

# Carbon Co-op

**Energy Efficiency, retrofit and  
member benefit**

Jonathan Atkinson  
[jonathan@carbon.coop](mailto:jonathan@carbon.coop)

CarbonCo-op



**CarbonCo-op**

**technical expertise**

**ADVICE**

**contractors**

supportive group of householders

**appropriate finance**

**TRUST**



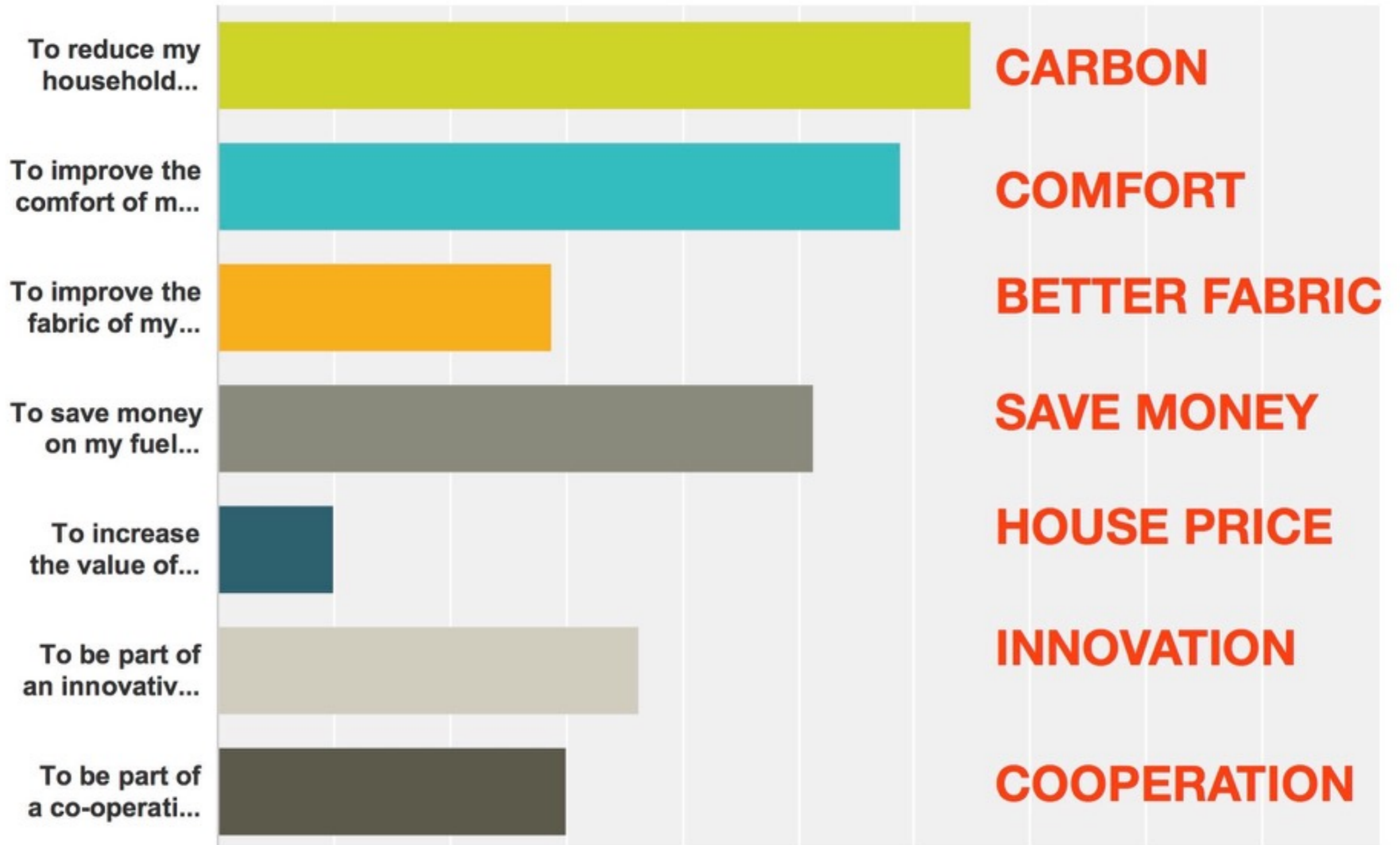
**PEOPLE'S  
REPUBLIC**

VOTE NOW [WWW.ENERGYSHARE.COM/VOTING](http://WWW.ENERGYSHARE.COM/VOTING)

