The background of the image consists of a repeating pattern of overlapping circles. Each circle is defined by a thin, light gray outline. The circles are arranged in a staggered grid, with each circle partially overlapping the four circles immediately adjacent to it (above, below, to the left, and to the right). The overall effect is a textured, geometric background.

**Turley**



# The Future of Welsh Homes: Energy and Beyond

August 2025

**Turley**

# Our Services

Trusted independent advisors with restless ambition to shape a more sustainable future.

An employee-owned business, we work collaboratively with our clients to deliver places and communities that thrive.

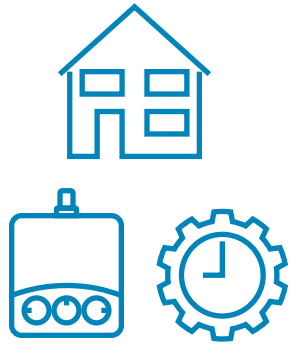


How we got  
here..... And where  
we are going

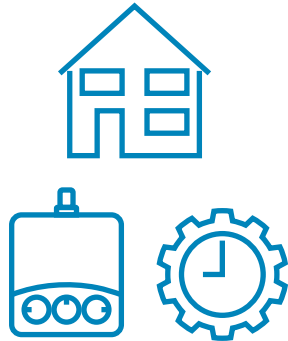


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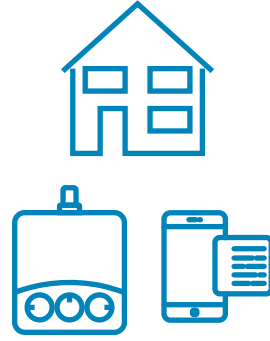
# 2020s is when it happens



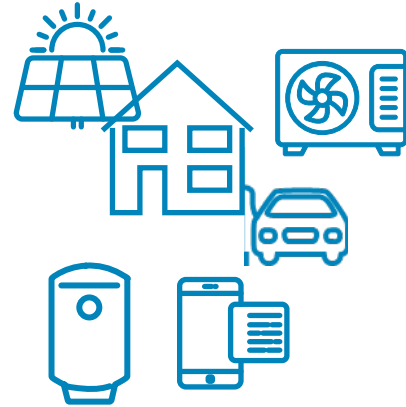
2000



2010



2020



2027

Now

Turley





# Part L Consultation

## Preferred Option



### Notional Fabric Standards

External wall:	<b>0.15 W/ m<sup>2</sup>K</b>
Roof:	<b>0.11W/ m<sup>2</sup>K</b>
Floor:	<b>0.11W/ m<sup>2</sup>K</b>
Windows:	<b>1.2 W/ m<sup>2</sup>K</b>
Doors:	<b>1.0 W/ m<sup>2</sup>K</b>
Air tightness:	<b>4 m<sup>3</sup>/ h.m<sup>2</sup></b>



### Energy Efficiency & Renewables

Heating: **No fossil fuels ( heat pumps)**

Typical ventilation: **Mech. Extract**

Renewable energy: **PV ~ 4KWp – (ave.)**

Waste water heat recovery (WWHR): **Yes**



### Challenges & risks

- Sudden increase in heat pump supply
- **Build costs uplift on Part L 2022: £5K**
- Local grid capacity (all electric + EVs)



# Part O

## Overheating Risk

- Only required for high-risk homes
- Simplified Method
  - Or
- Dynamic modelling
- Important for city centre flats & noisy locations – Check early



# Part S

## EV Charging Points

- Still TBC
- Probably require new homes to have EV charger
- Same for major renovations



# Affordable Housing

## Quality requirements for Affordable Housing

- No fossil fuels
  - EPC A (Going to get complicated)
  - Overheating risk analysis
- 
- Going to align to new regs so will sync.



Llywodraeth Cymru  
Welsh Government

[www.cymru.gov.uk](http://www.cymru.gov.uk)

Y Grŵp Addysg a Gwasanaethau Cyhoeddus  
Education and Public Services Group

## **Welsh Development Quality Requirements 2021**

Creating Beautiful Homes and Places

(WDQR 2021)

July 2021

# Energy Performance

## Energy Performance Certificates Consultation

- Proposed Headline Metrics
  - Energy cost
  - Fabric Performance
  - Heating System
  - Smart Readiness
- Lot hanging on this (in theory)

This property's current energy rating is E. It has the potential to be E.

