

# Wood preparation in times of climate change

Stationary vs mobile shredders

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WOOD**





# Stationary vs mobile shredders

## Which shredder shreds waste wood, residual wood and dead wood more efficiently?

The effects of climate change mean that more and more wood types and bulky wastes are being processed. Stationary and mobile shredders play a crucial role here. But which shredder is better for the environment? And which shredder costs less per tonne of output material?

It's plain for all to see: Our Mother Earth is racked by coughs, wheezes and fever – and the main cause of her ills is humanity's CO2 emissions. The consequences are alarming – extreme weather events such as droughts, storms, floods and hail are not only occurring more frequently, their impacts are also becoming increasingly devastating.



# The results of one flood in Germany

## Waste wood processing in the Ahr valley

The flood disaster in the Ahr valley is a particularly tragic example. In June of 2021, the floods destroyed not only numerous houses and claimed human lives but also uprooted countless trees, resulting in thousands of tonnes of bulk waste and dead wood.



- By the end of December 2021, almost [300,000 tonnes of flood waste](#) had been registered by the Ahrweiler Waste Management Authority (AWB).
- By mid-October 2021, around 185,000 tonnes of bulk waste alone had been handed over to the Niederzissen Waste Management Centre (EEZ) located in the Ahr valley.
- Specialist companies were deployed for weeks to process [2,500 tonnes of bulk waste](#) and up to [500 tonnes of wood](#) per day, producing a valuable secondary raw material.



# Why shredders will play a vital role in the future

Overall, climate experts assume that average temperatures will continue to rise and extreme weather events will increase



*Floods caused by heavy rainfall, such as those in the Ahr valley and storms and droughts are forecast for Central Europe.*

As a result, there will be more and more waste wood, dead wood and bulky waste, which can be shredded and processed for material or thermal use.

Shredders play a crucial role here. In the waste and recycling industry, mobile and stationary models are both used to extract important secondary raw materials. The chipboard produced in Germany contains 30% recyclable wood, made available via the circular economy. When incinerated in biomass CHP (combined heat and power) plants, these high-calorific wood fractions can generate environmentally friendly electricity without producing additional greenhouse gases and also generate heat.

## Lower costs per tonne of output material?

The major challenge of waste wood processing is to fully exploit the potential of material and energy recycling and still operate sustainably. This requires shredders that deliver the highest possible quality and throughput with low operating and maintenance costs and energy consumption. In other words – shredders that cost less per tonne of output material.

The following questions arise when comparing whether mobile or stationary shredders have an advantage: Which shredder performs better if you consider the output-cost ratio with consistently good quality? Given the rising energy prices and new legislation on CO2 emissions, which machine is more efficient? And what about the environmental impact? Today more than ever, the focus is on reducing harmful climate impacts.



## Three reasons why stationary shredders are more efficient

### 1 | Low-emission drive

Stationary shredders use energy-efficient electric motors, which can be optionally fuelled with renewable energy. On the other hand, mobile shredders require diesel for their operation and transport. Diesel is not only becoming increasingly unecological but also increasingly uneconomical. In a single-shift process, diesel-powered shredders cause CO2 environmental pollution resulting from the incineration of more than 40,000 litres of diesel per year – which is why a CO2-neutral operation is simply impossible.

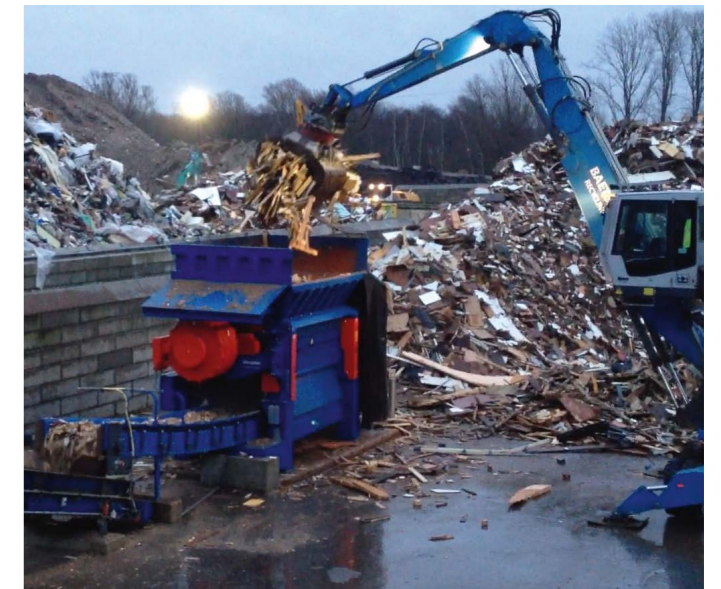
We should also remember that the state earns money with every litre of diesel consumed. Emissions such as noise and NOX are also often underestimated with diesel-powered machines.

### 2 | Higher energy efficiency

Electrically operated shredders achieve significantly higher energy efficiency, positively affecting the operating result. The keyword is efficiency: Hypothetically, 200 kWh are nominally usable for diesel (only 130 kWh net), while 220 kWh are nominally usable for an electric motor (190 kWh net).

### 3 | Lower costs

Thanks to the higher efficiency level, up to 30% of energy costs can be saved – at a comparable throughput rate. Added to this is the maintenance effort, which is significantly lower with the electric motor.



## Stationary shredders for sustainable processing success

Where energy recovery is the primary concern, efficient shredding and further material processing of the input material is the main route to processing success. Whether you opt for a stationary or mobile shredder for waste wood processing – what the better solution will ultimately be for you depends on your specific requirements.

When all parameters are considered, we at Vecoplan are convinced that stationary shredders are superior to mobile shredders in terms of energy and cost efficiency. This is why we have clearly positioned ourselves in favour of stationary shredders.



Are you faced with the decision of whether or not to invest in a stationary shredder? Then get in touch with us. We'll give you advice that will match your needs – perfectly: [wood@vecoplan.com](mailto:wood@vecoplan.com) | +49 2661 62 67 138



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