**OF ENERGY**

# Motivations

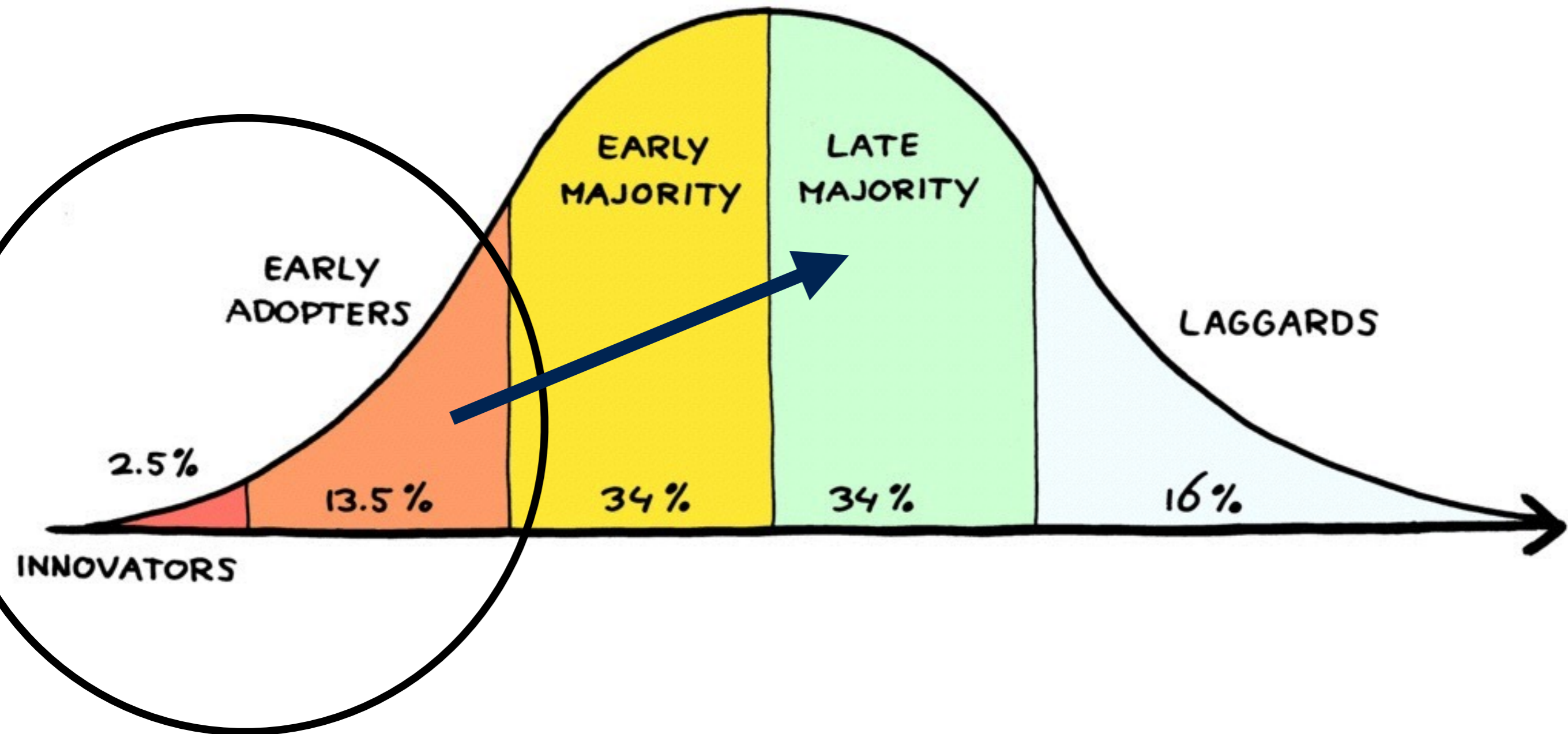
Carbon Coop members' reasons for retrofit....





**Innovative?**

# Theory of Change







80%

2050

Professor Kevin Anderson, Tyndall Centre



**technical expertise**

community  
green deal

# Community Green Deal

Developing a model to benefit whole communities

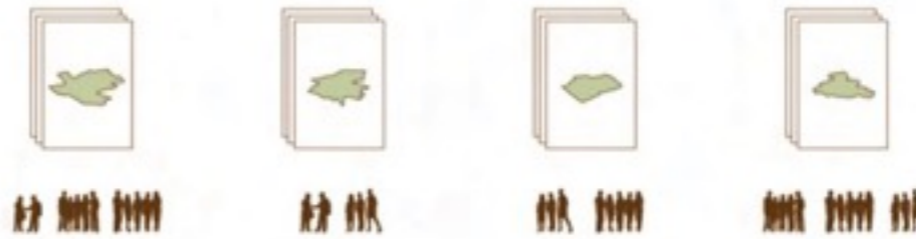
Final report and companion guides



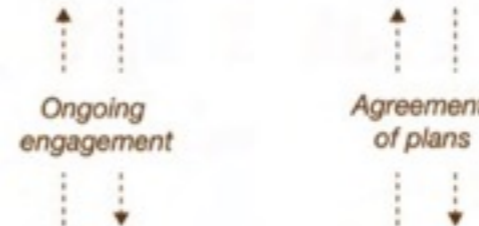
**Building Block 1**  
Identifying needs  
building on  
opportunities



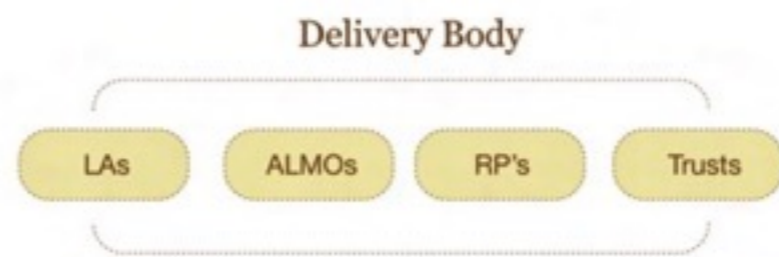
**Building Block 2**  
Developing  
plans and  
programmes



- Delivery partners**
- LA's
  - RP's
  - ALMO's
  - Communities
  - Energy companies
  - Lead contractors



**Building Block 3**  
Working  
together to  
achieve more

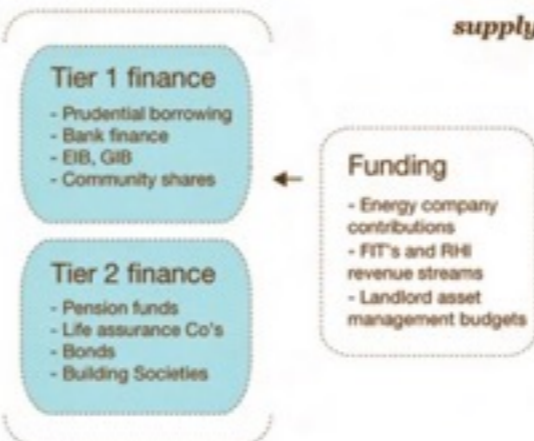


- Support**
- Government
  - HCA
  - LEPs



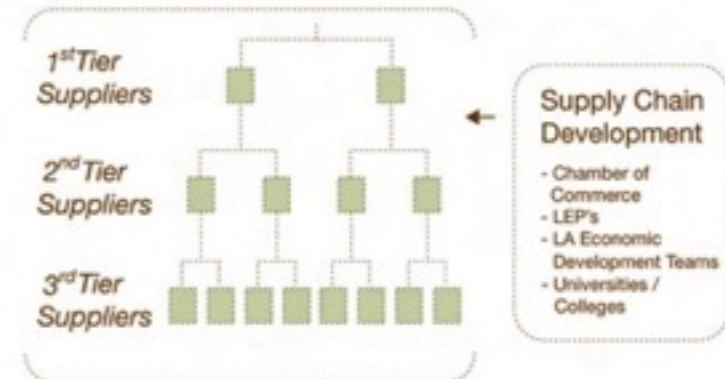
**Building Block 4**  
Establishing  
re-investment  
funds

