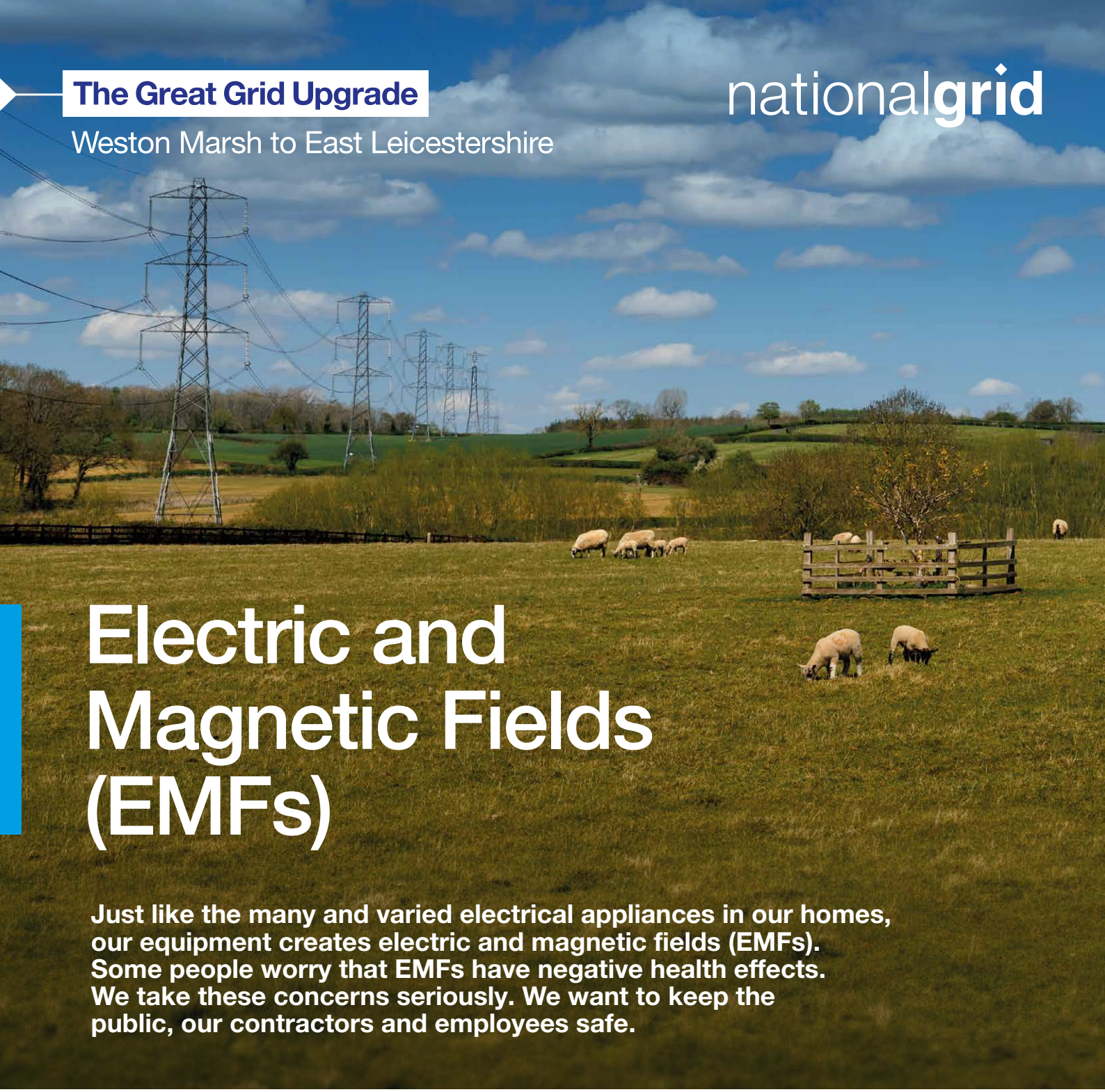
The Great Grid Upgrade

Weston Marsh to East Leicestershire

nationalgrid



Electric and Magnetic Fields (EMFs)

Just like the many and varied electrical appliances in our homes, our equipment creates electric and magnetic fields (EMFs). Some people worry that EMFs have negative health effects. We take these concerns seriously. We want to keep the public, our contractors and employees safe.

What are EMFs?

Electric and magnetic fields (EMFs) are present wherever electricity is generated, transmitted or used. Electric fields are created by voltage, while magnetic fields are created by the flow of electricity through a conductor, such as a wire.

The voltage on a 400 kV overhead line remains broadly constant, so the electric field stays at a similar level. Magnetic fields can vary because the amount of electricity flowing through the line changes depending on demand.

EMFs are part of everyday life. They are found in homes, workplaces and public spaces, and are produced by electrical wiring, appliances and other equipment that uses electricity.

Electric and Magnetic Fields (EMFs)

What are the safety limits for EMF exposure?

In the UK, there are safety limits in place to protect people from the effects of electric and magnetic fields (EMFs).

These limits are based on guidelines developed by the International Commission on Non-Ionizing Radiation Protection (ICNIRP), an independent body of scientific experts. The limits were developed following extensive reviews of research into the potential health effects of EMFs.

The UK Government has adopted these exposure limits, along with an additional precautionary policy. They are reflected in national planning policy and must be considered as part of the approval process for new electricity infrastructure.

Safety is our priority. All our electricity equipment is designed to operate well within the EMF exposure limits adopted by the UK Government.

All of our equipment is designed to ensure the EMFs produced will always be below the limits set to protect us.

What EMFs would the Weston Marsh to East Leicestershire (WMEL) project produce?

This Project would involve building a new overhead line, upgrading an existing overhead line, and building two new substations. Please see our consultation materials for more information on our proposed infrastructure.

EMFs from the new overhead line

A new overhead electricity line would run between the proposed Weston Marsh B Substation in Lincolnshire and a proposed new substation near Ab Kettleby in Leicestershire.

Like all electricity infrastructure, the overhead line would produce EMFs. We would design the new overhead line so that the EMFs it produces stay within the exposure limits set by government. Information about the EMFs associated with the Project will be published as part of our development consent order (DCO) application.

EMFs from the upgraded overhead line

The Project also includes upgrading the existing overhead line between the proposed new substation near Wartnaby and the existing Grendon Substation.

This upgrade would involve replacing fittings on the pylons and installing new conductors (the wires suspended between the towers). The new conductors are more efficient and can carry more electricity, helping to increase the capacity of the existing network. The upgraded overhead lines would still produce EMFs, but we would ensure that the upgraded line complies with the exposure limits for EMFs.

EMFs from the new substations

The Project would also include the construction of new substations. Substations contain electrical equipment that produces EMFs.

However, the main source of EMFs in the area around a substation is usually the overhead lines entering and leaving the site, rather than the equipment within the substation itself. We would ensure that the new substations and associated overhead lines comply with exposure limits for EMFs.

Are EMFs from National Grid's assets harmful?

Safety is our priority, and all our electricity equipment is designed to operate below the EMF limits adopted by the UK Government to protect us all.

The EMF exposure limits adopted by the UK Government are based on recommendations from an independent international commission of scientists. The commission reviewed a large body of research on the potential health effects of EMFs before setting the limits.

After many decades of scientific research, the evidence shows that EMFs below these exposure limits are not expected to pose a risk to health.

To find out more about EMFs, scan the QR code.