[See how to improve this property's energy performance.](#)

Score	Energy rating	Current	Potential
92+	A		
81-91	B		
69-80	C		
55-68	D		
39-54	E	47   E	47   E
21-38	F		
1-20	G		

The graph shows this property's current and potential energy efficiency.

Properties are given a rating from A (most efficient) to G (least efficient).

Properties are also given a score. The higher the number the lower your fuel bills are likely to be.

For properties in England and Wales:

- the average energy rating is D
- the average energy score is 60

# The Numbers

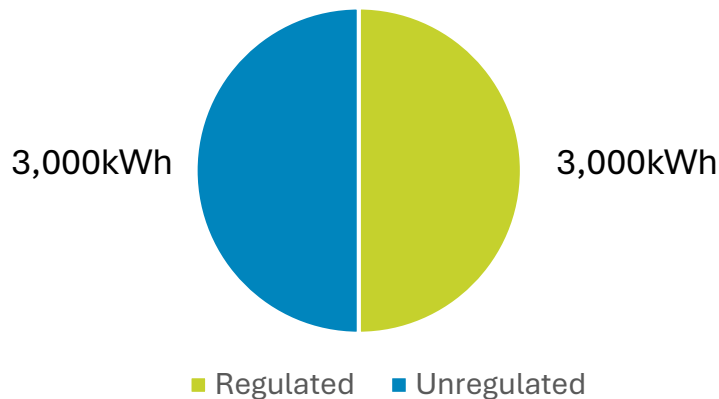


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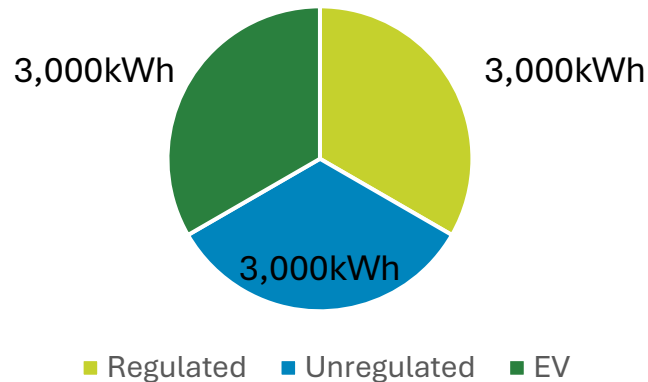
# New Home Energy – The Rule of 3,000