**Re-investment fund**



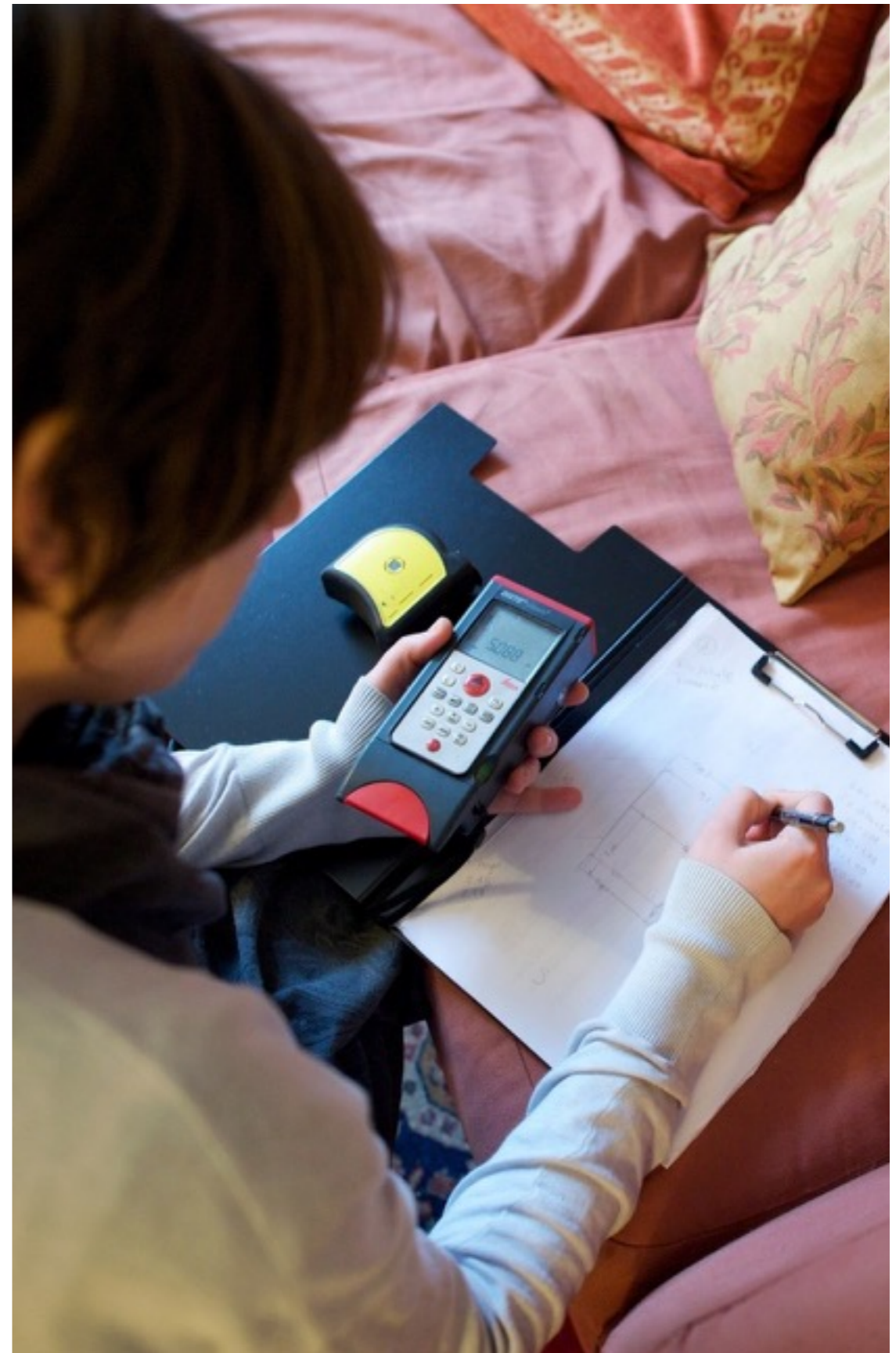
**Building Block 5**  
Investing  
in the  
supply chain

**Supply Chain**



# ‘Community Green Deal’

- **Assessment**
- **architectural design and development**
- **Work procured by Carbon Co-op**
- **Zero-interest loans**



**12 Householders**

**average £40,000**

design &  
development

# HOUSEHOLD ENERGY REPORT

NAME  
ADDRESS

POST CODE  
DATE (SURVEY)  
DATE (REPORT)  
LA AREA



This report presents a whole house assessment of your current household energy use and related carbon dioxide emissions. It then makes suggestions for how you could reduce these. It differs from a standard 'Green Deal' assessment:

- We take a 'whole house' approach, rather than considering single measures in isolation. This means the different measures can combine to maximum effect.
- We use a more detailed model of energy use (full SAP rather than a reduced information version known as rdSAP).
- We consider of all your home's emissions, including cooking and appliance use as well as heating, lighting and hot water.
- We set an absolute target for the proposed measures, in line with the 2050 80% reduction target. Whilst you might not want to do this work all at once, and it might not be possible to meet this in all cases, you can at least see the full range of possibilities for your home.
- We provide a description of the proposed measures and costs specific to your home, rather than generic information.
- We consider other factors that may be important to you and the health of your home - such as comfort, ventilation and indoor air-quality, and the level of disruption involved in installing measures.
- We consider the embodied environmental impact of the materials and systems we recommend, choosing lower impact materials where possible. We also consider availability from local suppliers and prioritise support to the local economy.

