



Taking the lead
at the
Leudelange site.



eew

Energy from Waste

Welcome to EEW Energy from Waste!

Energy is essential to everyday life. Since the availability of fossil fuels is limited, the use of energy from waste is becoming increasingly important. As Germany's leading company in the production of environmentally friendly energy from thermal waste recovery, it is our mission to take the lead: With ultra-modern energy from waste plants. With state-of-the-art technology that meets the latest environmental standards. With highly qualified, dedicated employees. With good and constructive relationships with citizens, municipalities and companies. And, of course, with environmentally friendly energy from waste.



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1 tonne of waste = 600 KWh of electricity

Electricity from waste is an important resource. The calorific value of the material is comparable to that of brown coal, making it virtually predestined for energy generation.

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EEW Energy from Waste Leudelage. Built to serve the region.

Energy from waste plants are a special kind of high-quality power plant. They not only have to comply with very strict emission limits, they must also satisfy the highest technical demands, and are therefore continuously monitored and optimised. For around 30 years, the EEW Energy from Waste Group has been planning, building and operating thermal waste recovery plants that set standards across Europe. In the vicinity of our plants, which stand out for their low emissions, high efficiency and excellent workplace safety, new companies and thus new jobs are being created. At the same time, consumers and nearby industrial firms benefit from using the environmentally friendly energy that EEW generates.

In Luxembourg, waste management is administered by three syndicates: SIDEC, SIGRE and SIDOR. In Leudelage, since 2010 EEW has been operating the ultra-modern waste recovery facility we planned and built, which is owned by SIDOR. Here we produce 115,000 megawatt hours of electricity annually. This corresponds to the energy needs of around 33,000 households in the Grand Duchy.

But that is not all: We guarantee reliable waste management for the city of Luxembourg and 34 local municipalities. These communities supply the plant with around 120,000 tonnes of waste per year. Moreover, the plant treats a large share of the residual waste from the two syndicates SIDEC and SIGRE. In total, 165,000 tonnes of waste are converted into energy in a safe low-emission process. We are proud to take the lead here.

An overview of how the EEW Leudelage plant works.

1

Every week, several thousand tonnes of waste are transported to the energy from waste plant.

2

The fuel is collected and temporarily stored in the waste bunker, which has a capacity of around 7,500 tonnes. The air pressure here is kept slightly negative so that no emissions or odours can escape. Environmental protection is therefore integral right from the start.

3

The waste is mixed and continuously transferred into the feed hopper. From there, the waste enters the grate of the combustion line (boiler).

4

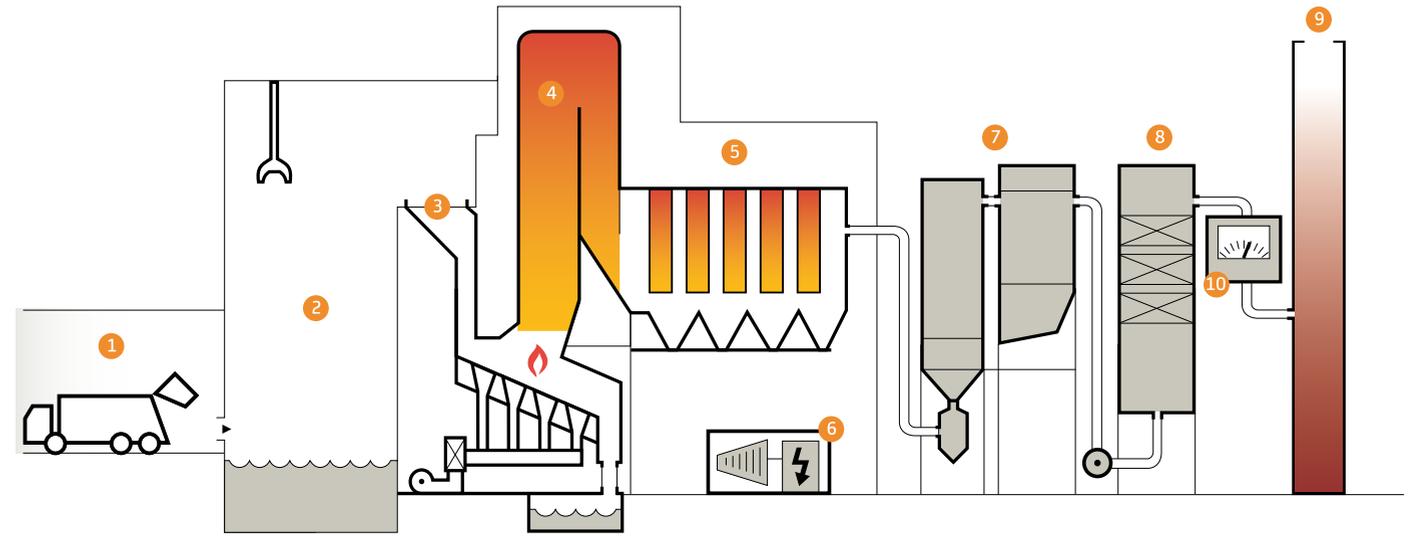
As waste self-combusts at the high temperatures in the boiler, no additional fossil fuels are required. Oil burners are only activated when the boiler is powered up or down in order to guarantee the minimum temperature of 850 °C. This high temperature is legally stipulated to ensure that pollutants are largely destroyed.

