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PCB copper foil

CA, UNITED STATES, August 27, 2025 /EINPresswire.com/ -- With the rapid advancement of technology and the accelerated replacement of electronic devices, the amount of electronic waste worldwide has surged. According to statistics from QYR (Hengzhou Bozhi), the global PCB e-waste recycling market reached US$646 million in sales in 2024 and is expected to reach US$1.064 billion by 2031, with a compound annual growth rate (CAGR) of 7.5% (2025-2031).

Although printed circuit boards (PCBs) only account for a small portion of the weight of electronic devices, they contain a variety of high-value metals. Hu Pengfei, General Manager of Hunan Yongxing Pengkun Environmental Protection Co., Ltd., pointed out, "If 5 grams of gold can be extracted from one ton of ore, it's already a rich ore. However, one ton of waste printed circuit boards can contain over 10 grams of gold and over 100 grams of silver, making them extremely valuable."

> The annual production of global e-waste has exceeded 62 million tons, of which printed circuit boards (PCBs) account for as much as 13-18%, and their complex structure."
>
> *DONGSHENG*

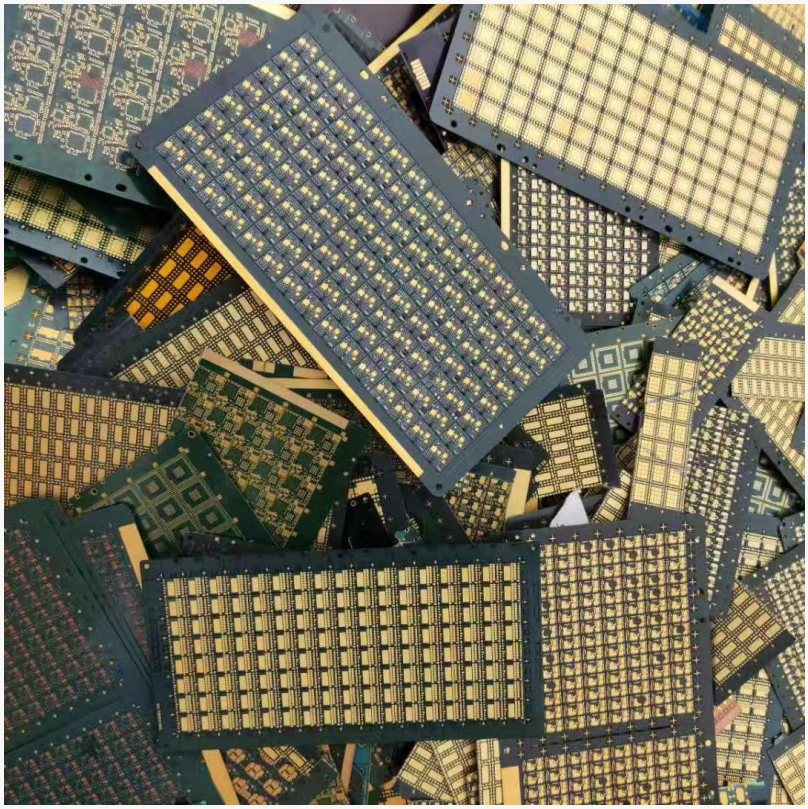
Dongsheng leads the recycling revolution with technological breakthroughs and innovations.

Dongsheng Printed Circuit Boards Recycling Company closely follows global technological trends, introducing and innovating a number of PCB recycling technologies. The company has established a modern recycling production line with an annual processing capacity of 5,000 tons. Using high-voltage electrostatic sorting technology (a 2023 patent from Siemens, Germany), it has increased metal recovery rates from the traditional 85% to 98%, while reducing per-ton processing costs by 40%.

For precious metal recovery, Dongsheng Printed Circuit Board Recycling Company utilizes an

improved electrolytic refining process combined with ionic liquid extraction to establish a closed-loop recycling system. This system has stabilized gold recovery rates above 99.2%, while simultaneously reducing chemical consumption by 60% and wastewater discharge by 85%.

PCB recycle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In response to the EU's 2025 WEEE Directive, which mandates a minimum recycling rate of 85% for printed circuit boards, with at least 50% of the material being reused or recycled, Dongsheng Printed Circuit Board Recycling Company has proactively developed the corresponding processing technologies and technical reserves.

The advent of soluble circuit boards ushers in a new dawn for recycling technology.

In August 2025, researchers from the University of Maryland, Georgia Institute of Technology, and the University of Notre Dame jointly developed a groundbreaking technology, DissolvPCB, offering a novel solution to the e-waste challenge.
This technology utilizes 3D printing to create fully recyclable flexible circuit boards (PCBs). Its unique feature is the use of polyvinyl alcohol (PVA) as a water-soluble substrate and gallium-indium eutectic alloy (EGaIn) as a conductive material.
Dongsheng Printed Circuit Board Recycling Company is closely monitoring this technological advancement and has contacted US research institutions to explore the possibility of incorporating this technology into future recycling operations. This innovative technology has the potential to significantly reduce the complexity and cost of PCB recycling.

Amidst the global carbon neutrality goal, Dongsheng Precious Metal Recycling Company is actively pursuing green environmental protection. The company plans to build the world's first carbon-neutral PCB gold recycling production line by 2024. Through photovoltaic power

generation and process optimization, it will generate only 0.8 tons of CO2 equivalent per ounce of gold recovered, a 70% reduction compared to the industry average.

The company utilizes a comprehensive treatment technology combining "oxygen-free pyrolysis + oxygen-enriched side-blowing smelting." In an oxygen-free environment, organic matter in waste PCBs is converted into energy sources such as pyrolysis oil and combustible gas, while metals are concentrated in the pyrolysis carbon slag. Subsequently, oxygen-enriched side-blowing smelting efficiently recovers high-purity copper and associated precious metals such as gold and silver from this concentrated slag and various copper-containing materials.

Dongsheng Printed Circuit Boards Recycling Company has also developed resin powder recycling technology, transforming non-metallic materials from recycled PCBs into building composite materials, adding 20% value, truly achieving a circular economy model that "squeezes everything out, turning waste into treasure."

The market prospects are broad, and Dongsheng precious metal recyclers have a promising future.

According to QYResearch, the global PCB electronic waste recycling market is expected to reach 7.24 billion yuan in sales by 2031, with a compound annual growth rate (CAGR) of 7.5% (2025-2031). The Chinese market has undergone rapid changes in the past few years, and its share of the global market is expected to further expand by 2031.
Dongsheng Printed Circuit Board Recycling Company plans to increase its processing capacity from the current 5,000 tons/year to 8,000 tons/year within the next three years, including a dedicated processing line for high-end server PCBs of 1,200 tons/year. The company will also strengthen cooperation with research institutes to jointly develop an AI-based visual sorting system, aiming to increase the accuracy rate of high-value PCB identification to 99%.
Dongsheng Printed Circuit Boards Recycling Company plans to increase its processing capacity from the current 5,000 tons/year to 8,000 tons/year within the next three years, including a dedicated processing line for high-end server PCBs of 1,200 tons/year. With the EU WEEE Directive continuously raising recycling standards and the emergence of new technologies such as dissolvable circuit boards, the printed circuit board recycling industry is experiencing unprecedented transformation and opportunities.
Dongsheng Printed Circuit Board Recycling Company will continue to be driven by technological innovation, driving the printed circuit board recycling industry towards greater efficiency, environmental friendliness, and economic efficiency, contributing to the global circular economy and sustainable development.

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