(A standard 'Green Deal' assessment can be arranged on request).

## PROPERTY



This report was prepared by



on behalf of the

**CarbonCo-op**

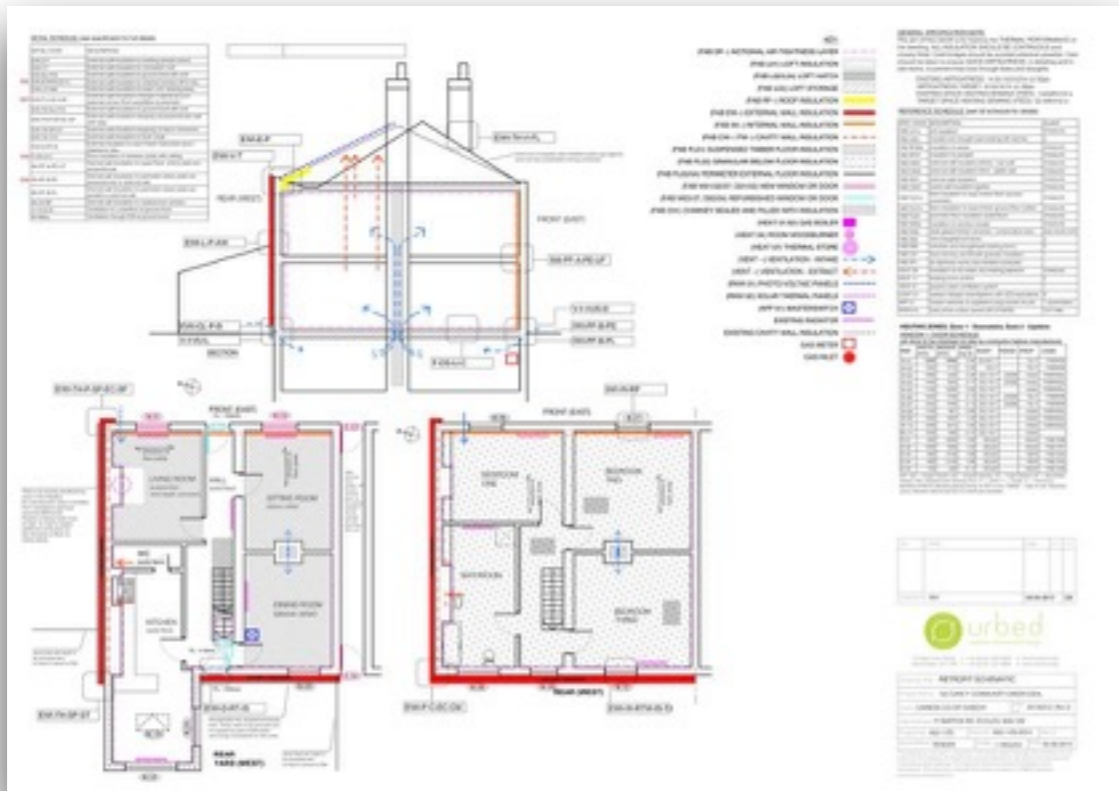
SAP RATING	Your Home Now	Your 2050 Home	UK average
A		94	
B			
C			
D	62		
E			59
F			
G			

### about SAP.....

SAP is the 'Standard Assessment Procedure'. This is a method of energy assessment devised by UK Government to compare homes and test them against the Building Regulations and forms the basis of the model used in this report. This makes assumptions about the number of people living in a home and how it is used, based on averages for the UK. This might differ from how you live in your home, and so it is not an exact predictive tool. The final rating is influenced by the predicted energy use, carbon emissions and fuel costs. This is influenced by how well insulated your home is, the efficiency of your heating system and other services, and the type of fuel used to heat and light your home. It does not cover appliances or cooking.







