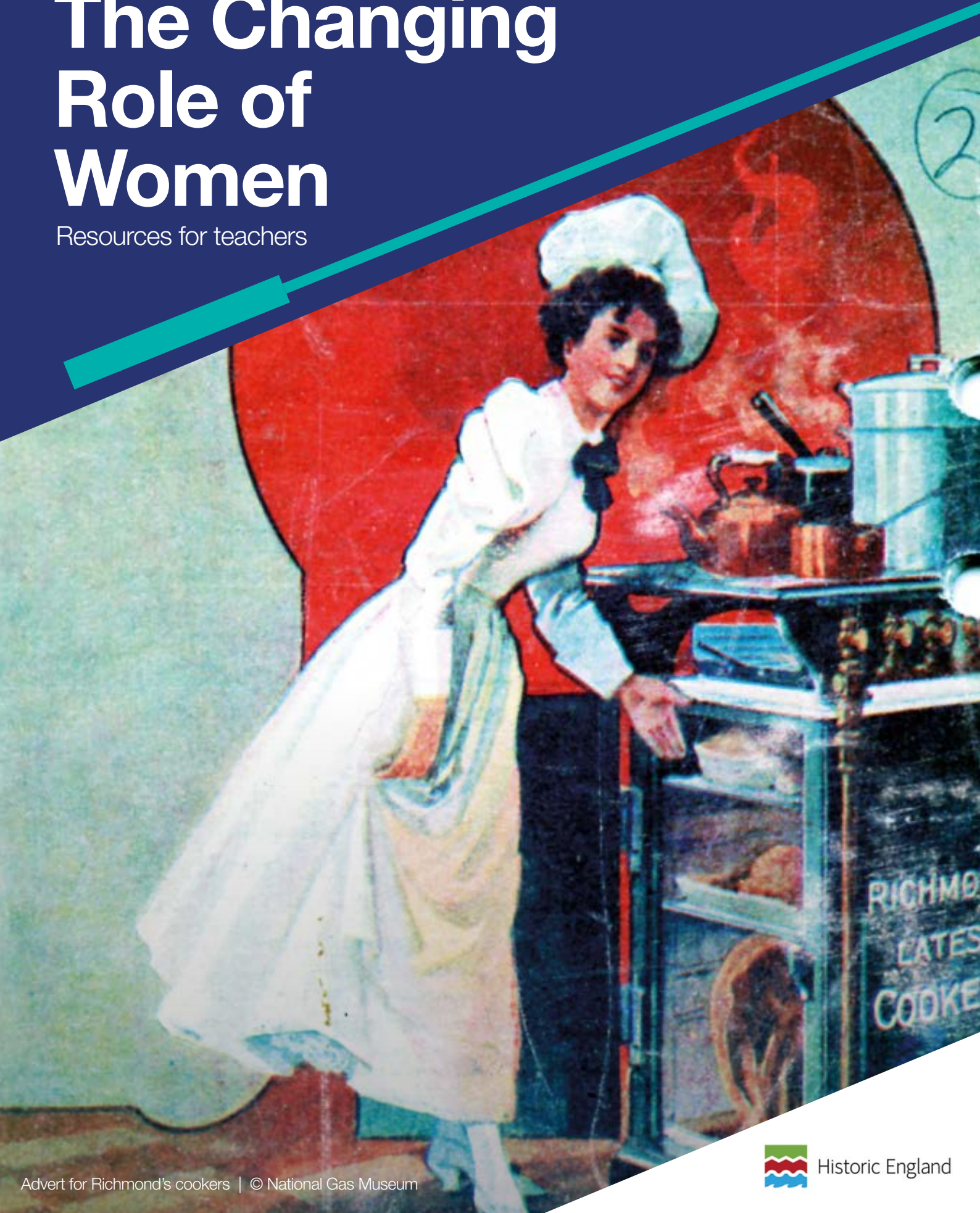


Gas

The Changing Role of Women

Resources for teachers





Using the resource

National Grid owns, manages and operates the national gas transmission network in Great Britain, making gas available when and where it's needed all over the country. This resource is part of our series for schools, highlighting and celebrating how gas has lit our homes and streets and kept us warm for over 200 years.

