Frequently Asked Questions on Waste-to-Energy

ZERO waste BRITISH COLUMBIA

What is Incineration or Waste to Energy?

These facilities treat garbage by using high temperatures. They may be called mass burn incinerators, thermal treatment facilities, or waste-to-energy plants, and involve processes such as combustion, pyrolysis, gasification, or plasma arc. Other names include advanced recycling, chemical recycling to fuel or refuse-derived fuel.

Aren't there newer and better forms of thermal treatment?

No, Incineration is direct burning in presence of oxygen while gasification is with limited oxygen and pyrolysis is in absence of oxygen. All require high temperatures to break down the materials, are very costly and release pollutants. Some require specific types of waste.

Is incineration a climate-friendly solution?

Most definitely not. The Metro Vancouver incinerator emits 1.28 tonnes of CO_2e for every tonne of waste (including the biogenic carbon); more than landfilling. Pursuing Zero Waste, on the other hand, reduces greenhouse gases (GHGs) from disposal and the upstream GHGs associated with producing, packaging and transporting new materials and goods.

Will incinerators make waste disappear?

For every five truckloads of waste burned, four truckloads are pumped into the atmosphere and one remains as toxic ash (bottom ash or fly ash), which still must be carefully stored or landfilled. It is very expensive to manage this ash properly. Landfills are still required.

Every atom going into the incinerator comes out -either in the ash or in the air, sometimes in the form of new chemicals, including dioxins, heavy metals, halogenated organic compounds, PFAS, microplastics and nanoparticles.

But isn't generating energy a good thing?

Even if energy is recovered, it is overshadowed by environmental harm and undermines Zero Waste actions. Incinerators produce more GHGs per unit electricity generated than other kinds of power including coal, gas and hydroelectric. Incinerators are the dirtiest way to generate energy.

What are the health and environmental impacts?

Incineration in all its forms creates incredibly toxic air and ash pollution. This includes pollutants such as particulate matter, sulphur dioxide and nitrogen oxides. The burning of plastics and other combustible materials creates very toxic dioxins and furans. These are extremely toxic substances that accumulate in the soil and in our bodies. Dioxins are extremely harmful even at very small levels, especially for nursing infants and toddlers. Heavy metals going in will also come out and include mercury, cadmium, lead and arsenic. These types of pollution can cause cancer or be endocrine disruptors.

Is waste incineration a clean and renewable energy source?

In fact, it is neither. Renewable energy is defined as energy created from natural processes that do not get depleted, such as wind, wave or solar energy. Municipal waste is non-renewable, consisting of discarded materials such as plastic, metal and glass that are derived from finite natural resources (plastics for example are made of fossil fuels) or in some cases, like paper, resources such as forests that are being cut down at unsustainable rates.

What is the alternative?

The top three materials in waste are compostable organics, plastic and paper: 80% of the materials could have been avoided, recycled or composted using current systems. A focus on Zero Waste, like reduction, reuse, repair, refill, recycling and composting, should be the priority for cost-effective and safer options that generate jobs and resilience while protecting the climate and the environment.

For a sustainable future, let's focus on reducing waste!
Join Our Campaign at www.zerowastebc.ca
info@zerowastebc.ca