Why do we need to change?

- Because our approach in the past, and our current waste methods, has relied heavily on landfilling which will in future have to be reduced or may attract large fines.
- Because residents want us to increase the recovery of value from waste and it is wasteful to simply discard materials.
- Because waste per household is increasing, and also the number of households is increasing, meaning that there will be even more waste to deal with in future.
- Because we need to meet mandatory recycling, composting and landfill diversion targets.
- Because there are opportunities for local jobs to be created dealing with the recovered materials.
- Because the large capital investment (estimated of approximately $1B) needed to fund the development of the new waste management infrastructure by 2015 requires the procurement of a new long-term contract. Amending the existing landfill-based contract is neither practical nor permitted in law.

Introduction

Klean Industries Inc., in partnership with municipalities, provinces, and states has begun a radical process which will change the way in which waste is dealt with.

Instead of sending more than 80% of our municipal waste to landfill, which is a costly and unsustainable process, in future we will deal with it via an Integrated Waste Management (IWM) system. This will use a variety of methods, including the promotion of waste minimization; the expansion of both recycling and composting; and the recovery of energy from the unrecyclable portion, to divert waste from landfill and optimize resource efficiency.

What is Integrated Waste

An Integrated Waste Management system is a flexible, broad-based approach which uses a range of different methods and technologies to deal with the varied components of our waste.

The IWM approach focuses on getting value from as much waste as possible, by recycling, composting and energy recovery, at the same time as reducing final disposal to a minimum. This approach makes best use of resources, offers potential for income from sales of materials and energy, and is more sustainable than landfill.
Tradable Allowances in the UK

Another driver for change in managing waste in future is the UK Government’s new system of tradable allowances which took effect in April 2005.

Known as the Landfill Allowances Trading Scheme (LATS), this is being introduced as a means of complying with the targets in the EU Landfill Directive (see previous page) and relates to the biodegradable portion of municipal waste, which is around 68% of typical waste.

All English waste disposal authorities have been allocated annual landfill tonnage allowances based on their current rate of disposal to landfill. These allowances will be reduced each year, to encourage greater diversion from landfill.

For UK, the permitted landfill levels are shown in the figure below, against the expected performance of the existing landfill contract if the IWM is not implemented.

Any authorities which landfill greater quantities than their allowances will be fined, at a rate of £200 per tonne. Surplus allowances can be bought or sold, at a rate still to be determined and although MOE estimates suggest £40-60 per tonne, many fear this will be much higher. Alternatively, authorities can ‘bank’ their spare allowances against future need - and this could mean that there will be few surplus allowances available for purchase, and the price will be correspondingly higher - in the extreme case approaching £200/tonne. It is crucial that UK does not exceed its permitted capacity and incur costly fines.

Those fines would not simply be for the amounts sent to landfill which exceeded the permitted allowances, but could also be a proportion of any fines imposed on the UK by the EU for failing to meet the Landfill Directive targets.

This could mean that failing councils would be responsible for their share of fines of £500,000 a day until the Directive’s targets are met.

EU Landfill Directive targets to divert biodegradable municipal waste from landfill:

Based on the amount land filled in 1995, as a nation we will be required to reduce waste going to landfill by:

- 25% by 2010
- 50% by 2013
- 65% by 2020

UK Government national targets:

- 25% recycling/composting and 40% recovery by 2005
- 30% recycling/composting and 45% recovery by 2010
- 33% recycling/composting and 67% recovery by 2015

“Any authorities which landfill greater quantities than their allowances will be fined, at a rate of £200 per tonne.”
Are Jail Sentences ahead for Polluters?

Brussels, Belgium - Under plans announced by the European Commission, environmental offenses would be dealt with by criminal rather than civil courts, meaning those found guilty of dumping toxic and nuclear waste or trading illegally harvested timber or endangered animals could be imprisoned.

Emission of hazardous substances into the air, water or soil would also be treated as criminal acts.

The E.C. proposals include appropriate sentences for various offences and argue that a prison sentence is a much more effective disincentive than administrative sanctions such as fines or restrictions on future operation.

Member states would have to ensure that particularly serious environmental crimes are punishable by a maximum of at least five years imprisonment and fines for companies of at least 750,000 Euro.

These cases would include crimes that have resulted in death or serious injury of a person or a substantial damage to air, soil, water, animals or plants or when the offence has been committed by a criminal organization.

The sanctions would also be expected to allow courts to permanently shut down companies or force offenders to clean-up any damage they have caused.

Environment Commissioner Stavros Dimas said, "The recent hazardous waste disaster in the Ivory Coast shows how environmental crimes can have devastating effects on people and the environment. It also underlines once again how urgent it is to improve the way environmental legislation is enforced in order to avoid such incidents."

The proposals are likely to face fierce resistance when they come before the Council of Ministers, as criminal law tends to be an area where individual states are keen to maintain their sovereignty.

The commission will be pushing for their acceptance, however, as it argues that parts of the E.U. where regulation and enforcement are relatively weak are being exploited by the unscrupulous and that has implications for both human health and the environment throughout the union.

"The proposed directive is crucial to avoid criminals profiting from the existing discrepancies in Member States' criminal law systems which damage the European environment," said Franco Frattini, the Commission's Vice-President responsible for Justice, Freedom and Security. "We cannot allow safe-havens of environmental crime inside the E.U."

"Serious environmental crimes are punishable by a maximum of at least five years imprisonment and fines for companies of at least €750,000 Euro."

A man rowing through a river of waste plastics.
We value these friendships and it makes the challenges more fun.

Below is just a few of the projects we are involved in.

- Custom design of a 144tpd plastic liquefaction system.
- EPC 50tpd integrated tire recycling project.
- EPC 100tpd integrated tire recycling project.
- Design 30tpd tire carbonization project.
- Custom design 200tpd tire carbonization project.
- Custom Design 700tpd MSW recycling project.

Klean Industries is an environmental solutions company headquartered in Vancouver, Canada. Klean Industries is committed to solving waste management problems large and small in an economically meaningful and environmentally responsible manner with a focus on two significant waste streams, petroleum based waste (specifically plastics and scrap tires) and organic waste.

Our services include the engineering, procurement, construction, start-up, and operator training for all our facilities. We are committed to meet and exceed the expectations of our customers regardless of the size or project location.

Klean Industries manufactures and distributes a number of proprietary thermal conversion technologies, all of which are environmentally safe, low-cost and commercially viable, allowing Klean Industries to create a unique convergence between waste recycling and renewable energy.