

DELIVERING A

SMART WORLD

| Creative solutions for our environment

◉ TODAY'S CHALLENGES

Today, we're experiencing some of the most significant environmental challenges we've ever faced, from rapid urbanisation to scarcity of natural resources, and climate change.

Smarter ways of working will be the future for businesses, local authorities and residents alike. Because it's only by optimising our use of resources that we can create a sustainable future for people in the UK.

When it comes to managing utilities and resources, Veolia Environnement is the only company in the UK that work across the whole spectrum of environmental services – a unique service that we're proud to be able to provide.

We're at the forefront of technology, creating innovative solutions that optimise performance, guarantee compliance and ensure peace of mind.

We have many years of proven experience with customers as diverse as steel manufacturers, salad factories, private businesses and pharmaceutical companies – throughout the UK and around the world.

We can make a difference to you too.

Our unique expertise, technological capabilities and group synergies will help you to create smart ways of meeting today's challenges.

By combining our strengths with yours, we can work in harmony, maximising our use of precious resources and reducing the impact we all have on our planet.

**Together, we can create
a smarter world.**

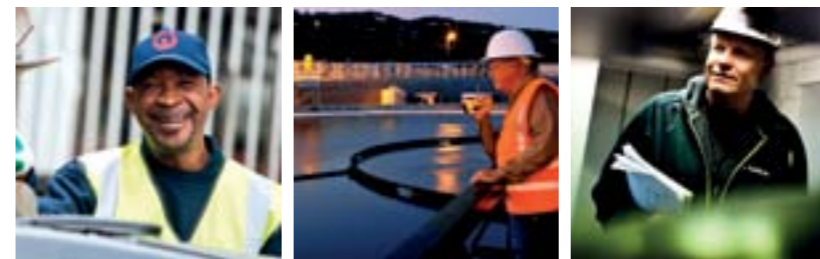
ENERGY

WATER

WASTE

A SMARTER WORLD.

The current way of working has a double impact on the environment; not only is it depleting our natural resources, it's also creating more pollution. What's needed is a smarter way of producing the goods and services that we all need.



Nature already has the perfect answer

In natural ecosystems waste and by-products from one activity become a resource for another. By turning our waste into a resource we can reproduce that circular flow of materials and energy, creating an industrial and commercial ecology for sustainable development.

It's an idea that Veolia has already embraced

Sustainability is at the heart of everything we do. We have the technology and expertise to recycle, recover and reuse precious resources for water, waste management and energy. So we're ideally placed to help you create that smarter world.

Our wealth of experience across these three different sectors also enables you to benefit from our group's business synergies.

Our smart solutions work in harmony with each other to improve efficiency and reduce your impact on the environment. From creating energy to supply heating networks to producing biodiesel from collected waste. Innovative ways to recycle waste and wastewater resources and recover energy and by-products that would otherwise be lost.

Our recovery and recycling expertise helps to make industrial ecology a reality.

With climate change, rising energy prices and increasingly scarce resources, **energy** efficiency is now top of the agenda for UK businesses.

- 📍 We've made it our business to create smart solutions from renewable or alternative sources and optimise the use of conventional fuels using Combined Heat and Power (CHP).

Heat and power from waste is another example of the way our solutions work in harmony. We use the energy that is produced by our waste-to-energy plants to power the plants themselves. Any surplus energy can be sold on behalf of our customers. It's a great way to make significant savings in energy and landfill costs and meet those all important UK environmental targets.

We can capture biomass and biogas and turn it into electricity and heat using CHP, or process it into liquid fuel. And the same goes for wastewater treatment.

Our innovative solutions can recycle waste streams and harness their energy value to produce renewable energy for industry and communities.

