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Welcome...



...to our third manifesto, which is dedicated to supporting our vision for sustainable cities. With more people than ever living in urban areas, the need for sustainable cities is no longer a dream - it's a necessity. In this manifesto we'll explain the issues that affect the recycling and waste industry and the steps that need to be taken to ensure that our cities have a greener, cleaner future.

As the UK's population continues to grow, it's vital that we all find a more sustainable way of dealing with waste that answers all the economic, environmental and social issues. Veolia Environmental Services is already making a valuable contribution, providing a benchmark for better resource management.

But we're living in difficult economic times. Faced with austerity it's all too easy to concentrate on reducing costs and abandoning improvements that will benefit the environment. That's why it's more important than ever that we use our experience to lead the direction of the waste management sector.

The revised Waste Framework Directive has now been in place for over a year. It's time to get down to making the legislation work for industry and society alike. It means facing up to the problems of infrastructure and planning, but also making informed choices about the methods and technologies we use to make our cities more sustainable.

This third waste manifesto presents an opportunity for us to share our thoughts on UK waste and resources management policy today. We believe that by tackling the issues transparently and robustly, we can guide industry as it moves towards a recycling society. So we can all look forward to a more sustainable future.

Over half the world's population now lives in cities, a figure that is set to rise to 70% by 2050.



About Veolia Environmental Services



Veolia Environmental Services is the UK's leading recycling and waste management company. We employ over 12,000 dedicated staff serving local authorities, business and industry all across the country. We began working here more than 20 years ago and are the sector's only full-range service provider.

Environmental responsibility, social well-being and sustainable development aren't just a corporate mantra; they're at the heart of all our thinking. They help us to change people's attitude to waste so we can transform it into a precious resource.

We focus our expertise on **three areas**:



People

We're committed to being a good neighbour in the communities where we work. That means recognising the wishes of residents by making a positive impact on our local environment, supporting communities and developing a wide range of employment opportunities.



Planet

We're passionate about the technology and innovation that is driving the future of our industry. By using fewer natural resources, protecting biodiversity and reducing our own emissions we are demonstrating environmental leadership.



Performance

We focus on sustainable solutions that make sound business sense. Working closely with our partners in the public and private sectors we are supporting the further expansion of the green economy and helping reduce the UK's carbon footprint.

We support well thought out legislation and strict regulation that protects people and our planet.





Putting our values into practice

As the waste management sector moves towards resource management, lifecycle thinking will drive the important industry decisions.

We support well thought out legislation and strict regulation that protects people and our planet. In fact we're rapidly moving away from disposal and hold a far more modest landfill portfolio than many of our competitors.

What is the best treatment?

We don't favour any particular type of technology. What we do favour is the best practical solution for the local situation, both environmentally and economically.

We handle waste in all sorts of ways as part of our full-range service from segregation and recycling to composting, energy recovery and treating hazardous waste. We believe all these concepts and treatments are needed to solve the problem of waste in our communities and provide the right facilities for local authorities and business.



On the following pages you'll find our views on **seven key issues** that are shaping the waste and resource recovery sector.

Food waste collection and processing



The situation

It is estimated that we throw away over 7 million tonnes of food in the UK each year. Now more and more food waste is being collected for treatment, something we have championed for a long time.

Collected separately, organic food waste can be transformed into energy and compost or fertiliser. Those of us with gardens can help by doing our own home composting, but as more people choose to live in cities, that's not an option for everyone. And if nothing is done to capture it, that food waste will go to landfill where it will decompose and produce methane; a greenhouse gas that's 25 times more potent than CO₂.



Where do you stand?

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**7 million tonnes
of food waste
is thrown away
in the UK
each year.**

But it can't all
be avoided.
So let's put
those tea bags,
banana skins
and apple cores
to good use.

Where we **Stand.**



At Veolia we believe that collecting food waste should be part of every city's waste management mix. Firstly, it generates **value from organic waste**. Secondly, food has a high moisture content and smells when it decomposes. Separating it from other waste helps to **increase the potential to recycle more dry materials**.

Preventing waste should be the first priority. However, when food waste is collected separately, we believe it should always be treated responsibly. That means in-vessel composting or processing it through an anaerobic digester. The AD process breaks down the biodegradable material to release energy in the form of biogas, which can be used as a renewable fuel. It also produces a nutrient-rich matter (digestate) that can be used as a soil conditioner. For these reasons, anaerobic digestion should be encouraged.

But make no mistake; as a 'one size fits all' solution, anaerobic digestion doesn't deliver a comprehensive waste management solution for sustainable cities.

