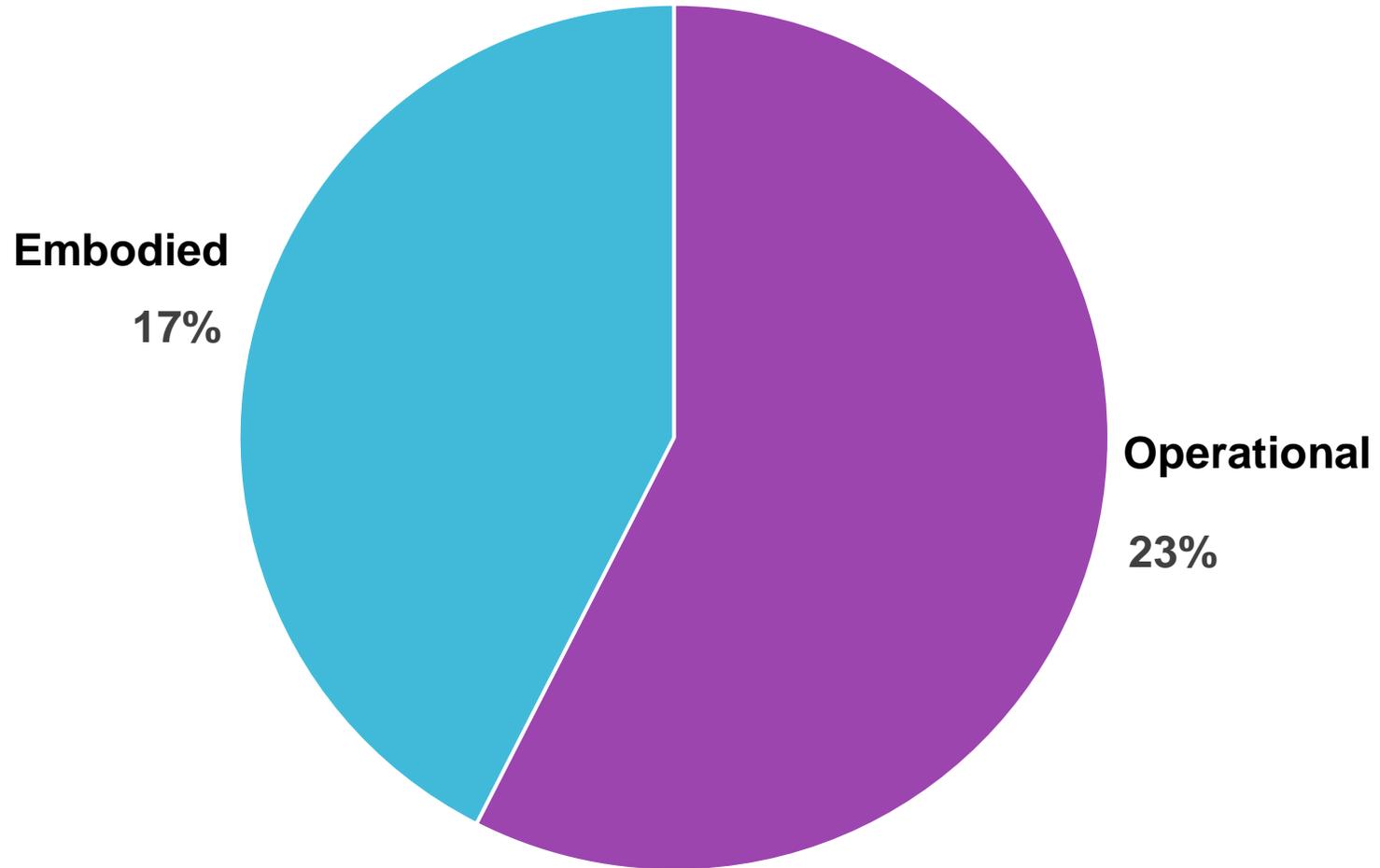


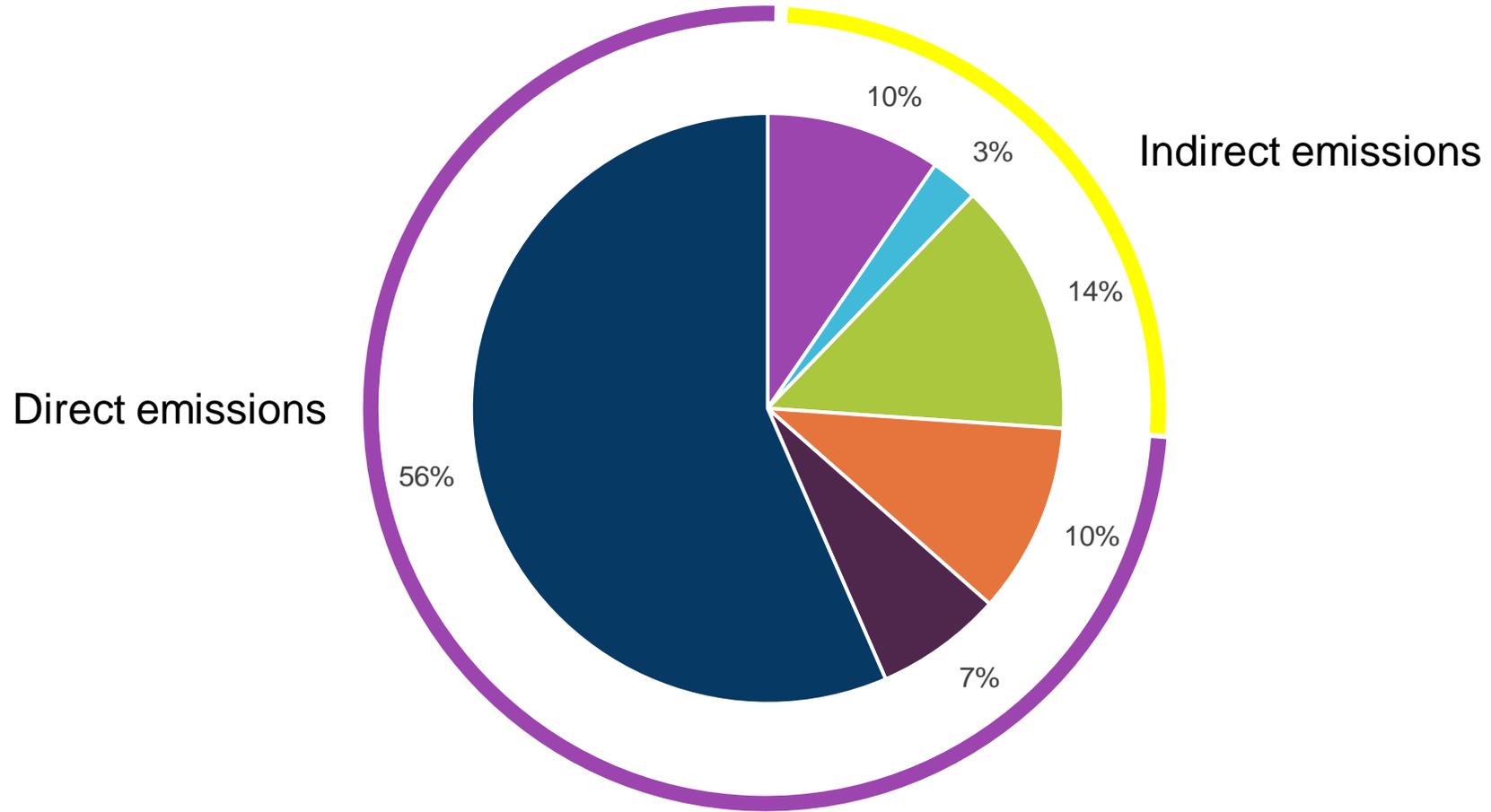
# Decarbonisation for Decision Makers

Dr Richard Miller  
Miller-Klein Associates Ltd

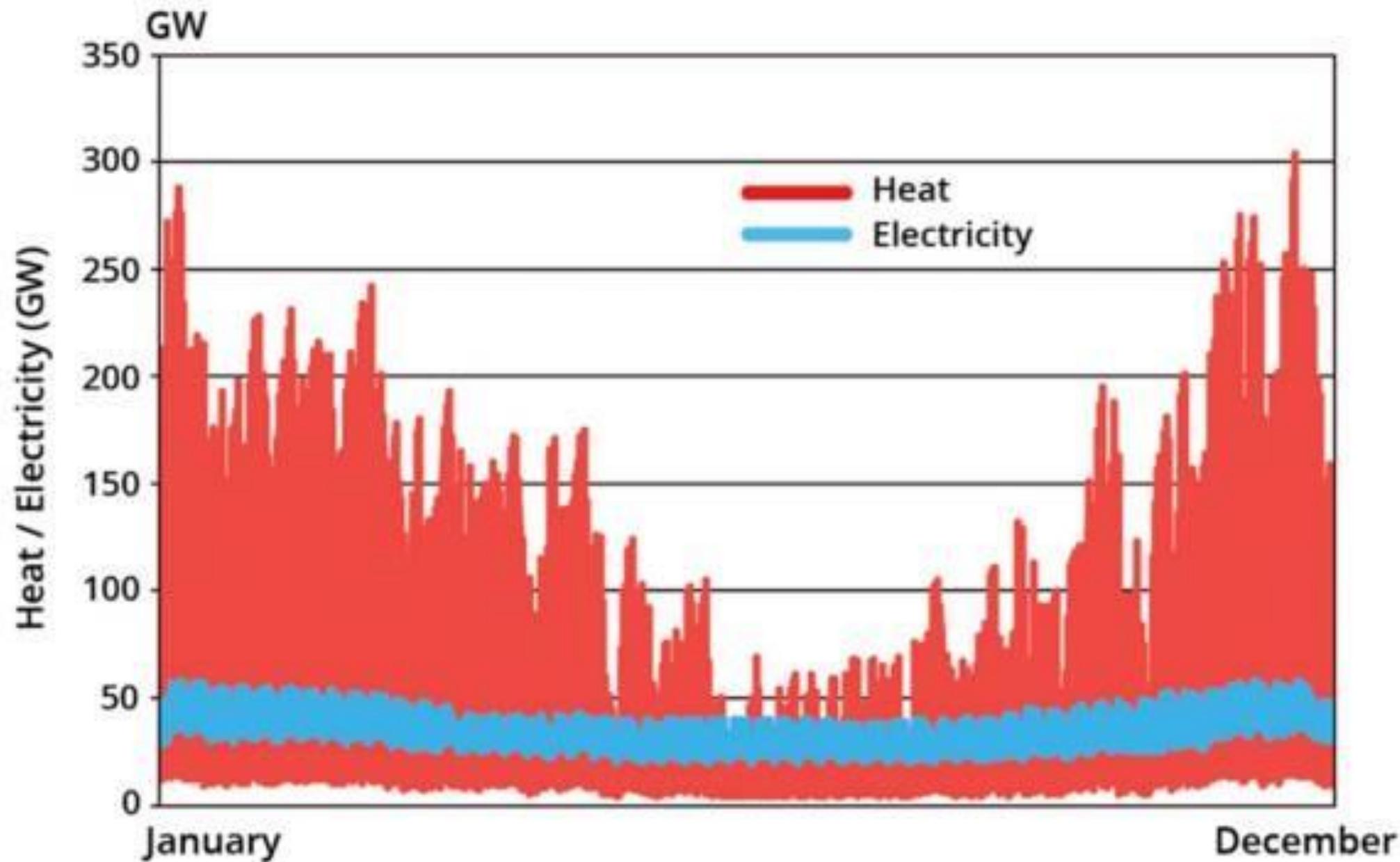
## Built Environment – 40% UK Emissions



# Operational Emissions from UK Buildings - 115 MtCO<sub>2</sub>e/year



- Commercial Indirect
- Public Indirect
- Residential Indirect
- Commercial Direct
- Public Direct
- Residential Direct



ETI, 2015, *Smart Systems and Heat: Decarbonising Heat for UK Homes*

# Mjøstårnet, Norway

85.4 metres





**Agile Property**



University of Waterloo





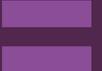




# Scaling up

We are not doing it:

- Fast enough
- Cost-effectively enough
- Reliably enough



## **We need both:**

- **Better solutions:**
  - Reduced cost
  - Improved performance
  - Ease of installation, use and maintenance
- **Market pull:**
  - Policy drive
  - User attractive

**Need both innovation and policy intervention**



LITTLE RIVER

MINI RANGE

Cullenbenbong Creek  
FOREST

TABLE MOUNTAIN  
Table Rock 1107



LITTLE RIVER FIRE ROAD

MINI RANGE ROAD

Valley View

ALF











- 
- Policy
  - Technological Innovation
  - New Business Models
  - Marketing and Information
  - Skills and Education

# A Win-Win-Win

Society



Industry



Government



**Decarbonising the  
Built Environment**  
Guide for decision makers



[www.theiet.org/built-environment](http://www.theiet.org/built-environment)

[policy@theiet.org](mailto:policy@theiet.org)