

September 5, 2025
JX Advanced Metals Corporation

FY2024 Resource Circulation Achievements of the JX Advanced Metals Group

In fiscal year 2024, the recycling ratio of electrolytic copper within the JX Advanced Metals Group reached 24.6% (*1), equivalent to approximately 100,000 metric tons of recycled copper.

Copper is an essential material not only for everyday items such as coins, home appliances, smartphones, trains, and EVs, but also for large-scale infrastructure that supports modern society, including power plants and data centers. Japan relies heavily on overseas sources for copper, and globally, concerns have been raised about future shortages of copper resources.

As one of Japan's leading copper smelters, our group has long contributed to the foundation of the information society and the AI era by producing high-quality copper. To continue fulfilling this role and contribute sustainably to societal development, we must go beyond conventional recycling efforts and build more advanced and scalable systems for resource regeneration and circulation that are superior both in quality and quantity.

In 2023, we launched an unprecedented initiative in the copper smelting industry: a framework for direct dialogue with end-users regarding copper resource circulation, regardless of whether or not a transactional relationship exists between them and our group (*2). In 2024, we proposed a co-creation model for resource circulation with end-users (*3). Over the past year, we recycled approximately 100,000 metric tons of copper, achieving a 24.6% recycling ratio. We aim to further increase this ratio to 50% by 2040 (*4).

In the information and AI-driven society, various metals beyond copper are essential. For example, electronic devices such as PCs and smartphones contain small amounts of precious metals like gold and silver. Our group has established a global network to collect discarded electronic substrates rich in valuable metals and uses advanced recycling technologies to extract and regenerate these resources.

In addition to copper, gold, and silver, we are also focused on recovering a wide range of rare metals, including platinum, palladium, tantalum, antimony, bismuth, tellurium, and selenium. The rare metals recovered by our group (*5), based on the definition by Japan's Mining Council (*6), exceed 20 types, as shown in the figure below. These metals are present in trace amounts compared to gold and silver, making it difficult to pinpoint their exact origin. However, we recover them from the residue left after extracting copper, gold, and silver, using domestic plants to ensure effective resource utilization. One of the key facilities supporting this effort is our Hitachi-area recovery plant, which has been in operation for 17 years.

As both a recycler and supplier of resource materials, and a manufacturer with advanced technologies and product lines essential for semiconductor production, JX Advanced Metals will continue to support the information and AI era and contribute to sustainable development.

H Hydrogen																	He Helium						
Li Lithium	Be Beryllium																	B Boron	C Carbon	N Nitrogen	O Oxygen	F Fluorine	Ne Neon
Na Sodium	Mg Magnesium																	Al Aluminum	Si Silicon	P Phosphorus	S Sulfur	Cl Chlorine	Ar Argon
K Potassium	Ca Calcium	Sc Scandium	Ti Titanium	V Vanadium	Cr Chromium	Mn Manganese	Fe Iron	Co Cobalt	Ni Nickel	Cu Copper	Zn Zinc	Ga Gallium	Ge Germanium	As Arsenic	Se Selenium	Br Bromine	Kr Krypton						
Rb Rubidium	Sr Strontium	Y Yttrium	Zr Zirconium	Nb Niobium	Mo Molybdenum	Tc Technetium	Ru Ruthenium	Rh Rhodium	Pd Palladium	Ag Silver	Cd Cadmium	In Indium	Sn Tin	Sb Antimony	Te Tellurium	I Iodine	Xe Xenon						
Cs Cesium	Ba Barium	Lanthanides	Hf Hafnium	Ta Tantalum	W Tungsten	Re Rhenium	Os Osmium	Ir Iridium	Pt Platinum	Au Gold	Hg Mercury	Tl Thallium	Pb Lead	Bi Bismuth	Po Polonium	At Astatine	Rn Radon						
Fr Francium	Ra Radium	Actinides																					
Lanthanides			La Lanthanum	Ce Cerium	Pr Praseodymium	Nd Neodymium	Pm Promethium	Sm Samarium	Eu Europium	Gd Gadolinium	Tb Terbium	Dy Dysprosium	Ho Holmium	Er Erbium	Tm Thulium	Yb Ytterbium	Lu Lutetium						
Actinides			Ac Actinium	Th Thorium	Pa Protactinium	U Uranium	Np Neptunium	Pu Plutonium	Am Americium	Cm Curium	Bk Berkelium	Cf Californium	Es Einsteinium	Fm Fermium	Md Mendelevium	No Nobelium	Lr Lawrencium						

- Elements classified as rare metals (as defined by the Mining Council of Japan/ METI Japan)^(*)
- Elements classified as critical minerals (as defined by the IEA)^(*)
- Elements with recycling records in the JX Advanced Metals Group^(*)

List of elements recovered by our company in the periodic table

(*1) Based on internal data (copper volume basis)

(*2) August 3, 2022 News Release:

[Sustainable Copper Vision: JX Metals Aims to Supply Sustainable Copper | FY2022 | JX Advanced Metals](#)

(*3) January 31, 2024 News Release:

“New Proposal for the 100% Recycled Electrolytic Copper Supply Model ~Resource recycling co-created with customers~”

https://www.jx-nmm.com/english/newsrelease/fy2023/20240131_04.html

(*4) Company Overview – Metals & Recycling Business

<https://www.jx-nmm.com/english/company/industry/metal-recycling/>

(*5) Includes companies such as Toho Titanium and Taniobis

(*6) Based on the definition by Japan’s Mining Council