

# FISCHER LIGHTING

*From waste to the future of lighting*

*Erhvervsakademi København*

*Co-founder – Lars Elmvang*

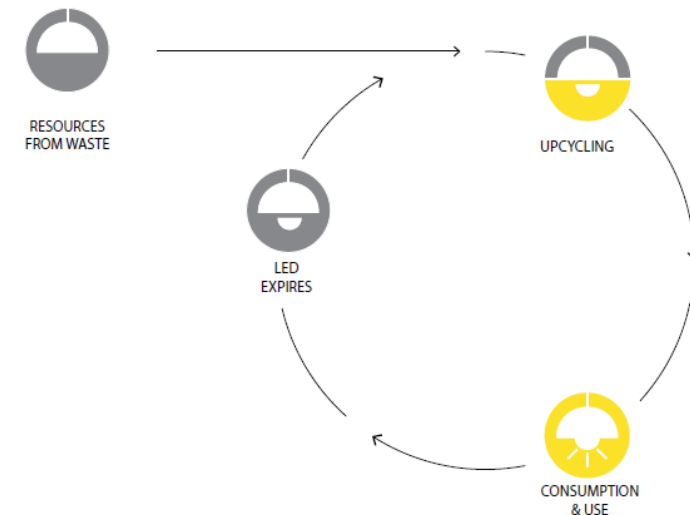


# The 5th industrial revolution – Towards a circular economy and the end of waste

## Linear Economy



## Circular Economy





6,9%



3,4%



4,0%



6,9%



7,5%



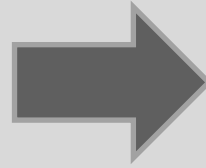
10,2%



# Lighting fixtures are less circular today



**EXISTING FIXTURE-  
WITH REPLACABLE LIGHT  
SOURCES**



**NEW LED FIXTURE-  
DESIGNED TO BE  
THROWN AWAY**





LINEAR ECONOMY

Produce

Use

Dispose



# A new lighting fixture use up to 10 times as much aluminium as an upcycled fixture



Fischer - LED Board		
Material	Quantity	Unit
Aluminium	0.225	kg
Copper	0.0225	kg
Plastic	0.026	kg
PPE	0.005	kg
Steel	0.004	kg
Wiring	0.084	kg
Energy	210.24	MJ/year

New LED Fixture		
Material	Quantity	Unit
Aluminium	1.98	kg
PA	0.003	kg
PC	0.06	kg
PMMA	0.117	kg
Steel		kg
Wiring	0.396	kg
Energy	299.592	MJ/year



Henning Larsen Architect's office in Copenhagen

LCA by Asger Wendt Karl and associate  
professor Morten Birkved from DTU.





# Upcycling doesn't just cut CO<sub>2</sub> – it saves everything we've already spent.

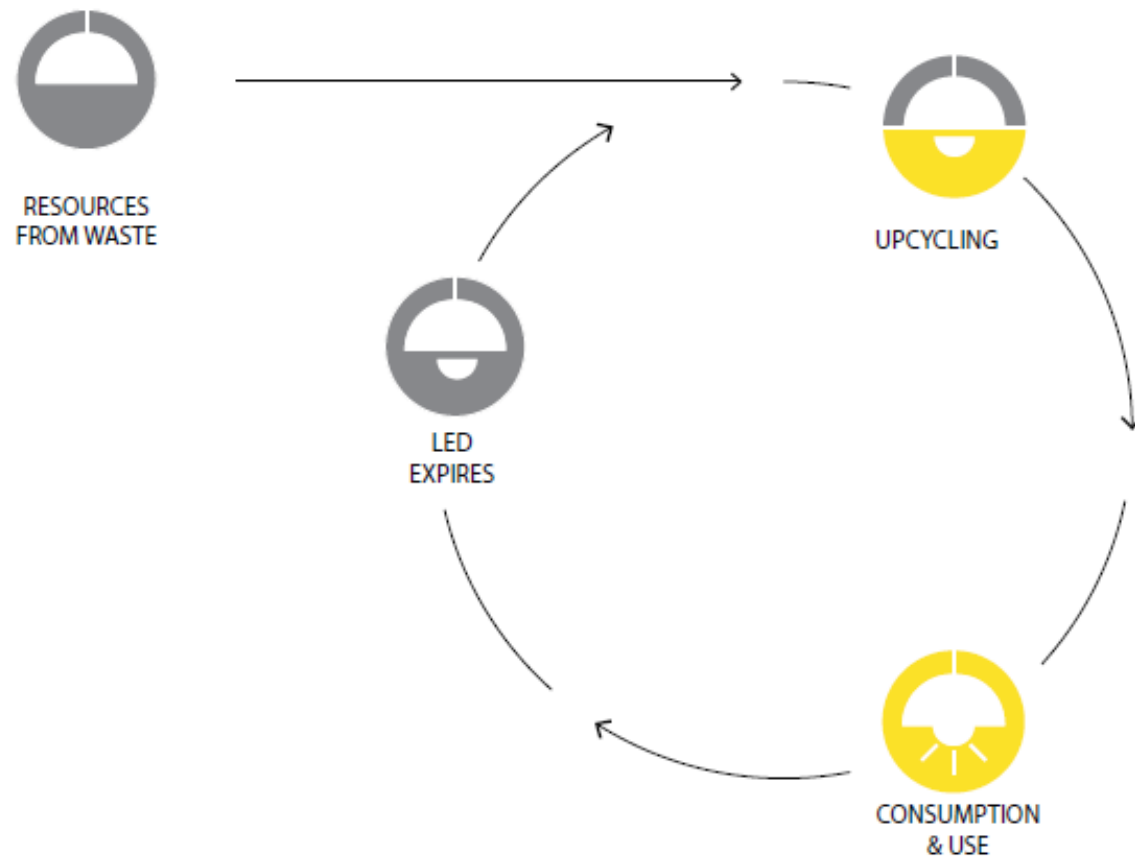
Example from project with 3500 fixtures  
(major pharmaceutical company)

