

ofgem

Making a positive difference
for energy consumers



Ofgem's strategic approach to AI

Introduction

The use of artificial intelligence (AI) within the energy sector can help a fundamental transformation of the energy system by improving planning, management and real-time operation. It has a central role to building a smart, digital energy system at the lowest possible cost for households and businesses. It cannot deliver on this huge potential without a clear regulatory framework to protect energy consumers.

AI presents novel challenges around the supply chain, transparency, and governance and accountability. Our pro-innovation approach is aimed at facilitating the use of AI where it benefits society, specifically in our mission to make a positive difference for energy consumers through independent regulation. We have reviewed the regulatory framework and consider that we can rely on existing legislation and regulations with supplemental guidance and tools.

We are taking the following approach:

- [a call for input was published on 4 April 2024](#) on the safe and responsible use of AI in the energy sector, which closes on 17 May 2024
- a high-level strategic approach, which is set out here, demonstrates how we plan to have a robust method of AI regulation in the energy sector based on the five AI principles

Our approach to date has involved:

- evaluating and managing the potential benefits and risks of AI deployment, and the regulatory considerations from a consumer, market, company and sustainability viewpoint
- a discovery programme of work Ofgem's AI taskforce undertook prior to issuing the call for input

We will continue to review and evaluate our capability as we execute the proposed recommendations and plan for a new statutory AI duty.

Background and context

We are the regulator of Great Britain's energy markets and networks. Our powers, duties and objectives come from UK statutes.

Our primary guiding objective is to protect the interests of current and future electricity and gas consumers. These interests are taken as a whole and include their interests by supporting the UK government to meet its legal obligation to get to Net Zero by 2050 and to maintain the security of supply for gas and electricity.

We must carry out our functions in the manner that is best calculated to fulfil that objective, wherever appropriate by promoting effective competition. Before exercising our functions to promote competition, we must consider whether the interests of consumers would be better protected by exercising our functions in other ways.

The Department for Science, Innovation and Technology (DSIT) has set out what regulators should do to make sure that the sectors they regulate follow the UK's AI regulatory principles in their ['A Pro-Innovation Approach to AI Regulation' AI White Paper](#).

In its [response to the AI White Paper published in February 2024](#), DSIT encouraged regulators to outline their strategic approach to AI by the end of April 2024. As the energy regulator for Great Britain, we are providing this outline of our strategic approach to the use of AI and what we aim to do in line with the AI principles.

Potential benefits and risks of AI

As indicated in our call for input, AI is currently in use, performing a broad range of tasks in the energy sector. The most impactful AI use cases sit at the system level, running across the main aspects of the energy value chain.

Currently, the focus is on getting value from simple or localised use cases, from forecasting certain types of renewables to supporting customer service agents. Complex use cases are facing significant challenges caused by lack of usable, accurate and accessible data, preventing valuable AI use cases from being built.

Our call for input sets out our approach to evaluating potential AI risks and illustrates how we will address specific risks relating to AI and its impact on the consumer, market, company and sustainability.

An understanding of the potential risks from these different perspectives will allow us to develop guidance and tools that makes sure that:

- use of AI is fair, ethical, transparent and explainable
- use of AI results in fair market outcomes
- energy companies have effective oversight of AI systems
- customers have appropriate redress routes to contest negative outcomes
- use of AI is on a sustainable basis

What we have done

The discovery programme of work Ofgem's AI taskforce undertook involved:

- mapping the UK's AI principles onto the legislative and regulatory framework applying to Great Britain's energy sector, and considering potential issues or challenges
- gathering AI use cases and developing detailed case studies, which has considered relevant innovation-funded projects under the RIIIO price controls as well as use cases in the wholesale and retail markets
- developing a risk matrix and considering how risks vary when looked at from consumer, market, company and sustainability perspective
- evaluating capability around our responsibilities including AI policy guidance
- considering future horizon scanning, and opportunities for collaboration, for example, sandboxing and advice, and upskilling of Ofgem's staff
- developing recommendations and the strategy to manage the opportunities and risks of AI deployment in the energy sector and plan for a new statutory AI duty

The discovery phase of work concluded with a call for input issued on 4 April 2024 and will be followed by a programme of work to deliver on the proposed recommendations. Throughout the discovery phase, Ofgem has engaged widely with institutions, government departments, other regulators, consumer representatives, trade associations, energy sector companies, technology companies and leading universities and academics on AI. The call for input provides an opportunity for all stakeholders to engage and comment on the initial findings and our proposed recommendations.

What we plan to do

Ofgem has established an AI Policy function and will continue to develop and build capability in this area. Our aim is to create an operating model to ensure the safe and responsible use of AI within the energy sector.

Our AI policy approach will:

- address rapidly evolving AI use within Great Britain's energy sector and plan for new statutory duty
- support AI innovation where it is in the interest of consumers, security of supply and sustainability
- be adaptable to changes in the AI landscape over time
- assist in addressing AI related risk
- work collaboratively with the sector and internationally to develop and implement external and internal AI guidance and tools

Horizon scanning

As part of the development of our AI and operational regulation, Ofgem will:

- monitor the use of AI use in the energy sector and adapt accordingly
- assess whether energy sector companies and their suppliers are adequately prepared for future AI risks and opportunities
- undertake sector and AI engagement through an Ofgem Best Practice AI Collaboration Forum

Sandboxing and advice

We will provide the energy sector and innovators with support through:

- regulatory review – jointly consider hypothetical but realistic application of AI – test and, if necessary, adapt regulatory approaches in a safe space
- technical enabler – early regulatory engagement on a proposed AI application to provide initial advice and assess the suitability of regulation
- good practice guidance – working collaboratively with the sector to develop guidance

Monitoring and enforcement

We will:

- develop and provide comprehensive training and development for Ofgem staff
- create and maintain a repository of best practices and examples of ethical AI implementations in the energy sector, including consumer case studies