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SNAPSHOTS IN THE DEVELOPMENT OF ENVIRONMENTAL-SOCIAL STATISTICS

Prepared by Gerry Brady, CSO Ireland

Abstract

This paper argues for the need for the development of environmental-social statistics to support a Just Transition to a low-carbon economy.

The System of Environmental-Economic Accounts includes all households under one category. Policy makers would be more informed if the environmental situation of households was disaggregated by characteristics such as rural/urban, tenure status, labour force status, gender, health, age composition, etc. The development of climate change-related statistics and the SDGs requires such disaggregation.

I.   INTEGRATING ENVIRONMENT AND SOCIAL STATISTICS

1.   Enterprise surveys use NACE to compile statistics on business sectors. Social surveys use a broad range of socio-economic and demographic classifications such as sex, age group, principal economic status, disability status, etc. Environmental-economic accounts uses the NACE approach with the addition of a household category. The development of policies to guide the transition to a low-carbon economy requires a disaggregation of households to enable policy makers to identify communities and population segments that are most vulnerable and that may require financial assistance. This broader social view of environment issues would facilitate analyses such as fuel poverty, environment and health, and environment and gender.

II.   ENVIRONMENTAL-SOCIAL TOPICS

2.   The impact of households on the environment varies widely from those using public transport and heat pumps to households using solid fuel heating, not segregating their waste, and driving an old diesel car. The income of households is a key factor determining whether households can afford to adopt more environment-friendly behaviours. Persons living in rented households may have less scope to improve the energy efficiency of their dwelling. Persons living alone who are retired or unemployed may not be able to afford to change to less-polluting

behaviours. Persons with mobility difficulty may require more heating to keep themselves adequately warm. These issues could be considered when developing policies for the transition to a low-carbon economy if statisticians were able to collect data directly or combine existing datasets that contain the required variables.

A.   Energy efficiency of dwellings

3.   The European Performance of Buildings Directive promotes policies that will help achieve a highly energy efficient and decarbonised building stock by 2050. The Green Deal includes provisions to increase the number and depth of energy retrofits being undertaken. The EPBD puts obligations on Member States in relation to new buildings and the renovation of existing buildings. In Ireland the EPBD has resulted in the availability of a very detailed database of households that have had energy audits conducted. This database has huge statistical potential as it is essentially an ongoing housing conditions survey. Over half of all dwellings in Ireland have had an energy audit undertaken for reasons such as a new dwelling, being sold, being rented, and applying for an energy retrofit grant.

4.   Further value can be added if the database is combined with household microdata to identify the socio-economic characteristics of the least energy-efficient dwellings. Such information can be used as an input towards providing financial assistance towards deep renovations e.g. statistical analyses could provide data on the size of population segments such as households with very low energy efficiency where no occupant is in employment.

5.   The CSO in Ireland publish a quarterly report on Domestic Building Energy Ratings[1] and undertook an additional analysis matching the ratings microdata with the 2016 Census of Population[2].

B.   Electric vehicles

6.   Road transport accounts for a high proportion of carbon dioxide emissions. There is a need to encourage and facilitate a rapid transition to electric and hybrid vehicles. The change will require coordination across vehicle sales, the development of a charge point network, and increased use of renewables in the generation of electricity. Statistical offices could develop a consistent set of indicators that would allow policy makers to track the evenness and the extent of the change from older petrol and diesel vehicles.

7.   The CSO has obtained administrative microdata from the Sustainable Energy Authority of Ireland in relation to households that have received financial support to purchase an electric vehicle or to install a home charge point. The SEAI provide funding to local authorities to develop local charge point networks. The CSO has contacted the Electricity Supply Board to obtain data on the rollout of the public charge point network and on the amount of electricity

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[1] https://www.cso.ie/en/statistics/climateandenergy/domesticbuildingenergyratings/
[2] https://www.cso.ie/en/releasesandpublications/ep/p-dbersp/domesticbuildingenergyratingsfromasocialperspective2016/

consumed at each charge point. CSO Transport have access to the vehicle fleet microdata which can be disaggregated by fuel type, location, engine size, age and sex of vehicle owner, etc.