- Saved amount of steel = 12,3 tons
- Total saved CO<sub>2</sub> (kg) = 38.500
- Total saved water (l) = 4.093.093

Water and air pollution from production of metals.



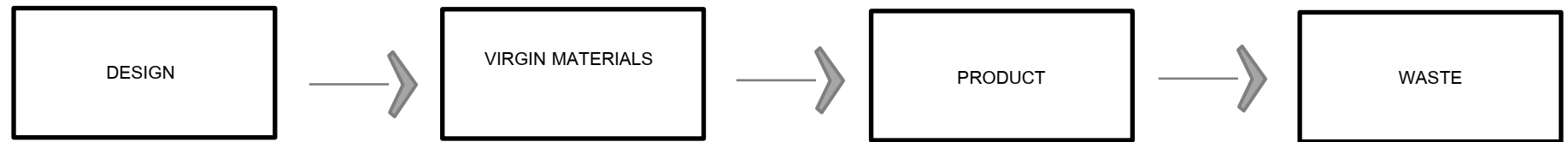
# We transform waste into beautiful new products in a circular business model



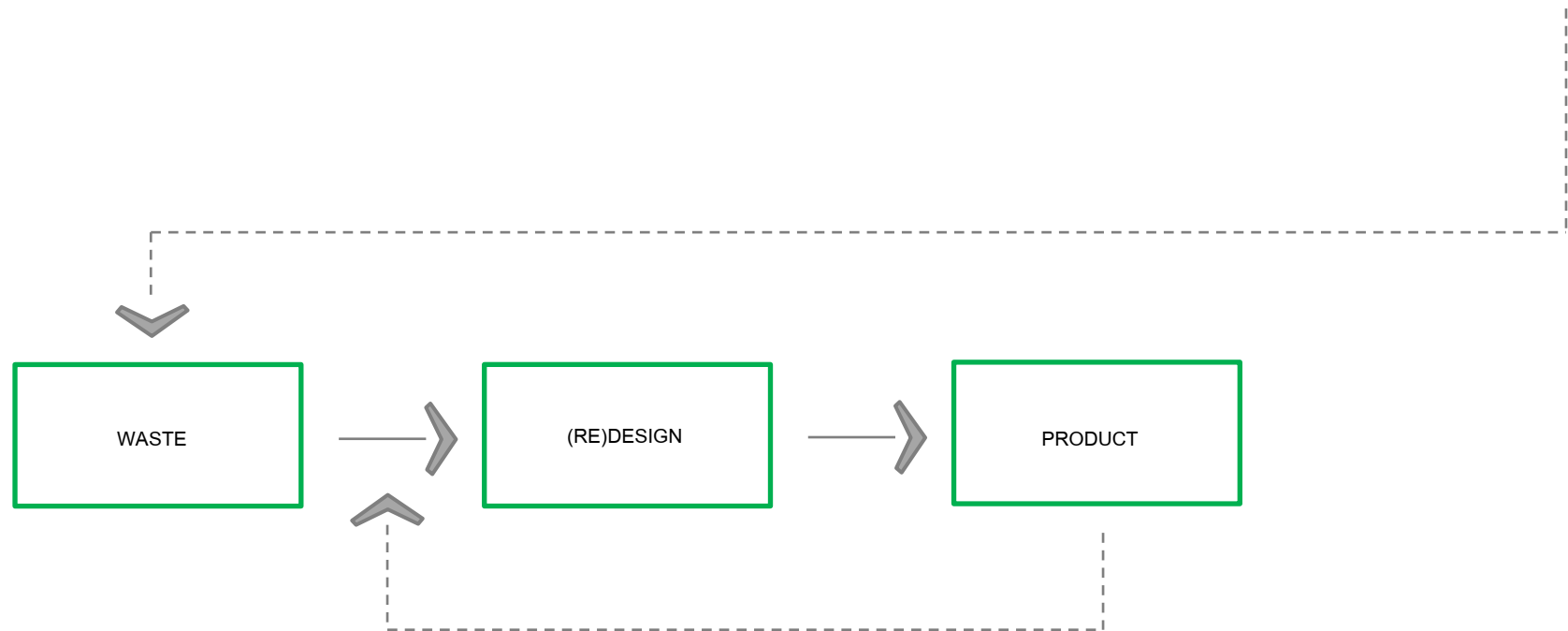


# We think and work **untraditionally**

CONVENTIONAL DESIGN PROCESS  
AND PRODUCT LIFETIME



FISCHER LIGHTING'S DESIGN PROCESS  
AND PRODUCT LIFETIME



# Since 2021 we have collected more than **50.000 lamps**



**50.278**

lamps collected



**149**

tons of lamps collected



**1.128**

tons of co2 saved



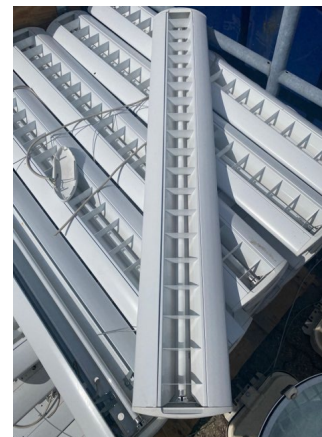
**83.000.000**

liter of water saved

Waste collected 2021-2024



# We have a very big warehouse



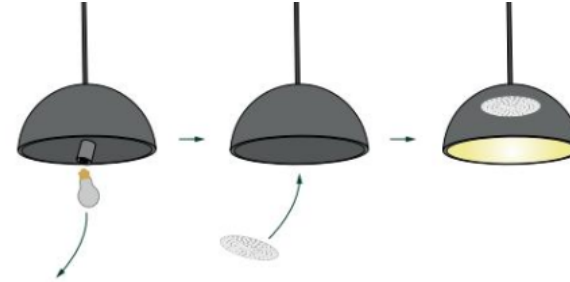
# We created 3 different concepts

– Concepts in line with the waste hierarchy