This resource primarily supports History at Key Stages 1 and 2 and the development of children's enquiry, creative and critical thinking skills. It includes:

- Information for teachers
- Fascinating Did you know..? facts
- A series of historical images to help children explore the theme, with additional information and questions to help them look closer.

It can be combined with other resources in the series to explore wider topics such as:

- Energy
- Homes
- Victorians
- Jobs and work
- The industrial revolution
- Technology

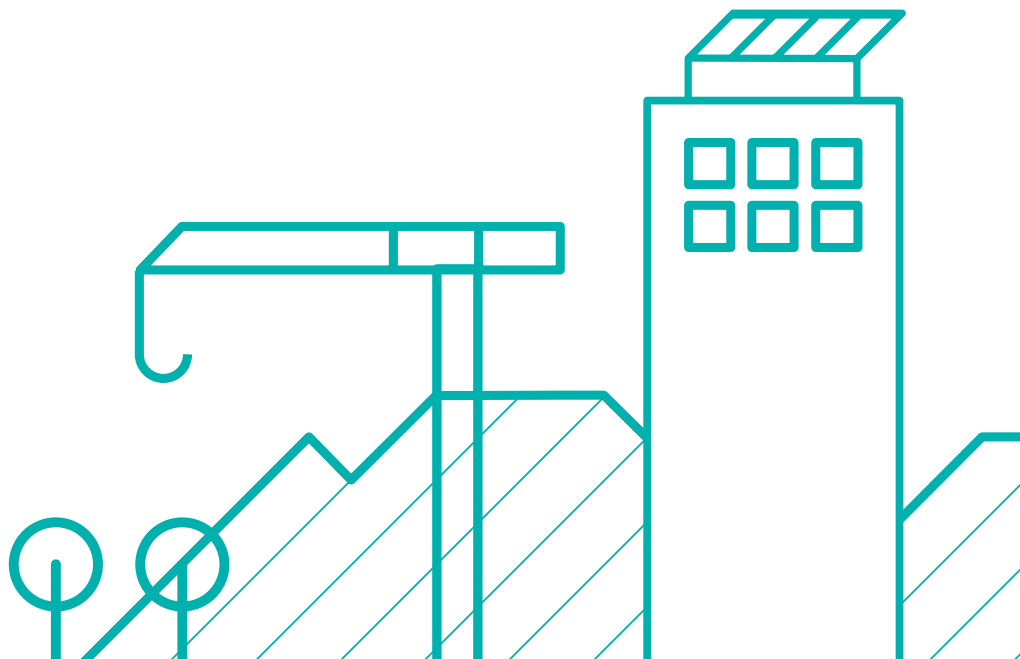
And used to support cross-curricular work in English, Technology, Science and Art & Design.

Project the images onto a whiteboard to look at them really closely, print them out, cut them up or add them to presentations, Word documents and other digital applications.

Our [Classroom activities](#) resource provides hints, tips and ideas for looking more closely and using the images for curriculum-linked learning.

Resources in the series

- [Gas lighting](#)
- [Heating and cooking with gas](#)
- [Gas gadgets](#)
- [Gas – how was it made?](#)
- [The changing role of women](#)
- [Transport and vehicles](#)
- [Classroom activities](#)
- [Your local gas heritage](#)



The changing role of women



Information for teachers

The gas industry's close association with both national industry and domestic life makes it a useful barometer for changing attitudes to society – and women. Like most other industries, the gas industry has been male dominated until recent years. But throughout its history, women have played a vital role.

