

Refineries and Fuel Sector 2016

Overview

Permitted sites



39 regulated sites

Main activities:

4



Oil refineries

9



Gas refineries

10



Fuel storage and distillation

Industry facts



10,000 employees (oil refineries)



85% of UK consumed petroleum products is supplied by UK refineries



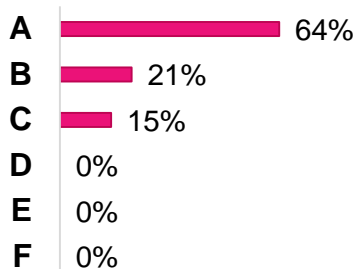
£94 billion oil refineries gross sales



UK produced 460 TWh of gas. 50% was used for domestic energy supply

Performance

Compliance ratings



No persistently poor performing sites

Pollution incidents



Serious 0
Minor 12

Permit breaches



Serious 0
Minor 76

Annual emissions

Principal emissions to air*

10.3 million t of **carbon dioxide**
11,202 t of **nitrogen oxides**
19,981 t of **sulphur oxides**
5,129 t of **methane**
15,531 t of **non-methane volatile organic compounds**
415 t of **benzene**
1,002 t of **particulate matter**

Waste produced by sites

Hazardous



13% recovered
43% disposed

Non-Hazardous



27% recovered
17% disposed

175,000 tonnes

Industry focus



Efficiency of sulphur recovery avoiding SO₂ creation



Waste produced by an oil refinery as a proportion of raw material processed

*Above the Pollution Inventory reporting threshold

Corporate outcomes 2016 to 2020

Our objective is for:

- A cleaner, healthier environment which benefits people and the economy;
- A nation better protected against natural threats and hazards, with strong response and recovery capabilities;
- A higher visibility, stronger partnerships and local choices

Our approach	How we will put this into practice
<p>We will improve our environment by reducing emissions to air. Our focus will be on reducing priority pollutants. These are sulphur oxides (as SO₂), NO_x, non-methane volatile organic compounds (NMVOCs) and particulates.</p> <p>We will contribute towards achieving the UK's national emission reduction targets set under the National Emissions Ceilings Directive to improve air quality.</p> <p>We will implement the Industrial Emissions Directive (IED) and require use of the Best Available Techniques for environmental protection. This will be in line with adoption of the Refining Mineral Oil and Gas Best Available Techniques Reference (BREF) document.</p> <p>We will continue to work within current EU legislation until such time as new legislation is implemented, after the European Union exit.</p>	<p>We will undertake a review of the sector when the revised BREFs are adopted. Success will be measured by the number of permits reviewed and the new Best Available Techniques requirements which are implemented.</p> <p>We will continue to review our permits against the published BREF, where further standards are required we will issue a variation to those permits affected. We will measure success by seeing a reduction in emissions to air reported, adopting Best Available Techniques (BAT) and meeting the targets set for 2020 and 2030 in the Directive.</p> <p>We will continue to work with permit holders and trade associations to keep them updated of any changes and what this will mean for them.</p>
<p>We will reduce the number of incidents to land and water at our permitted sites. We will do this by improving the secondary and tertiary containment of petroleum substances.</p>	<p>We will monitor permit holders' progress in completing their Chemical and Downstream Oil Industries Forum (CDOIF) risk assessment of their containment provisions. We will ensure improvements are made by auditing planned improvements at their site. Where improvements are not delivered, we will take prompt and appropriate action.</p>
<p>We will improve the receiving waters in our environment by reducing emissions of hazardous pollutants from our permitted sites.</p>	<p>We will do this by requiring permit holders to carry out an impact assessment of their hazardous emissions to water. The requirements of the Water Framework Directive will be used to identify pollutants and to identify the improvements required.</p> <p>All improvements will meet the requirements of any EU legislation or new legislation introduced after we leave the EU.</p>
<p>We will ensure the safety of people and the environment. We will do this by reviewing the updated Control of Major Accident Hazards (COMAH) Safety Reports submitted by permitting holders, reflecting changes in the COMAH 2015 regulations.</p>	<p>We will work closely with the Health and Safety Executive to review the safety reports from the five yearly safety report cycle required by the COMAH 2015 Regulations.</p>
<p>We will develop a greater resilience to climate change.</p>	<p>We will provide advice and guidance on mitigating the effects of climate change.</p>
<p>We will protect the environment by reducing fugitive emissions to air of NMVOCs, particularly from flaring and storage of hydrocarbons, at our permitted sites.</p>	<p>We will assess the primary sources of fugitive NMVOC emissions and implement improvement programmes through our permits to reduce them.</p>
<p>We will implement the outputs of the Strategic Charges Review to ensure we recover the correct charges to fund our regulatory work.</p>	<p>We will keep permit holders and trade associations updated on how they may be affected.</p>
<p>We are transforming our information systems and supporting guidance to be more customer-focused to support businesses and make it as easy as possible for them to do the right thing.</p>	<p>We will listen to those we regulate and communicate clearly with them making our guidance and advice clear and easy to understand. We are digital by default, to make transactions with us as easy as possible, while recognising that some businesses prefer more traditional approaches.</p>

Data Sources:

The Environment Agency holds records for the number and type of regulated sites, the number of pollution incidents and permit breaches, and the compliance rating for each regulated site. The number of serious pollution incidents include both permitted and unpermitted sites in this sector.

Substance release and waste transfer data is collected from sites that operate under a Part A(1) environmental permit and form part of the Environment Agency's Pollution Inventory. See the [2016 datasets](#) that support this report.

Industry data has been collected from a variety of sources including industry trade organisations and publicly available resources.