Overview Of Aluminum Recycling Industry

Recycling means that we reduce emissions and avoid changes in the landscape due to mining and refining.

Compared with the production of "new" aluminum, recycling of used aluminum scrap (like aluminum boxes) saves large amounts of energy and CO2. The stock of aluminum used in the world today is like a resource bank. About 75 percent of all aluminum ever produced is still in use, and parts of it have been through numerous cycles. With the energy required to make aluminum for one box, we can make 20 recycled boxes. Therefore, aluminum is becoming more energy efficient every time it is used again. With the energy required to create one new box we can make 20 recycled boxes.

Many aluminum products have a long life, for example in cars or buildings, and because of this, recycled aluminum can only cover 20-25% of today's demand for aluminum. The rest must be covered by primary aluminum.

The recycling industry plays an important role in the circulation of aluminum. The amount of recycled metal is increasing, and recyclers have found new and better ways to reduce emissions from recycled metal.

Aluminum recycling industry includes:

- Processing plants with equipment that enables them to produce alloys according to customer specifications.
- Recyclers that mainly make the same products as the metal was recycled from (make, for example, new drinking boxes of use
- The recycling industry also includes collectors, dismantling companies, metal wholesalers and scrap workers who are responsible for collecting and processing scrap.

Europe and North America have an economically sound and technically advanced aluminum recycling industry that has been built in the last 70 years. Japan stopped its domestic primary aluminum production in the 1980s, and switched to aluminum recycling. China, India and Russia are expanding their recycling activities.

In many countries, the government encourages recycling more aluminum. We in Hydro also have strategic goals to increase our production of recycled metal.

Airplanes, cars, bicycles, boats, computers, breads, wire and boxes are all sources of recycled metal. When they reach the end of their economic life, the recycled product may be the same as the original, such as a recycled box being recycled to a new box. Used aluminum box is melted into a new box. But more often it happens that a completely different product is recycled - for example, a car wheel is recycled to a gearbox.

Recycling and cars

About 25% of the aluminum produced every year goes to the transport sector.

The use of aluminum in cars increases. From 1990 to 2012, the amount of aluminum in cars in Europe increased from 50 to 140 kg. By 2020, this amount can reach 160 kg, or even 180 kg if smaller cars follow the same development pattern as more expensive cars.

Mixed alloy scrap like this is then often used to make castings for engines and gearboxes.

In Europe today, 95% of aluminum scraps from cars are recycled.

Recycling in buildings

Every year about 13 million tonnes of aluminum are used in the construction sector. As of today, 220 million tons of aluminum are used in buildings around the world.

After a building is demolished, aluminum (as opposed to other building materials) can be recycled in a manner that is both economically and environmentally sustainable.

A study conducted in 2004 showed that the collection of aluminum in European buildings was between 92% and 98%.