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How tailored electro-chemistry can benefit precious metals refining and green transition



# From brown to green transition

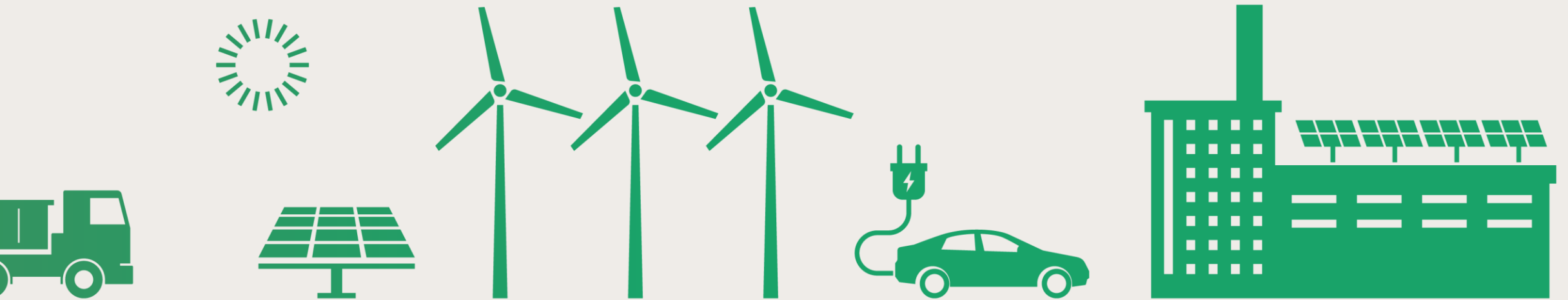
Materials contribute to the global emissions problem...



# From brown to green transition

...but they are also a critical part of the solution

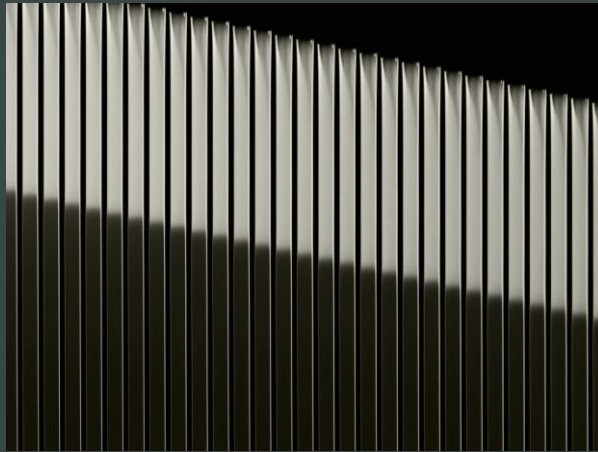
We can't have wind turbines, solar panels or electric vehicles without materials to build them



Source: <https://www.blackrock.com/sg/en/insights/materials-role-low-carbon-transition>