## ReUse

### Fischer ReUse®

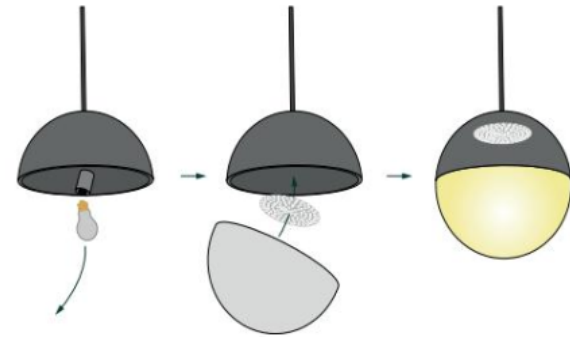
Used lamps and fixtures from renovations and demolished buildings in a classic design. Renovated and upgraded to LED so as good as new.



## ReDesign

### Fischer ReDesign®

A new appearance and performance for old lamps. The ReDesign project uses old fixtures, but creates an entirely new design based on salvaged light housings. This range honours the history and lineage of the original designer, and adds to the story with new techniques, and technologies. In the re-imagination of these fixtures we seek to honour the qualities of the original creators in the remix.



## ReCreate

### Fischer ReCreate®

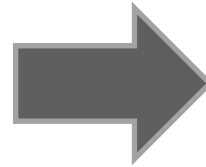
New sustainable design solutions made of recyclable materials and designed using circular principles such as design for disassembly. These products fill a market gap where equivalent products do not exist.