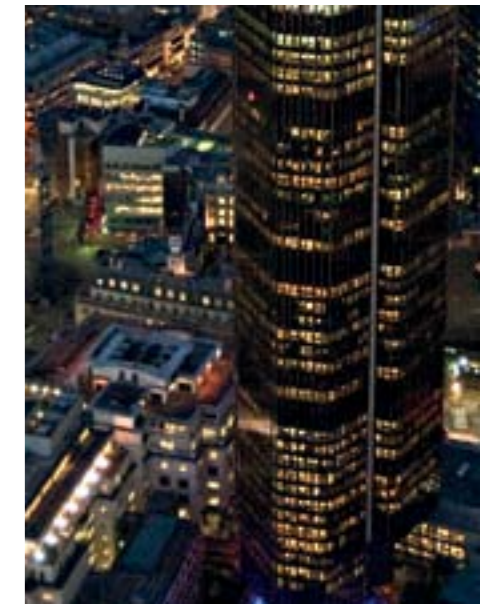
We're also at the forefront of harvesting energy from incidental sources such as industrial processes and data centres. 100% recovered energy that can offset millions of tonnes of CO₂ emissions and significantly improve your carbon footprint.

Industrial by-products can be another valuable source of energy. We have the expertise to transform by-products into renewable biogas and biomass fuels – cutting carbon emissions and reducing costs, off-site logistics and waste. A smart solution that offers environmental and financial advantages.

And finally, domestic waste and non-hazardous waste from industry that is difficult to recycle can still produce storable energy in the form of refuse derived fuels (RDFs). These can be used everywhere from co-incineration plants to energy recovery facilities at manufacturing plants. A valuable energy resource that is not linked to petroleum costs.

Whether you're looking to save energy or need someone to invest in and manage your energy infrastructure, we can use our synergies to help you find the right solution.

Because being smart with energy creates a smarter world.



Regular drought warnings in the UK are a stark reminder that our water resources are under threat from global climate change, industrialisation and human activity. As pressure on our fresh **water** resources increases, we all need smart ways to reduce our water footprint and adopt a 'blue growth' strategy for the future.

📍 We specialise in innovative treatment and recycling techniques that span the entire water cycle

From managing water and wastewater treatment works to designing bespoke solutions for industry and commerce, we can create a smarter world by identifying ways that our customers can use less fresh water. We can provide water process systems that provide high quality water for a range of applications, along with innovative solutions for re-use and recycle systems.

How do we do it?

By using our technology and expertise to treat water, process wastewater and sludge and turn wastewater into an energy resource. For example, our innovative solutions can harvest biogas from wastewater and extract raw materials and recover valuable by-products that create new revenue streams. Our experts can also design workable business solutions that reduce running costs and mains water and discharge costs by maximising operational efficiencies and the reuse of water.

And thanks to our group synergies can also provide large electrical grid connections for renewable energy producers, gas and water network connections and metering solutions – laying all utilities together in one trench. Now that is refreshing.

Whether you're concerned about scarce water resources or want to maximise efficiency and minimise your water footprint, you can rely on our water experts for some smart answers.



You may not realise it, but each year, less than a quarter of the **waste** that is produced in the world is recovered.

📍 That's why we're passionate about turning waste into a resource.

The more secondary raw materials and energy we can recover from our waste, the less impact we will have on the planet. It's important for industry too.

Using secondary raw materials can reduce supply costs, preserve resources and avoid the CO₂ emissions that come with extracting virgin materials. It also helps to meet recycling obligations and creates a positive energy footprint. What's more, the more sustainable we can be in our purchasing decisions, the more we'll encourage sustainable thinking.

That's something Veolia knows all about. We're pioneers in waste collection, recycling and recovery

activities. By supplying our customers in the UK with high quality, secondary raw materials we can make a positive difference to their environmental and economic performance, so they gain a competitive edge.

Thanks to our state-of-the-art facilities and innovative thinking, we can also recover the maximum amount of materials from end-of-life products. From sources as diverse as waste electrical items, liquid waste, obsolete natural gas platforms and end-of-life aircraft.

We can also turn industrial waste into a valuable commodity. For example, manufacturers need to strike the right balance between their productivity, energy efficiency and

environmental footprint. We can recycle effluent and recover materials in their wastewater that they can reuse or turn into a source of revenue.

We can help to improve our natural resources too. By recovering and treating the organic matter from our composting centres we can create agricultural fertilisers and high quality composts that can be used to enrich impoverished soil. A smart way of giving a little something back to the planet.

