Made Tech

Modernising the Energy Performance of Buildings Register for MHCLG

We helped the Ministry of Housing, Communities and Local Government (MHCLG) to transform the Energy Performance of Buildings Register into a modern digital service that meets GDS standards.

GOV.UK — Energy Perf

BETA   This is a new service – your feedback will help us to impro

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Energy Performance Certificate

Flat 64 Kimble House
1, Lilestone Street

LONDON
NW8 8TQ

Valid until 22 11 2029
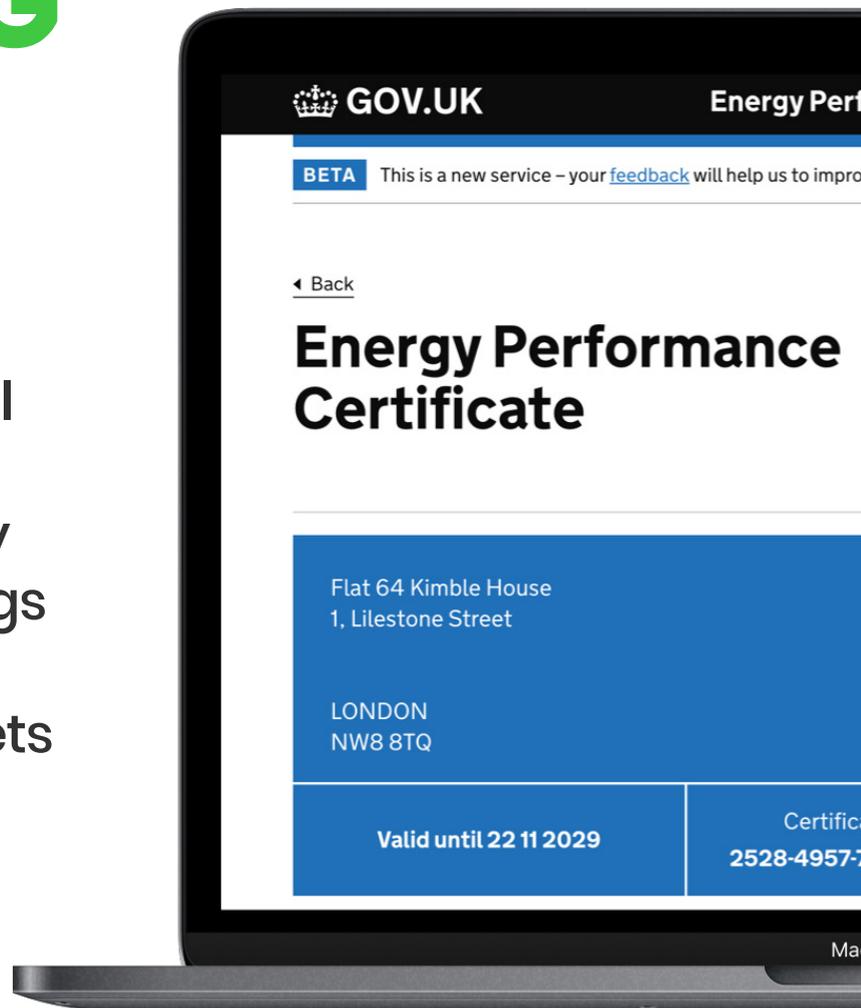
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2528-4957-

Introduction

The Energy Performance of Buildings Register is used by everyone from a prospective house buyer to policy makers and academics to access Energy Performance Certificates for UK buildings.

The Ministry of Housing, Communities and Local Government (MHCLG) wanted to develop a new digital service to replace the old Energy Performance Certificate (EPC) register. The existing service was inflexible and had become too expensive to maintain, so they wanted a cloud-based service that could be run in-house along modern government standards.

This is the first time MHCLG has taken the running of a digital service back in-house and redeveloped it from the ground up, following the user-needs driven principles of the Digital Service Standard. This makes it a significant step in our department's digital transformation journey.

From "Rebuilding the Energy Performance of Buildings Registers" on the MHCLG Digital Blog

Following an agile development process, we delivered a new digital service that followed the user-needs driven principles of the Digital Service Standard. Existing data was migrated slice by slice from the legacy system and this was achieved using AWS Snowball. Data was also made accessible through APIs, which we built to integrate with six accredited schemes.

Now, the civil service team has been upskilled to build citizen facing services, with API governance frameworks and standards developed, and is developing new features and iterating based on feedback from users.

A service for assessing energy performance

An Energy Performance Certificate is produced by an energy assessor when they evaluate a property's energy-related features. It is required whenever a building is built, sold or rented and it outlines an energy assessment based on how a building was constructed, as well as the relevant fittings, such as insulation and heating systems.

The Energy Performance of Buildings Register is where these certificates are stored and it is used by everyone from a prospective house buyer to policy makers involved in improving the energy performance of the UK's building stock and academics involved in cutting carbon. A set of energy performance data is also regularly published by MHCLG on Open Data Communities.

