



Taking the lead
at the
Göppingen site.



eew

Energy from Waste

Welcome to EEW Energy from Waste!

Energy is the basis of our life. As fossil fuels are only available in limited quantities, using energy from waste as a resource is becoming increasingly important. As Germany's leading company in the production of environmentally friendly energy from the thermal utilisation of waste, it is our task to take the lead. With highly modern energy from waste plants that are state of the art technically and ecologically. With superbly qualified, dedicated employees. With good and effective 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 power

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

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EEW Energy from Waste Göppingen. Built out of responsibility for the region.

Energy from waste plants are a special kind of high-quality power plant. They not only have to meet the strictest requirements with regard to emission limits but also to satisfy the highest technical demands and are therefore continuously checked and optimised. For about 30 years, the EEW Energy from Waste Group has been planning, building and operating thermal waste recycling plants that set standards throughout Europe. New companies are being established and thus new jobs created near to the plants, which are characterised by low emissions, high efficiency and an exemplary health and safety record. At the same time, consumers and surrounding industrial companies are benefiting from the use of the energy generated in an environmentally friendly manner.

Göppingen, nestling in the wonderful countryside of the Swabian Alb, bears a particular responsibility towards this natural paradise. This makes it all the more important to recycle waste in a way that makes sense in energy terms. With this aim in mind, EEW's energy from waste plant in Göppingen which was fitted with a new boiler and highly modern flue gas cleansing system in 1998, produces 51,000 megawatt hours of district heat every year for the am Eichert Clinic, the residential area of Bergfeld and the nearby riot police as well as 88,000 megawatt hours of power. That corresponds to the energy needs of around 25,000 households in the region. In return, up to 157,700 tonnes of residual waste from the district of Göppingen and Baden-Württemberg are safely recycled with low emissions. For local energy and to protect the environment. That is something we are proud of.

An overview of how an EEW plant works.

1

Every day, around 600 tonnes of waste from the district of Göppingen and Baden-Württemberg are transported to the energy from waste plant.

2

The fuel is collected and placed in interim storage in the waste bunker which has a capacity of around 3,200 tonnes. A slight underpressure is maintained to ensure that no emissions or odours can escape. Environmental protection starts right there.

3

The crane driver mixes waste and transfers it continuously to the feed hopper from where it reaches the combustion grate for the combustion line (boiler).

4

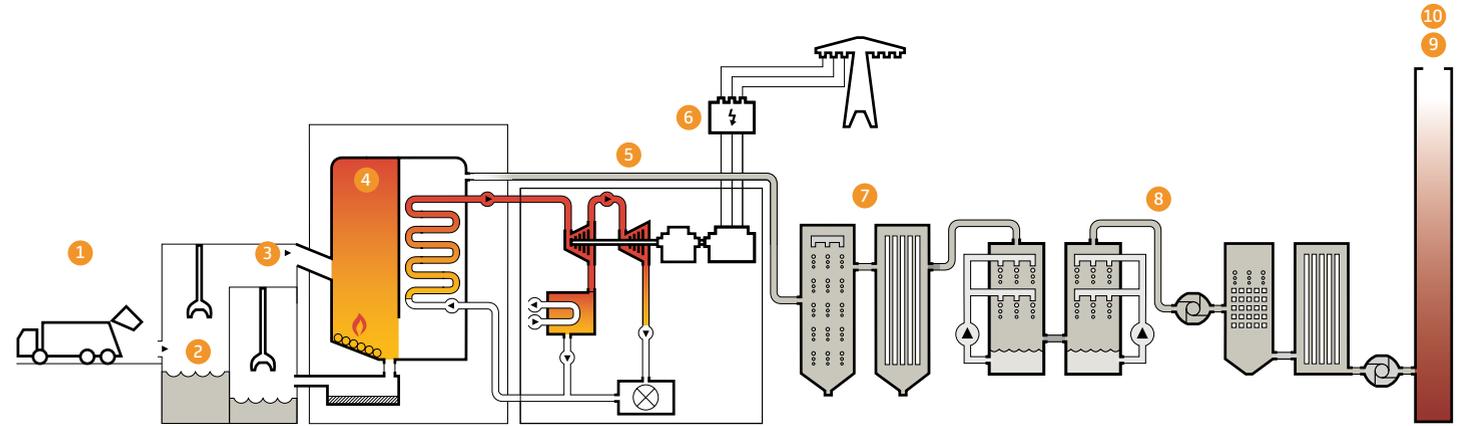
As waste self-combusts at the high temperatures in the boiler, no additional fossil fuels are required. Only when the boiler is powered up and powered down are oil burners switched on in order to guarantee the minimum temperature of 850 °C. This high temperature is required to ensure that pollutants are largely destroyed.

