

IRENA INNOVATION WEEK ²⁰₂₅

Technology Innovation Showcase

Organized by the:



In partnership with:



11 June 2025 | 17:00-17:30

#IIW2025

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Master of Ceremony



Begonia Gutierrez

Associate Professional for Partnerships
IRENA

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Opening remarks



Francesco La Camera

Director General
IRENA

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Opening remarks



Urban Peyker

Mission Director

Net-Zero Industries Mission (NIM)

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Introduction to the Technology Showcase



Luca Corradi

CTO

Net Zero Technology Center

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Technology Showcase



Giovanna Massobrio

Decarbonization R&D unit
SNAM

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Alliance
for Industry
Decarbonization



Net Zero
Technology
Centre
Technology Driving Transition

eSMR intro



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eSMR context: clean fuel from biogenic waste



2023 production

22.1 bcm biogas



Biogas



- × Low energy efficiency
- × Business case based on incentives
- × Biogenic CO₂ not valorized
- × High NO_x emissions



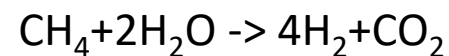
Need for a **low-cost, compact** solution
to **boost product value** and **margins**

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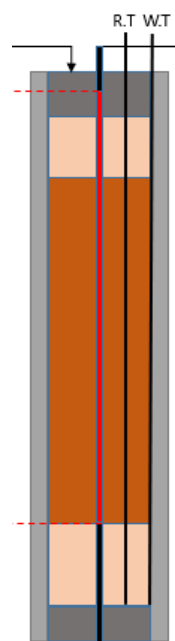


eSMR concept: carbon negative fuel from biogenic waste

Steam Methane Reforming



SNAM eSMR



- ✓ **Electrified:** no need of burning gas, high energy efficiency
- ✓ **Sustainable:** 30% reduction of direct CO₂
- ✓ **Cost effective and carbon negative:** concentrated streams CO₂ streams
- ✓ **Compact and modular** suitable for small and large plants



TRL 2-3



2021

R&D project starts



TRL 4-5



2024

IP granted

TRL 5-6



2026

Tests in a real
biogas plant

Traditional SMR



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eSMR impact: carbon negative fuel from biogenic waste