## Electricity Consumption

### Part L Consultation

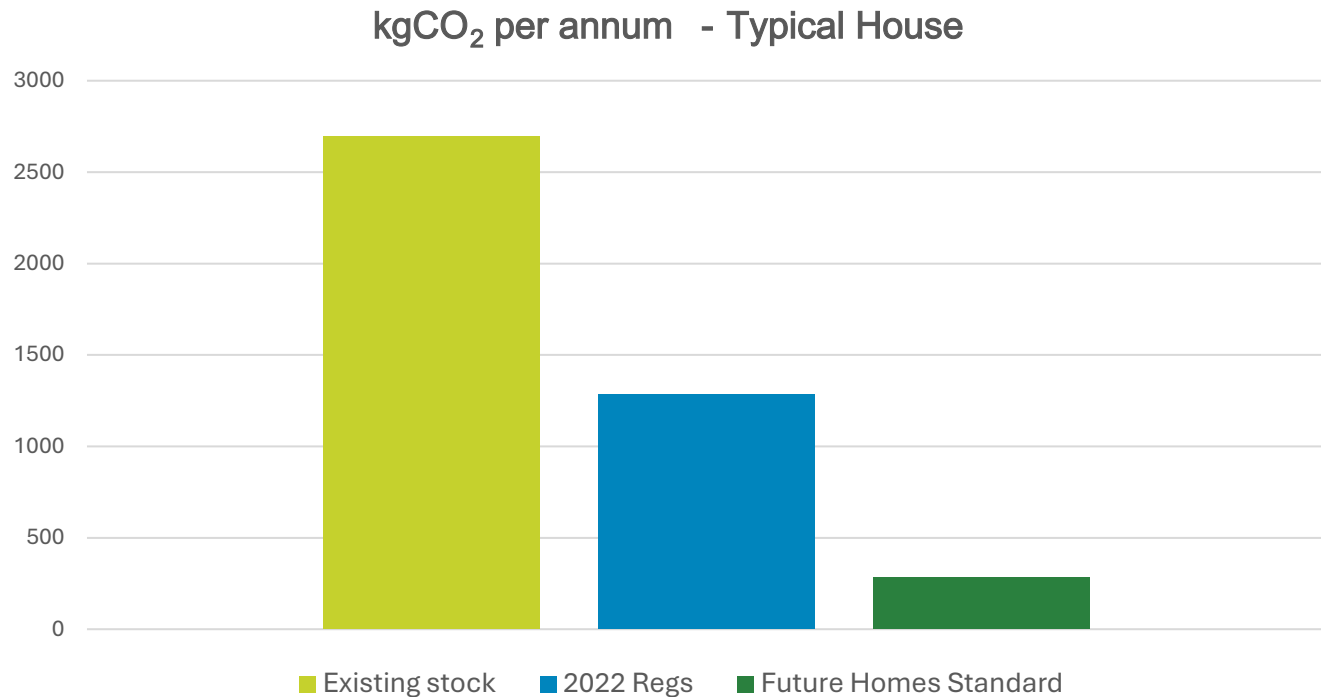


### Plus the Electric Vehicle

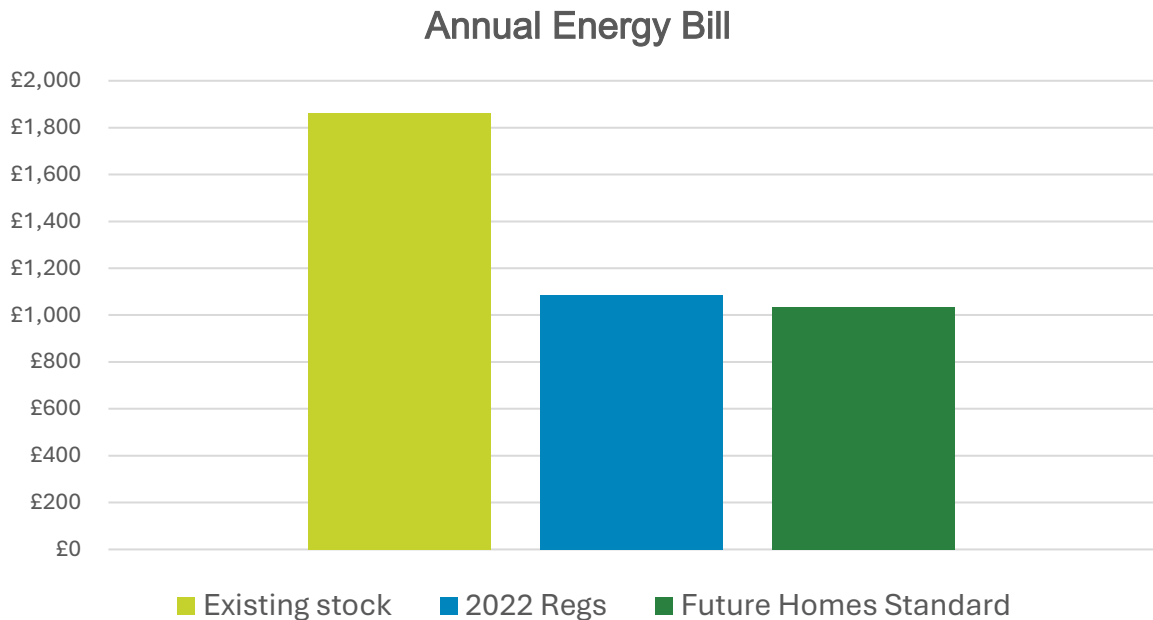


Average rooftop solar generates 3,000kWh

# The Post-Carbon World - (operational)

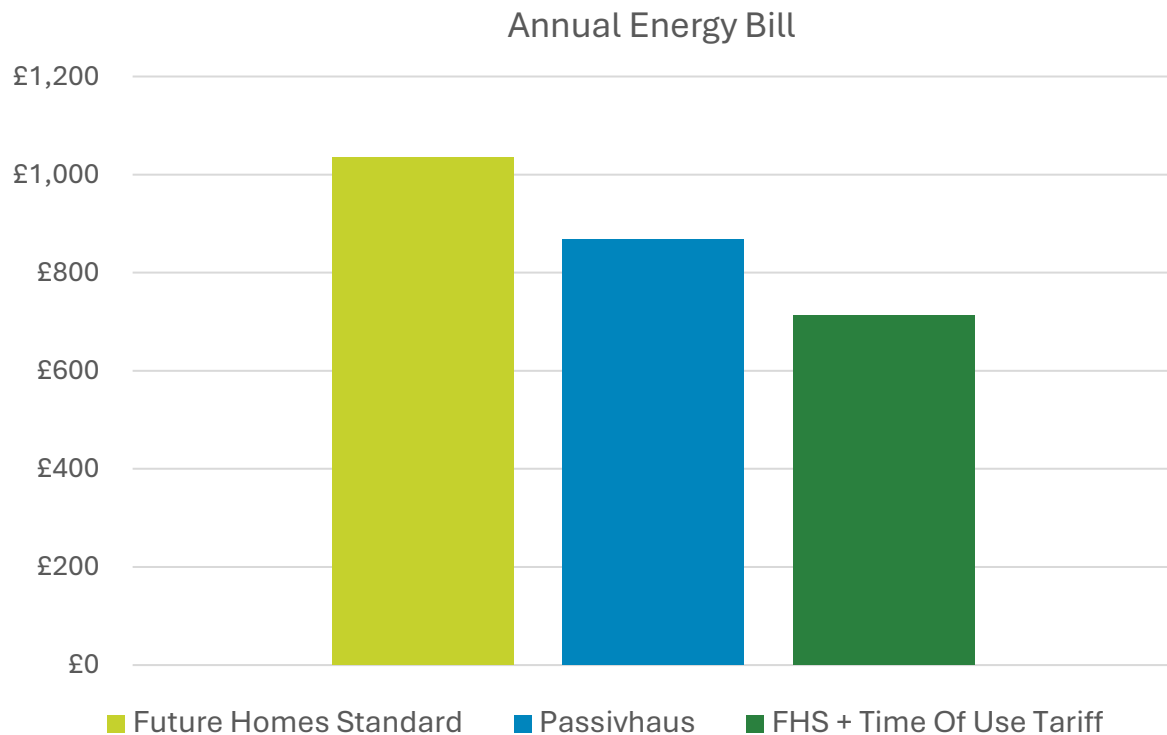


# Running Costs – Standard Tariff



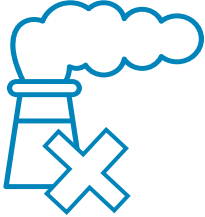


# It's not what you do, it's when you do it



# It is going to be wonderful!

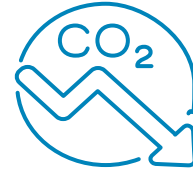
Healthier  
environment



End fuel poverty



Net zero ready



More desirable –  
Higher value



# The Energy Bill Paradox

Big flashy house + electric  
Ferrari 911 attached



Tiny flat with cheap  
EV not attached



Which one has the bigger  
energy bill?

# Other things



Realistic Industry  
Pressure?



The 10 Elephants in the  
Room

# The Grid Wars – ADMD and All That

- As we electrify everything, growing demand on the grid.
- Estimating home electricity peaks has got complicated
- This is:
  - costing the industry & the public a lot of money,
  - reducing no. of homes built
  - slowing the energy transition.

## The Good Old Days

- Gas boiler + Petrol car
- ~1.5kVA

## Chaos

- Heat pump, solar, EV
- 6.4, 4.5, 4.8, 3.2kVA
- Etc.