Early beginnings

The role women played in the gas industry goes back to the 1830s when the Manchester Gas Undertaking employed some women as gas fitting contractors. In some cases, jobs undertaken by men could be passed to their widows when they died. For example, in 1840 a widow of a lantern maker was able to carry on her husband's business of maintaining the gas lamps in Westminster.

Towards the end of the 1800s, women were employed in large numbers making incandescent **gas mantles** which, when heated, gave off a very bright light. They were very fragile and women were believed to have the 'delicate touch' required to handle them.

Lady Demons

By the late 1880s, the gas industry had cornered the market for public use, providing street lighting in towns and cities throughout the UK. Gas lighting was finally becoming a common feature in many middle and upper-class homes but, despite the invention of the gas cooker in the 1830s, gas had yet to really take off as a source of power for domestic cooking and heating. They realised not only that it was usually women who were responsible for spending in the home, but that women were more likely to be influenced by other women than by men.

In 1889, the gas companies began to employ women to give cooking demonstrations at exhibitions and in gas company showrooms. They were known as 'Lady Demons'. By 1906, Lady Demons were being employed full time, operating in a special department of gas sales. Their role expanded to include home visits, to advise female customers on the proper use and care of their gas stoves – an early form of customer service. Should a customer feel their cooker wasn't working properly, a 'home service girl' would pay them a visit and bake a cake. If the cake rose, the customer was given suitable advice for using their cooker (and possibly baking!) correctly. If not, the oven would be repaired or replaced.

The first woman manager in the gas industry was Ina Richmond, who ran the gasworks in Magherafelt, County Derry in 1906. Ina had learned how to manage a gasworks from growing up on the Whitburn gasworks in Scotland. Like many women of the time, she was required to leave her job after getting married, in 1914.

By the 1930s, the gas industry was facing serious competition from electricity. It relied heavily on its home service team to help modernise its corporate image and encourage sales from female customers. Demonstrations were given in showrooms, department stores such as the famous Selfridges on London's Oxford Street, mobile 'floats', even Tube stations. The numbers of Lady Demons increased, and new roles, including sales reps and showroom managers, were created.

As well as their chief promotion and sales role, the Lady Demons also played an important role socially. In 1935 the Women's Gas Council (WGC) was formed to provide a network for women working in the gas industry. Through their regular demonstrations and contact with domestic life, many found themselves advising on family health, hygiene and child welfare. Their experiences led them to join feminist campaigns and exert pressure on the government to extend school meals provision, raise standards in working class housing, and issue family allowance payments directly to women.

The War years

During the First World War, women were not allowed to fight in the armed forces, but they did contribute to the war effort in many ways including doing jobs that had previously been done by men, such as producing food (as part of the land army) and making shells and other munitions in converted factories. Between 1914 and 1918, around two million women replaced men who were fighting at the Front, in factories, on transport, in shipyards – and in the gas industry. Here they did everything from meter reading, to jobs which, for the first time, included manual labour including loading coal and stoking the gas retorts (furnaces). At Kinghorn in Scotland the entire gasworks was staffed by women.

The number of women in the gas industry grew to more than 5,000 and, despite earning less than their male counterparts (as they did in other industries), they proved themselves wholly capable of doing the same jobs as men. At the end of the War, most women were required to leave their jobs. But their vital roles had strengthened the calls for equality and in February 1918, the Representation of the People Act granted votes for women who owned property and were over the age of 30.

During World War II, women were once again drafted in. Their roles were as varied as those during World War I. This time, fewer were required to leave at the end of the War and, although it was a long road ahead, the seeds of equality at work had been sown, paving the way for the equal pay act of 1970.

Present day

Over the next 50 years, women's roles slowly evolved and became more permanently established, from Service Engineers to Departmental Heads and Directors. Today, National Grid employs a diverse workforce. Some of these are featured below. Find out more about careers [here](#).



Did you know?