Until 2019, the operation of the register had been outsourced and run as four separate services, the England & Wales Domestic Register, the England & Wales Non-Domestic Register, the Northern Ireland Domestic Register and the Northern Ireland Non-Domestic Register.

The project to modernise a legacy service

Rather than recurring these services as outsourced contracts, the Ministry of Housing, Communities and Local Government (MHCLG) wanted to bring the service in-house. It wanted to develop a new digital service to replace the Energy Performance Certificate (EPC) register for rating the performance of buildings, so it was no longer being run by an outsourced supplier.

The existing service was inflexible and had become too expensive to maintain, so they wanted a cloud-based service that could be run in-house along modern government standards. This was the first time the department had taken the running of a digital service back in-house and developed it from the ground up.

They needed a team that was experienced in agile delivery to develop a new digital service that followed the user-needs driven principles of the Digital Service Standard.

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Our approach to delivering along GDS guidelines

We began with a three week inception phase to understand user personas, turn ideas into lo-fi designs and establish agile delivery ceremonies and ways of working. This was important as the civil service team needed to understand what reporting, governance and compliance processes were needed to run the new service along GDS guidelines.

We used open source technologies that were widely understood, including the Ruby programming language, Sinatra web application framework and PostgreSQL database. The new service is hosted on the gov.uk Platform as a Service (PaaS), making it easier to maintain in the future.

Data needed to be clearly designed and accessible through APIs. These were built to integrate with six accredited schemes, with all services exposed through a documented REST API. Existing data was migrated slice by slice from the legacy system, so it could be used as required by the new service. This was achieved using AWS Snowball.

The results - a modern digital service that has been brought in-house

The new gov.uk service lets users check the EPC for their home has been built using Ruby, Gov PaaS and PostgreSQL. It includes an adapter service that reads documents from both the old and new data stores. Data is also pushed to policy makers, academics and open communities involved in carbon cutting.

The civil service team has been upskilled to build citizen facing services, with API governance frameworks and standards developed. They have introduced pair programming, test-driven development and continuous deployment as they build out the new service by developing new features and iterating based on feedback from users.

"This new service will help us improve the production process for EPC data and help other people relate it to the planning, housing and other data digital land is making available"

Paul Downey, Head of Digital Land at the Ministry of Housing, Communities & Local Government
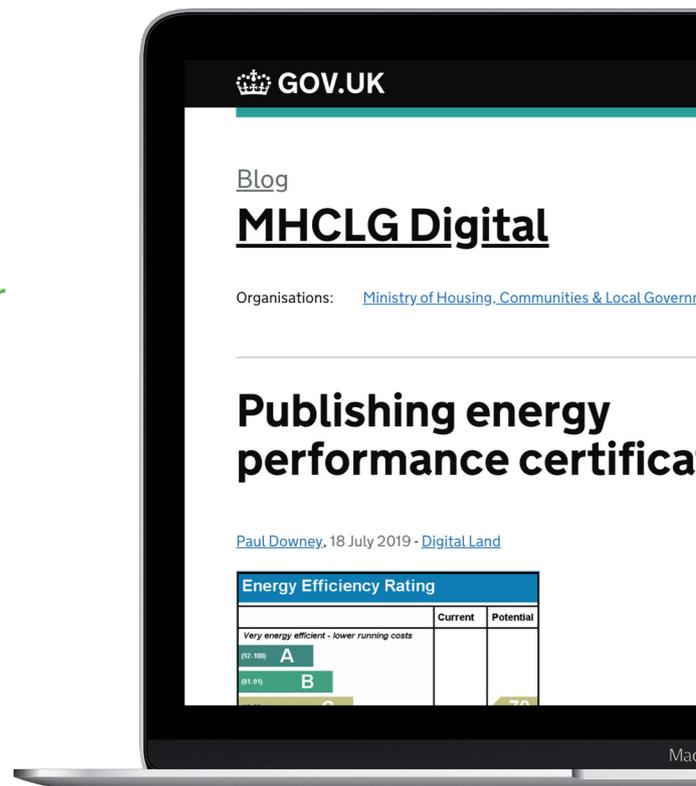
Tools, techniques and processes introduced

- Agile delivery of **new gov.uk service**

- **Ruby, Gov PaaS and PostgreSQL** used

- Data migration using **AWS Snowball**

- APIs to integrate with **six accredited schemes**

- Adapter to **read from old and new data store**

- **Team upskilled** to work along GDS guidelines

About Made Tech

Made Tech are public sector technology delivery experts. We provide Digital, Data and Technology services across the UK market.

We help public sector leaders to modernise legacy applications and working practices, accelerate digital service delivery, drive smarter decisions with data and enable improved technology skills within teams.

If you'd like to find out more, you may want to read about some related projects:

→ **Delivering GovWifi for the Government Digital Service (GDS)**

→ **Building an API platform for Hackney Council**

→ **Technology Capability Building at Ministry of Justice**

→ **Check out what we do at madetech.com**

Or you can contact our Client Director directly:

Ian Southward

✉ **ian@madetech.com**

📱 **+44 (0)203 397 7846**

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