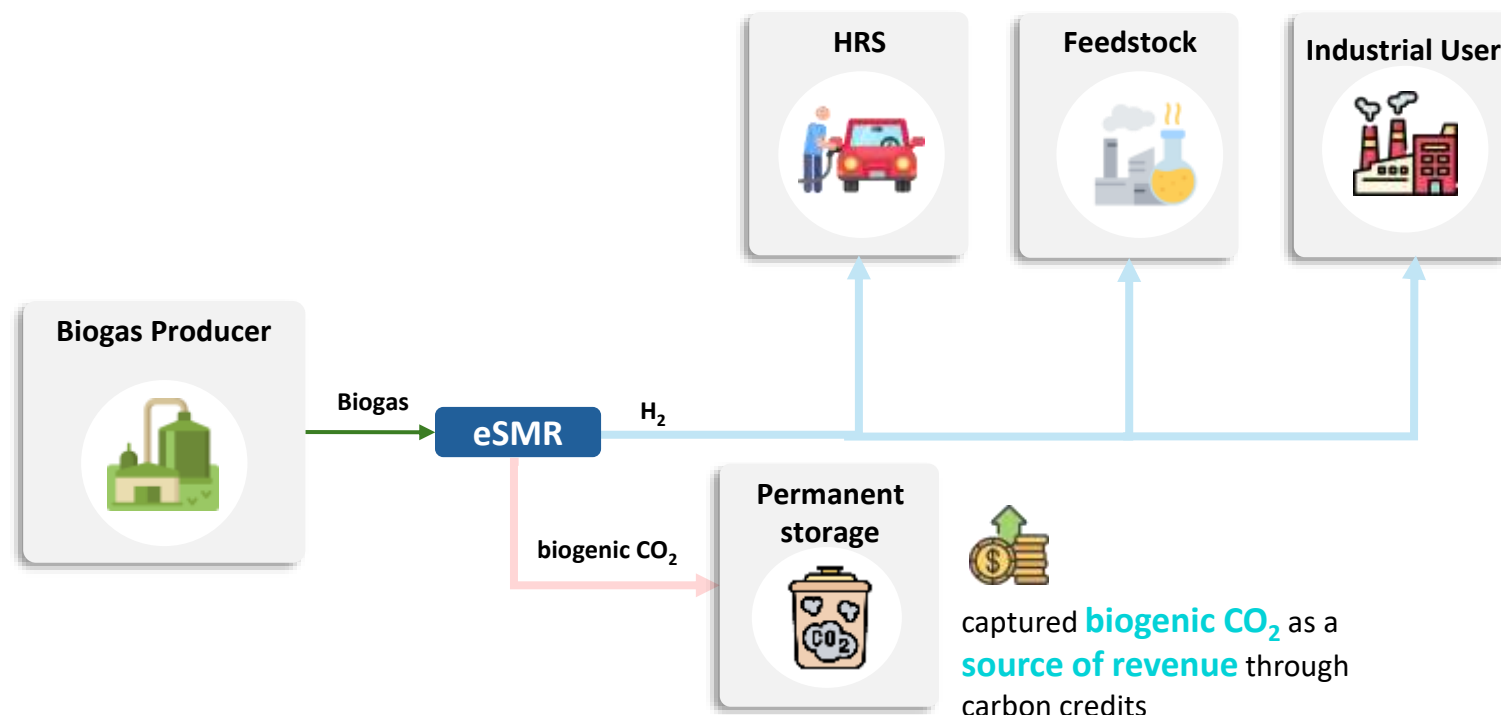


6000 plants
off grid

11 bcm/y
biogas

2.3 Mton/y
carbon negative H₂

21 Mton/y **biogenic**
CO₂



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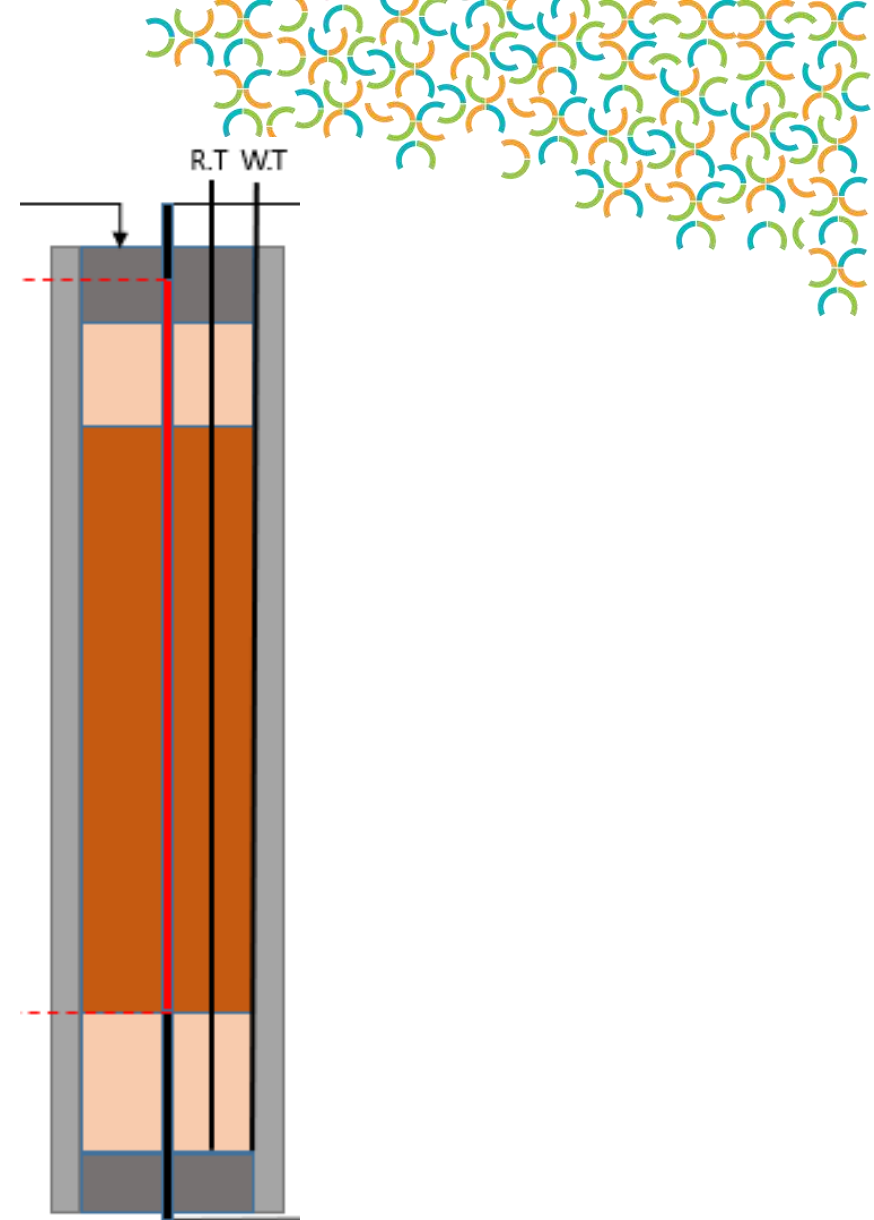


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eSMR: our own king Midas



Thank you!

