

DSC-12 Estimating housing conditions and energy efficiency

2018-04-12

The Welsh Government are trying to improve the evidence base they use for supporting policies in housing, energy efficiency and fuel poverty. Currently, evidence on housing conditions has relied on data from the Living in Wales Property Survey 2008 which can no longer represent a current view of housing conditions in Wales. Better evidence is needed to target policies and resources more effectively to improve the housing conditions of households that stand to benefit the most. These strategies and policies aim to improve the living conditions by making homes warmer, better quality and, where appropriate, more accessible.

The strategies affected are the:

- Welsh Housing Quality Standard
- fuel poverty strategy
- Housing (Wales) Act 2014 Part 1 arrangements for landlord licensing
- property improvement loan fund
- Framework for Action on Independent living
- Prosperity for All: the national strategy (housing is one of the five priority areas)

Team members

- Christopher Bonham
- Sonia Williams

The need

Welsh Government have identified nine main areas such as energy efficiency to improve the quality and coverage of their evidence. The campus is looking for a methodology that can be used in multiple scenarios for filling gaps in data. We will start by using the Energy Performance Certificate (EPC) data to test multiple algorithms, then as additional data is made available by Data as a Service (DaaS), we will combine multiple sources to predict missing values for the unknown dwelling stock in Wales.

Impact

Filling the gaps in missing evidence will enable Welsh Government to make better decisions about their housing policies.

Data science

Both machine learning and deep learning techniques will be employed to find a working methodology.

Stakeholders

- Welsh Government
- Office for National Statistics (ONS) Sustainable Development Goals (SDG) team
- ONS PPD team

Code and outputs

A report will be published on the Data Science Campus website once the project is complete.

Delivery

- **August 2018** Use prediction of energy performance to identify an algorithm capable of filling the gaps
- **October 2018** Move to Data Access Platform (DAP)
- **November 2018** Get access and audit data sources on DAP to replace the significant variables used in predicting energy performance
- **November 2018** Predict the energy performance for the other 52% of housing stock in Wales
- **December 2018** Validate the algorithm by applying it to other variables of a different format
- **Future** Try same techniques on another main area identified by Welsh Government
- **Future** Agree next steps with SGD team

Further information

Please contact datasciencecampus@ons.gov.uk for more information.

Updates

- No updates yet.