



# Using web data to visualise and analyse EPC ratings



Zero to a scalable market intelligence data pipeline (and insights) fast



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Hi, I'm **Daniel**

10 years of launching  
innovation in web data  
and scraping tech.

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Namastay,  
I'm **Neha**  
Serving the web  
scraping community.

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zyte

*I wish I were  
a data  
journalist*



Hi, I'm **Daniel**

10 years of launching  
innovation in web data  
and scraping tech.

I wish he  
wouldn't 🤔



Namastay,

I'm **Neha**

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Are EPC  
ratings fit for  
purpose?

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**On average fridges and  
freezers typically make  
up to 16%-18% of your  
household energy bill?**

- The Energy Saving Trust 2023

**energy  
saving  
trust**

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# You had me at 16% of my energy bill!

... why is my new  
fridge freezer F  
rated in the  
middle of a cost  
of living and  
climate crisis!

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## Method and Preview

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**I wanted to examine the  
interplay of EPC Ratings,  
costs, and return on  
investments.**

The result: while seemingly useful on the  
surface, there was a devil in the detail

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## Introduction:

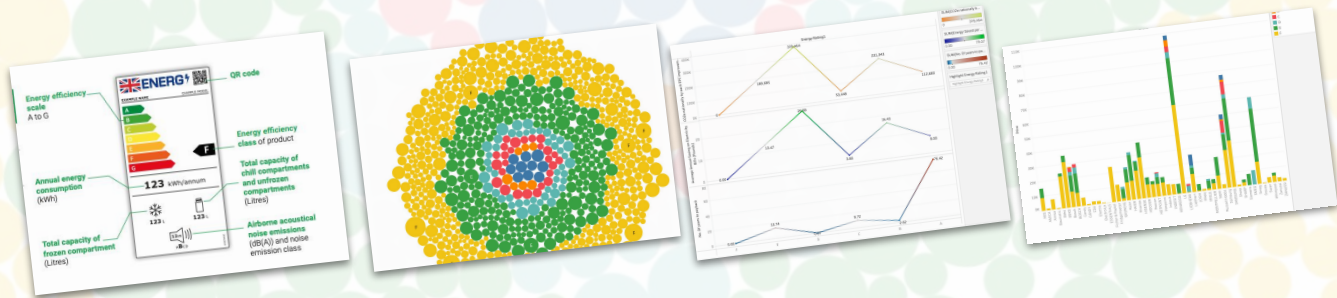
What we did

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Asked questions

Gathered data to answer them.

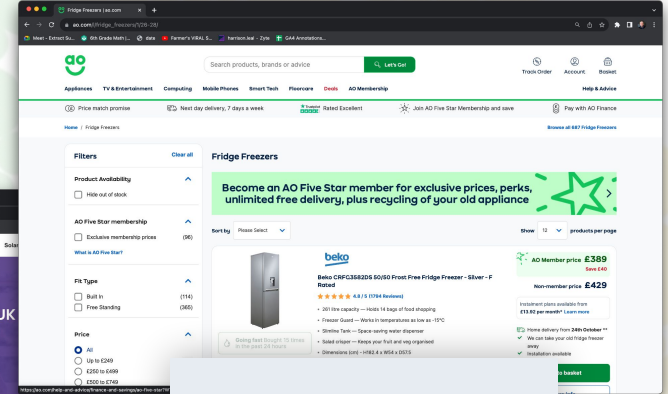
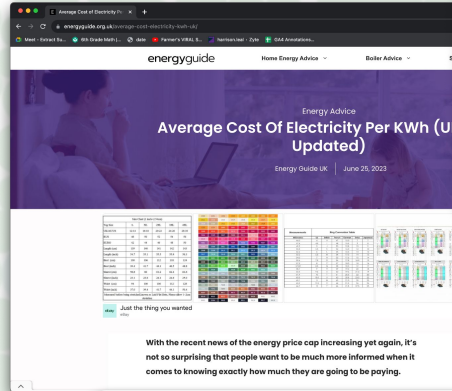
Analysed and Visualised the data.



We needed:

- Pricing,
- EPC Rating,
- Brand names
- power consumption
- price of electricity
- CO2 per KW/h

From multiple sites.







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**Oh No!**  
Problem!

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**The Economics of scraping we're  
set to kill this project**

It just wouldn't be worth our  
developers time to build and  
maintain those spiders.

