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RECOVERING OF GOLD FROM WEEE BY USING FROTH FLOTATION AND LEACHING

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Japan is a major consumer of precious metals. Nevertheless, it imports most of its required amount of precious metals. In order to ensure a stable supply of precious metals as well as deal with the increasing global demand, it is important to develop cost effective and environmental-friendly technologies that are able to recover the precious metals from electronic waste known as e-waste. Generally speaking, the conventional method for recovering gold (Au) from printed circuit boards involves the incineration of scarp, followed by acid leaching. In an attempt to improve the Au extraction process, the authors are putting forward a new method. The sample was first subject to carbonization in N2 atmosphere, followed by flotation in order to reduce the amount of sample subject to acid leaching as well as reduce the acid consumption. The sample recovered by flotation was then treated with aqua regia to dissolve Au. After investigating the effect of the carbonization temperature, a Cost-Benefit Analysis and a Life Cycle Assessment (LCA) were carried out in order to compare the efficiency of both conventional and suggested methods..

BIOGRAPHY

G Dodbiba obtained his Master degree in 2001 and a Doctor degree in 2004 both in Materials-process Engineering. From 2004 to March 2006, he was a Postdoctoral Research Fellow and then from 2004 to 2009, he was an Assistant Professor at the Department of Geosystem Engineering at the University of Tokyo, Japan. Currently, he is an Associate Professor at the Faculty of Engineering, Department of Systems Innovation at The University of Tokyo, Japan. He is author of more than 80 papers in the areas of environmental impact assessment, physical and chemical processing of materials.

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