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Pietro Giovanni Cerchier

CEO and Founder
9-Tech

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g-Tech

Upcycling technologies

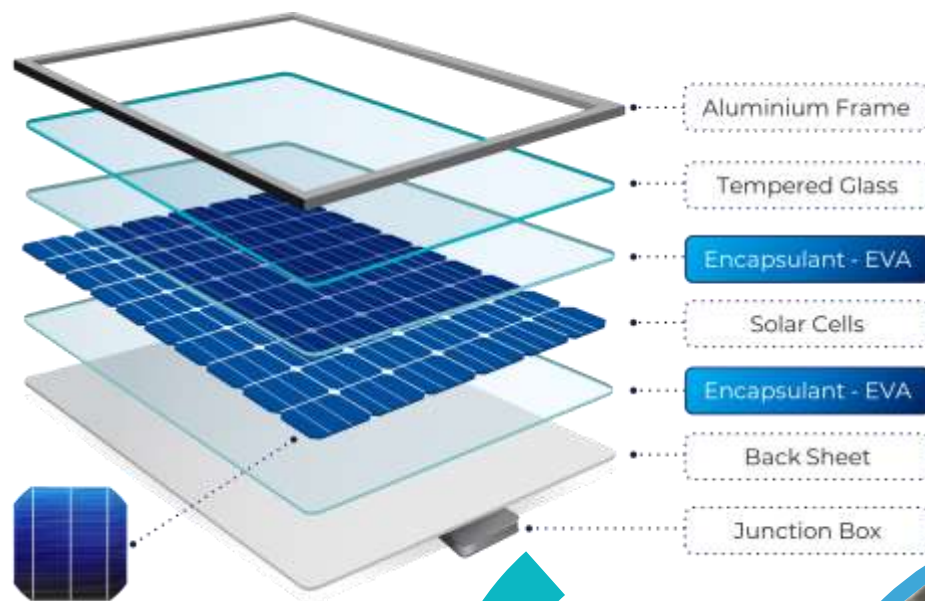


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Non-recyclable design



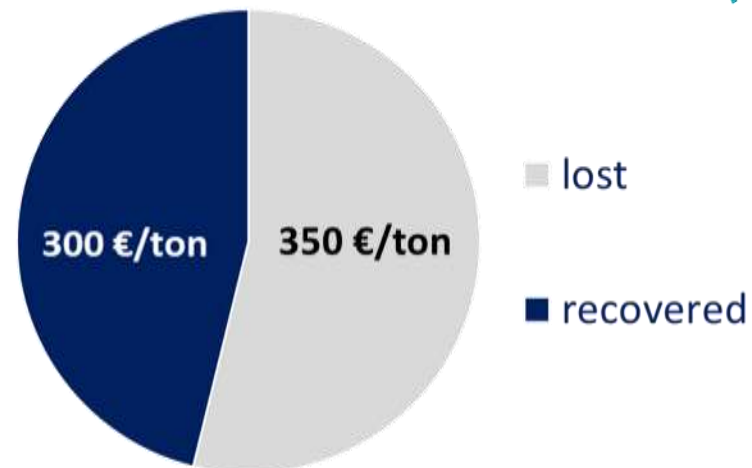
Shredding



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new waste!