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**Oh No!**  
Problem!

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**The Economics of scraping we're  
set to kill this project**

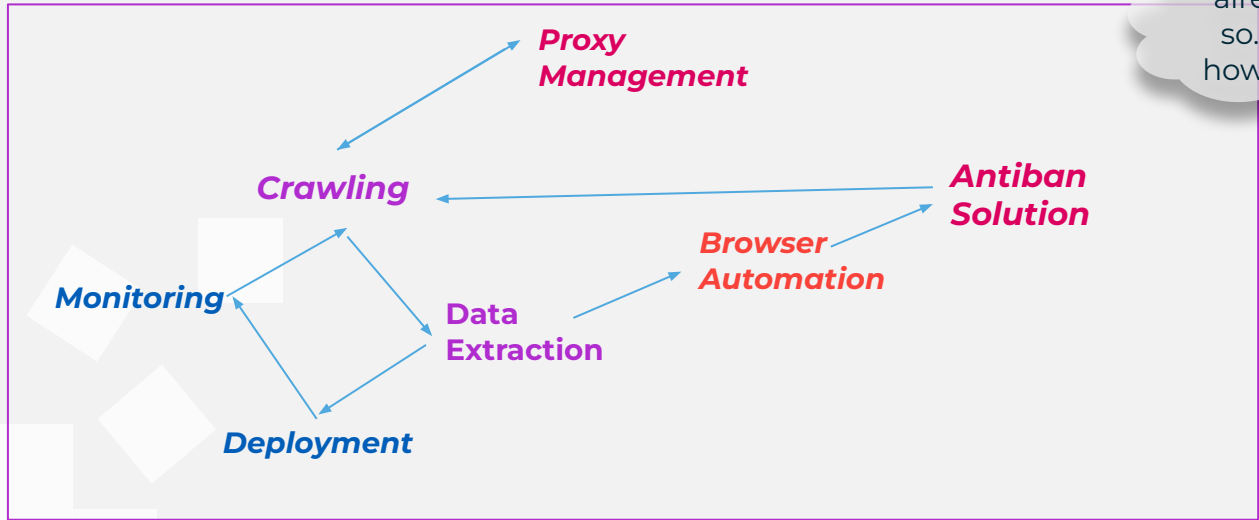
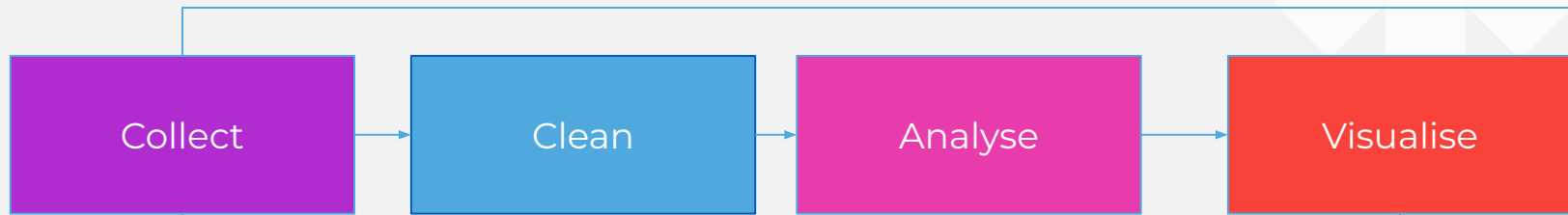
I'm busy  
already,  
**go away!**





Challenge: Can we do  
something in half a day?