# Refining industry aims to meet the increasing metal demand – in the most sustainable way



Recycling and circular economy



SCOPE 1, 2, 3  
Reducing CO<sub>2</sub>, chemicals and waste



Innovative, cost-efficient, more sustainable and self-sufficient ways to operate



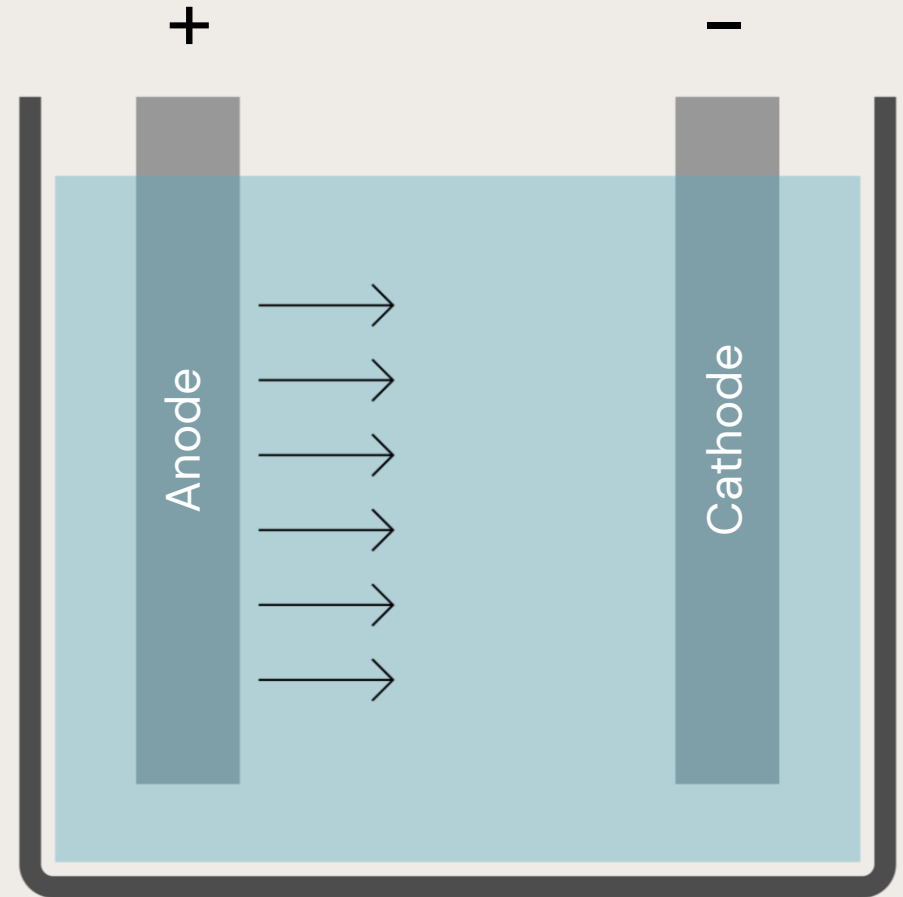
We stand before  
a mutual challenge.

**Green transition  
and electrification  
are inevitable.**



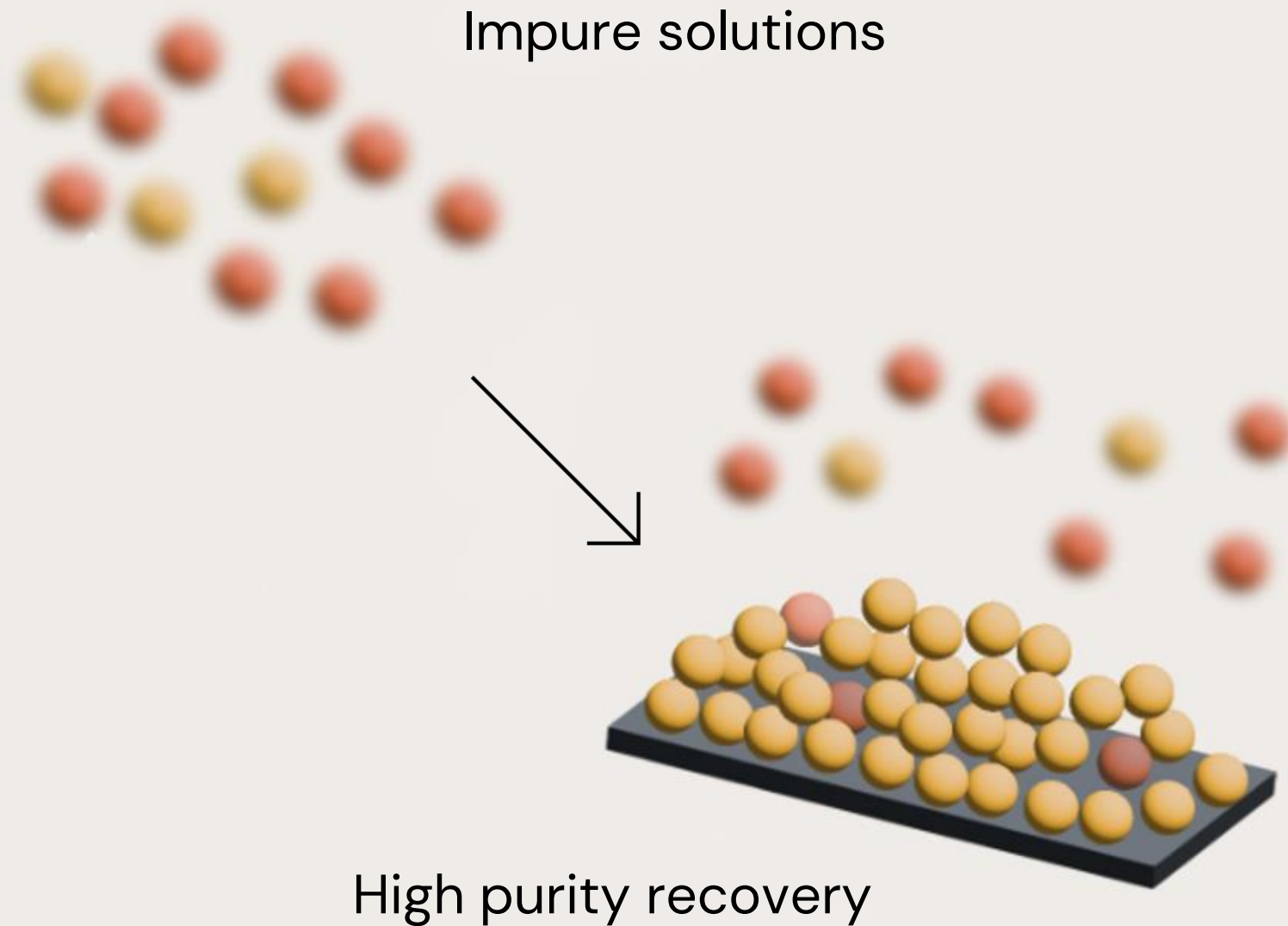
As the world is being electrified,  
why should metal refining be different?