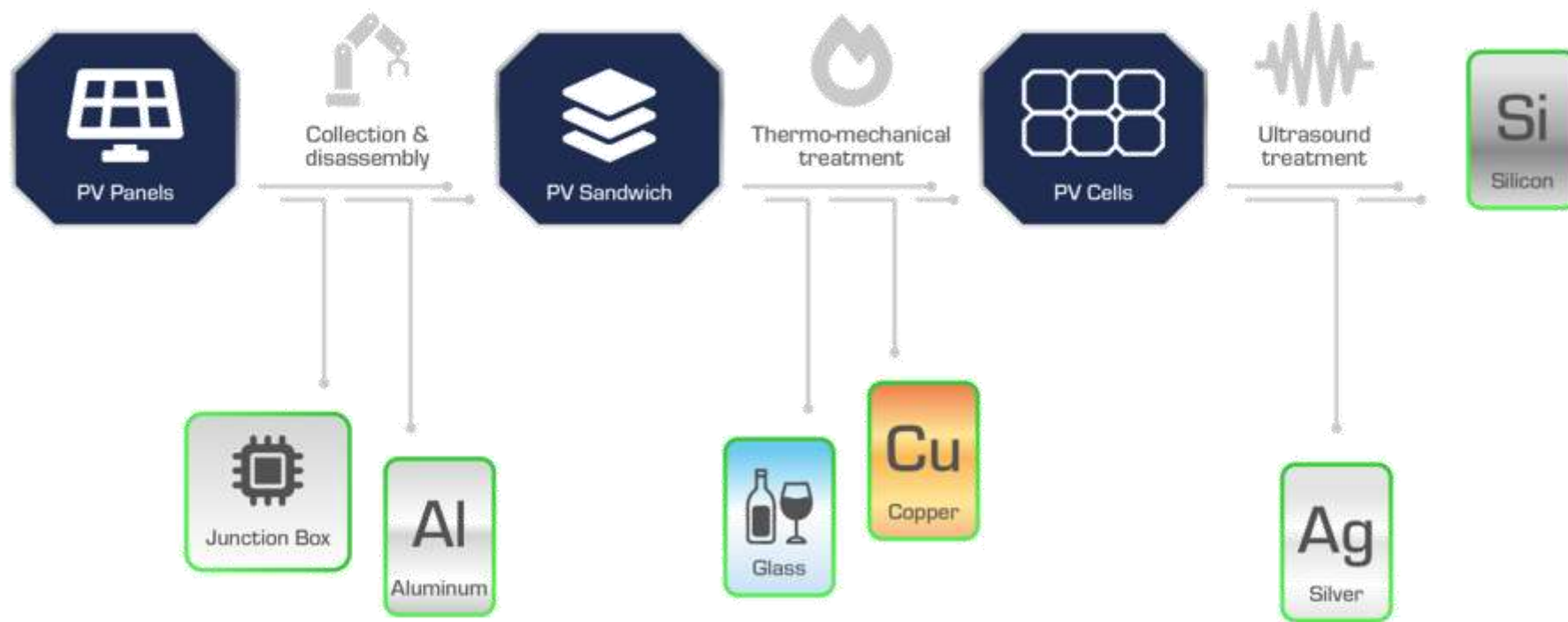
<50% of value recovered



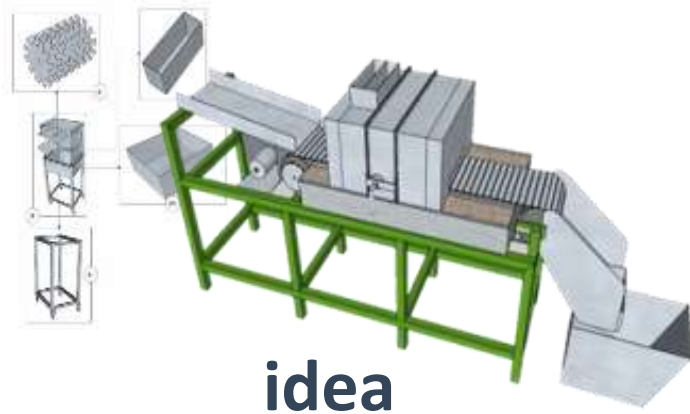
**Silver and silicon
are lost forever!**

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A new process for PV recycling