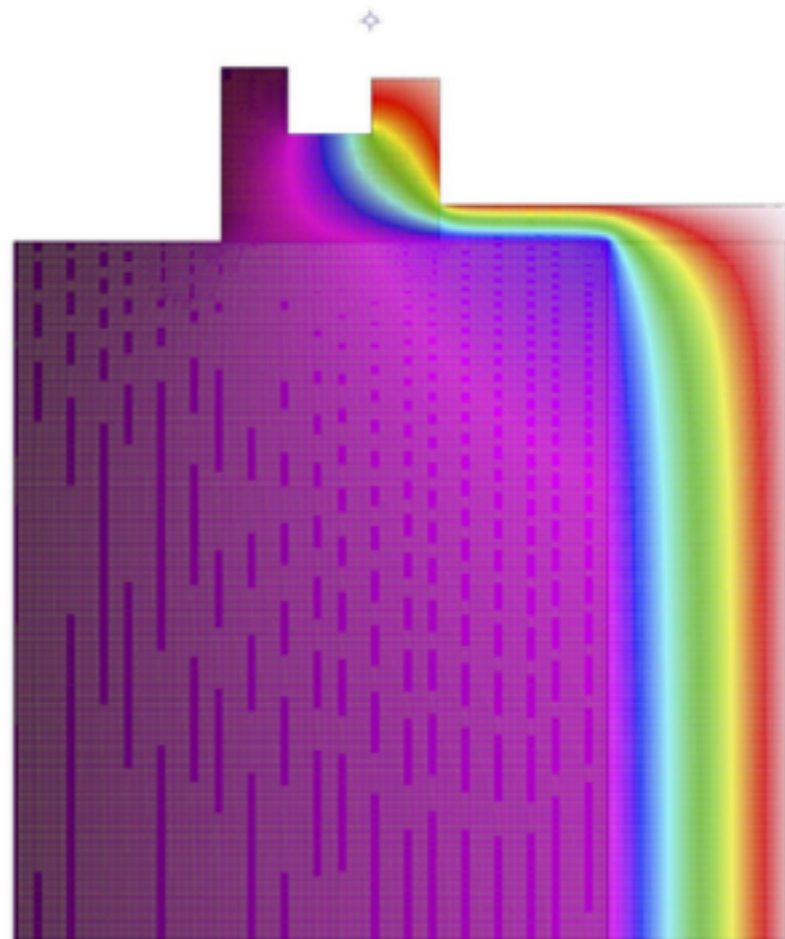
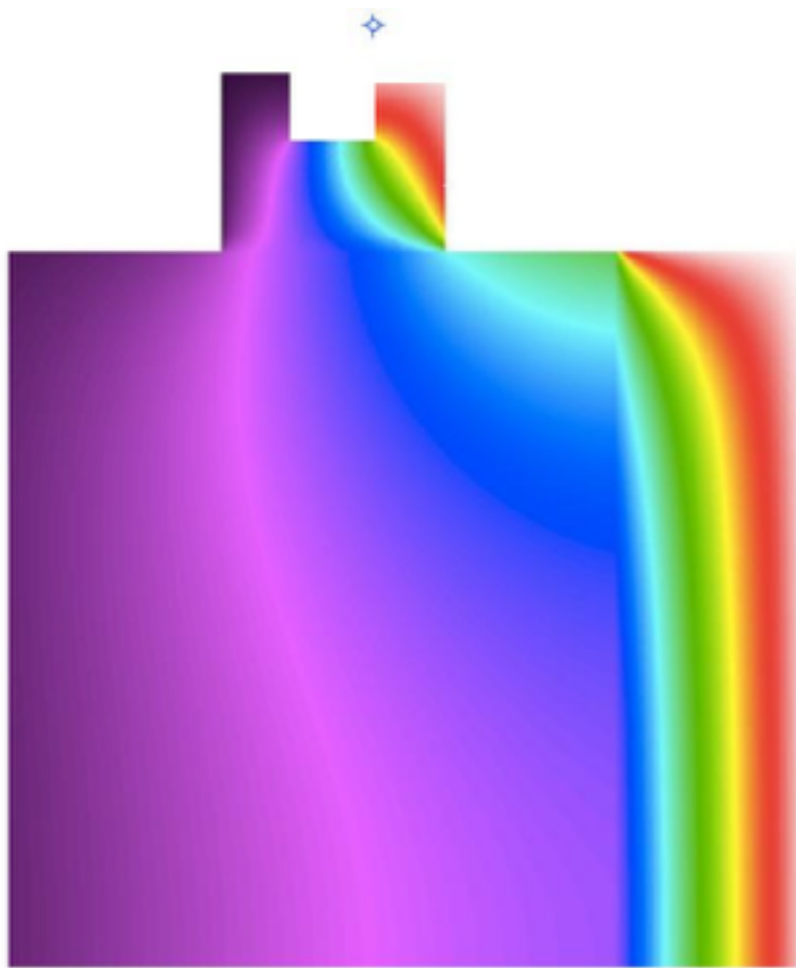




