

ABOUT PROJECT PARTNERS

We are a 100% italian consortium bringing together academic research, industrial innovation and EPC management expertise



HYDR PV

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Industrial recycling solutions for
metal and CRM recovery

HYDRO-PV OVERVIEW

Hydro-PV is a patented hydrometallurgical method for high-quality and high-yield recovery of silver and silicon from end-of-life photovoltaic panels.

LEACHING AND RECOVERY

Acid leaching with thiourea, ferric sulfate, and sulfuric acid separate silver (solubilized in the liquid phase) and silicon (as a residual solid).

The leaching solution is then sent to a silver recovery step through electrodeposition.

WASTE WATER TREATMENT

A Fenton and lime treatments ensures that the waste water is treated to meet the highest standards and can be reused in the process.

KEY FEATURES AND BENEFITS

1

Environmentally Friendly

The Hydro-PV process uses thiourea instead of hazardous chemicals like cyanide, nitric acid, and hydrochloric acid, reducing environmental impact and enhancing safety.

2

High Purity Recovery

The process facilitates the selective recovery of both silver and silicon, producing high-purity silver (>99%) and silicon that can be further refined for reuse.

3

Minimized Waste

The process minimizes secondary waste and chemical consumption, aligning with global sustainability initiatives.

4

Water Conservation

Up to 90% of the treated water is reused in subsequent batches, significantly reducing the need for freshwater intake.