# From Mærsk to Mols

From HQ in Copenhagen to dentist clinic in Syddjurs Kommune



**ReUse**

# ReUse – Industri pendant

– From Københavns Universitet



**ReUse**



**Before – 38.000 fixtures in surplus from renovation of all Netto stores in Denmark...**



**ReDesign**

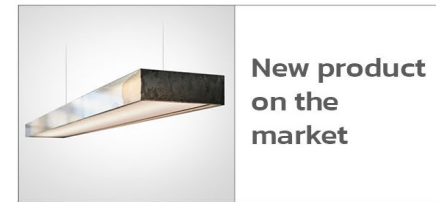
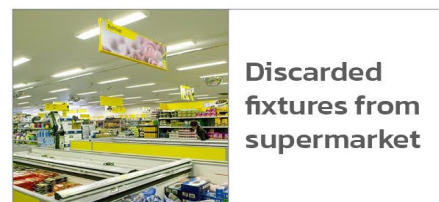
**After – We transform the old Netto fixture to a new design with the newest LED and IoT technology**





# From waste to new product

Exempel – Fischer Lighting ReDesign®

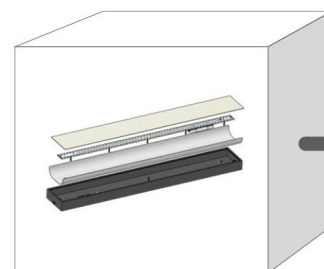
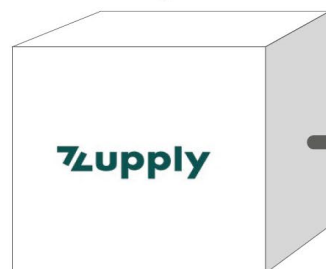


Registration

Logistics

Development

Production



Suppliers add request via IT-platform Supply.site for us to collect their

We supply packaging and pick-up. We sort and categorize the waste

We develop a lighting solution from the waste materials. We test, document and CE-mark the design

We source the components and have the fixtures assembled at a social workshop in Denmark

# Spots from H&M stores being renovated

– Potentially more than 100.000 pieces

Before



After



# We also design new lamps but from recycled materials such as **plastic bottles and fishnet**

Acoustic lamp  
app. 110 bottles  
(minimum 75%  
recycled PET)