## Some Clarity

- INA Guidance – 2024
- 2.2-4 kVA

## Sunlit Uplands

- ~2kVA?\*

\*Just my unqualified maths

# The Future

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Everything is interconnected





# We are all players in the same game



Semi-flexible  
energy user



4kWp Intermittent  
power generator

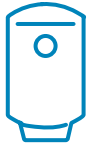


Flexible energy user

- Dishwasher
- Washing machine
- Fridge / Freezer



Home Control  
Centre



8kWh of thermal  
storage

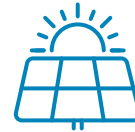


80kWh of energy  
storage

200MWh of  
energy storage



NESO Control Centre



200MWp intermittent  
generator



2GW flexible power  
generator



3.2GW Inflexible  
power generator



2GW Intermittent power  
generator

# Opportunities – Microgrids

## Microgrids

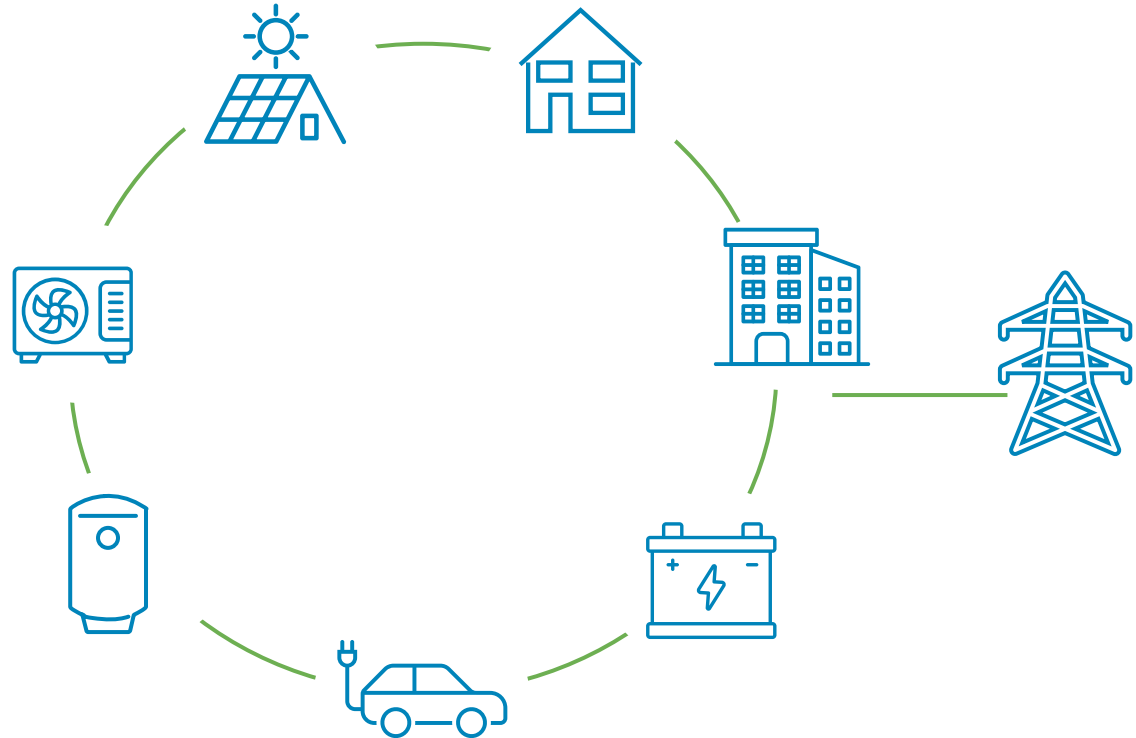
All homes, businesses, charging and generation on single network.

