

# THE HOSPITAL WASTE CRISIS IN LEBANON

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## Hospital waste in Lebanon – The problem

There are about 110 private hospitals in Lebanon, about 7 of these are substantial in size and in the amount of waste they produce. According to a research done in 1997 by Dr. Rita Karam Moawad of the Pharmacy School in the Lebanese University, total daily hospital waste production is of 45,846 kg, about 9,000 of which is hazardous.

About 14% of the hazardous wastes are burnt in hospital incinerators that pollute the air and surrounding soils. 14 of the surveyed hospitals (19%) have their own polluting incinerators. And a quarter of hazardous hospital waste (infected waste, sharp objects and expired medicines) are treated in the worst possible fashion: open-air incineration.

## The impact of waste incineration

Viruses like AIDS or hepatitis B are quickly destroyed once they leave the host organism. Without the presence of sharp objects, such as needles, these viruses are extremely unlikely to spread. Furthermore, pathological or infected waste amounts to only about 10% of total hospital waste.

While incineration is capable of destroying the bacteria and viruses, it forces on itself the additional burden of having to destroy the material on which the pathogens lie: paper, cardboard, plastic, glass and metal. It is in this process that acid gases are generated from the chlorinated organic plastics present (such as PVC), and toxic metals are liberated from the pigments and additives in the paper and plastic products as well as other miscellaneous items like batteries, discarded thermometers, etc. Highly toxic dioxins and furans are formed from any chlorine present in the waste.

Polyvinylchloride (PVC) plastics - the primary source of dioxins and furans - are replaceable by environmentally safe materials. Organochlorines – largely foreign to nature and in most cases difficult to degrade – are toxic and in many cases carcinogenic. They are the cause of many wildlife and human health problems such as reproductive problems, immune suppression and neuro-physical diseases. Dioxin is the most toxic organochlorine. It is a global contaminant and humans are exposed to it through the food chain, particularly through dairy, eggs, fish and meat.

Incinerators are today being proposed as the environmentally acceptable solution to the waste crisis of so-called developing countries. Scientific research however proves this to be nothing but a myth. Waste incineration is actually a seriously polluting technology.

Incineration is always a simple redistribution of the toxic matter, even if PVC and other organochlorines were phased out. The “better” the incinerator gets at protecting the air from these pollutants the more toxic the ash becomes. Ironically, incinerators require landfills in the ground because of the ash they produce. This ash is scientifically regarded as “hazardous waste”. Landfilling waste incinerator ash only transfers the problem and does not solve it at all. The toxic substances in landfills strike back in the form of leachate, a concentrated toxic fluid that will eventually leak from landfills into groundwater reservoirs. The best lining of “sanitary landfills”, such as high-density polyethylene (HDPE) plastic would crack after 10-20 years. Landfills are ecological time bombs.

In short: All incinerators give the illusion of “solving” a problem. But they create at least two new ones, toxic emissions in the atmosphere and toxic ash in the ground.

## **The environmentally sound solution**

Given the relatively low infectious content (about 10%), the first logical step in managing hospital waste must involve separating out infectious from non-infectious waste. The body parts and testing animals constitute no more than 1% of the total hospital waste pool, and careful cremation or burial are environmentally sound techniques of disposing of them.

Radioactive waste should be sealed in special isolating containers and stored above ground, to avoid leakage. For the remaining waste, hospitals should implement waste separation systems, substituting reusables (two-way) and durable products for disposables (one-way), and introducing recycling programs for plastics like PE and PP (not PVC!), paper and metal.

Finally, PVC, which is currently among the most widely used plastic in the health care field, must be phased out in all products. Alternatives to PVC exist for use in medical equipment. A hospital is an easy place to implement waste separation because almost everything in such a facility is regulated. Alternative treatment technologies are for example autoclaving and microwaving infectious waste.

## **The official rush to burn – pyromania?**

"Transfer of environmentally sound technologies to developing countries is essential to sustainable development," reads the United Nation's Agenda 21 in chapter 34 on Sustainable Development. The reality is, however, that industrialized countries still rely heavily on toxic, unsustainable industries. These industries have led to the current global environmental crisis. Under the guise of "transfer of environmentally-sound technology for sustainable development", the West's hazardous and unwanted technologies are now being exported. The embedding of waste incineration in the Mediterranean region would ensure a waste-generating industrial infrastructure, encourage waste trade and divert capital from waste prevention and recycling activities. This would postpone the introduction of clean production policies and hinder a sustainable future.

The negative trend today in developing countries is still to generate waste and build the technology to cope with the mountains of waste. Then the technology and laws are optimized so that the health hazard of the incineration technology is allegedly minimized. The developed, Western countries went this painful road by reacting to problems and trying to solve the symptoms. Mediterranean countries like Lebanon should learn from these mistakes.

Today, the Council for Development and Reconstruction (CDR) and the Ministry of Environment are pushing for the construction of a central hazardous hospital waste incinerator. Greenpeace vehemently opposes this. We welcome the efforts of the CDR and the ministries of environment and of health in their quest for a solution for hospital waste. Greenpeace urges them and the hospital owners to carefully consider the alternatives to incineration instead of blindly treading along the mistaken paths of the now-aware West.

Greenpeace appeals to the CDR and the ministries of health and environment to decree legislation for hospital waste management that eliminates incineration and advocates the use of the above-mentioned alternatives. Alternatives could be made more desirable for the hospitals with financial and fiscal incentives or rewards for using clean technologies, and with strict fiscal penalties for failing to meet environmental standards.

In addition, Greenpeace calls on the Order of Hospital Owners to enforce environmentally sound waste management policies on the member-hospitals. Hospitals are places where people are normally treated and cured. It is ironic that in Lebanon hospitals have become a source of pollution and disease. Greenpeace is ready to cooperate with all of the concerned to solve Lebanon's hospital waste crisis.