Collect, Visualise, Monitor: Using data to encourage energy efficient thinking

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Fermanagh & Omagh
District Council

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Fermanagh Omagh Council Area

The Council area is home to

117,337
people

with approximately

70%

the population living in
rural areas

Causeway Coast
and
Glens

Derry City
and
Strabane

Mid-Ulster

Fermanagh
and
Omagh

Armagh City,
Banbridge
and
Craigavon

FODC Energy Management Overview

- 138 Electricity Consuming assets
  - 89% of which are non-half hourly meters

- 25 Oil Consuming Assets
- 2 Biomass Consuming Assets
- 2 LPG Consuming Assets

- 30 "Display Energy Certificate" Buildings

- Over 150 Council Owned Vehicles
  - Over 95% Diesel
  - Remainder are EV's
  - Hydrotreated Vegetable Oil (HVO) trial 2023/24

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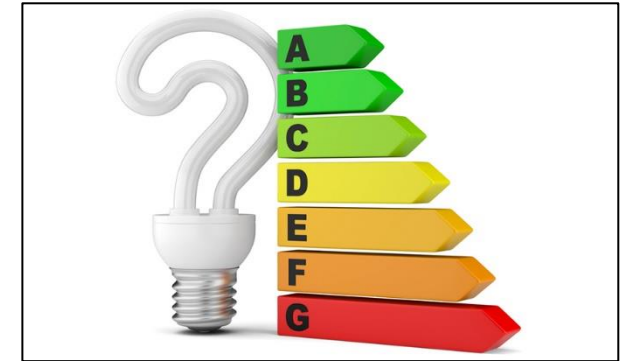
Data Quality Issues

- Large number of non-half hourly electricity meters (89%)

  - Many had not been read in years due to rural location/ accessibility.
  - Bills largely based on estimates, leading to overestimates, underestimates, billing errors.

- Data availability Issues

  - Building managers cannot access data for their own facility
  - Manual data collation is time-intensive for Energy Officers/ Building Managers
  - Limited access to cost information- bills sent directly to finance.

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Why Data Quality Matters

- Accurately report progress towards decarbonisation targets
  - Energy Management Policy and Action Plan 2030 Targets

- Climate Change Act (Northern Ireland) 2022
  - The Climate Change (Reporting Bodies) Regulations (Northern Ireland) 2024

- Ensure accurate billing

- Stimulate energy efficient thinking
  - "Only what gets measured, gets managed"

- Monitor consumption of sub-metered uses
  - Display Energy Certificate separable uses, leased areas etc.

Completeness

Validity

Accuracy

Consistency

integrity

Timeliness

Data Quality

Data Collection Process - Jotform

- Worked with Heads of Service to assign "data logging" responsibilities to staff for all 138 energy-consuming assets across the Council

- Used simple data inputting software (JotForm)

- Staff provided Video tutorials on how to:
  - How to correctly read different types of meters
  - How to complete the JotForm
  - Create app shortcut on mobile/ desktop devices

- Over 3,000 meter reading submissions have been received via JotForm since the process launched in 2021.
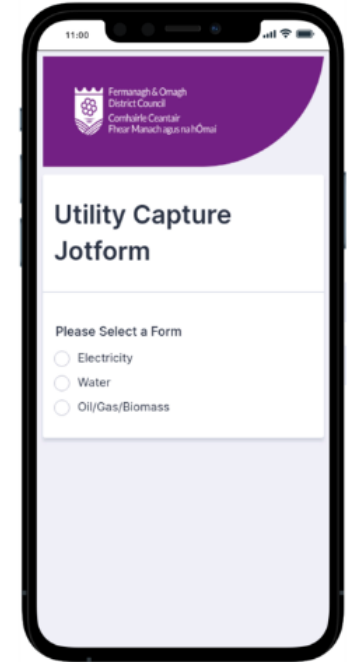
Energy Management Dashboard

- Allows Building Managers to easily access and compare energy use. Visualisation of half hourly data in particular can be used to:
  - Identify unwanted out-of-hours energy use.
  - Identify unwanted weekend use
  - Seasonal trends

- Visualise and quantify the impact of energy efficiency interventions, from both an energy and a monetary perspective.

Energy Management Dashboard contd.