- ◆ Before the Equal Pay Act of 1970, women could legally be, and often were, paid less than men for doing the same job.
- ◆ Equal pay for men and women was first motioned by the pioneering trade unionist Clementina Black as far back as 1888.
- ◆ During World War I, women workers started playing in competitive football teams, which were often named after the factories and other places they worked in. They drew huge crowds and raised money from ticket sales for charities helping wounded soldiers.
- ◆ Women delivering sacks of coke to domestic customers of the Gas Light and Coke Company during World War I were condescendingly referred to as Coaliettes by the Daily Mail.



Women workers in World War I

(1915)

These images show women working in the Vauxhall and East Greenwich gasworks during World War I (1914 – 1918). They were drafted in to gasworks all over the country to replace the thousands of men who had joined the armed forces. Here you can see them:

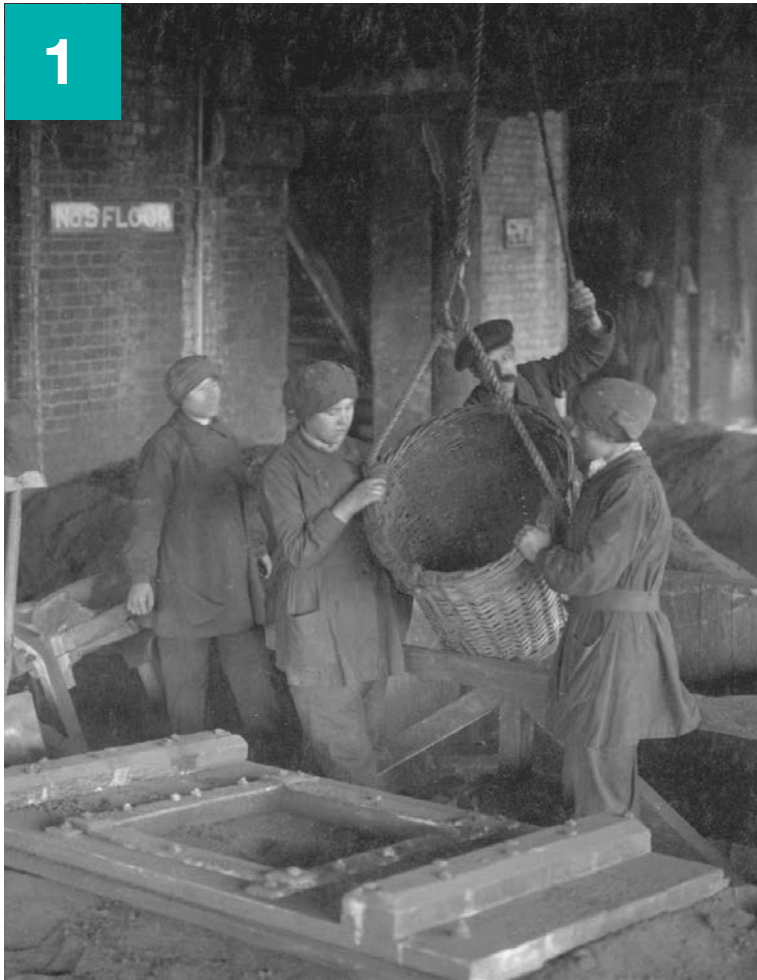
- 1 Filling the gas purifiers with iron oxide, to remove impurities
- 2 Cleaning a tipping bucket used for carrying the oxide
- 3 Working in a blacksmith's forge, making & maintaining tools for use in the gasworks
- 4 Opening the doors of retorts in the retort house, before charging them with coal to generate the gas.

Look closer

- ◆ Would you have liked to have done any of these jobs? Why?/ Why not?
- ◆ What are the women wearing? Do these look like suitable clothes for these dirty and sometimes dangerous jobs?
- ◆ What might you be able to hear or smell if you could step into these pictures?

