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# ESRI Fuel Poverty Conference

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## Matching SILC and BER

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## Overview of Presentation

- Brief description of work of CSO Environment and Climate division
- Matching BER and SILC
- Research microdata files
- Conclusions



## Statistical Areas covered by CSO Environment

- Agri-environment
- Climate data rescue project (1870s to 1959 daily Met Éireann data)
- Energy
- Environmental economic accounts
- Fishery
- Forestry
- Environment indicator report
- Social (LFS household survey environment modules, Census/BER report))
- Water and waste water



## Energy/Social Statistics Releases

- Business Energy Use survey
- Census of Population from an Environment Perspective
- Domestic Building Energy Ratings
- Domestic Building Energy Ratings from a Social Perspective
- Non-Domestic Building Energy Ratings
  
- Household Electricity Consumption by Building Energy Ratings
- Household Gas Consumption by Building Energy Ratings
- Non-Domestic Electricity Consumption by Building Energy Ratings
- Trends in Metered Electricity and Gas Bills
  
- Fuel Excise Clearances
- Fuel Oil Movements
  
- Metered Electricity Consumption (Data Centres )
- Metered Electricity Consumption
  
- Networked Gas Consumption
- Networked Gas Daily Consumption
  
- Fuels used in Electricity Generation (work-in-progress)
- Vehicle Odometers (work-in-progress)



## Environmental Accounts releases/modules

- Environmental Accounts Air Emissions (Regulation / release)
- Environment Goods and Services Sector (Regulation / release)
- Environment Taxes (Regulation / release)
- Material Flow Accounts (Regulation / release)
- Physical Energy Flow Accounts (Regulation / Business Energy Use survey)
- Environmental Protection Expenditure Accounts (Regulation / **work-in-progress**)
- Forest Accounts (Regulation / **work-in-progress**)
- Environmental Subsidies and Similar Transfers (voluntary / release)
- Fossil Fuel Subsidies (voluntary / release)
- Water Accounts (voluntary / **work-in-progress**)
- Decoupling Emissions from Economic Activity (**indicator analysis**)