**Figure 24** Note large areas of exposed building elements



**Figure 25** Large thermal bridge created by lamppost



**Design stage modelling of thermal bridging**

delivery



**one lead contractor**











JACKSON  
JACKSON

JACKSON

13:33  
THURSDAY







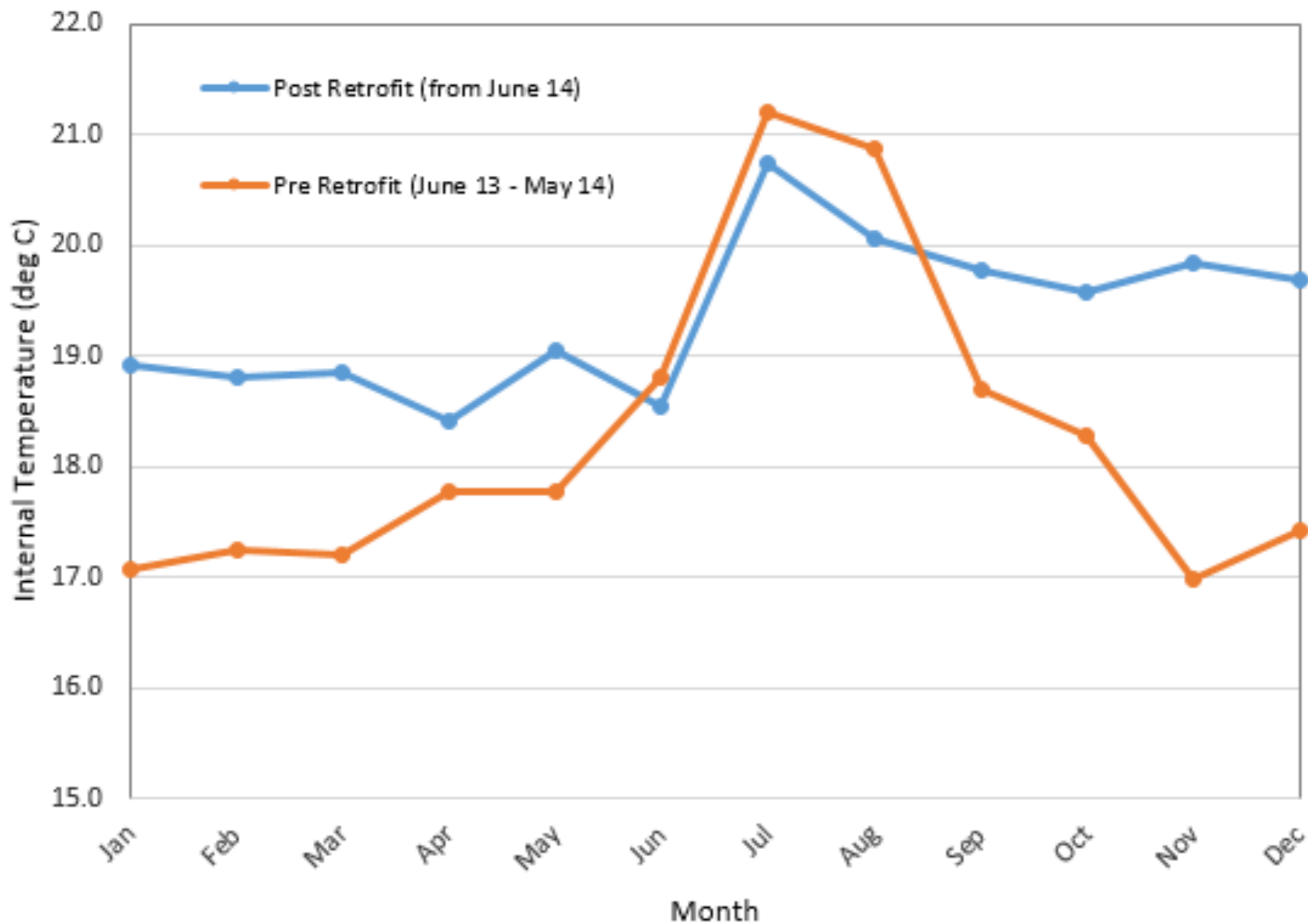


results

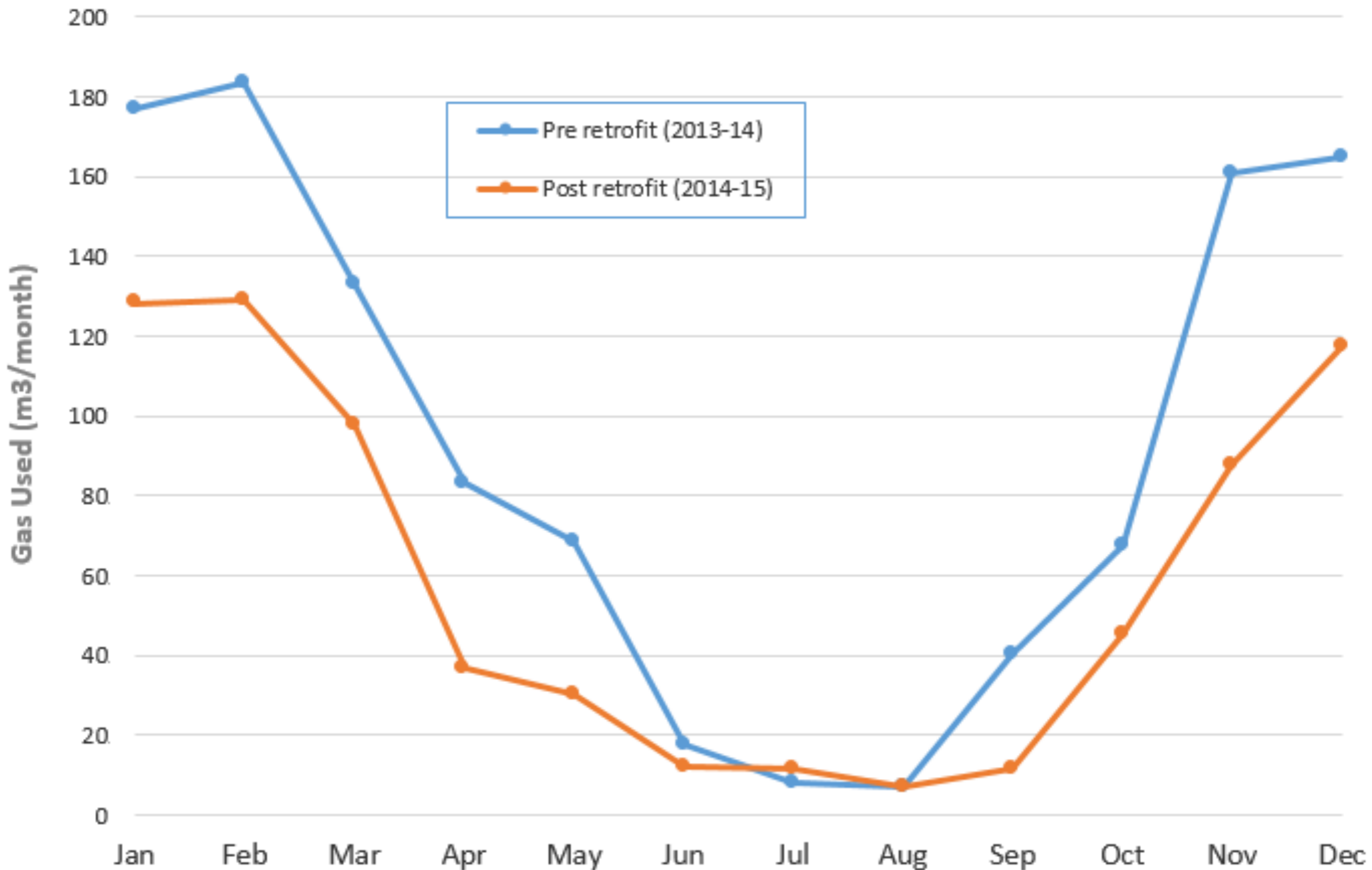




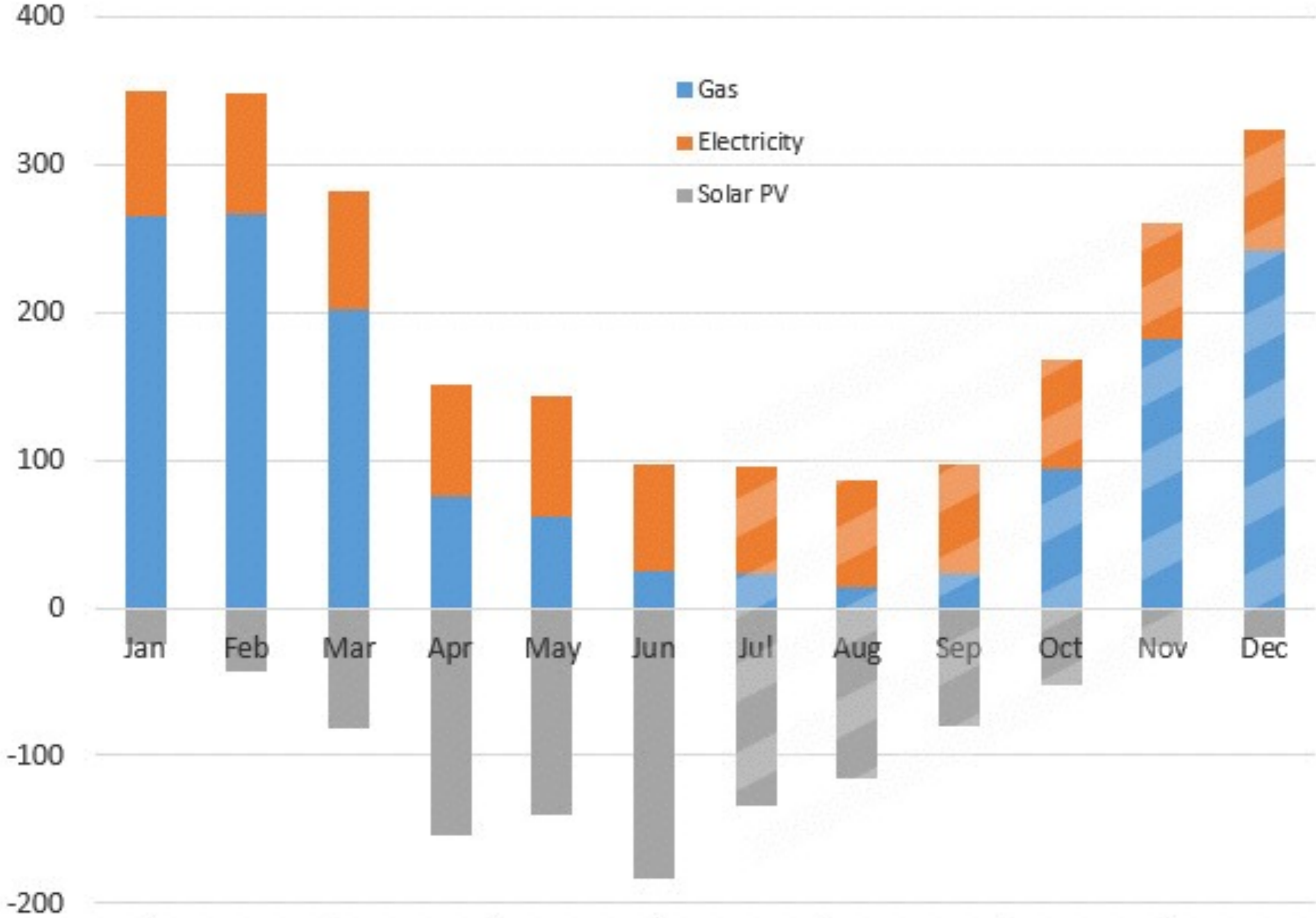
# Comparison of Internal Temperature (pre-post retrofit)



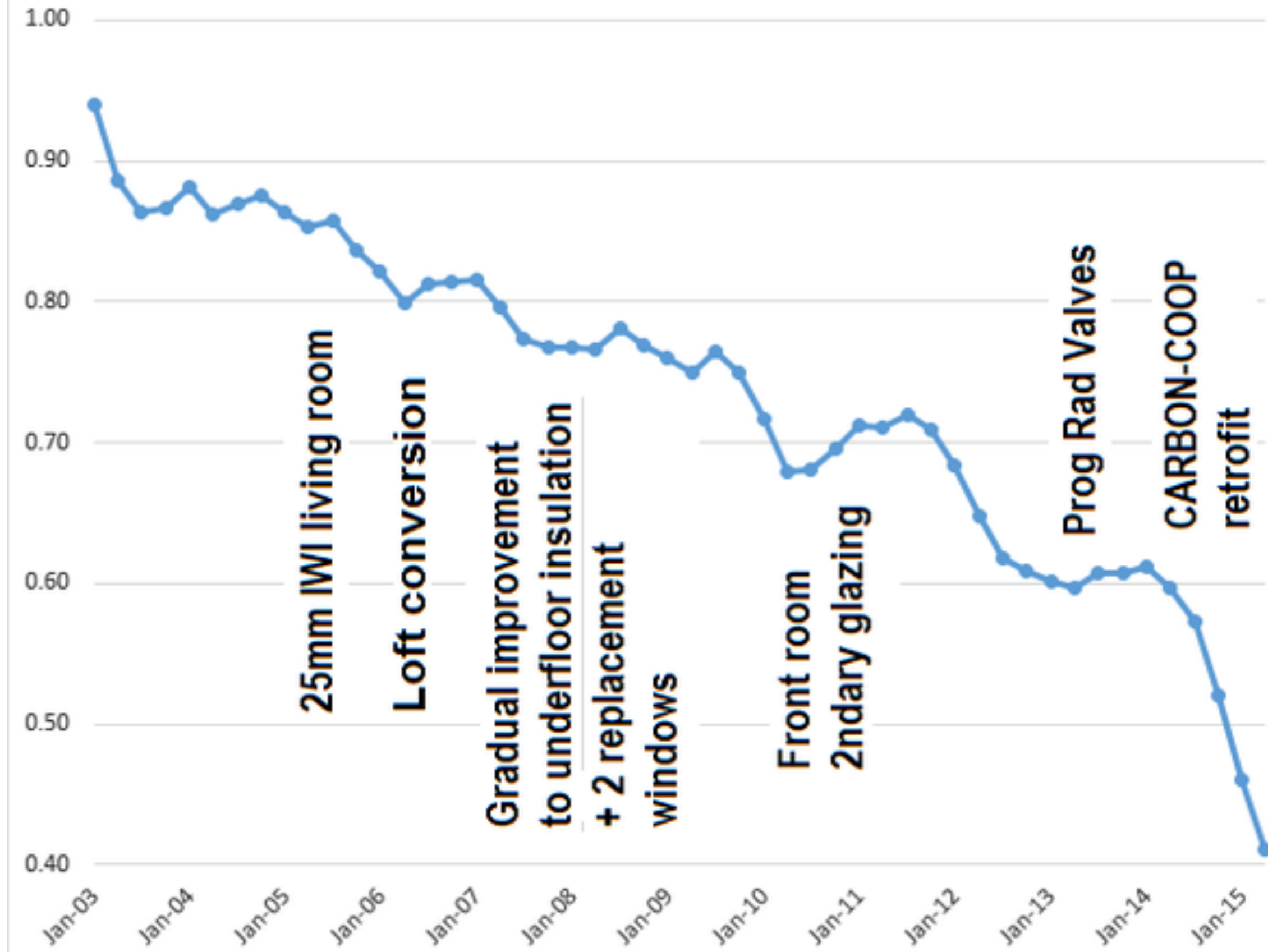
### Comparison of Gas use pre / post retrofit