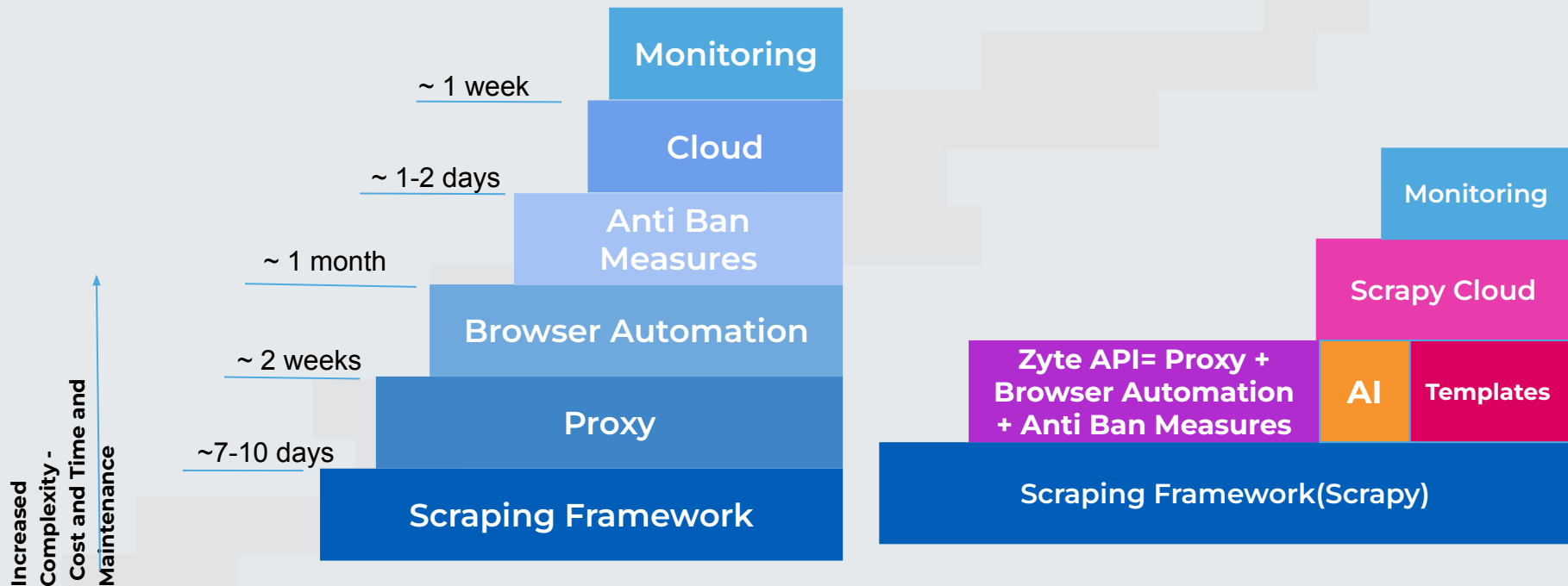
Neha is already busy so.... Let see how she did it







Zyte API





**Demo**





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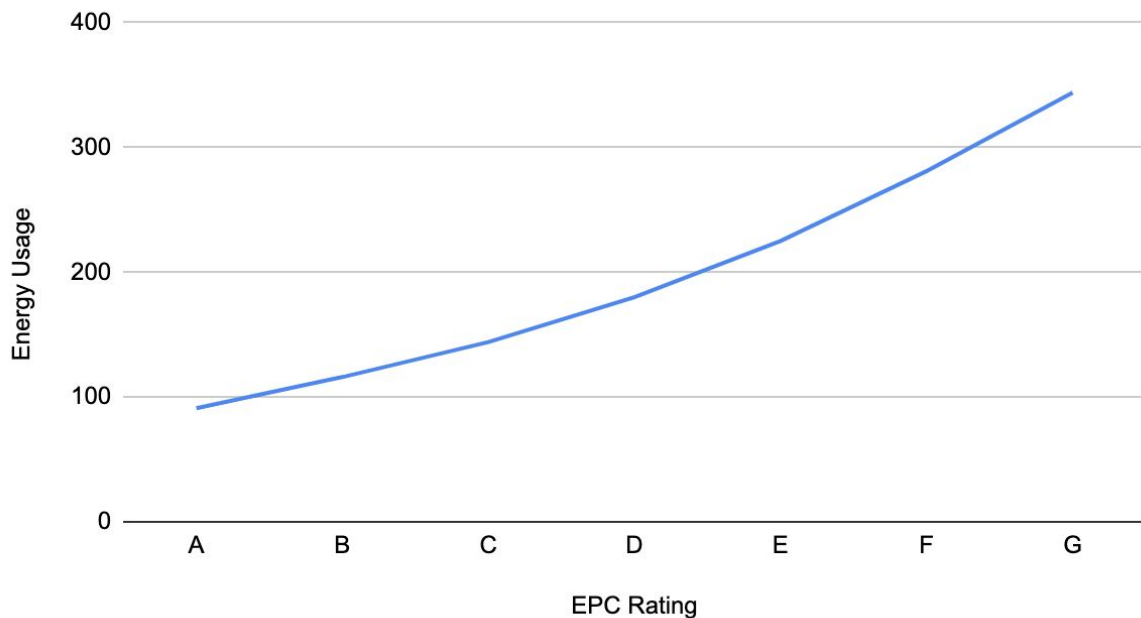
Neha:  
**I gave that  
back to Dan**

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# Data Viz

Makes sense to me.  
EPC ratings are  
basically a curve with  
Rating on X and  
Energy Usage on Y.