WW1

1



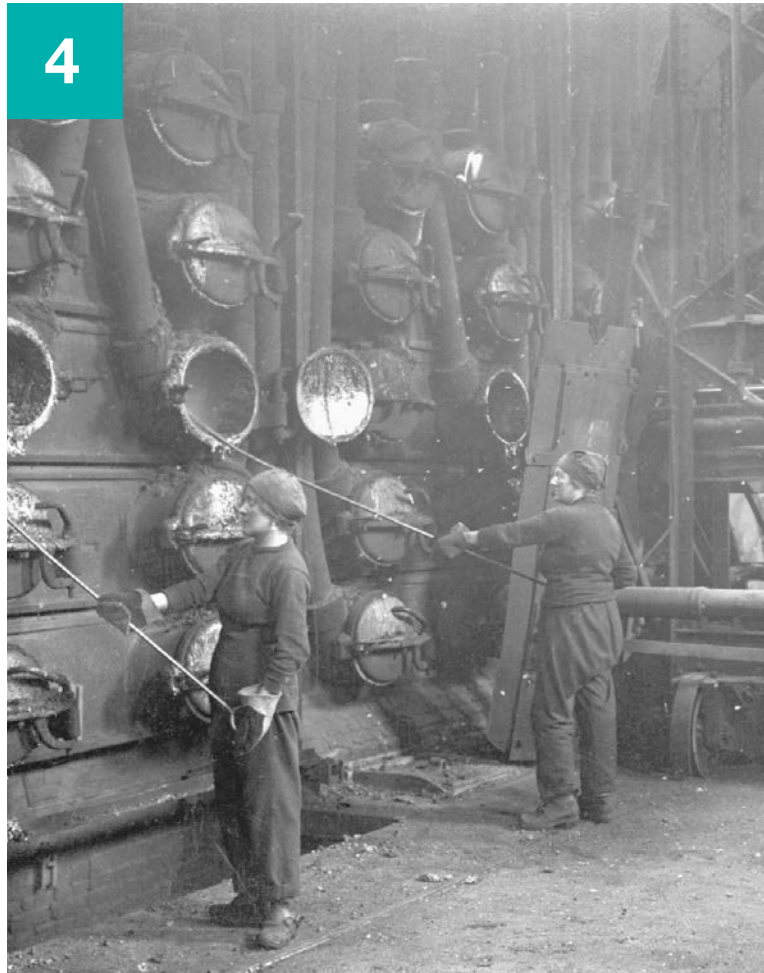
2



3



4





Exhibition float

(1929)