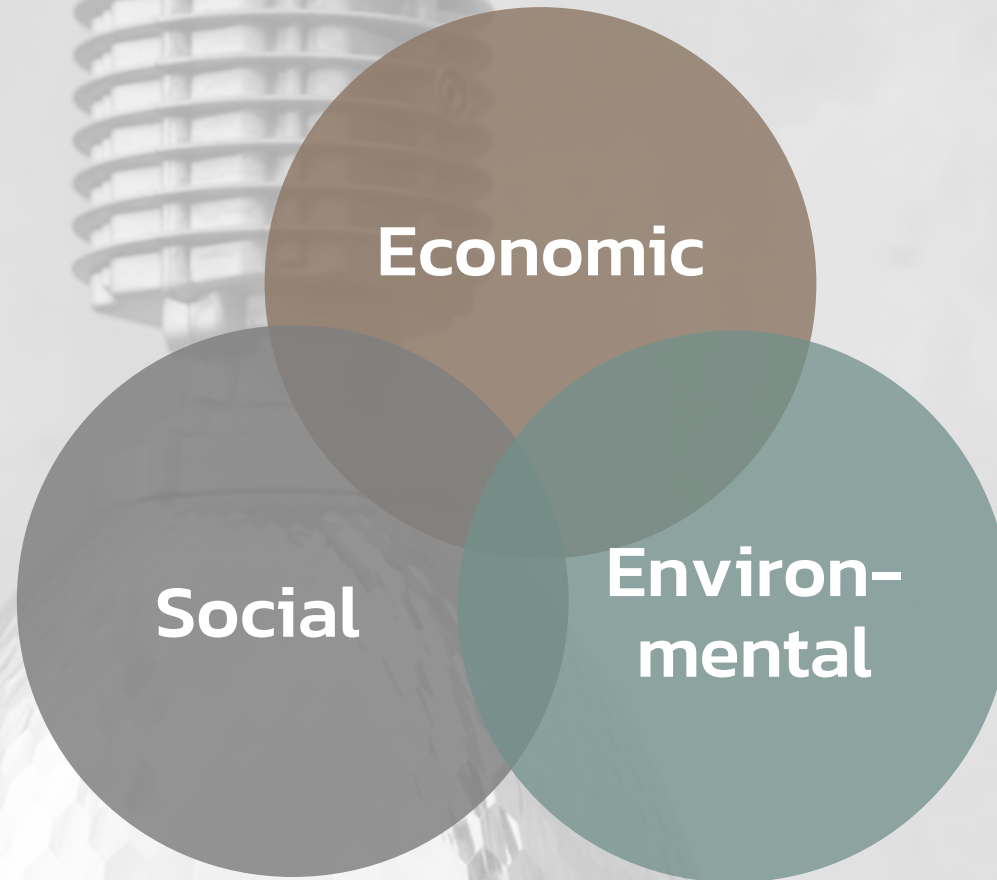
# Njord – From HVAC to beautiful lamp

Designed in cooperation with Christina Halskov Design Studio





# We work with all parts of sustainability







Read Henriks story [HERE](#)



**Assembled by people on the edge  
of the system**

**Target: 25% out of social system**

**2024 result HENTO: 68%**

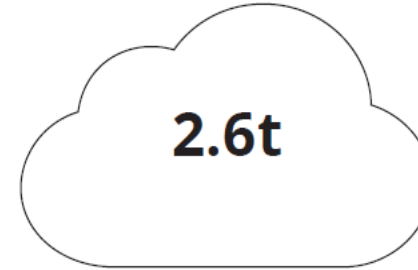


# For all reused fixtures in our catalogue we estimate the CO<sub>2</sub> and water saving

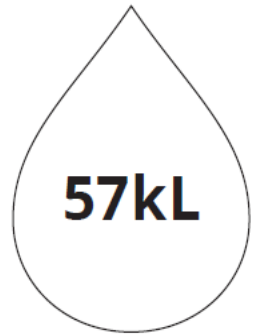


## Production / 100 fixtures

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*CO<sub>2</sub> saving*



*Water saving*



# FL is the first lighting company in Denmark to introduce **EPD** for our most popular solutions



EPD's documents the environmental footprint and facilitate comparison of products.

Newest generation of EPD just launched –  
**90% reduction in A1-A3.**

# We document the results























## TRÆ – Denmark's highest wooden building

Arkitekt: Lendager

Udvikler: Kilden & Hindby

Bygherre: PFA Ejendomme

+1200 upcycled Netto lamps





# Listed for "Renovation of the year 2025"

– Office for Rambøll og Henning Larsen Architects for Olav de Linde

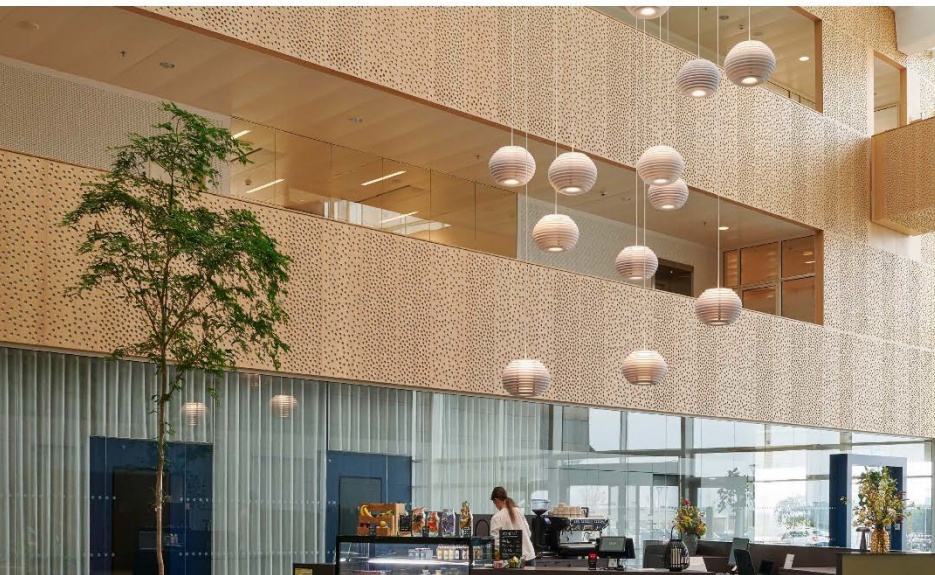
Conversion of a grain  
warehouse  
Achieved DGNB Gold  
and Heart certification





# P+ – Aksen – House of Business

- Vestas former HQ in Aarhus





# Circularity isn't just a design method – it's a mindset



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Co-founder

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