Energy Usage vs. EPC Rating

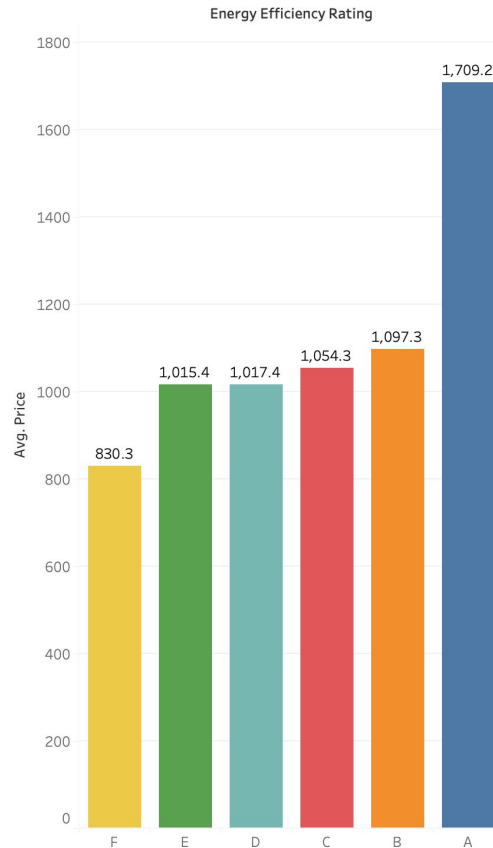




# Data Viz

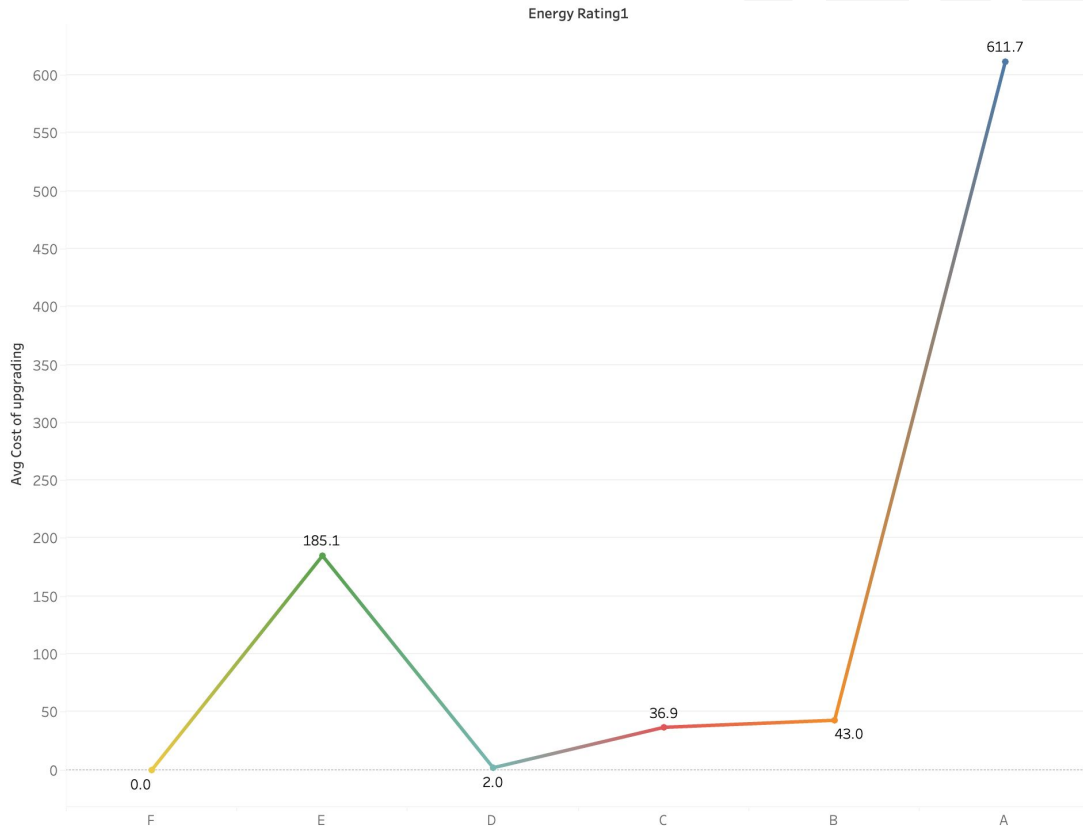
But... Pricing doesn't  
follow the same curve!