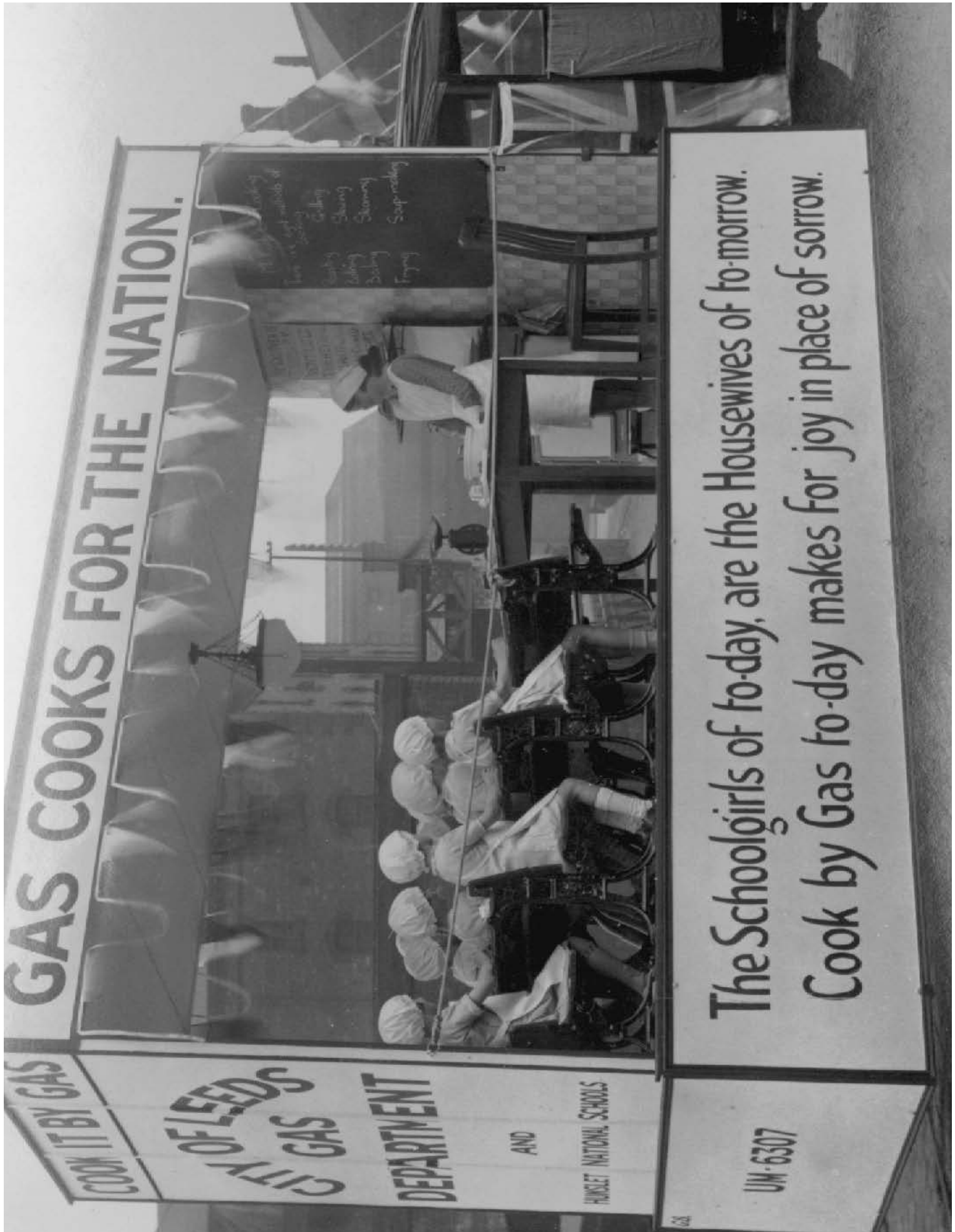
By the end of the 1920s, gas was facing increasing competition from electricity as the main source of power in the home. The gas industry invested heavily in promotional schemes, mounting advertising campaigns, modernising showrooms, producing documentary films and even funding the construction of a model housing project in central London.

Entering floats into local carnivals was another way to raise the profile of gas. This float features a cooking demonstration for schoolgirls by a 'Lady Demon' and would probably have been part of a procession in Leeds, along with other local trades.

Look closer

- ◆ What is written on the side of the float?
- ◆ What do you think of this slogan?
- ◆ How might a cooking demonstration float like this look different today?





COOK IT BY GAS

CITY OF LEEDS
GAS

DEPARTMENT

AND

HUSLET NATIONAL SCHOOLS

The Schoolgirls of to-day, are the Housewives of to-morrow.
Cook by Gas to-day makes for joy in place of sorrow.

UM-6307

3

Women Working in World War II

(1940s)

These images show women working in the gas industry during World War II (1939 – 1945). They were drafted in to gasworks all over the country to replace the thousands of men who had joined the armed forces. Here you can see them:

- Making gas meters in the machine shop
- Stacking firebricks used to surround the retorts.

Look closer

- ◆ Why do you think the women in the machine shop are wearing goggles?
- ◆ Would you like to have done these jobs?



WWII



4

Emergency Central Control Room World War II

(c.1944)

Control rooms like this were set up during World War II to receive reports of bomb damage - to gas mains in the street, for example - and direct teams to repair it.

Look closer

- ◆ What equipment can you see in the control room?
- ◆ How might this be different to the sort of equipment you might find in a modern-day control room?
- ◆ Who do you think the man on the 'phone is speaking to? What do you think he might be saying?



