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# Technical and environmental assessment of gold recovery from secondary streams obtained in the processing of waste printed circuit boards

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**Abstract**

The current study focuses on the technical and environmental assessment of gold extraction from the solid residue obtained during the recovery of base metals from waste printed circuit boards (WPCBs). In the preliminary stage, the process involves the dissolution of gold using the $H_2O_2$-HCl leaching system followed by the electrowinning of a high purity gold deposit from the obtained leaching solution. The technical performance of the process was evaluated on the basis of the efficiency factor for the $H_2O_2$ and HCl usage, current and dissolution efficiency and specific energy consumption for gold electrowinning.

The environmental impact assessment of the process was performed based on the mass balance data corresponding to the recovery of one kg of gold in the identified optimal