5

Around 64 tonnes of steam are generated every hour from the thermal energy of the boiler. With a pressure of 41 bar and a temperature of 410 °C the steam drives a turbine connected to a generator.

6

Approx. 88,000 megawatt hours of power and 51,000 megawatt hours of district heat are generated in this way every year.



7

With a temperature of approx. 230°C the flue gases leave the furnace and then undergo six stages of flue-gas cleansing. The flue gases are cooled down to 180 °C in the spray dryer, and the crystalline salts fall out. The subsequent bag filters cleanse the flue gases of dust.

8

The two-stage wet scrub binds gaseous substances with hydrated lime and removes hydrogen chloride and hydrogen fluoride, sulphur dioxide and heavy metals. The addition of ammonia water in the subsequent catalytic converter breaks the nitrogen oxides down into environmentally neutral nitrogen and water. The filter layer adsorber to which a mixture of lime and hydrated carbon is applied, acts as a so-called „police filter“ in removing any residual pollutants.

9

The clean gas then leaves the almost 100 m chimney, leaving behind bottom ash, flue ash and filtration dust. The bottom ash is recovered and used for road-building and landfill. Flue ash and filtration dust are used as backfilling material in mines.

10

The plant easily complies with the particularly strict statutory emission limits and in most cases is substantially below them. A measuring station before the chimney determines and monitors the emissions on a continuous basis. The results are transmitted directly to the responsible supervisory authorities.

It is also interesting to note that the EEW Göppingen location produces no waste water. Dirty water is captured and used for cooling purposes during flue gas cleansing. The same applies to rainwater occurring at our facility.



Raoul Ammenhäuser, Senior Electrical Engineer,
EEW Energy from Waste Göppingen GmbH

Technical data

Commissioning	1975
Commissioning replacement line	1998
Total investment	75 million euros
Capacity	157,700 tonnes/year
Number of combustion lines	1
Waste bunker capacity	6,400 cubic metres \approx 3,200 tonnes
Calorific range of waste	9 - 11 megajoules/kilograms
Combustion temperature	> 850 °C
Power generation	88,000 megawatt hours/year \approx 25,000 households
District heating generation	51,000 megawatt hours/year



**Taking the lead
for the air purity
requirement.**

We're improving the CO₂ balance.

A benefit for the environment.

Energy generation from waste is active environmental protection. With an average share of 50% biogenic substances in waste, it is recognised that energy from waste plants produce energy from renewable sources pursuant to the Renewable Energies Act (EEG) and thus help to achieve the climate goals in Germany and Europe.

Also exemplary: the emissions of our waste recycling plant easily comply with the strict statutory regulations of the Federal Immissions Control Act (Bundesimmissionsschutzverordnung) and are substantially below them in some cases. This is documented by the seamless emissions control by the supervisory authority.

Ideally, come and see for yourself and take a look in person by visiting our plant. You will discover that at EEW Energy from Waste, we give waste a job in climate protection.



Our annual environmental contribution.



Up to 157,700 tonnes
of recycled waste



88,000 megawatt hours
of environmentally friendly power



Power produced in an
environmentally friendly manner
for 25,000 households



51,000 megawatt hours
of district heat produced with
energy-saving technology



We tackle the future. And assume responsibility.

More than 145 years – that is how long our expertise has been built on progress. Founded in 1873 as Braunschweigische Kohlen-Bergwerke (BKB), the company was soon also operating as a power generator and has grown steadily to the present day. EEW Energy from Waste entered the waste combustion sector as early as 1990 and today is the most experienced company with the greatest expertise in the environmentally friendly generation of power from thermal waste recycling. As the market leader in Germany, we make a substantial contribution with 18 plants here and in neighbouring countries to resource management and to a reduction in greenhouse gas emissions.

Our figures speak for themselves:

Our plants have a yearly energy recycling capacity of around 4.7 million tonnes of waste. This means that we generate approx. 2.4 million megawatt hours of power and 2.6 million megawatt hours of process steam and 900,000 million megawatt hours of district heating.* The power volume produced by EEW alone corresponds to the electricity requirements of around 700,000 households.**

Around 1,150 highly qualified, dedicated employees are sending a clear signal with energy which provides a benefit not only to numerous companies, but also hundreds of thousands of households and particularly the environment.

References:

* Power, district heating and steam volume

produced by our currently 18 EEW Energy from Waste plants in 2017

** Assumed annual average requirements per household: 3,450 kWh



We are not resting on our laurels; instead, we are continuously improving the processes and the efficiency of our plants. Ultimately we offer municipalities and companies pioneering waste management that keeps an eye on every aspect: we offer customised waste disposal concepts, accept the waste and also take care of the statutory documentation procedure. With outstanding performance and equal 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 Göppingen?
You are very welcome! Simply contact us at:

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