ACTIVITIES OF THE FOUNDATION

ECO-FRIENDLY SOLUTIONS

The Foundation Auto Recycling Switzerland has been in existence since 1992 and is a voluntary initiative of auto-schweiz, the Association of Swiss Automobile Importers. Its aim and purpose is to promote the eco-friendly disposal of motor vehicles. The Foundation is dedicated in particular to developing an eco-friendly and economically viable solution for the recycling of automobile shredder residue. Because the separation in the shredder is relatively coarse, this shredder residue, which makes up about 20% of the vehicle's weight, still contains residual metals.

CAR RECYCLING

Car recycling has been common practice in Switzerland for years. Specialist dismantlers drain end-of-life vehicles and remove spare parts before sending them to the shredder, where valuable secondary raw materials can be obtained.
The metals contained in the vehicle are then returned to the material cycle. Other waste products such as used oil and tyres are largely used for thermal applications in cement factories, where they replace heavy oil and coal. Sought-after used spare parts are given a second life and likewise help to save on resources. All waste from car recycling is thus recycled either materially or thermally.

THERMAL RECYCLING

Although shredder residue is considered special waste, under certain conditions it can be thermally recycled without any problem in municipal solid waste incineration (MSWI) plants. There are 29 such plants in Switzerland. All of them produce electricity which is considered 50% renewable because of the biomass. Some plants also operate a district heating system that enables the heat produced from incineration to be utilised efficiently. The emissions of a MSWI plant today are well below the limits prescribed by law. The Foundation makes financial contributions to the thermal recycling of automobile shredder residue, thereby ensuring the eco-friendly disposal of end-of-life vehicles and in particular the automobile shredder residue.

ECOLOGICAL DEVELOPMENTS

The security of energy and raw materials supplies is of critical importance for a properly functioning economy. The efficient car recycling practised so far makes an important contribution to the preservation of finite resources. In the next step the intention is to recover a greater metal fraction from the incineration residue. The fine fractions in particular offer enormous potential in precious metals and rare earths. For the mineral fraction, too, there is the possibility of utilisation in the construction materials industry. These efforts save on landfill space, relieve the environment and preserve resources.

ORGANIZATIONS IN THE FOUNDATION

auto schweiz
suisse

AGVS | UPSA
Auto Gewerbe Verband Schweiz
Union professionnelle suisse de l'automobile
Unione professionale svizzera dell'automobile

ASTAG
Schweizerischer Nutzfahrzeugverband
Association suisse des transports routiers
Associazione svizzera dei trasportatori stradali

KANTON AARGAU
AMT FÜR UMWELT

SCHWEIZERISCHER SHREDDER VERBAND
ASSOCIATION SUISSE DE SHREDDER
ASSOZIAZIONE SVIZZERA DI SHREDDER

THE FOUNDATION

The Foundation promotes the environmentally-friendly disposal of the motor vehicles registered in Switzerland, in particular the eco-friendly disposal of the non-metallic waste products from vehicles (ASR). Disposal must be focused first and foremost on applying the recognised state of the art to develop eco-friendly solutions for closing the relevant material cycle while complying with statutory requirements.

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FOUNDATION AUTO RECYCLING SWITZERLAND

VEHICLES RECYCLING IN SWITZERLAND

RECYCLING
OF END-OF-LIFE VEHICLES IN SWITZERLAND

NEW MOTOR VEHICLES

ROLLING RAW MATERIALS STORE

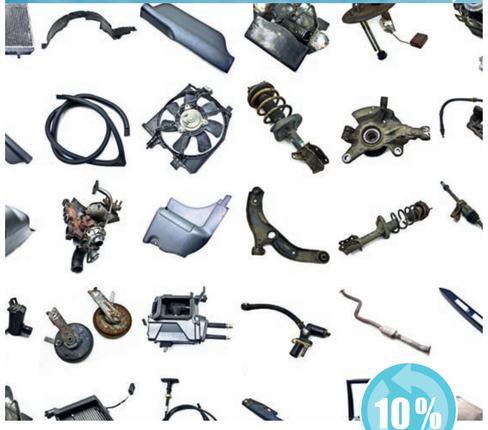
New passenger cars are assembled from over 10,000 parts. These are sometimes very different materials put together in a wide variety of ways. The choice of material depends on a number of criteria, such as the fulfilment of technical, physical and chemical properties and their weight, cost and design. On top of this is the fact that new vehicles in Europe and Switzerland now have to be 95% recyclable. The design and production of such a complex consumer product is an enormous challenge, as is its recycling. Today, vehicles are considered as rolling raw materials stores.

END-OF-LIFE VEHICLES

UP TO 85% RECYCLING

Some 300,000 passenger cars, 25,000 light and 4,000 heavy commercial vehicles are sold new in Switzerland each year. At the same time, however, more than 100,000 end-of-life vehicles are sent for recycling every year. They may have been involved in accidents, or simply are older vehicles that would cost too much to repair. Cars reach an average age of 16 years. The recycling chain comprises around 70 dismantlers and 7 shredder plants. Up to 80% to 85% of an end-of-life vehicle is recycled. Additional energy is generated from the rest.

DISMANTLERS



DRAINING AND SPARE PARTS SALE

Dismantlers first drain the vehicle of motor and gearbox oil and other operating fluids, while tyres and batteries are removed and sent for recycling. Pyrotechnic devices (airbags, seat belt tensioners) must be triggered or dismantled. Depending on their condition, the vehicle model and the availability and demand, spare parts are removed, inspected and offered for sale. Some 10% of an end-of-life vehicle is reused or recycled in this stage.

SHREDDER PLANTS

RECOVERY OF METALS

The shredder is a large hammer mill up to two metres in diameter in which a car wreck is battered into fist-sized pieces in a matter of seconds. The main objective is to recover the metals. Steel mills use scrap iron and steel to manufacture new-grade steel, while non-ferrous metals are turned into new aluminium and copper in refineries. Around 20% of an end-of-life vehicle is left as automobile shredder residue (ASR), which is regarded as special waste and consists largely of plastic, rubber, glass and fibrous and mineral materials. Each year about 70,000 tons of scrap iron and steel and 5,000 tons of non-ferrous metals are recovered from end-of-life vehicles. That leaves 20,000 tons of ASR.

THERMORECYCLING

ELECTRICITY AND DISTRICT HEATING

Since 1996 automobile shredder residue has been thermally recycled in waste incineration plants along with municipal solid waste. The organic fraction has a high calorific value and contributes to electrical and district heat production. The non-flammable fraction produces incineration slag and filter ash, from which additional metals can be obtained. The energy from 20,000 ASR can save 8,000,000 litres of heating oil!