Average Price of Fridge-Rating



# Data Viz

Looking at it a different way you can see the Price to upgrade from on EPC step to another is NOT a neat curve at all.



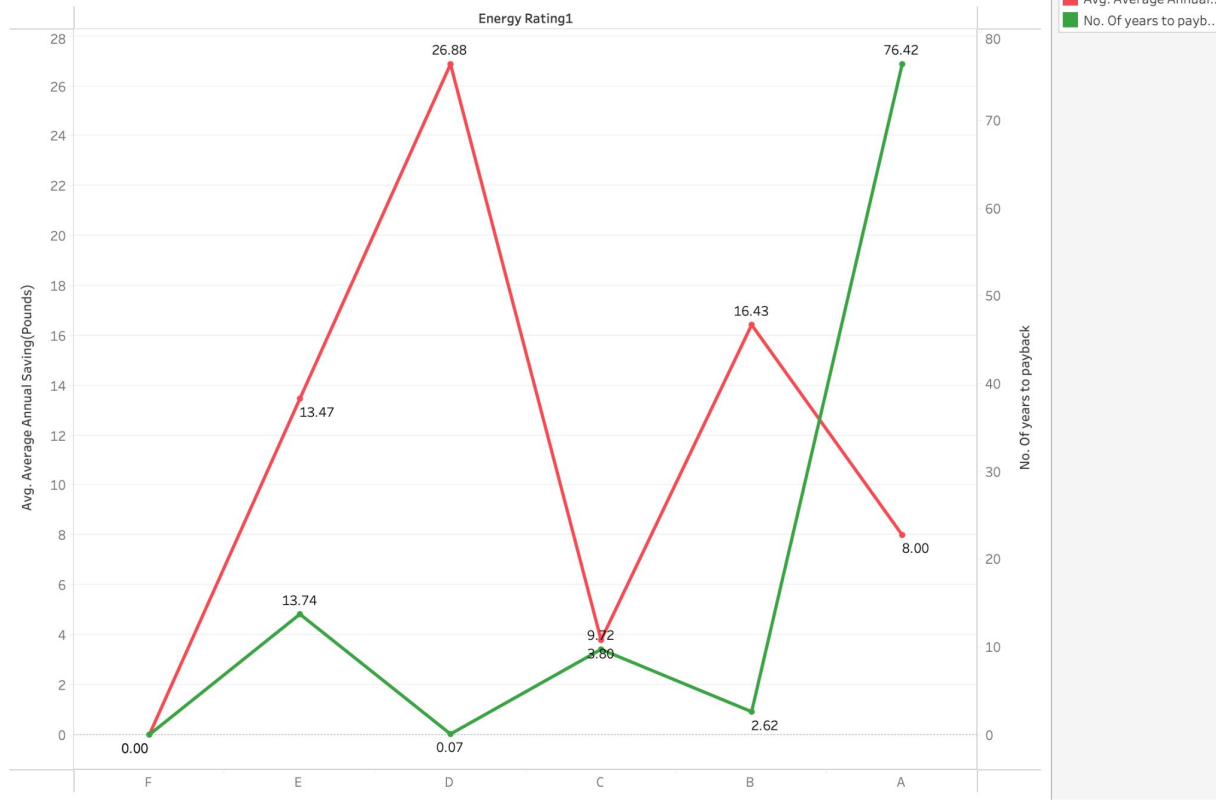
# Data Viz

How long it takes for each single step up in EPC rating to reach ROI.

Assuming a £0.34 cost per unit.