5

The thermal energy of the boiler produces nearly 77 tonnes of steam every hour. At a pressure of 40 bar and a temperature of 400 °C, the steam drives a turbine connected to a generator.

6

Approximately 115,000 megawatt hours of electrical energy are generated in this way.



7

The flue gases leave the boiler at a temperature of approximately 200 °C and then undergo several stages of flue gas cleaning. Sodium bicarbonate is injected into the turbo reactor to bind gaseous substances, while the addition of hearth furnace coke adsorbs heavy metals, dioxins and furans. The reagents and dust are deposited in the fabric filter.

8

In the catalytic converter, the addition of ammonia solution splits nitrogen oxides into environmentally neutral nitrogen and water.

9

The cleansed flue gas then leaves the 82 m high stack with the aid of an induced draught fan. What remains is bottom ash, fly ash and filter dust. The bottom ash is recovered and used for the construction of roads and landfills. Fly ash and filter dust are used as backfilling material in mines.

10

The plant easily complies with the strict statutory emission limits and in most cases is substantially below them. A measuring station at the stack continuously analyses and monitors the emissions.

Another interesting fact: The EEW Leudelange site produces no wastewater. Dirty water is captured and reused within the plant's system. The sanitary wastewater is treated in an on-site biological sewage treatment plant.



Andreas Karrenbauer, mechanical engineering,
EEW Energy from Waste Leudelage S.à r.l.

Technical data

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|----------------------------|--|
| Commissioning | 2010 |
| Total investment | € 100 million |
| Contractual capacity | 170,000 tonnes/year |
| Number of combustion lines | 1 |
| Waste bunker capacity | 13,000 cubic metres ≈ 7,500 tonnes |
| Calorific range of waste | 8 - 14 megajoules/kilograms |
| Electricity generation | 115,000 megawatt hours/year ≈ 33,000 households |



**Taking the lead
to ensure
clean air.**

We shrink the carbon footprint.

A benefit for the environment.

As waste contains 50 per cent biogenic substances on average, it is recognised that energy from waste plants produce energy from renewable sources pursuant to the Germany's Renewable Energy Sources Act (EEG) and thus contribute to reaching the climate targets in Germany and Europe.

Another area where we take the lead: The emissions from our waste recovery plant reliably comply with – and are sometimes substantially below – the strict limits established by the German Federal Immission Control Act.

This is documented by constant emissions monitoring and controlled by the supervisory authority.

Ideally, come and see for yourself during a tour of our plant. You will discover that at EEW Energy from Waste, we put waste to work for climate protection.