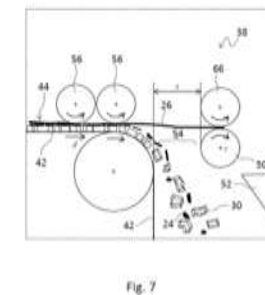
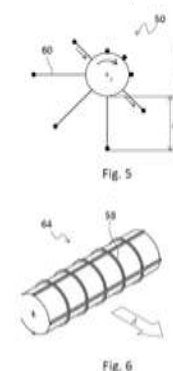
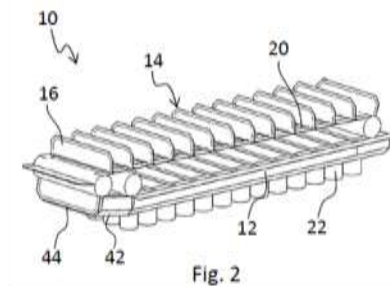
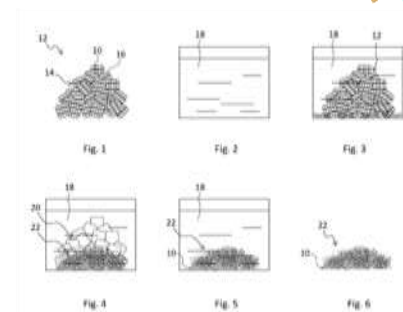
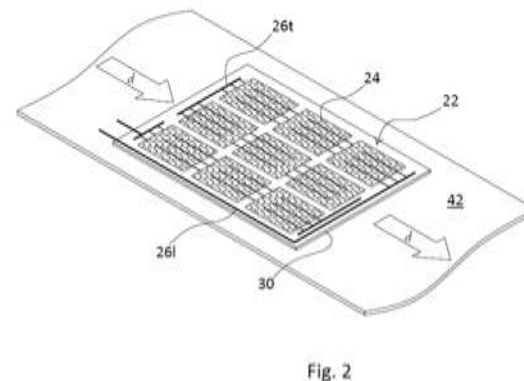
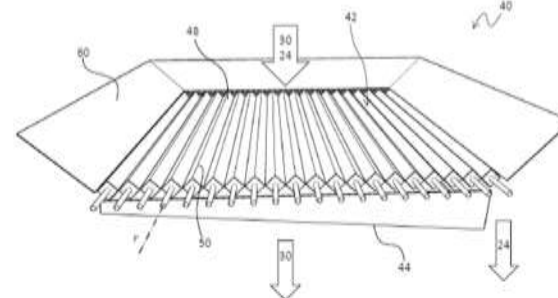
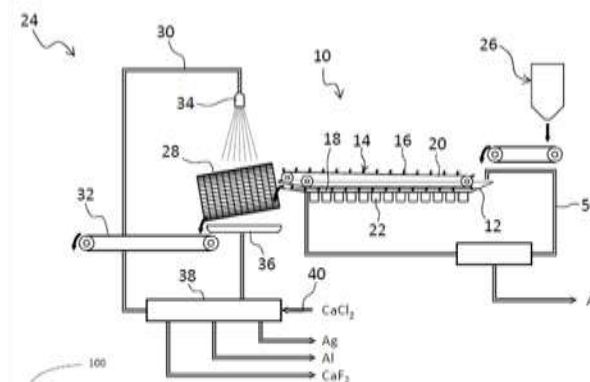
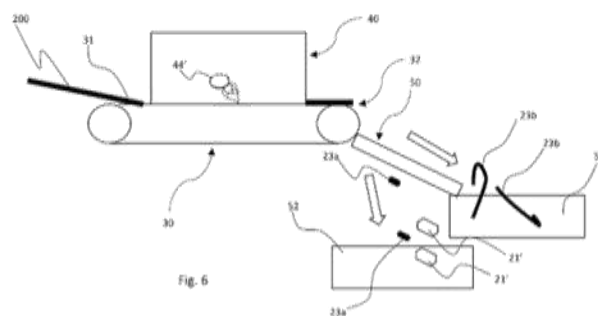
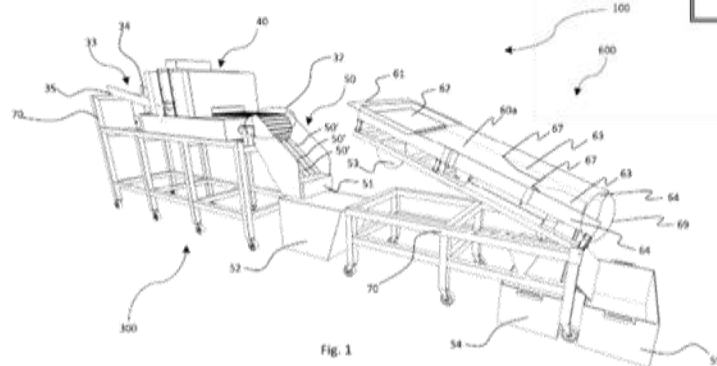