Reduce grid connection size further

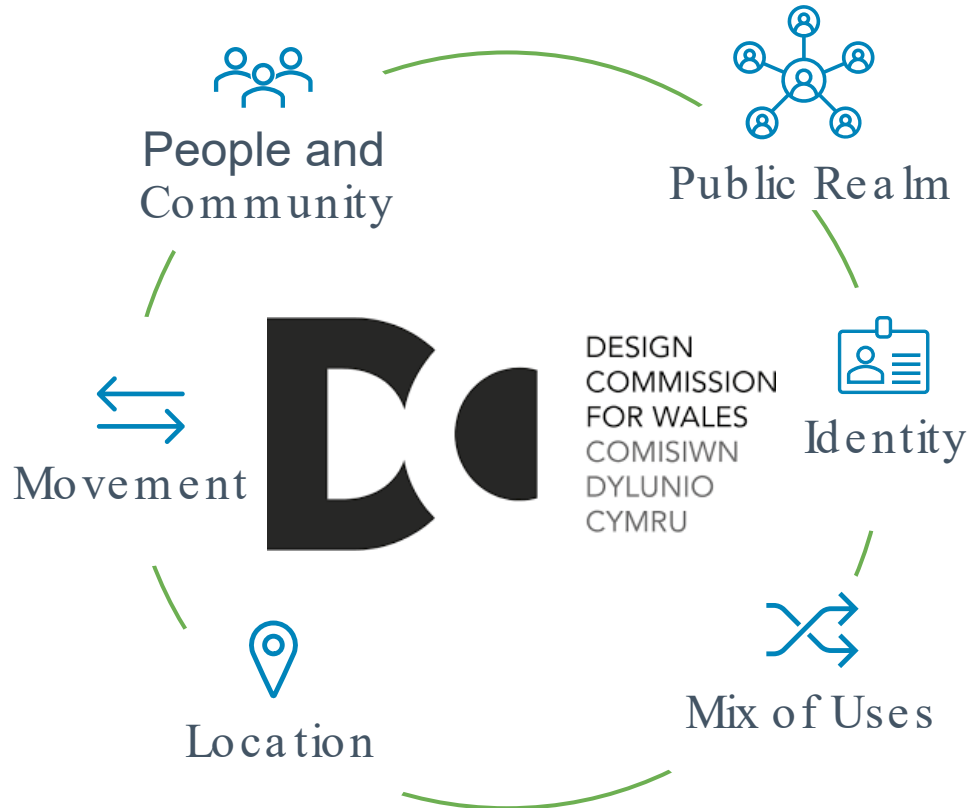
Sharing energy so flats can benefit

Charge cars on terraced streets for same price as at home.

Zero Bills Communities?



# Opportunities - Placemaking Charter



# Opportunities – Future Movement



Standard approach is holding back good development



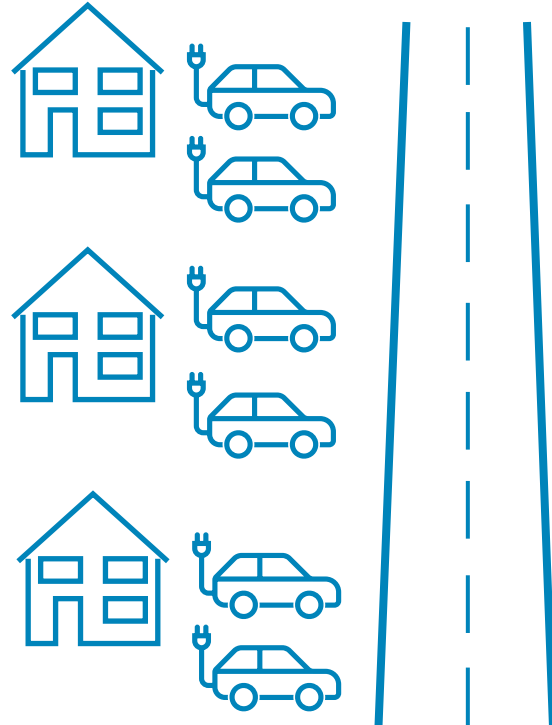
Public transport and bikes can't solve that alone