Where compost or digestate is applied to land, it's imperative that the material has been treated properly. What's more, it should only originate from collections that are separated at source to avoid contaminating our soil bank.

All Veolia Environmental Services' organic sites comply with PAS100 and the ABPR Regulations.



Mixed material (co-mingled) collections



The situation

In March 2011, the revised Waste Framework Directive was adopted into UK law. It set out the legal position on how waste should be collected, transported, recovered and disposed of throughout Europe and the UK. One of the provisions requires paper, metal, plastic and glass to be collected separately by 2015. It caused much debate in the industry and cast doubt on the merits of placing 'co-mingled' dry waste in the same collection bin.

Following EU guidance, the dilemma has now been resolved; they may still be collected together as long as it does not adversely affect the quality of the materials that are to be recycled.

In terms of their final destination, some reprocessor lobby groups have suggested that exporting recyclates is problematic. Export of materials which are 'fit for purpose' are an important part of the recycling chain, even more so given the lack of UK capacity for some materials. This is part of the global trading of materials that benefits the UK economy and is more sustainable than other practices. It also underpins the value of the recycling market that creates important revenue for local authorities, something which often pays for the recycling service.



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The myth is that we must always collect 100% pure material streams.

But even newspapers have staples and inks. In reality it's unnecessary and often wastes taxpayers' money.

Where we Stand.



We have **international experience** in this field. We've been pioneers in recycling collection for many years, encouraging people to reduce their waste through our contracts with local authorities and businesses. **Experience** tells us that the most **effective way to collect waste** that can be recycled, particularly in towns and cities, is via a single container for paper, plastics and metals and a separate glass collection.* The different materials can then be separated in a Materials Recovery Facility (MRF).

Advances in affordable sorting technology mean that co-mingled collections now present the best recycling solution. Waste can be separated efficiently and accurately without cross-contamination. It's also the system that most households prefer - and the more people that recycle, the more materials we can capture for recycling.

The greatest stumbling block has been the myth that we need to collect pure material streams, such as 100% paper, to support a sustainable economy. But in reality 'recycling' happens at every stage in the process; at the household, on collection, during sorting and finally at the paper mill.

The final processing technologies differ, but they are tolerant of incidental contamination in the material streams and designed to deal with it. This is the most efficient way to globally manage recycling.

As we move towards recycling rates of 50-60%, we'll need to capture more waste material than ever before. By far the best way to achieve that is by co-mingled collections.

*Some local authorities do insist on including glass due to costs.



Mixed plastics collections



The situation

When it comes to recycling plastics, some collections have been restricted to plastic bottles. But what about all those other plastic items like cartons, yoghurt pots, food trays and product packaging? What happens to all that plastic? Until now, these other 'mixed plastics' were disposed of as waste. But with the need to increase recycling rates and make plastic recycling less confusing, collecting mixed plastics is becoming more and more popular.



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If every Council in the UK adopted mixed plastic recycling we could save over 300,000 tonnes of CO₂ emissions per year.

It's not just fizzy drink bottles that produce gas!

Material Recovery Facilities for sorting the plastics are essential for any sustainable city.



Where we Stand.

We firmly believe that **collecting mixed plastics is the only way forward**. Converting the plastic that we recover into new products makes a major contribution to helping limit climate change, conserving resources and **reducing our impact on the environment**.



The challenge with recycling plastic products is that they take up more room in the recycling bin than other materials of the same weight. But that shouldn't be an excuse for not trying to recycle as much plastic as possible. It simply means that collecting mixed plastics needs to be pre-planned to make sure there is enough room in the waste vehicles.

The right infrastructure must also be in place to sort the plastics into their respective polymers, a task that simply isn't practical for households. Material Recovery Facilities for sorting the plastics are essential for any sustainable city, regardless of whether the plastic is collected via multi-containers, co-mingled systems or sorted at the kerbside.

The reality is that in the UK the quantity of plastic being recycled is relatively low due to the lack of suitable recycling facilities. At Veolia, we know investment in key infrastructure brings clear and tangible social, environmental and economic benefits. We are investing in the very latest plastic recycling technology to handle the huge variety of plastics in increasing quantities.

We want to widen our input specifications for clients, but the message on what can go in the bin will become more complex as not everything can be reprocessed. Ultimately packaging will also change over time so we are future proofing our treatment solutions for our customers. Our objective is to go down the value chain to achieve End of Waste for clean materials.

Management of Hazardous Waste



The situation

The revised Waste Framework Directive puts the Waste Management Hierarchy at the heart of responsible management.