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7 patents



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Demonstration in the pilot



Aluminum



Junction boxes



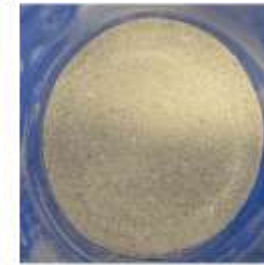
Glass



Copper



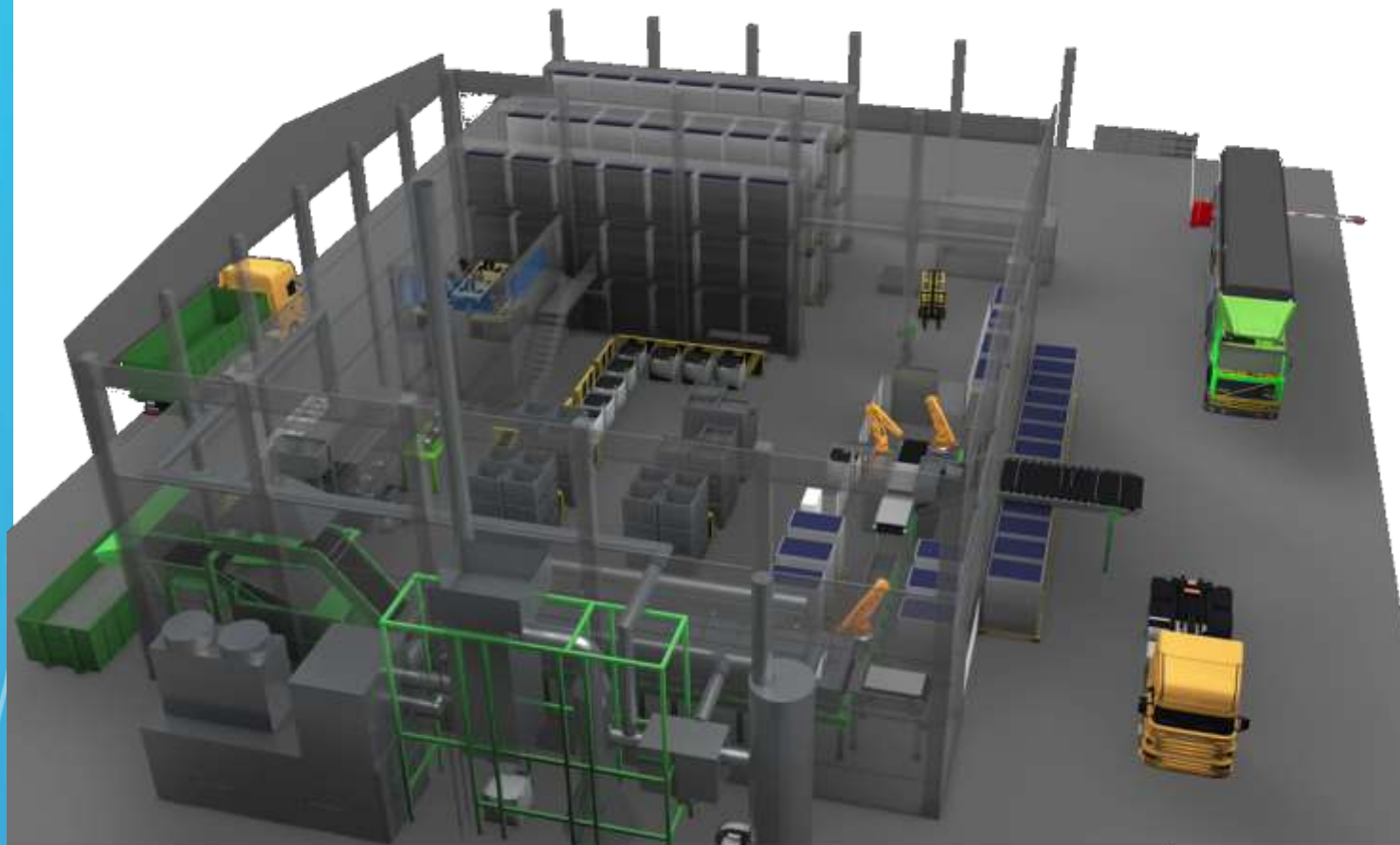
PV cells



Powder

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Next step



Supported by:



Real zero-waste process



Highly efficient



Energy autonomy



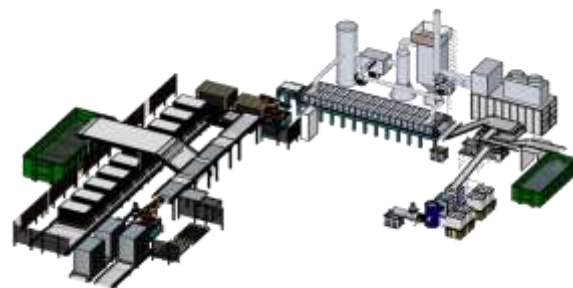
Fully automated process



Versatility

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Business model



Recycling equipment

LoI or NDA signed

Recyclers

HAIKI
MINES

umicore
materials for a better life

a2a

&

PV owners

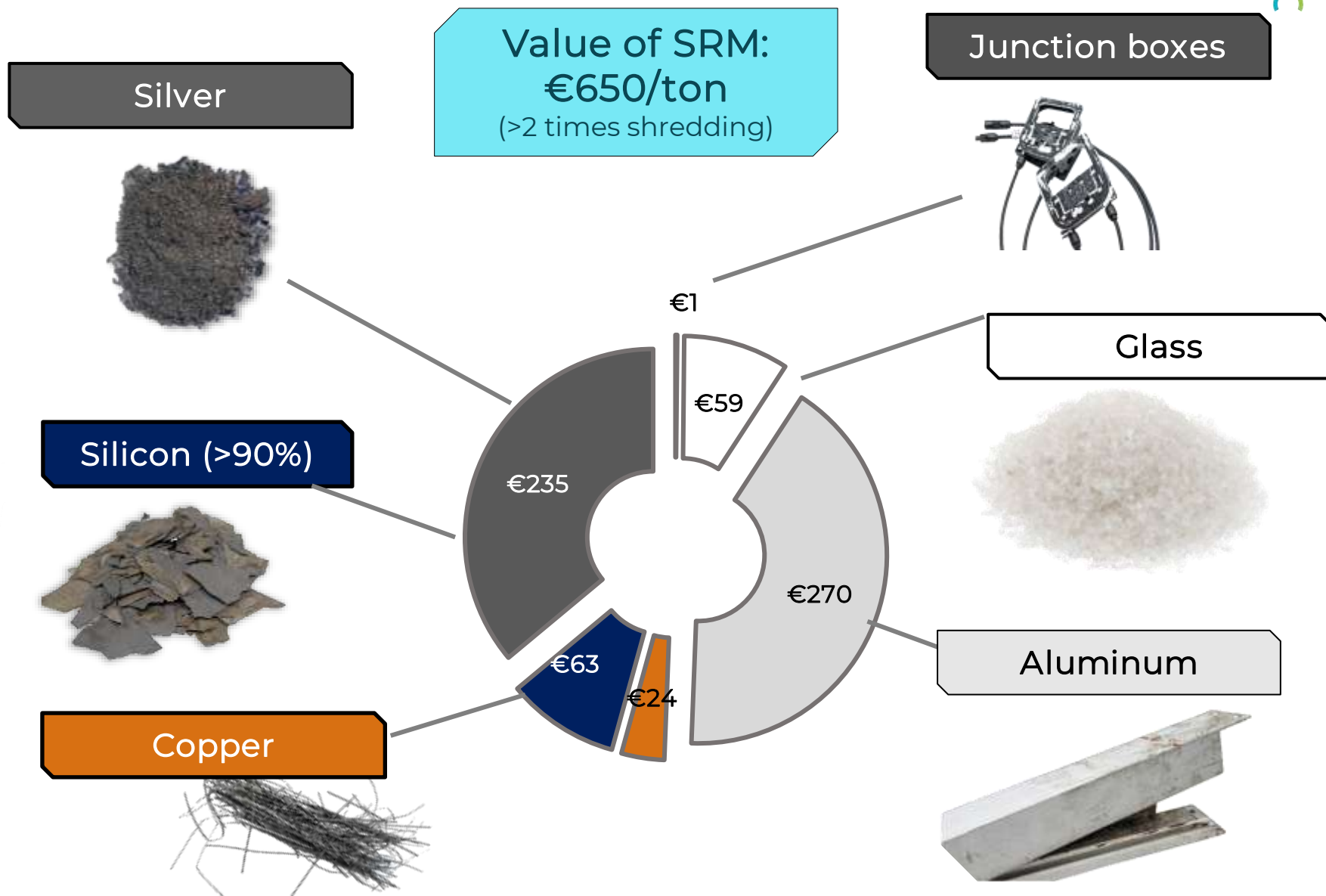
eni

rewind

enel
Green Power

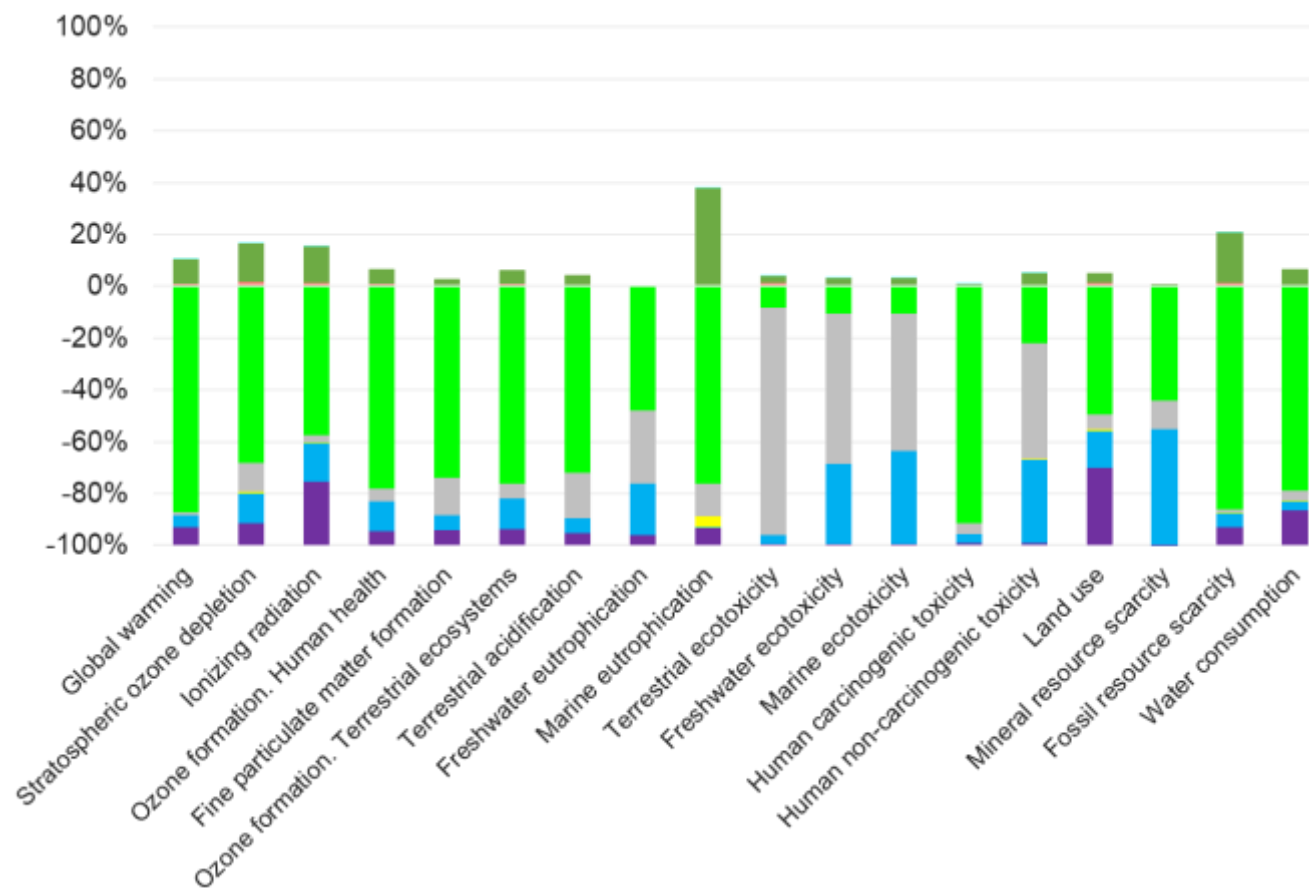
Partners and supporters

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3.8ton of CO2 eq. x ton of PV waste



Mazzi A., Barbiero C., Miserocchi F., Nisato F., Tassinato G., Cerchier P. (2024). **Life cycle assessment of Al-Cu-Ag-Si recycling process from photovoltaic waste.** Resources, Conservation and Recycling, 211.

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Upcycling technologies



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Frazer Ely
Founder
Latent Drive

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LATENT DRIVE

TECHNOLOGY TO MAKE GREEN HYDROGEN
ABUNDANT AND **AFFORDABLE**



