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# Sut i Wella Effeithlonrwydd Ynni mewn Adeiladau Hanesyddol yng Nghymru

## How to Improve Energy Efficiency in Historic Buildings in Wales





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## How to Improve Energy Efficiency in Historic Buildings in Wales

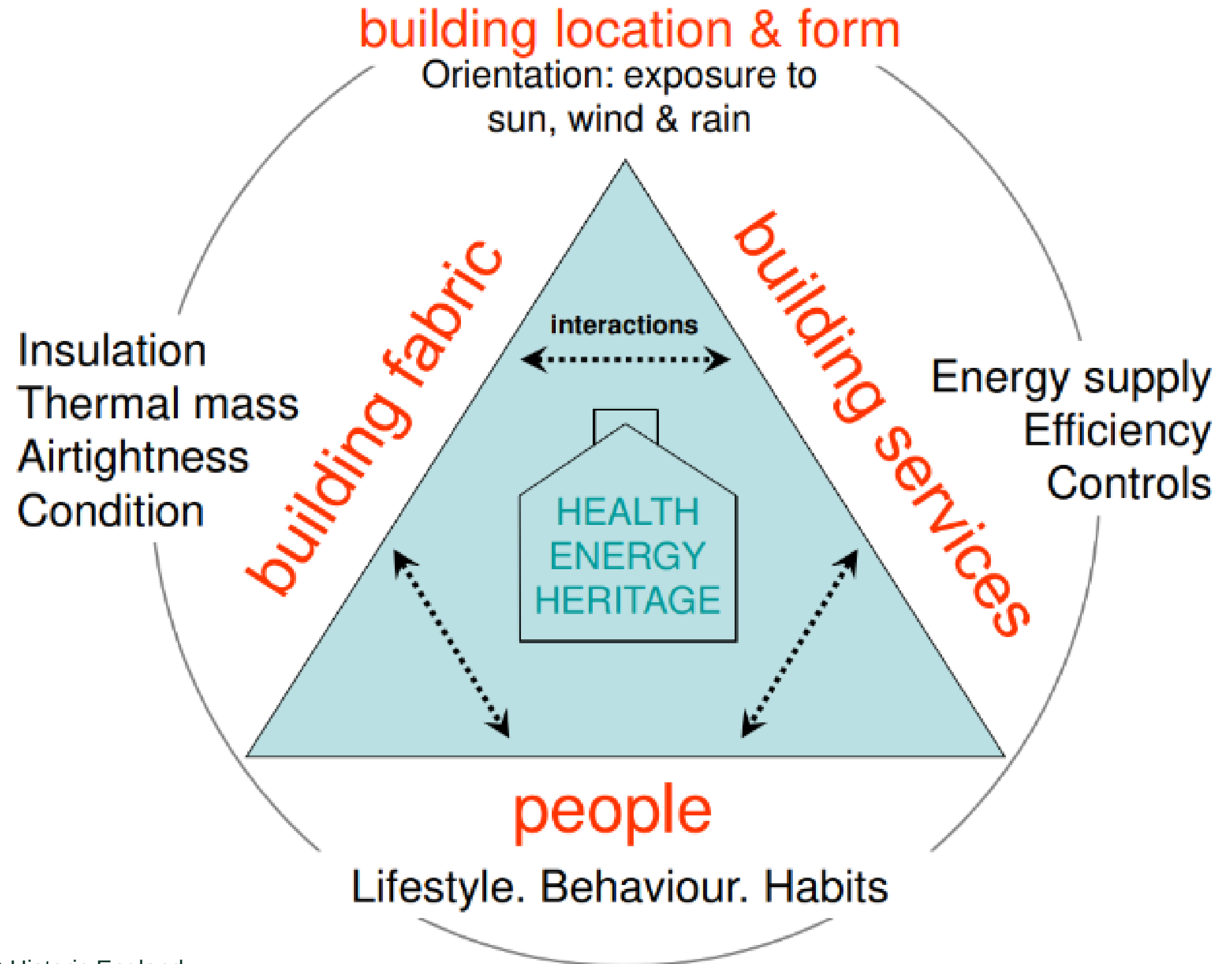
Cafwyd peth o'r deunydd a ddefnyddiwyd yn y cyflwyniad hwn gan  
drydydd parti

