

Meeting your goals for sustainable energy

About Royal HaskoningDHV

Royal HaskoningDHV has a strong service portfolio in the global industry and energy related business. It serves a wide variety of multinational and regional clients in the key markets oil & gas, chemicals, energy, resource recovery, data centres, manufacturing, pharmaceuticals, food & beverages and fast moving consumer goods. It provides multidisciplinary services ranging from industrial master planning, feasibility studies, consultancy, engineering and environmental services to full project and construction management. It provides clients with creative, viable and sustainable solutions to solve their challenges, realise their ambitions and ultimately enhance society together.

Royal HaskoningDHV specialises in management, engineering, environmental and advisory services. Our specialist team undertakes projects through every stage in the project life cycle, from conception and construction to completion, and from feasibility to financial close. Our track record, consolidated in the Netherlands and northern Europe now represents global activities.

We combine in-house design capability with expert knowledge of the waste regulatory framework, and effective environmental management. Our expertise enables us to manage all stages of projects, including: early consenting stages, technical and environmental due diligence studies, management options, feasibility appraisal, Environmental Impact Assessments, and regulatory compliance assessments to industrial and commercial businesses.

Our specialist sectors include:

- Anaerobic Digestion
- Landfill gas
- Bio methane and Biogas
- Food & Beverage
- Water and Sewage





Waste, Anaerobic Digestion & Landfill Gas

Anaerobic Digestion and Biogas

Anaerobic digestion or Biogas plants release the stored energy from organic materials and animal manures. They utilise certain types of bacteria to breakdown organic matter in controlled environments in the absence of oxygen. The process creates biogas, fertiliser and compost. The biogas can be used to produce heat and power or be upgraded (through the removal of carbon dioxide) to Biomethane. The fertiliser and compost can be used in agriculture.

Biomethane (or Renewable Natural Gas) can be used in virtually the same way as natural gas, for heating, cooling, power production and for chemical production such as fertiliser and hydrogen. Alternatively the biogas could also be fed into the natural gas grid network or be used as a vehicle fuel.

Royal HaskoningDHV supports and advises a range of stakeholders operating within these sectors and across the project lifecycle. We understand the technical, commercial and engineering success factors from conception to construction and from feasibility to financial close.

Waste, Energy, Resource Recovery and Sustainability

The relationship between waste, energy, resource recovery and sustainability is becoming increasingly important.

Royal HaskoningDHV enjoy the blend of environmental and engineering expertise necessary to fulfil this balance through the creation of innovative solutions for the sustainable interaction between people and their environment.



Our Experience

Organic Waste & Biogas Centre

The Netherlands - Attero

The digestion plant in Venlo produces biogas from household organic waste. Waste is collected, pre-treated and digested within composting tunnels; with methane production from a separate reactor. Royal HaskoningDHV provide specialist operational support designed to refine and optimise the site operation and gas production process.

Landfill Gas Extraction

Mexico - Energica de Mexico SA de CV / Municipality of Morelia

Feasibility study for an improved solid waste management system investigated options for an improved collection and management system. Designs were made for a new site, an LFG extraction & utilisation system, with the sale of electricity and carbon crediting.

Organic Household Waste Treatment

The Netherlands - Municipalities Uden, Oss, Veghel, Bernheze and St. Oedenrode

The technical and commercial public procurement for support and management of a new dedicated facility to process 50,000 t/a of garden and organic household waste c/w energy production.

Columbus® Offers A Sustainable, CO₂-Neutral Fermentation Process

Energy-saving sewage purification plants sound futuristic. But nothing could be further from the truth. Sewage plants are already fermenting biomass sustainably and efficiently, thanks to the Columbus® fermentation unit. Livestock farms, the food industry and processors of green waste are benefiting, too. Royal HaskoningDHV, GMB and GTI Suez are marketing the concept jointly



Meeting your goals for sustainable energy

Our specialist team undertakes projects through every stage in the project life cycle, from conception and construction to completion, and from feasibility to financial close. Our in-house specialist services include:

Project Feasibility and Conceptualisation

Strategic advice, Waste characterisation and profiling, Site selection and evaluation, Business case modelling and appraisal, Outline design, Stakeholder engagement, Technical and commercial appraisal.

Planning, Permitting and Consenting

Environmental impact assessment, Options appraisal, Pollution prevention and control, Stakeholder consultation, Planning application and support, Architectural detailing and Landscaping.

Regulatory Compliance

Statutory compliance, Expert witness, Waste classification, Training, Land contamination and mediation, Waste hierarchy solutions, Due diligence.

Transport Planning

Site access study and design, Expert witness, Traffic management solutions, Impact assessments and mitigations, Planning application support, Highway design, Condition discharge, Logistics.

Sustainability

Carbon abatement, Lifecycle assessments, Integrated renewable technologies, BREEAM, CEEQUAL, stakeholder engagement, innovative materials (nutrient) management approaches inspired by Cradle to Cradle®; integrated. impact assessment; high-level constraints and opportunities planning, and optioneering.

Technical Advice and Due Diligence

Process review and selection, Technical due diligence, Independent certification, Process engineering, Commercial appraisal, Building and asset integration, Expert Witness.

Process Engineering

Due diligence, Interface management, Civil, structural, mechanical and electrical engineering, Process engineering, Mass balance, Instrumentation, Expert witness, Process selection.



Procurement

Public and Private procurement, Project estimates, Contract specifications, ITT procurement and management, Tender appraisal, Market testing, Compliance auditing.

Contract Management

Contract support and management, Project management, HSE & CDM compliance, Cost control, Design interface and management, Site management and inspection, Project Administration, Claim assessment and mitigation.

Engineering and Design

Civil and structural engineering, Geotechnical engineering, Architectural design, Building and asset and integration, Mechanical engineering, Electrical engineering, Process engineering, Building services, Tender support, Detail engineering, 3D visualisation.

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