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Networking Working Foundation

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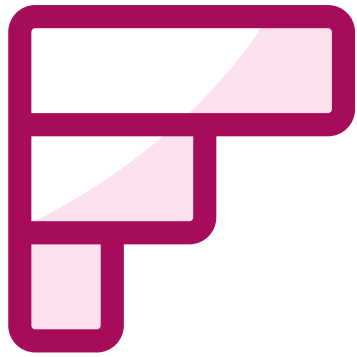
Audience award

Presented by



Begonia Gutierrez
IRENA





Which technology solution do you like the most overall?

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Circularity Award

Presented by



Nawal Al-Hosany

Permanent
Representative of the
UAE to IRENA



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Bioenergy with CCUS Award

Presented by



Begonia Gutierrez

Kendra Rauchenberger

Associate

Professional for

General Partner, Siemens Energy

Partnerships

AFID Co-Chair

IRENA



Green Hydrogen Award

Presented by



Hassan Al Ali

ESG & Sustainability engineer
EMSTEEL, AFID Co-Chair



LATENT
DRIVE

Closing remarks



Begonia Gutierrez

Associate Professional
IRENA

IRENA INNOVATION WEEK **2025**

Renewables and Digitalisation for a Sustainable Energy Future

Thank you!



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Networking Dinner



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