

ABOUT PROJECT PARTNERS

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



HYDR PV

CONTACT US

-  +39 085 9213520
-  hydropv@dgimpianti.eu
-  www.dgimpianti.eu

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.

