

Talk and Trip Reports

KVA, Basel's Waste-Reprocessing Plant

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Centrepoint group with guide (Photo: Yana Mironova)

Have you ever wondered about those two red-and-white-painted chimneys protruding from the north side of Basel like giant candy sticks and how many calories they might contain? Quite a lot actually, because located here is Basel's energy centre, the KVA, (Kerichtsverwertungsanlage or waste reprocessing plant).

On 11th May, seventeen Centrepoint members spent an interesting afternoon here finding out how our rubbish ends up heating our houses.

Our guide, Franziska Siegrist, gave us a presentation on the history of the plant, how it works and some impressive numbers. For example, the first KVA in Basel was built in 1943 and of the 30 other KVAs in Switzerland, Basel's is the most efficient producing around 600 GWh of district heating every year.

Then, kitted out with hard hats, high-viz jackets, safety goggles and earpieces, we started our tour, following what happens to the rubbish we put out in the blue plastic BebbiSagg (taxed garbage bags) from start to finish.

Eight hundred tonnes of refuse are brought to the KVA in trucks every day from almost a million people and workplaces, road sweepings and public wastebins. The truckloads are weighed then the refuse is deposited in a huge bunker from where it is crane-lifted into one of two 25 metre-high furnaces. The crane-operator chooses the material-mix carefully for optimal burning. For example, confetti from the huge heap accumulated after Fasnacht must be fed

in gradually because it is, deliberately, a bad burner. Inside the furnace rubbish is burned every day, round-the-clock at 1100°C, stopping only for the occasional overhaul. We peered through a window into the inferno. We avoided being roasted alive only because it is amazingly well insulated.

Now, all this heat and smoke does not just go up the chimney. IWB (Industrielle Werke Basel), who owns the KVA, extracts all the value it can out of the burning waste. Water in pipes wrapped around the furnace turns into 400°C-high-pressure steam that drives turbines making electricity. Then, along with energy from the neighbouring woodchip-burning plants and four smaller heat-producing works, the steam goes through a 120-kilometre network of pipes, delivering district heating to Basel's inhabitants. By 2037, IWB will expand this network even more, meeting 80% of Basel's heating demands. The KVA also supplies steam to industry.

All that remains is slag, a fifth of the original volume, and flue gas. The slag is taken to Elbisgraben landfill in Baseland where metals are extracted before burial. Before releasing the flue gas it has to be stripped of all its toxins and particulates to comply with Switzerland's stringent environment laws. This cleansing is a multi-step process to remove dust, nitrogen oxides, dioxin, heavy metals, etc.

Our guide assured us that any toxins released from the chimney are well within the legal thresholds and virtually all that was left to go up the chimney was water

vapour. Carbon dioxide (CO₂) is not yet scrubbed out, she said, but they were looking into it, however, it wasn't so easy. Perhaps this is a reminder that our excesses can't just be magicked away.

For further information about Basel's waste-reprocessing plant and advice about recycling, read:

Energy & Recycling:

<https://www.iwb.ch/servicecenter/kehrichtverwertungsanlage/ueber-die-kva-basel>

Waste delivery:

<https://www.iwb.ch/servicecenter/kehrichtverwertungsanlage/abfallanlieferung>

Disposing of household waste:

<https://www.tiefbauamt.bs.ch/entsorgung-sauberkeit/abfallentsorgung.html>



KVA waste-burning plant (Photo: IWB)