This means that all waste, including hazardous waste, must be dealt with in the right order of priorities. Even after every other option has been explored, sending hazardous waste to landfill is seriously restricted by the Landfill Directive. What's more, waste can only be accepted at landfill if it meets the EU regulations on Waste Acceptance Criteria (WAC)*.

The EU granted the UK partial derogations from the limits on hazardous waste treatment and WAC. These derogations apply to regulations that couldn't be met because the infrastructure wasn't in place to process the waste in the right way when the law was introduced. Although the derogations were only expected to last for a limited period, WAC limits that were relaxed in 2003 are still permitted today.

* This is a set of tests that mean the waste is suitable for the Landfill design, in order to protect the environment and health.



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Relying on dilution is a backwards step for hazardous waste management.

We think it's time to raise the bar.

Where we Stand.



We applaud the idea of a **waste hierarchy** for all waste – including hazardous materials. However, while the hierarchy is a good indicator of **environmental performance**, we don't believe it goes far enough. For example, it doesn't take into account the **characteristics of a waste stream**, the level of contamination in the waste or the technology used to treat it.

Our position is that hazardous waste should be treated to remove the hazard, or place it beyond harm. We're also opposed to dilution in the treatment of hazardous waste.

In our view, supporting new 'recycling' techniques that rely on dilution is a huge backwards step for hazardous waste management in the UK. It's certainly counter to the DEFRA strategy, which promotes 'raising the bar', something we support 100%.

That's why it's absolutely critical that the waste hierarchy is used in combination with lifecycle thinking to ensure the best environmental option is chosen. This position is a requirement of the revised Waste Framework Directive and is supported by DEFRA's strategy for hazardous waste.¹

We welcome the eventual removal of derogations. Ultimately, it will result in new treatment technologies and management techniques that will improve the environmental performance of hazardous waste management. But without a timeline and clear plan, current practices simply won't change. What's more, investing in the technology that will make our cities sustainable will be considered too risky while the derogations remain in place.

Leniency is not an option for sustainable cities. We need tighter controls to ensure that facilities are not permitted to accept waste that will only be diluted through the treatment process, without removing the associated hazards. It's a principle we believe should be enforced consistently and with clear timelines for full regulation. Lifecycle thinking must also track any contaminants through the entire life of the material to determine their ultimate fate.

¹A Strategy for Hazardous Waste Management in England DEFRA, March 2010



Energy efficiency and the recovery status of incineration



The situation

Just how efficient are Energy Recovery Facilities (ERFs)? It's a question that can sometimes be difficult to answer, simply because of the way that energy efficiency is expressed. That's because the engineering terms that are applied to this field are often contradictory.

Typical fossil fuel power stations achieve around 30-35% efficiency. This may sound like a low percentage, but it's limited by the physical laws that govern the steam cycle, which is how we recover energy. Municipal waste that can't be recycled has an energy value of around one third that of coal and an ERF efficiency is limited to around 25-30%.

So have ERFs reached their energy efficiency limits? ERF technology has not stood still and innovation in materials and technology means they're constantly improving. What's more, ERF plants can improve their thermal efficiency by connecting to a district heating system, utilising some of the steam to heat the sustainable cities or businesses of the future, rather than just generating electricity.



Where do you stand?

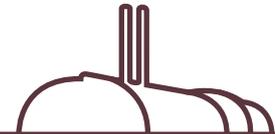
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If we can't understand the energy efficiency figures, the general public has no chance.

Where we Stand.



We believe that **achieving R1 Recovery Status** is essential. All our UK facilities meet or exceed the R1 standard and are designated as Recovery facilities.

The irony is that many so called Advanced Thermal Treatments (ATTs) enjoy significant state subsidies, yet are unable to achieve these same high energy efficiencies. We feel this is unfair as it constitutes rewarding disposal instead of recovery, an anomaly in policy that the Government should address as soon as possible.