- 0.7 years to go from E to D?!
- 76 years to go from B to A

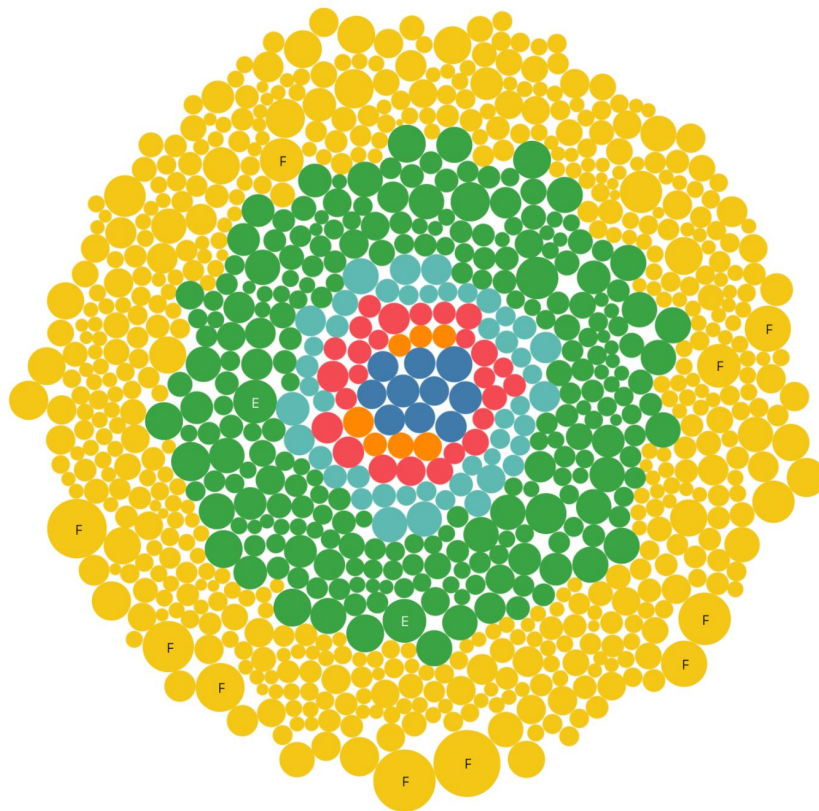
Avg. Annual Saving and No. of years to payback.



# Data Viz

Bubble Chart

What does the landscape of product availability look like?