# Annual CO2 emissions (kg)



Gas Use - m3/deg.C





challenges

- **supply chain**
- **finance**
- **quality control**

opportunities



- **demand**
- **lack of alternative**
- **trust**



# My Home Energy Manchester



Heat



Heat Loss



Humidity



Planner



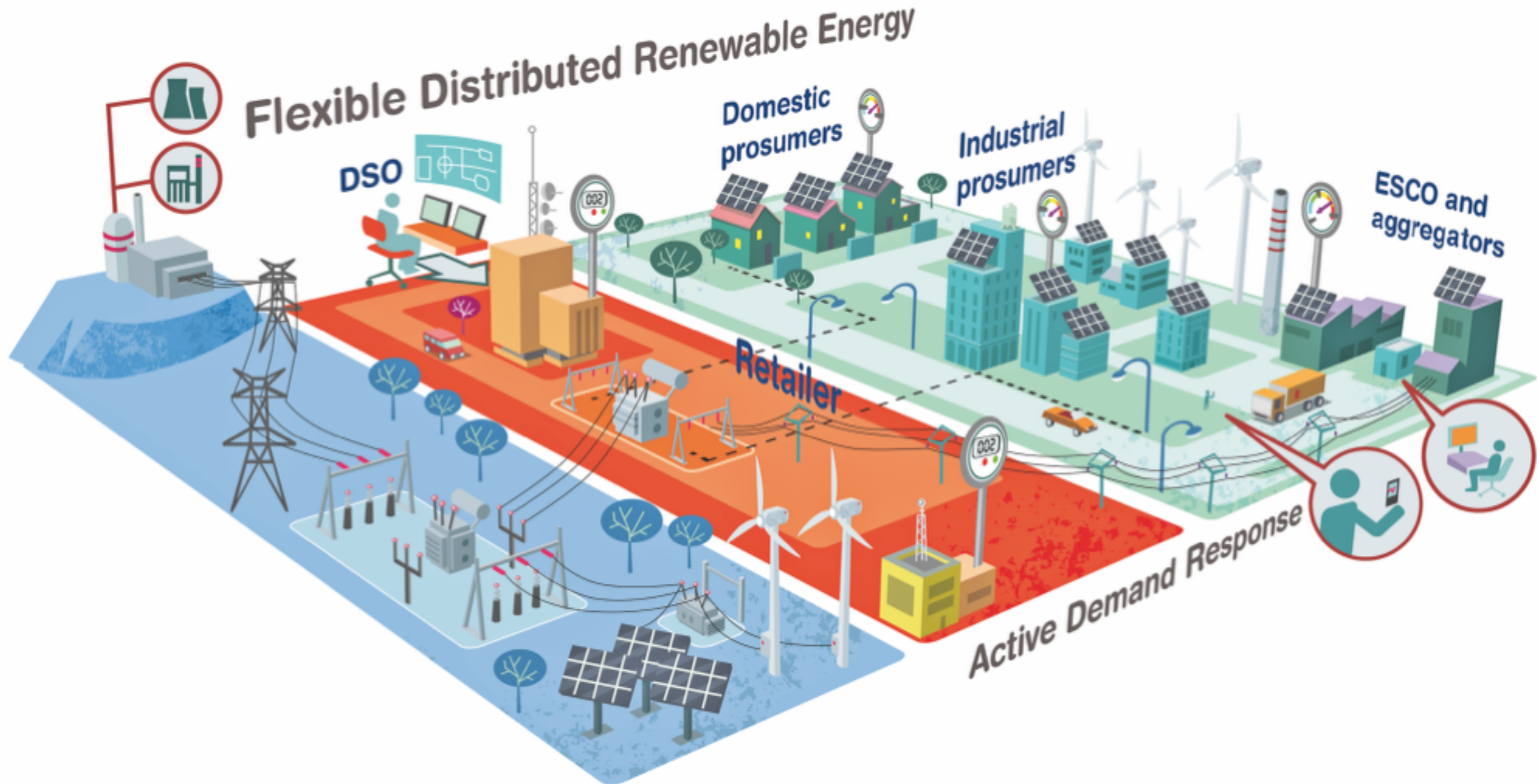
Electricity



Solar

next?

# Flexible demand and storage



**- Battery Storage**

**- shared electric vehicles**

**- open smart meter tech**

**- Solar PV**

# **community energy aggregator**

**- flexible demand**

**- local renewables**

**- time of use tariffs**

# CarbonCo-op

Jonathan Atkinson  
[jonathan@carbon.coop](mailto:jonathan@carbon.coop)  
[@carboncoop](#)