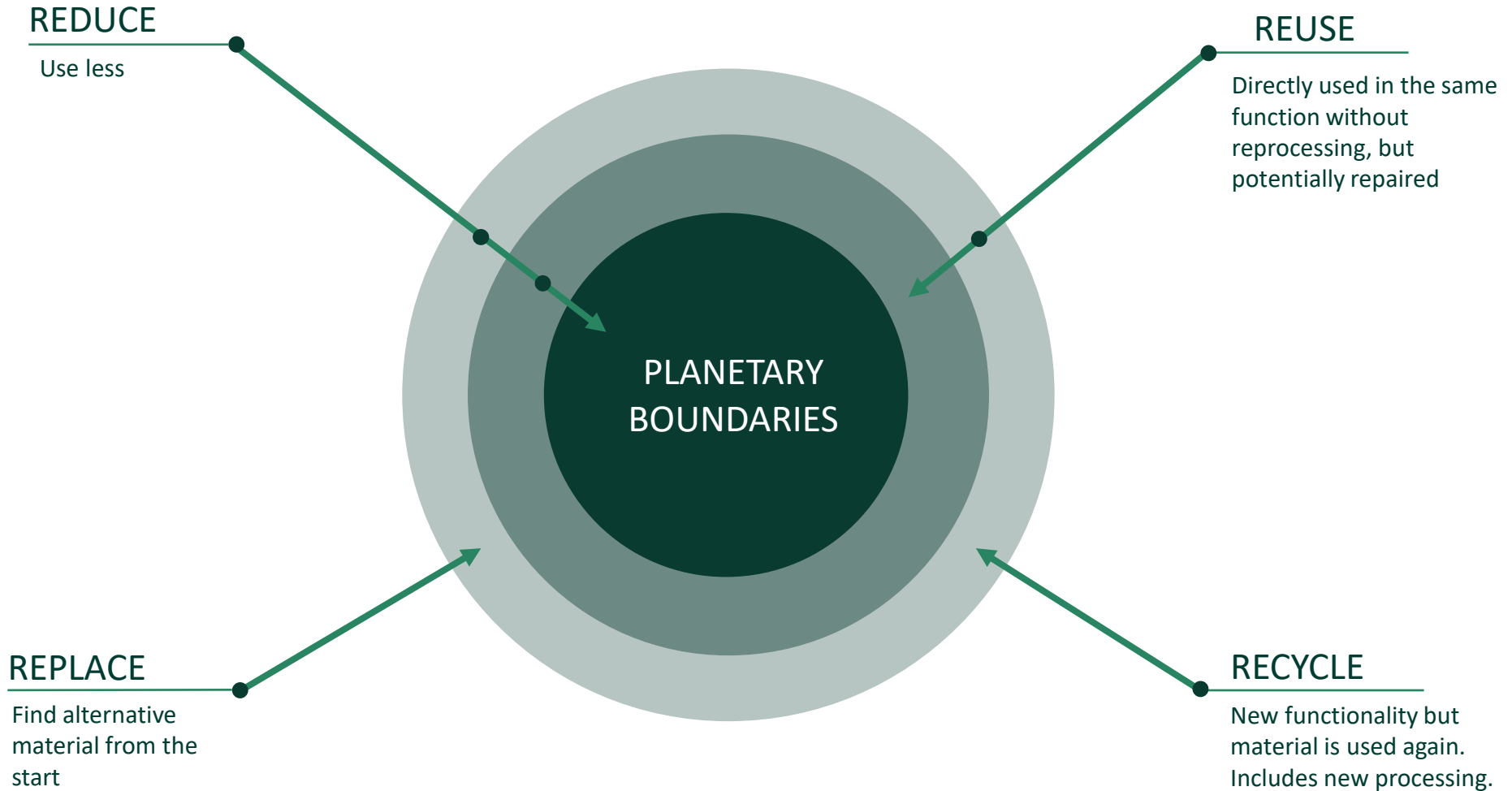
914 tonnes waste
in total



488 kg CO₂-eq per
year
53 % saving

RETHINK

The 4R's - The Circular Way



Jorden er rund.

Vores handlinger
påvirker planeten, og det
påvirker vores mulighed for at
trives på planeten.

The Circular Way.com



The Circular Way by Ditte Lysgaard Vind