Energy Efficiency Rating

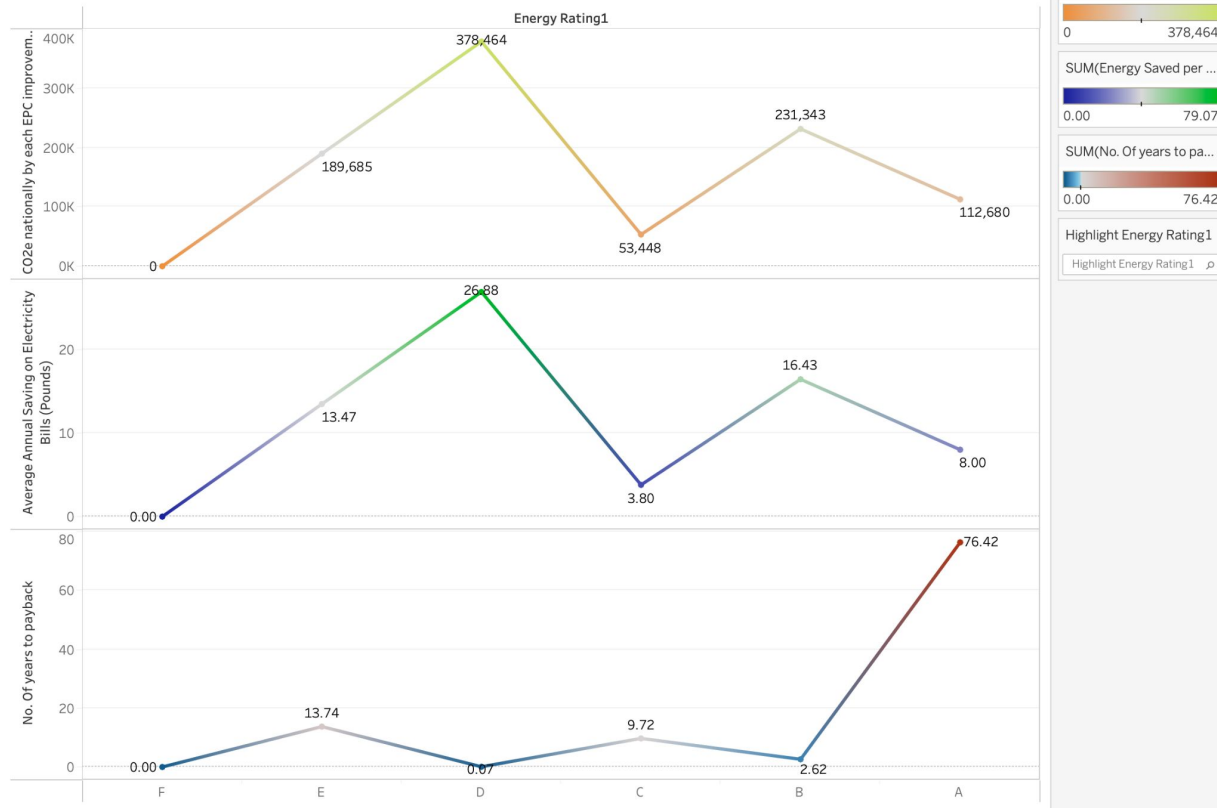
- A
- B
- C
- D
- E
- F



# Data Viz

0.193 kg of CO2e per  
kWh of electricity

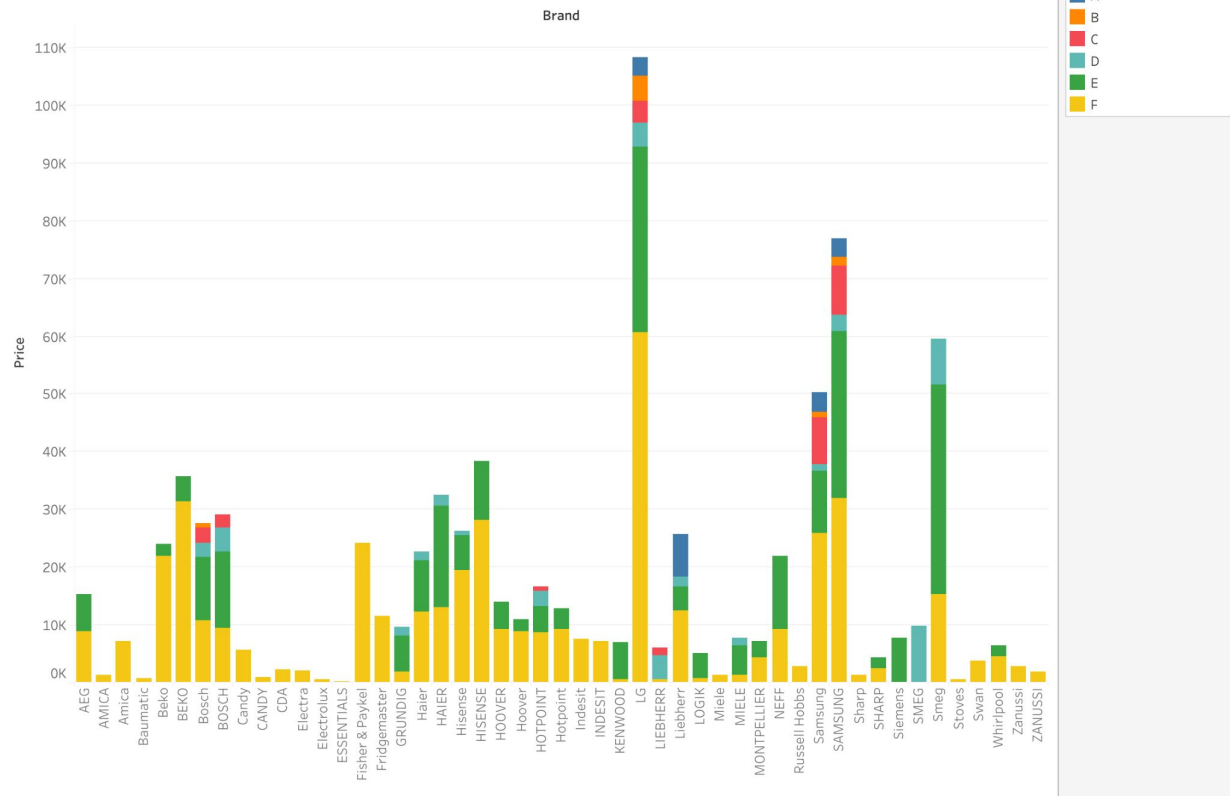
24.8 million homes



# Data Viz

Only 4 brands out actually make A rated fridge freezers.