From bulky waste collection to sorting and treating hazardous waste, you can rely on our experts for some smart answers that will turn your waste into a precious resource.



SMARTER WORKING TOGETHER.

Veolia has designed one of the largest Waste Water Treatment plants in the UK with a sludge throughput of 30,000 tonnes of dry solids per year. Anaerobic digestion will generate sufficient biogas to run a 4.4 MW CHP

PRODUCING SOME 33GW OF ELECTRICITY PER YEAR.

A modern community development scheme was dedicated to building eco-friendly homes with reduced carbon emissions. Our biomass district heating solution uses life expired wood pellets as carbon neutral fuel that meets all the

hot water and heating needs of the 2,220 homes in the scheme.



CHP units on our **800,000 wastewater treatment works**

mean the electricity bill can be as little as £1 a day.



The largest steel recycler in the UK enlisted Veolia to supply energy and waste management for their most modern production plant. The ten year agreement will bring significant long-term cost savings and improvements in the efficiency of its effluent treatment plant, boiler house and waste management activities on site. It will also reduce filter cake tonnage from: ~12,500 t/yr to ~6,000 t/yr.

Veolia worked in partnership with one of the world's leading pharmaceutical companies to design, install and commission a new 23MW CHP plant. The solution has

REDUCED CO₂ EMISSIONS BY 39,000 TONNES PER YEAR.

The UK's leading chilled dairy foods company wanted to use renewable energy to provide the 100,000 tonnes of steam needed to produce the cheese it makes. By installing a 12MW biomass steam plant,

annual carbon emissions were reduced by 60%

a major step towards their carbon reduction target.

We have saved over 307,000 tonnes of CO₂ through our renewable energy solutions.



Our activities in the UK supplied enough energy to the National Grid to

POWER 680,000 HOMES.

ONE OF THE TOP THREE CHEMICAL GIANTS needed a partner capable of undertaking water and wastewater-related projects on site. Our competitive pricing enabled them to accurately predict the operating and maintenance costs of their facilities that were previously difficult to control.



When one of East Kent's largest food producers needed to reduce its industrial water demand, we provided a turnkey solution.

The water footprint for salad washing is now

75% LOWER

and more water is available in the local area

ENOUGH TO SUPPLY 5,000 HOMES.

A 45,000m³ cold storage facility wanted to create renewable energy to counter their impact on the environment. We designed and installed a modular, biogas-fired CHP system to provide electricity and heat flows. A smart solution that **reduces CO₂ emissions by 1,470 tonnes per year and brings annual cost savings of £152,500.**



We operate 90 renewable energy schemes through capturing biomass and biogas and turning it into electricity using CHP. This recycles around

300,000 tonnes of biomass for renewable energy that would otherwise be wasted.



A global healthcare company needed to close the chemical waste loop. Veolia provided a smart solution that has seen **1,200 tonnes of industrial methylated spirits internally returned to pharmaceutical grade.**



A large landfill site in Shropshire chose Veolia to design and manage a leachate treatment plant. **Veolia's innovative solution creates a saleable by-product which would otherwise have been extracted from natural resources.**



The average UK dairy uses 1.3 litres of water for every litre of milk it processes. We installed the first RO recovery system in one of the UK's largest dairy operations, a smart solution that recovers 200,000 (200m³/day) of the process waste water to replace mains water in the system.

The dairy achieved a return on investment in just two and half years.



A new 17.5MW energy centre aimed to generate renewable electricity to supply **23,000 homes.**

Thanks to our biomass solution, 120,000 tonnes of locally sourced, recycled wood is used as a fuel source, avoiding landfill. CO₂ emissions are reduced by 115,000 tonnes per year and the facility is considered a centre of excellence for sustainable, renewable energy.



Creative solutions for our environment: Veolia Environnement is the only company in the UK that can provide a whole spectrum of environmental services. To find out more about our energy, water and waste services and how they can work in harmony together with your organisation, please visit our website: www.veolia.co.uk

- We care about the impact our business has on the environment. We try to print as little as possible but whenever we have to, we make sure we always use recycled paper and vegetable inks.