WWII



5

Operating a mainframe computer

(1960)

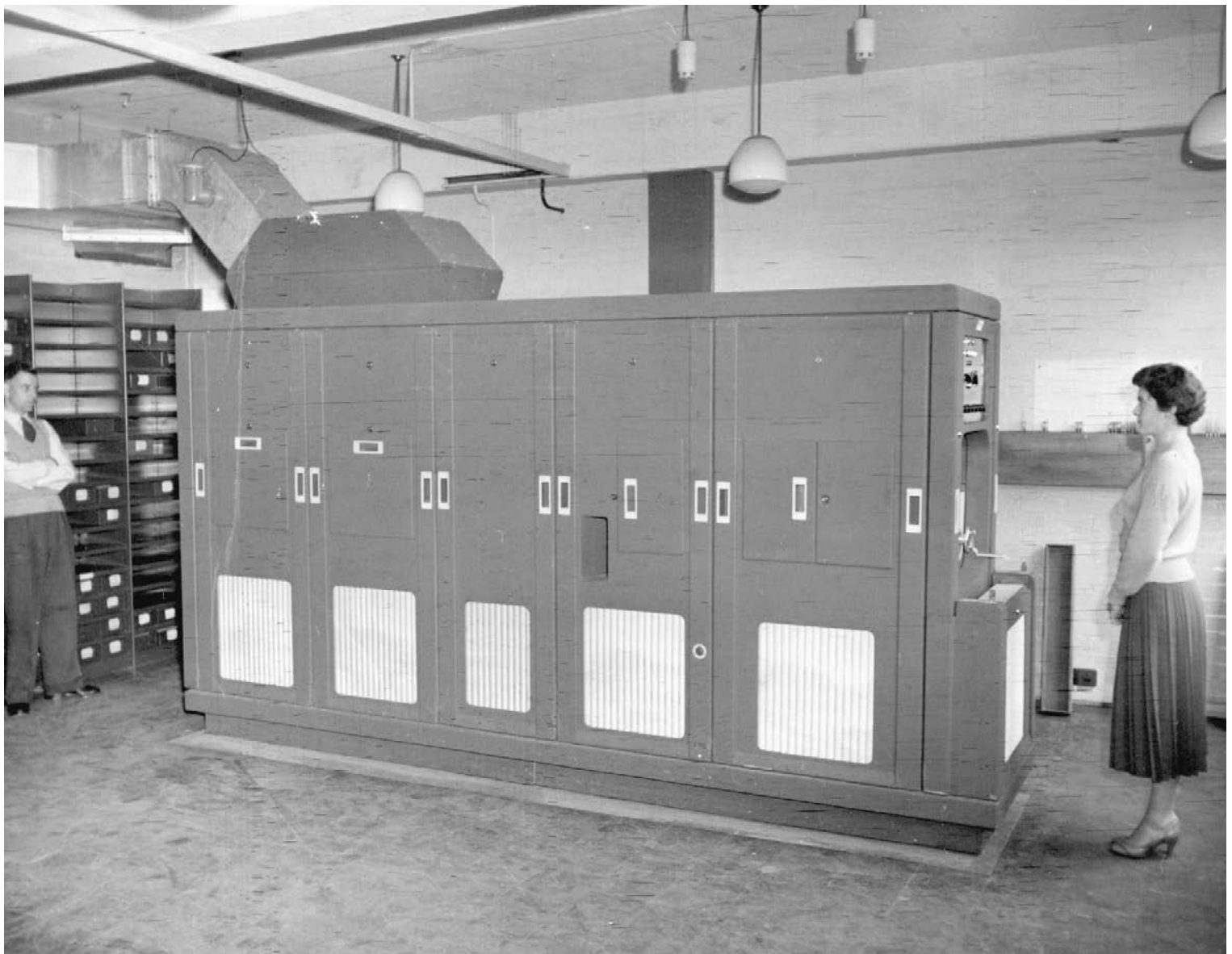
During the 1960s, early computers began to evolve and diversify in their use. Although still huge in size by today's standards, new technologies and software meant computers could undertake increasingly complex problem solving, calculating and data processing tasks.