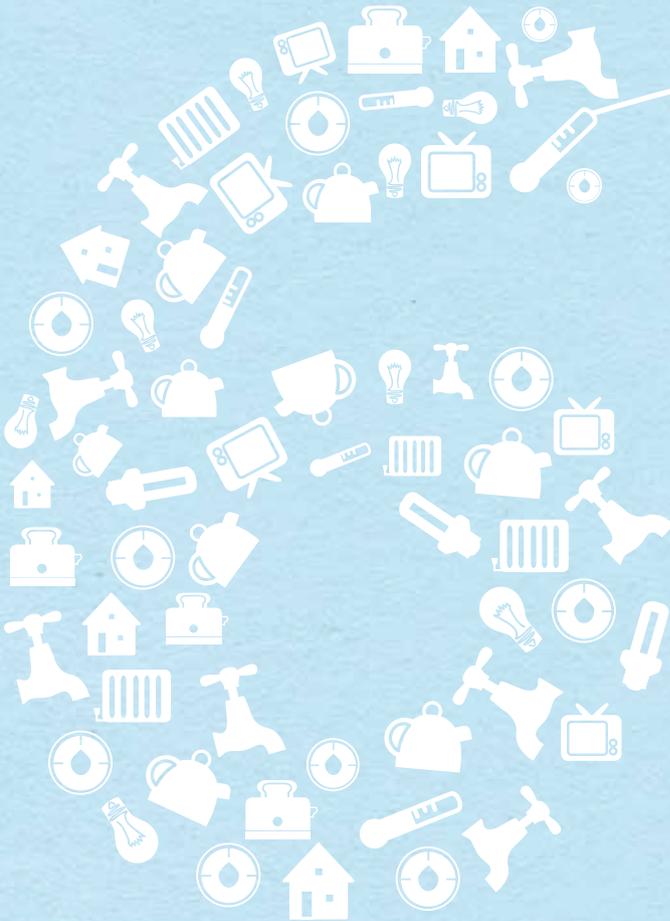
Our stance is that using thermal treatment plants for the disposal of waste must be actively discouraged. We would also urge the Government to consider introducing a tax on this disposal method to encourage better alternatives and reward recovery processes.

Combined Heat and Power solutions also present a far more energy-efficient solution for the sustainable cities of the future. We also operate one of the most extensive district heating schemes in the UK in Sheffield and are preparing to develop a significant scheme in London.

What's more, we have plans at each of our ERFs to provide heating schemes wherever they are viable, and to underpin new, local sustainable businesses. It's initiatives like ours that will contribute most to sustainable city planning and enhance the appeal of our cities in the future.



Renewable energy and district heating



The situation

Since its introduction in 2002, the Renewables Obligation has had some success in encouraging renewable energy in the UK. However, it's clear that it has suited wind, solar and wave energy solutions best. To meet EU and national targets, we need to generate considerably more renewable energy - and the means to make it happen must be cost effective.

Transforming waste fuel sources into energy provides a valuable resource that is recognised by Government as being low carbon. In fact, 50 - 60% of household waste is biomass, a renewable fuel that also produces lower emissions of pollutants per kWh than most fossil fuels. Energy from waste can make a significant contribution to renewable energy generation. It has the potential to contribute up to 10% of renewable electricity supplies – about 3% of our total electricity demand. What's more, it doesn't suffer from the sustainability issues associated with traditional biomass, such as ring-fencing agricultural land to grow fuel crops.



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Renewable subsidies will not deliver district heating to meet the UK's needs.

We need a system that pays for the pipes.

Despite all that, energy produced from waste only receives renewable energy incentives if thermal treatment technology such as gasification or pyrolysis are used (or if the facility is connected to a district heating or similar Combined Heat and Power (CHP) scheme). Even then, the heating scheme must qualify as Good Quality CHP, which reduces the incentive to generate heat beyond a certain point.

To put it simply, the subsidy is applied to the electricity that is generated, depending on how much heat is diverted away from the generation of electricity, which is somewhat counterproductive. The complexity of the rules means that, in effect, there is little incentive to use the waste heat.

The new Renewable Heat Incentive (RHI) does partly address this, applying directly to the heat used. However, the subsidy level is not sufficient to encourage significant growth in the UK's district heating capacity.



Where we Stand.



Although the **new RHI scheme** has some merit, in its current form it won't radically transform district heating on the scale demanded by **sustainable cities**.

The RHI was devised to encourage the use of heat from renewable sources. The trouble is, it only really subsidises the cost of capturing and exporting the waste heat. The scheme does nothing to help with the investment in urban piping infrastructure that will be required if district heating is to be expanded.

We believe that renewable energy must be actively encouraged, regardless of the technology behind it and based on efficiency. We'd also like to see the heat incentives reframed to finance the development of piping infrastructure.

In our opinion, the Government should also apply a similar scheme to the capture of waste heat – a resource that is currently just released into the atmosphere.

Whether this is from a renewable source or otherwise, it will lead to a further reduction in energy use for sustainable cities, without the need for any major new infrastructure.

The End of Waste criteria



The situation

When is waste no longer waste? When it becomes a product or secondary raw material. That's the principle behind the End of Waste criteria developed under the revised Waste Framework Directive. Article 6 states that: "certain specified waste shall cease to be waste when it has undergone a recovery operation and complies with specific criteria to be developed in line with certain legal conditions, in particular that there is an existing market or demand for the material, the use is lawful, and the use will not lead to environmental or human health being negatively impacted."