Brands-Energy Rating



# What did we learn?

**Manufacturers don't make  
higher rated appliances as  
People don't buy them.**



**So they stay expensive**

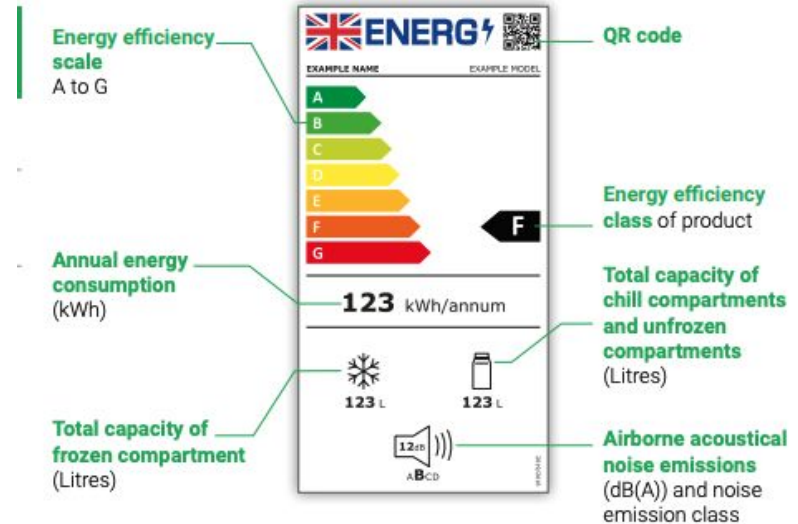
**So people don't  
buy them**

# Solution: Improving EPC ratings

EPC ratings and labelling should/could be altered to include data such as estimated ROI, and CO2 Savings.

Education and incentivisation is needed to break this cycle because people tend to focus on short term prices rather than longer term investment.

The non-linear ROI of EPC ratings is not clear to users and is hard to understand.







# Solution: Incentives for Higher EPCs



Could governments incentivise buying of higher EPC appliances?

A low-to-no interest loan to help people with the upfront cost of buying more efficient fridge freezers would help a lot.

**Help government meeting climate goals** ✓

**Put less stress on our energy infrastructure** ✓

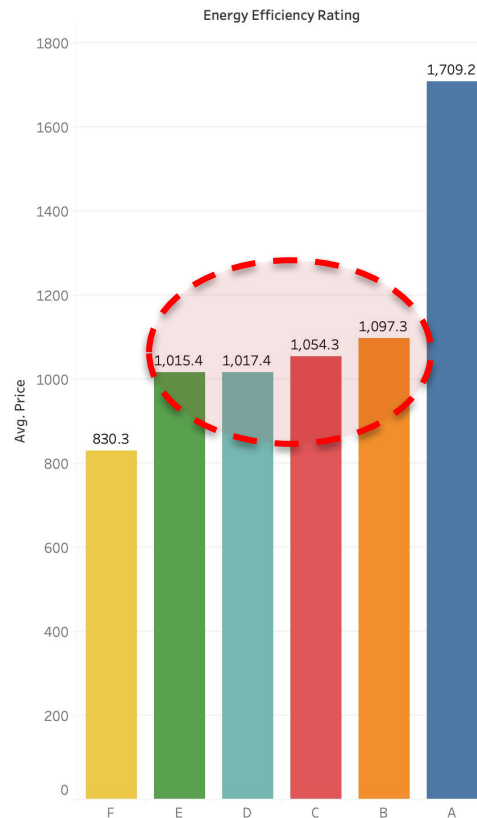
**Help citizens save money during a cost of living crisis and beyond** ✓

(assuming interest < savings + ROI)

# Where to target incentives?

Because of the lower price differences deploying capital incentives here could yield the positive results.

Average Price of Fridge-Rating



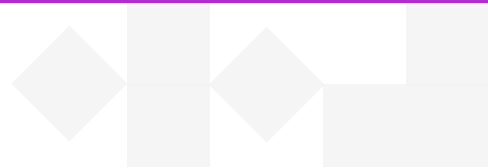
## **Zero to insights in less than a day <1 Day**

with little to no domain expertise or  
budget.

*Imagine what you could do, with one  
week and your domain expertise.*



# Summary



**Thank you**  
See you on discord.

