
Advantages and disadvantages of different types of recycling

The incinerator is initially fired up with gas or other combustible material. The process is then sustained by the waste itself. Complete waste combustion requires a temperature of 850° c for at least two seconds but most plants raise it to higher temperatures to reduce organic substances containing chlorine. Flue gases are then sent to scrubbers which remove all dangerous chemicals from them. To reduce production of dioxin, cooling systems are implemented in the chimneys. Advantages: Cost - saves a lot of money on the transport of waste to landfills (reduces carbon footprint). The sheer reduction in the space required, which in urban areas can constitute a big saving. Waste management - incineration can burn up to 90% of the total waste generated in a chosen area. This means up to 90% of a landfill could be vacated after the waste is incinerated, therefore new landfill sites will not need to be found. This is particularly helpful in urban parts of a country where the waste generated is overwhelming. Community - landfills have never been a pretty site and also give rise to a lot of pests and insects. An incinerating plant will look like any other industrial structure.

Energy - waste to energy (wte) incinerating plants can produce electricity which can help to reduce costs. A 250 ton per day incinerator can produce 6.5 megawatts of electricity per day and this itself can save about \$3 million per year. Colder countries also use the heat from incinerators for heating locations near the plant. Pollution – all waste produced in the incineration is totally free of any environmental risk (if it is the incineration plan is correctly maintained). In fact, there are efforts to convert even this waste to other materials. Disadvantages: Cost - the high cost of building the infrastructure and running the incineration (addressed with the introduction of wte plants). The plants also require skilled personnel for operation and continuous maintenance. Affect on recycling - the need for huge waste to incinerate has led to the abandonment of other plans for recycling and reuse of waste. Pollution – dioxins can be formed if the smokestacks are not adequately maintained or cooled landfill: process: modern day landfills are much more advanced than the stereotypical "hole in the ground" landfill sites. The modern-day landfills have controlled gas outlets to control gas and pump gas to other places. Advantages: Energy – gas released from the anaerobic respiration of bacteria breaking down waste is collected and burned to produce electricity.

As well as this the water collected in the landfill can be run through water turbines to produce additional electricity to power nearby homes. Gas usage – methane produced by the landfill is being used by nasa to power space flight, this not only saves energy that would otherwise be used to produce the gas as well as giving the gas somewhere to go. Disadvantages: space -

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landfill sites require a lot of space. Although some types of landfill can be used for other purposes once finished such as golf courses, they still require land while in use and restrict possible future uses of the land. Gas emissions - organic materials, including paper and cardboard, decompose. The conditions of the landfill are such that the decomposition releases large quantities of dangerous gases, including methane, a potent greenhouse gas. The gas produced can contribute to air pollution and climate change. Soil pollution - chemicals can leak into the soil from the accumulation of waste, and may eventually end up in the water supply. Although hazardous wastes are supposed to go to purpose-built landfills, be incinerated or recycled, some inevitably ends up with general waste. Batteries contain hazardous chemicals such as lead and often end up with general trash, simply because householders are unaware of proper disposal methods. Recycling advantages: Environmentally friendly – recycling is an act that can heavily impact the deforestation problem on earth. Recycled paper products mean fewer trees that need to be cut down and processed. Saves resources - sooner or later, the earth is going to run out of raw materials. It might not be for a long while, but the concern is still there. By recycling, the need to gather and farm more perishable resources decreases so the resources we have can last longer.

Saves landfill space – space in landfills should be reserved for waste that cannot be recycled and so by recycling more of the waste the amount of space for those un-recyclables can be created. Disadvantages: Cost - there is both a high upfront cost and a high maintenance cost involved in recycling. Firstly, the large recycling plant must be built then maintained and secondly, skilled personnel must be employed to maintain the equipment. Safety - recycling plants contain tons of waste, some of which may be toxic, this can, in itself, causes pollution. Loss of quality – when materials are recycled into new products, the products will be of lower quality than if the items had been made from the fresh material. Re-using reuse is the action of using something again, either for its original purpose (conventional reuse) or for a different purpose (creative reuse or repurposing).

Advantages: Waste - reduced amount of waste, as replacing many single-use products with one reusable one reduces the number that needs to be manufactured, this also reduces cost and saves raw materials Employment - refurbishment may bring well-paid jobs to ledcs. Disadvantages Cost - reuse often requires cleaning or transport, which have environmental costs. Pollution - some items, such as freon appliances, older tvs, and secondhand cars can become hazardous with prolonged use. Increased material usage - reusable products need to be more durable than single-use products, and therefore more material is used per item.

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