C.   Fossil fuel subsidies

8.   Fossil fuel subsidies encourage increased consumption of more polluting fuels through direct and indirect subsidies. Examples include lower excise or carbon rates on certain fuels e.g. those used in agriculture and in international aviation. VAT refunds to companies for fuel purchases are another example.

9.   There is international recognition that these subsidies need to be phased out. In some cases, there is a social aspect to the subsidy such as in the case of providing home heating allowances to poorer households. Social aspects need to be taken account of, to ensure there is just transition to a low-carbon economy with no one left behind.

10.   The statistical community can provide important information to policy makers on the types and levels of fossil fuel subsidies and on the beneficiaries. The CSO publishes an annual report on effective carbon rates and on the absolute level of direct and indirect subsidies[3] .

D.   Household surveys

11.   Statistical offices have the capacity to undertake household surveys to collect information on environmental issues. These surveys can be undertaken as modules attached to a general household survey in which case the environmental questionnaire need not collect socio-demographic data as it will be available from the main survey. They could also be undertaken as standalone surveys, using telephone or internet data collection, which are less expensive and provide more flexibility around timing and sample size but they may have a much lower response rate.

12.   The CSO included an environment module[4] with the 2014 Labour Force Survey to collect a broad range of information on energy use and waste management practices. A 2021 standalone environment module is being undertaken during August and September using a combination of post-out and internet completion. Questions will be asked on: attitudes to the environment and climate change; on use of nature; on principal and secondary energy use fuels, and on waste management practices.

E.   Censuses

13.   The Census of Population and the Census of Agriculture offer opportunities for the collection of environment-relevant data. Information such as main space heating fuel, period of construction, type of building, vehicle ownership, installation of solar panels, and farm management practices could be collected.

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[3] https://www.cso.ie/en/statistics/environmentaccounts/fossilfuelsubsidies/
[4] https://www.cso.ie/en/releasesandpublications/er/q-env/qnhsenvironmentmoduleq22014/

14.   If a unique household identifier was used, it may be possible to undertake a time series analysis to examine which types of households have made more environmentally friendly changes. A CSO analysis of the 2011 and 2016 Censuses of Population[5] found that households where there was a change of occupants were more likely to have changed from solid fuel heating.

F.   Administrative microdata

15.   Meter utility data on electricity, gas, and water consumption offer huge statistical potential especially if they can be combined with socio-economic data. The CSO published annual releases based on gas[6], water[7], and electricity meter level utility data. If the meter data are classified into monthly or quarterly periods, indirect estimates of Winter heating consumption can be made for compiling statistics on the energy consumption of households. The electricity and gas data could be combined with energy audits microdata to examine how actual consumption varies by energy efficiency rating.

16.   Vehicle odometer data are a very rich source of both household and business statistics. The basic odometer data, collected in vehicle safety tests, records the miles or kilometres travelled by a vehicle on a test date. This can be combined with vehicle owner data to analyse how a vehicle is used classified by characteristics such as fuel type, sex of owner, age of owner, engine size, rural or urban location, and age of vehicle. These data can be used for many purposes e.g. to examine whether electric vehicles are being purchased to replace vehicles that do high or low mileage.

III.   CONCLUSIONS

17.   There is a need to integrate environment statistics with social statistics to identify the households that may be most affected by climate change to assist policy makers to map out *Just Transition* inclusive pathways towards a low-carbon economy.

18.   Environmental-social statistics requires data at person and household level and this can be done through a variety of methods such as: matching microdata files to combine climate-relevant and social data; undertaking environment modules as part of general household surveys; and standalone environment surveys.

19.   There may be a need within statistical offices for more coordination so that environmental questions are incorporated into economic and social surveys.

20.   It would be helpful if there was some international guidance influencing which areas of environmental-social statistics should be prioritised. The need to provide data for the UN Sustainable Development Goals and the development of climate change-related statistics are important steps in this direction.

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[5] https://www.cso.ie/en/releasesandpublications/ep/p-copep/thecensusofpopulationfromanenvironmentperspective2011and2016/
[6] https://www.cso.ie/en/releasesandpublications/er/ngc/networkedgasconsumption2020/
[7] https://www.cso.ie/en/releasesandpublications/er/dmwc/domesticmeteredpublicwaterconsumption2018/