Our annual contribution to environmental protection:



Up to 170,000 tonnes
of waste recovered



115,000 megawatt hours of
electricity generated in an
environmentally friendly manner



Electricity produced in an
environmentally friendly manner
for 33,000 households



We tackle the future. And assume responsibility.

For more than 147 years, our expertise has been built on progress. Founded in 1873 as the coal mining firm Braunschweigische Kohlen-Bergwerke (BKB), the company soon also became an electricity producer and has evolved steadily to the present day. Having entered the waste treatment business in 1990, EEW Energy from Waste now has a great wealth of experience and expertise in environmentally friendly energy generation from thermal waste recovery. As the market leader in Germany, with our 17 plants here and in neighbouring countries we make a substantial contribution to conserving resources and reducing greenhouse gas emissions.

Our figures speak for themselves:

Our plants have an annual energy recovery capacity of more than 5.0 million tonnes of waste. We can thus produce around 2.5 million megawatt hours of electricity, more than 2.8 million megawatt hours of process steam and around 1.0 million megawatt hours of district heating. EEW's electricity output alone corresponds to the power required by around 720,000 households.** Our team of around 1,250 highly qualified, dedicated employees takes the lead by producing energy that benefits not only numerous companies but also hundreds of thousands of households and, most importantly, the environment.

References:

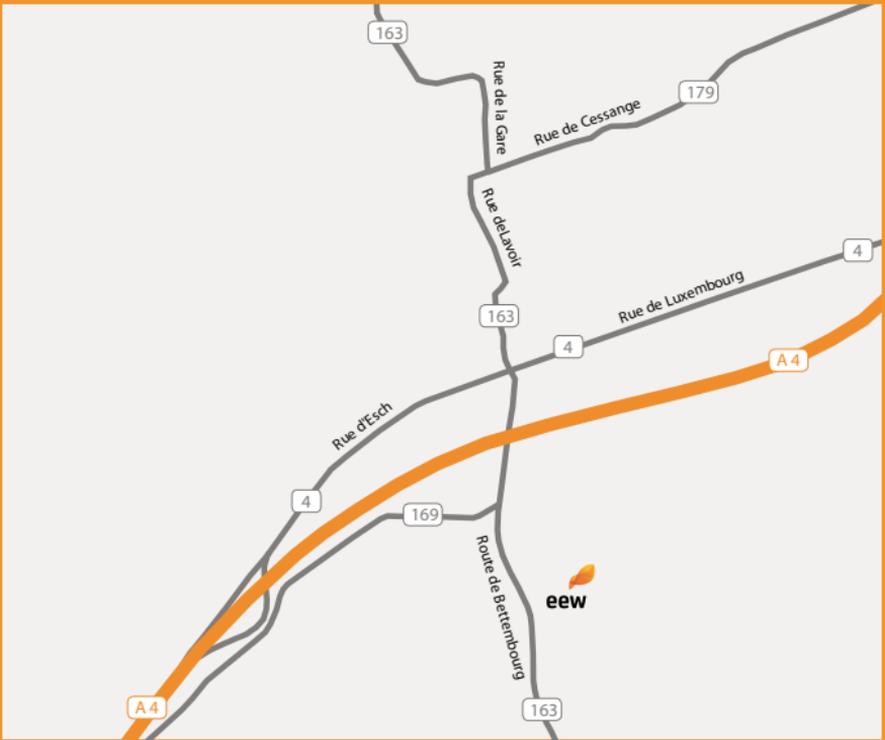
* Electricity, district heating and steam volume produced by 18 EEW Energy from Waste plants in 2020

** Assumed annual average consumption per household: 3,500 kWh



Rather than resting on our laurels, we continuously improve the processes and efficiency of our plants. Ultimately, we offer municipalities and companies pioneering waste recovery services that encompass everything from customised waste management concepts to waste acceptance and compliance with the statutory waste transfer documentation. We deliver outstanding performance and achieve a high level of acceptance among the general population and local residents.

This is how we take the lead. Together. For our future.



Would you like to find out more,
or visit the EEW site in Leudelage? Please get in touch!
You are very welcome! You can reach us at:

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