# Traditional methods



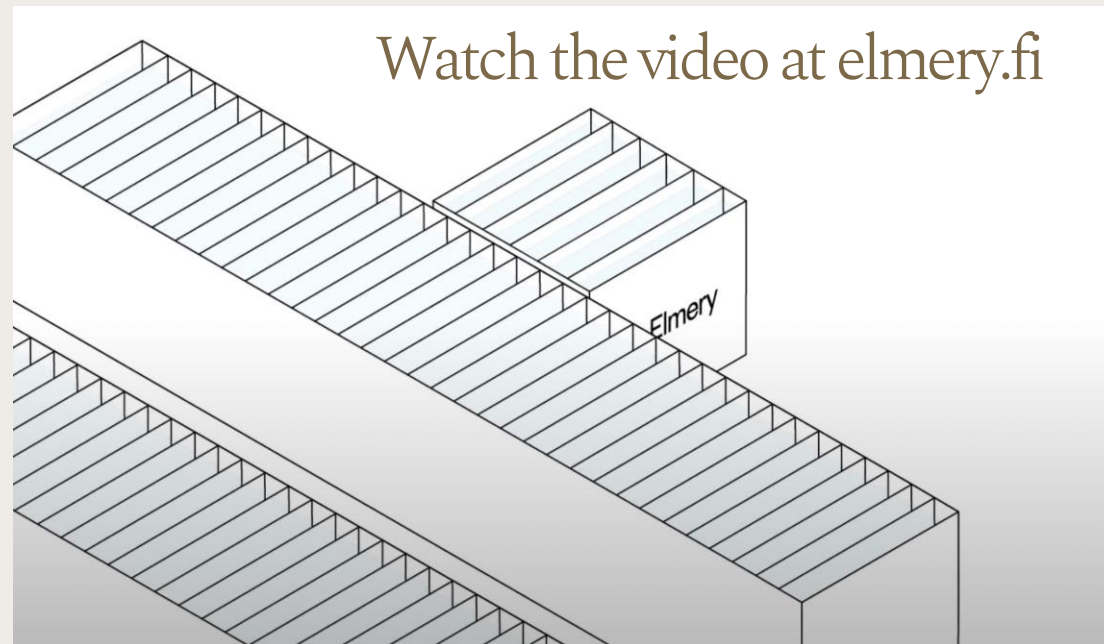


The new way

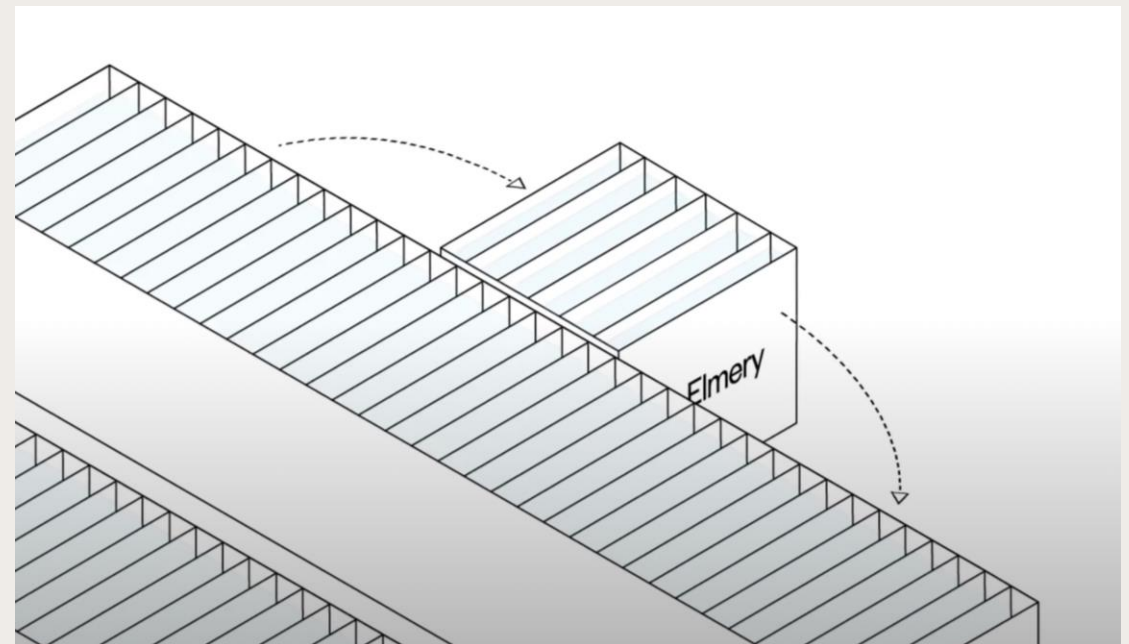


# Familiar equipment is easy addition to existing processes

It can be placed in the line, where metals are in solution.