Some material used in this presentation has come from a third party



Triogl  
perfformiad  
adeilad

Building  
performance  
triangle



# Yr egwyddorion Principles

- Deall yr adeilad a'i gyd-destun

Understanding the building and its context

- Ymgysylltu â defnyddwyr, perchnogion a rheolwyr yr adeilad

Engaging building users, owners and managers

- Lleihau'r galw ar systemau sy'n defnyddio ynni

Reducing demand on energy-using systems

- Osgoi gwastraff

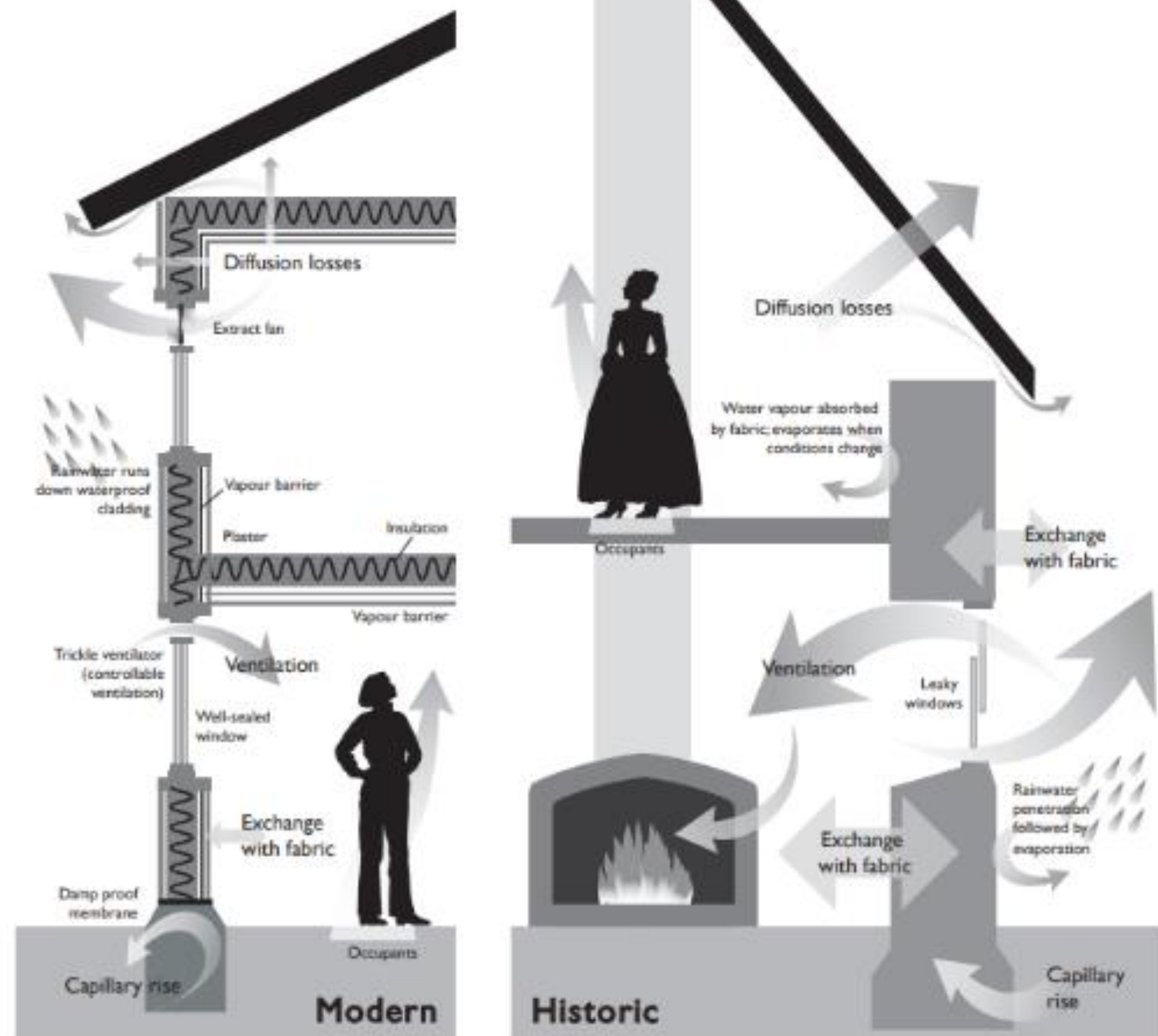
Avoiding waste

- **Gwella effeithlonrwydd**  
**Increasing efficiency**
- **Gwella systemau rheoli**  
**Improving controls**
- **Defnyddio cyflenwadau ynni sy'n is o ran carbon**  
**Using lower carbon energy supplies**
- **Osgoi cymhlethdodau**  
**Avoiding complication**
- **Adolygu'r canlyniadau**  
**Reviewing outcomes**