- Allows Fleet managers to more easily compare and contrast performance of vehicles of similar size/ utility.

- Fleet Replacement
  - Inform Savings

Fleet Fuel Consumption
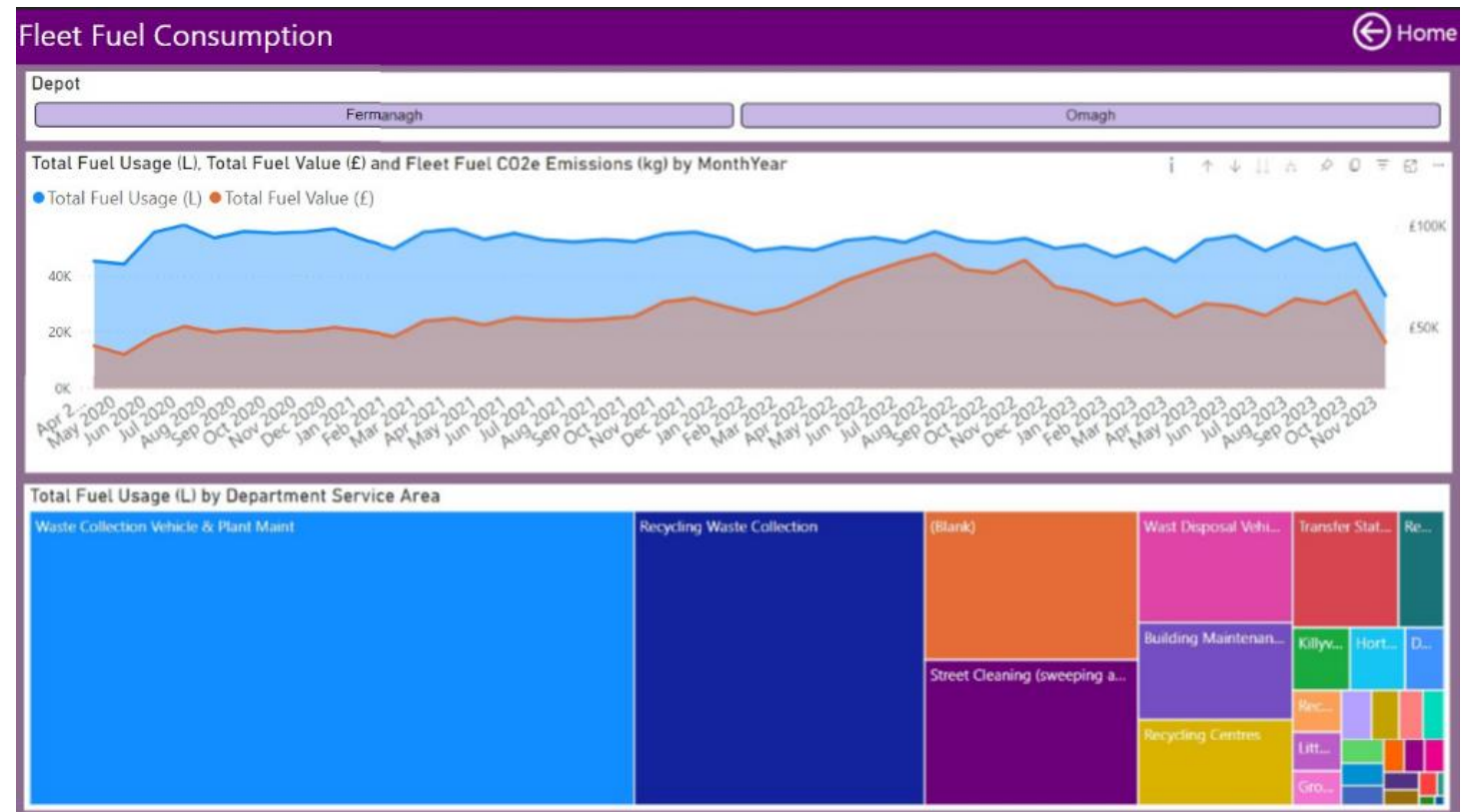
Current Progress

"Beta" Version Launched June 20234

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Staff Training Workshop- Building Managers

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Staff Feedback session

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Increase the scope to incorporate additional data sources e.g. Fuel and Water use

↓

Launch "complete" version

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Additional Data Sources