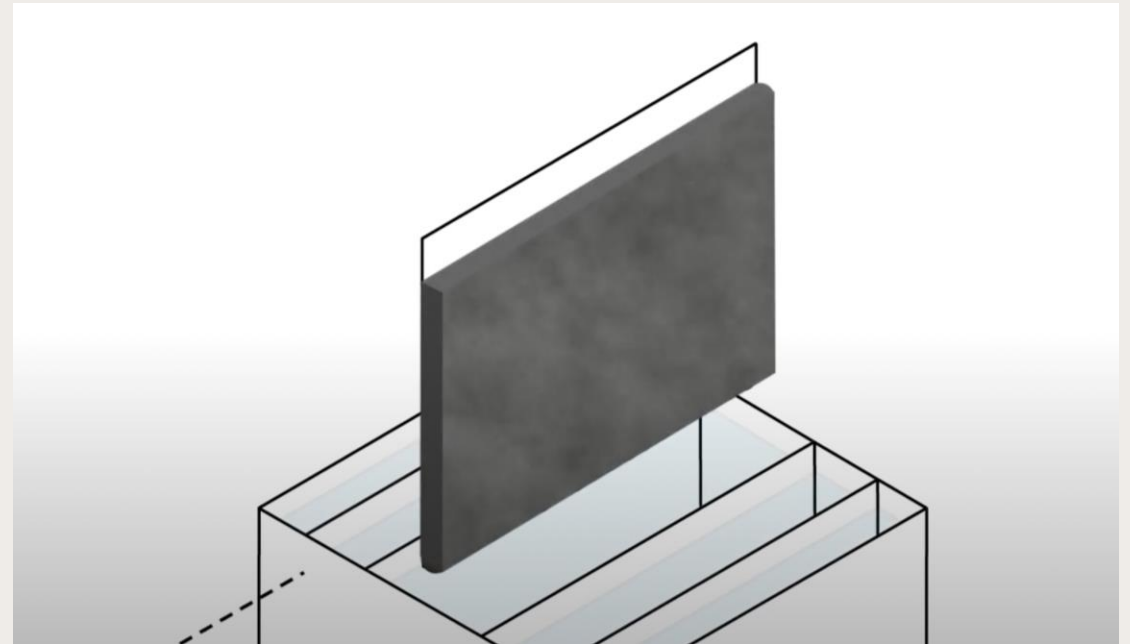
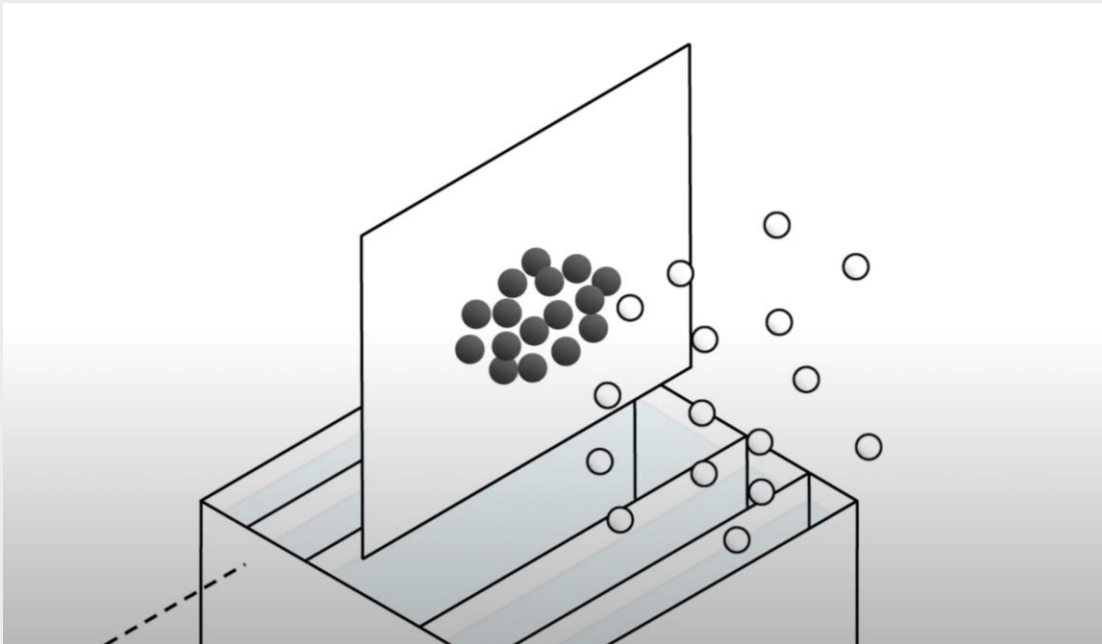
Solution is circulated to Elmery