When the Directive was produced, it was thought that aggregates, paper, glass, metals, tyres, commercial/industrial wastes, some ashes and slags, scrap metal, compost and textiles could all become non-wastes, if properly treated. It also allowed EU member states to set their own criteria for defining when a material has reached an End of Waste condition.

As far as the UK is concerned, waste can only become non-waste if it meets a Quality Protocol for the specific waste in question that has been approved by the Environment Agency. Whilst there are currently only a limited number of these Protocols, more are expected to be introduced. Materials and substances that are deemed to be no longer waste must still comply with the REACH (Registration, Evaluation, Authorisation & Restriction of Chemicals) regulations to ensure the maximum protection of the environment*.



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The end of waste can be the beginning of life for a valuable raw material.

But not at any cost.

Where we Stand.

In principle we are **fully behind the End of Waste** movement, with the caveat that it mustn't be used as a deregulatory tool.



The intention of End of Waste was to remove the burden of legislation for safe, high-quality waste materials. We firmly believe that legislation is the friend of the waste industry; a means to guarantee the environmental integrity of all the waste that we recycle and the people who treat and handle it.

We accept that Quality Protocols should be developed for streams of waste that are clearly non-hazardous and are safe to use without the controls set out in waste regulations. We would also insist that, despite processing, it's imperative that hazardous waste and any solid fuels that are recovered remain as waste. That's because there will always be uncertainty about what they contain. If allowed to pass through the system as end of waste, it could lead to uncontrolled pollution of the environment.

If a material is considered for End of Waste status, our view is that the criteria set within the Quality Protocol must be absolutely clear and rigorously applied. We believe that a Quality Protocol should control the materials used, set constraints on how it is processed, control the final quality of materials produced and its end destination. A good example is PAS100 for compost, which realises all these objectives and has now established compost from biowaste as a high quality product.

End of Waste must never be a means of obtaining a cheap source of high quality raw material at an unacceptable cost to the planet. That's simply not the way to develop a green economy in the sustainable cities of the future.

* This doesn't apply to compost which is exempt from REACH since it is considered a 'natural' material. Despite this, a clear and robust Quality Protocol and PAS has been deployed for this material to ensure the environment is protected.



Our vision for the future

Veolia Environmental Services began delivering waste management, resource recovery and treatment services in the UK in 1990. Since then, the legislative, commercial and environmental landscape has changed dramatically. What began as a desire to seek the most cost-effective solution via landfill has become a far more complex, subtle and demanding set of issues.

Great moves have been made to deliver the infrastructure required to treat the country's waste. Veolia has been at the forefront of this, delivering integrated waste management solutions via the PFI programme and other public-private partnerships.

But the work is far from over. Much remains to be done if we are to deliver our vision of sustainable urban development that can control the environmental impact of cities and enhance urban life.

For example following the effective demise of National Indicator 192, we would like to agree with Government a clear definition of levels of recycling, treatment and diversion performance. We also need to maximise prevention, reuse, upcycling and downcycling or any diversion from landfill which effectively leads to zero waste.

The ultimate goal means delivering recycling, recovery and treatment infrastructure to suit today's waste and tomorrow's material streams – solutions for local authorities, industry and business. The next great challenge will be to provide innovative, yet affordable, waste solutions for small and medium sized enterprises.

We hope that we've made our position clear on the pressing issues affecting the waste industry today. As with all our manifestos, our intention is to offer frank and honest insights to guide the industry in making informed decisions on the future of waste and its place in a sustainable city.



The next great challenge will be to provide innovative, yet affordable, waste solutions for small and medium sized enterprises.



In conclusion



One size doesn't fit all – each waste stream or project demands a tailor-made solution.

Recycling and recovery go hand in hand; one should not prejudice the other. The higher the levels of recycling achieved in an area, the more important it is to recover high levels of materials from that waste.

And finally, the most important point of all. We believe by working in partnership with our local authority and commercial clients and extended stakeholders, we can help deliver best practise that will benefit sustainable cities.

Veolia Environmental Services doesn't favour any one technology. Our collection and treatment solutions are designed to achieve maximum recovery and recycling. They must also be capable of achieving the performance and availability levels demanded by our clients.

Veolia's mission is to deliver the future now, taking bold decisions to provide a well-balanced and sensitive waste management strategy. We believe that we can provide an antidote to the environmental impacts created by the global economy, and that together we can create a more sustainable world.

If you'd like to share your comments on waste management or have any questions regarding our manifesto we'd be pleased to hear from you.

Contact us at: manifesto@veolia.co.uk

Or join the debate at: www.veolia.co.uk/manifesto