This image shows an early mainframe computer, used to process data from meter readings and calculate gas bills. Today's relatively tiny smartphones carry much more computing power than was ever available from these giant machines.

Look closer

- ◆ Does this machine look anything like a computer you've ever seen before? How have they changed?
- ◆ How do you think it might have worked?
- ◆ Would you have room for this in your home or school?





6

Films: The Home Service

These promotional films about the Home Service provide some fascinating illustrations of gender stereotyping from the past, and how attitudes to women have changed.

Look closer

- ◆ What are these films saying about the roles of men and women in the past?
- ◆ How might they be different today?

[National Grid: 200 years of gas](#)



7

Working for National Grid today

Today, National Grid employs a diverse workforce, from Service Engineers to Departmental Heads and Directors. Find just a few examples below. Find out more about careers [here](#).

Chelsea Malcolm Engineer

When gas was first used to heat and light our homes, over 100 years ago, it was made by burning coal. Today, the gas we use is natural gas, found deep underground – often under the sea.

Chelsea Malcolm works as an engineer, helping to make sure this gas is successfully collected and safely transported from where it is found, to where it is needed – such as in our cookers. One of the best ways to transport gas – especially if it has to travel a long way - is to first change it into a liquid so that it can be placed into containers. This involves cooling it down to extremely cold temperatures - much lower than the temperatures in our freezers - and using some of the most cutting-edge technology to do this efficiently and safely.

Chelsea had no engineering experience when she first started her job. She began by spending four years gaining an advanced apprenticeship in electrical and electronic maintenance engineering – studying and learning new skills as she worked. She was the first female apprentice in her team.

She then became a control and instrumentation technician for the maintenance team. Chelsea spent three years in this role, which included many different responsibilities. She says “every day there was something totally different and exciting!”

Chelsea was then promoted to the role of Control and Instrumentation Assistant Terminal Engineer in the maintenance team. Here she looks after a team of technicians and trains apprentices of her own. She really enjoys this role, as it brings even more challenges each day.

Chelsea was recently voted National Grid's Female Engineer of the Year.



“It’s really rewarding that I can tell my new apprentice that I started where she is and show her a career path that you can have as a woman in engineering.”



Adriana (Andi) Karaboutis

Chief Information and Digital Officer

In a large company like National Grid, computers and other digital technologies are used in almost every area of work – from collecting, transporting and storing gas, to communicating with the company’s thousands of customers. Andi is one of the key people responsible for making sure this all works efficiently and safely.

Andi’s favorite subjects in school were maths and science. She also liked technology and decided she wanted to be an inventor, so she went to college to study computer science. Combining her passion with education brought her to the job she has today - as Chief Information & Digital Officer at an energy company.

Andi says: “I’m lucky – my job is to invent new tools and technology that allow people to have clean, renewable energy and help save our planet.”



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Rea Plummer

Gas Field Operations Foreman

Rea has always been practical. She likes to work with her hands and her route into her current role was through physical work. She started her career working as a gas meter reader and helping to make people's homes energy efficient.

Finding she was particularly interested in the technical aspects of working for the industry, Rea then began working as a maintenance and construction mechanic, fixing gas leaks and dealing with emergencies. This could be tough work – especially during the cold winter months. This sort of role had traditionally been done by men – Rea was the first woman to work in her team.

Rea is now a Foreman, managing important day-to-day maintenance work as well as responding to gas leaks and other emergencies. Through hard work and keeping an open mind, Rea has found a career she really enjoys. She says it's important to have people around you to support you, they can pick you up when things are difficult and help you see that challenges are part of everyday life.



“In my view, a career's not really a career without there being challenges in it”