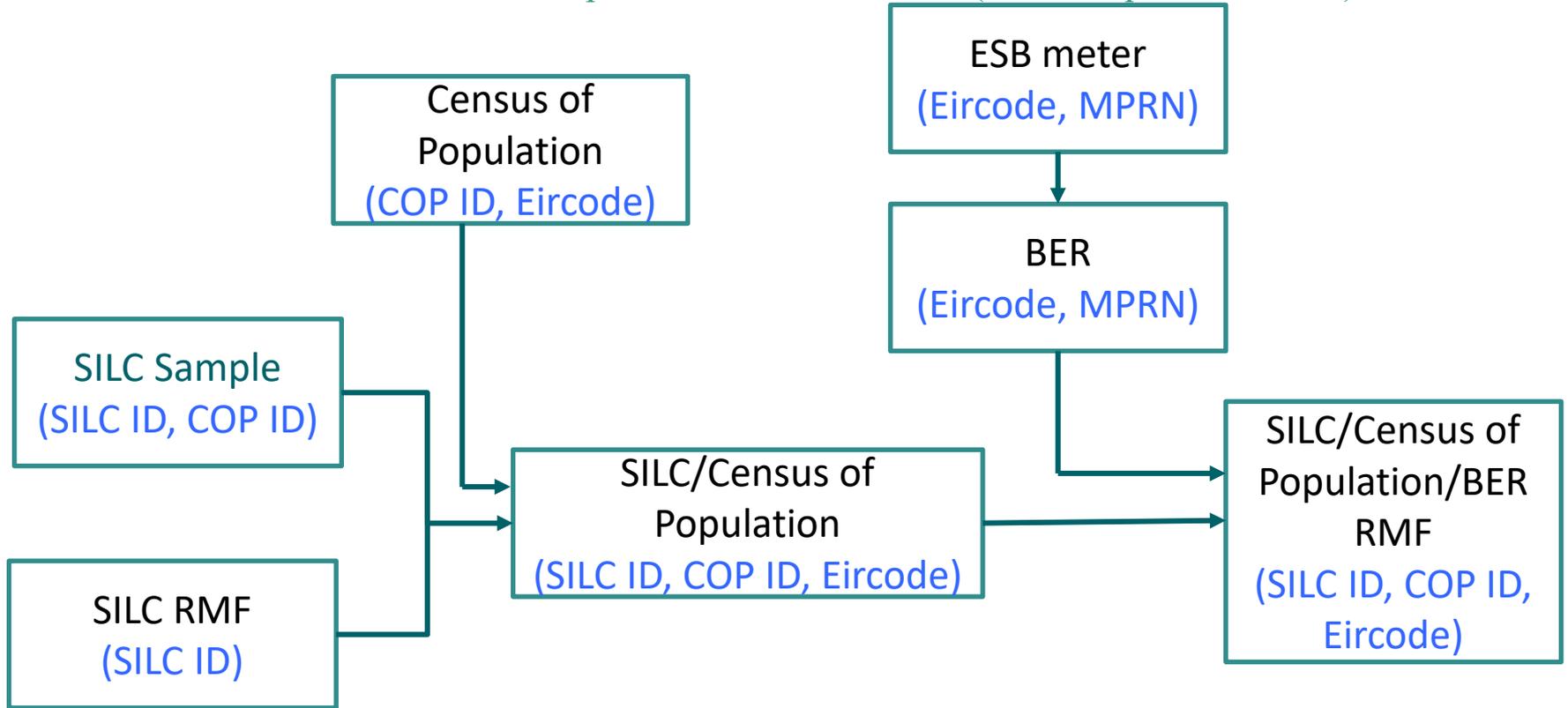


## Matching BER and SILC

1. Both datasets are in different CSO divisions so there was not a readily identifiable owner within CSO to create the RMF file
2. Household collection unit provided us with annual files of the SILC sample which contained the SILC and Census of Population unique identifiers
3. SILC staff provided us with access to the annual SILC RMF file
4. We matched the SILC sample and RMF files to create annual files of completed SILC interviews for 2016-2022
5. We used the 2016 Census of Population unique identifier to match with the Census of Population to get Eircodes
6. We used the Eircode to match with the SEAI Building Energy Ratings file ([around 50% of BER audits have an Eircode – it is now a mandatory variable](#))
7. The electricity meter file was used to add more Eircodes into the BER file before the SILC/Census/BER match – the MPRN was used to match the BER/ESB datasets
8. We dropped most of the SILC RMF variables and added a few BER variables



## Production of SILC/Census of Population/BER RMF file (ID = unique identifier)



## Matching BER and SILC

Year	SILC sample	SILC RMF	BER/SILC RMF
2016	9,480	4,258	1,525
2017	9,461	4,603	1,615
2018	9,529	4,171	1,449
2019	9,591	4,065	1,453
2020	10,184	4,171	1,471
2021	11,939	4,811	1,618
2022	11,814	4,630	1,626



## Environment Research Microdata Files

### Available

- 2014 Labour Force Survey environment module
- Census of Population 2011/2016 environmental analysis
- SILC/BER 2016-2022

### Planned

- Business Energy Use survey 2009-2021
- 2022 General Household Survey environment module
- BER/Census/ESB/GNI



## Conclusions

- Our work related to energy poverty mainly relates to combining datasets:
  - - BER
  - - ESB and GNI residential metered consumption
  - - Census of Population
- The meter data are in effect longitudinal datasets with 2011-2021 for metered gas consumption and 2015-2022 for electricity consumption. This longitudinal aspect of having a time series for each meter has potential that we have not analysed and should be of more interest as the time series is extended.
- The meter consumption data can be combined with six-monthly SEAI collected energy supplier price data to estimate utility bill costs
- Matching with the Census of Population adds socio-economic data



Combining datasets involves using various incomplete unique identifiers!