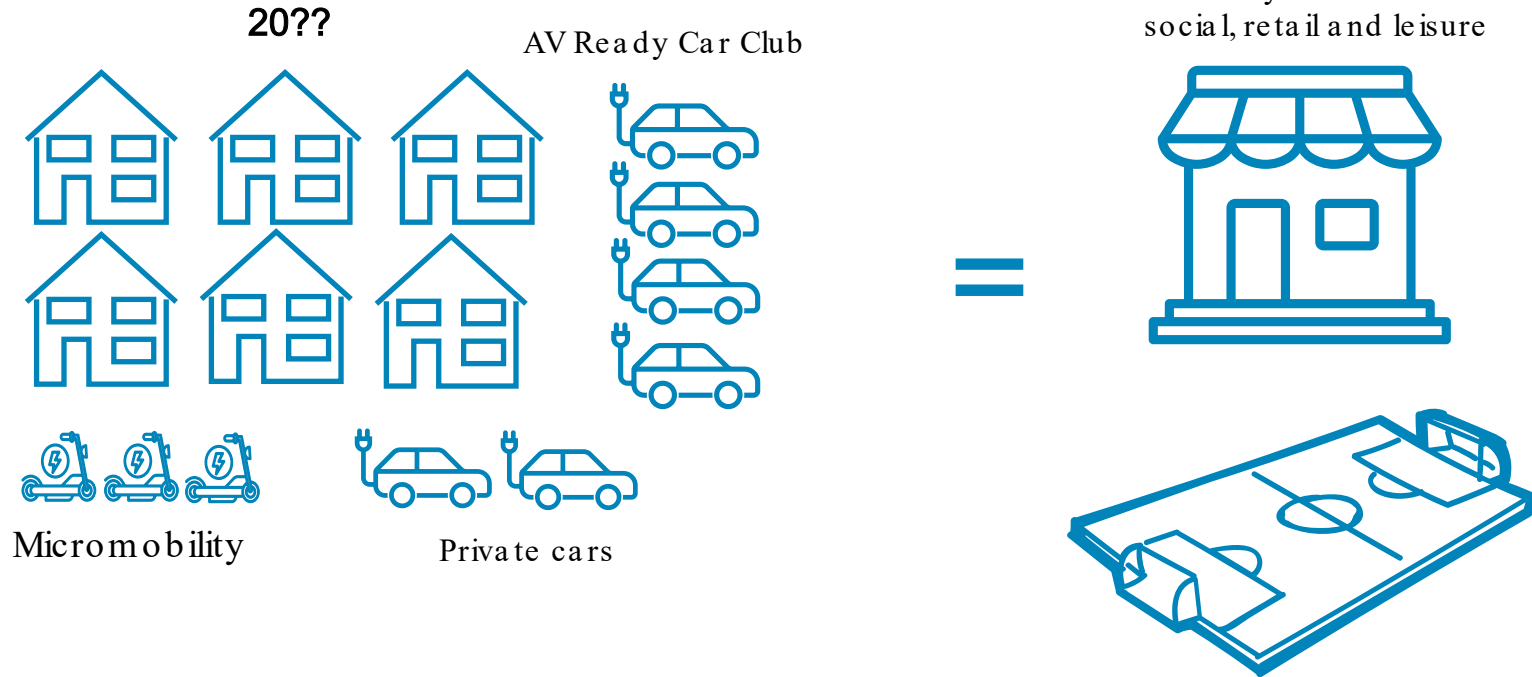
Shared mobility and micromobility can change everything



Need development that embeds this



# The Mobility Opportunity



# Thank you

For more information

Barry Evans

[Barry.evans@turley.co.uk](mailto:Barry.evans@turley.co.uk)

