The Office for National Statistics (ONS) is the UK's largest independent producer of official statistics and is the recognised national statistical institute for the UK. It is responsible for collecting and publishing statistics related to the economy, population and society at national, regional and local levels. It also conducts the census in England and Wales every ten years.

ONS also plays a leading role in national and international good practice in the production of official statistics. To maintain and further its expertise, the ONS conducts and commissions research covering key topics relating to official statistics and encompassing key emerging conditions.

One emerging change relates to the new data sources becoming available through the growth of technologies such as the Internet. These data sources might have a role in official statistics in a number of ways such as helping to validate or improve official estimates, providing more timely information on trends or reducing costs and response burden through the diminishing need to collect data through normal survey processes.

One new data source of interest to statistical organisations around the world is the high frequency electricity data recorded by domestic smart meters. Such data may help with understanding energy use and expenditure as well as various features such as occupancy status or household size which may be inferred from the profile of energy use over time. The Government has mandated suppliers to install smart meters in all homes and small business in Great Britain ~~All constituent countries of the UK have programs to roll out smart meters to domestic dwellings~~ by 2020, so that information on an almost universal coverage of dwellings may be available from this date.

Energy trials using smart meter type devices have led to the availability of data on smaller numbers of dwellings for current research and ONS has commissioned the University of Southampton to use some of these trial datasets to test the feasibility of using this data to identify features of households which may have relevance for official statistics. Specifically, this research focuses on the potential of using smart meter type data to identify household characteristics across a small area such as the percentage of households ~~presence of~~that include retired occupants. A second objective is the development of a method to determine occupancy status across a given area.

It must be emphasised that the principal interest for ONS is the development of methods to derive estimates for groups of households so as to monitor broad trends whilst ensuring no disclosure of personal information. As a first step towards this aim, it is necessary to conduct research at the individual household level as within this paper.

ONS recognises that smart meter data poses major questions around ethics, privacy and the safeguarding of personal information. ONS has already sought advice from privacy groups on this research and been given approval so as to demonstrate more fully the benefits of using this data. Future use of this data in a production setting will involve extensive engagement with all stakeholders to ensure that the appropriate levels of security are in place to satisfy the strict controls demanded under the code of practice for official statistics (UK Statistics Authority 2009).

The University of Southampton is continuing this research under an ESRC funded project (http://www.energy.soton.ac.uk/category/research/energy-behaviour/census-2022/).

Comment [   ]: It would be useful to be more specific about who these groups are. If questions were raised, for example in the press, it might be better that these groups were contacted rather than another group who would have less understanding.

Comment   : Was formal approval given for this?

Additionally, ONS is conducting internal research using smart meter type data through its Big Data project and regular updates are published at http://www.ons.gov.uk/ons/guide-method/development-programmes/the-ons-big-data-project/index.html