# Tailored electrochemistry enables selective recovery

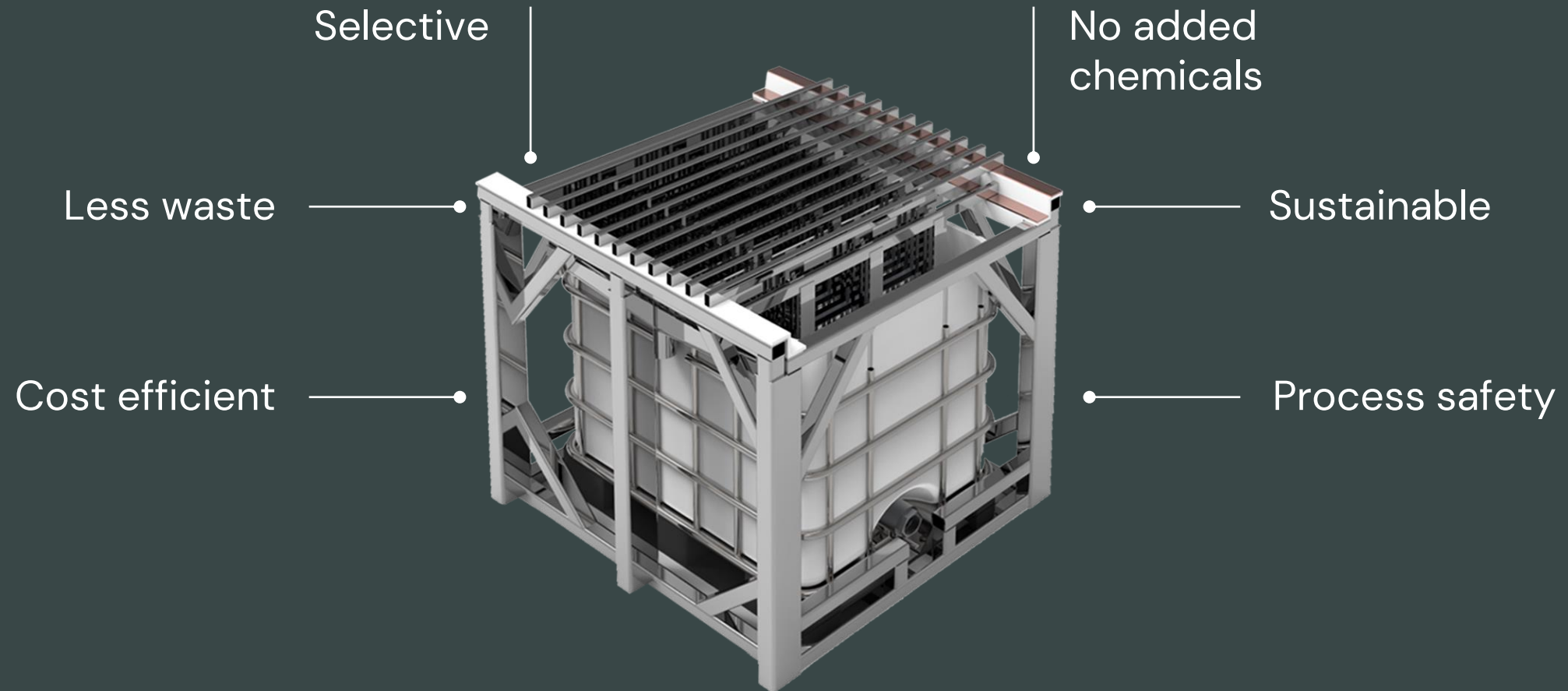
With intelligent and tailored electrochemistry, targeted metals are selectively recovered on the electrodes.


Targeted metals can be harvested from electrodes.





# Added value – on so many levels





Technologies are  
available – adoption  
of electrified methods  
can be faster than ever

# Companies can drive low-carbon transition in different roles

Enablers

Emission  
reducers

Green  
leaders





Elmery provides a patented unique metal recovery technology for refineries, to better circulate the metals, increasing cost efficiency and sustainability.





**Versatile**

Works for most solution types, regardless pH

**Flexible**

Recycled materials and primary production

**Wide range**

From low concentration to rich solutions: <10 mg/L to grams/L

**Selective**

Targeted metals can be recovered with high purity

**High recovery**

Can achieve up to 100% recovery, even from complex solutions

**Sustainable**

No added chemicals and very low energy consumption



# Test stages enable low risk & high opportunity

Stage 1

**Lab testing  
(Elmery lab,  
Finland)**

Stage 2:

**Onsite bench  
scale pilot**

Stage 3:

**Production with  
Elmery service**



# Summary

Green transition	Must
Electrification	Inevitable
Role of metals	Crucial
New technologies /enablers	Available
Companies looking for improvements	Oh yes

Next...

Let's make an impact together.



# Thank you

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Recover  
Refine  
Repeat