07827 306501

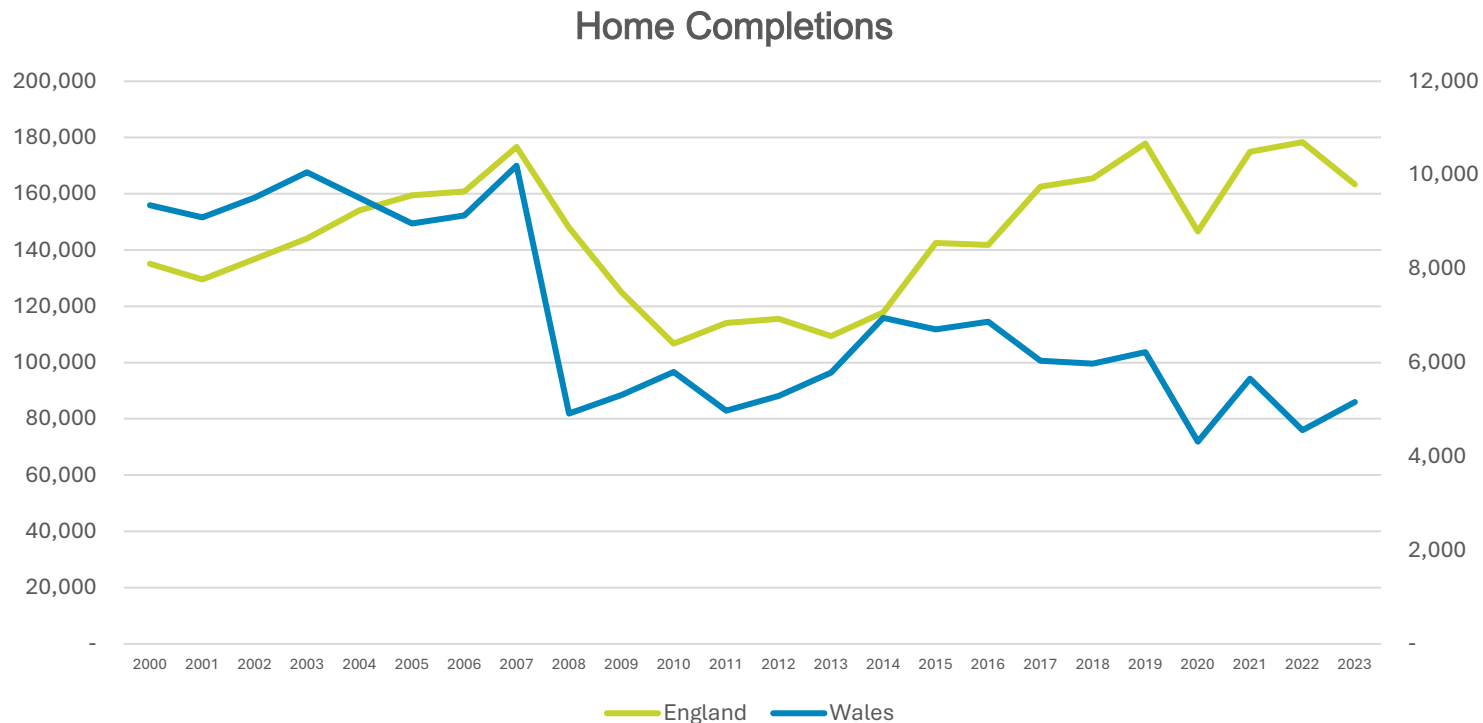
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Belfast  
Birmingham  
Bristol  
Cambridge  
Cardiff  
Derry~Londonderry  
Dublin  
Edinburgh  
Glasgow  
Leeds  
London  
Manchester  
Nottingham  
Reading  
Southampton



# Quantity is its own quality

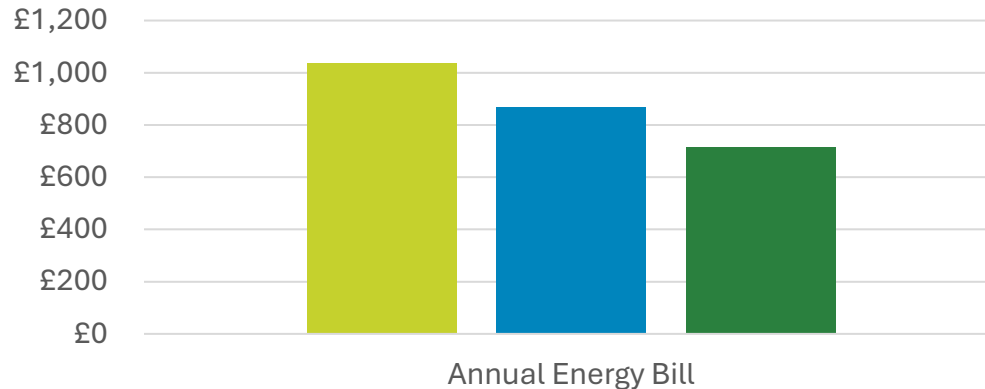


# End of the fabric wars

## Reducing Bills

### Passivhaus

- £15k-ish
- Lot of embodied carbon
- Supply Chain
- Wider walls
- Saves £167 a year



■ Future Homes Standard ■ Passivhaus ■ Extra Solar (3kWp)

### Extra 3kWp solar

- £3k
- Very Easy
- No design changes
- Saves £315