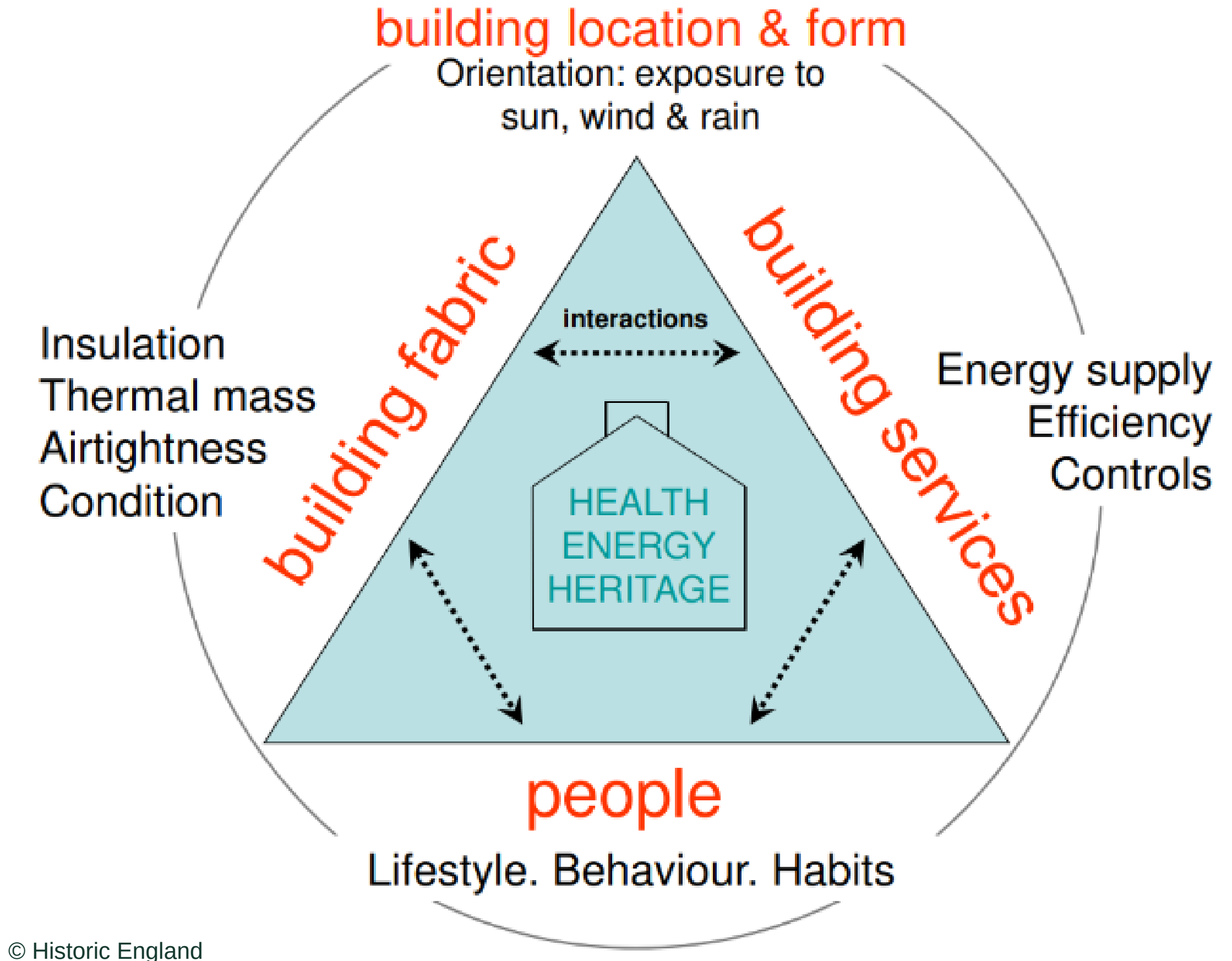
Pam mae angen rhoi dull  
arbennig ar waith ar gyfer  
adeiladau hŷn?

Why do older buildings  
need a special approach?



Dull adeilad  
cyfan

Whole  
building  
approach



# Aesu

# Assessment





# Aesu

Deall yr adeilad a'i gyd-destun

## Assessment

Understanding the building  
and its context





# 1

## Cymeriad ac arwyddocâd yr adeilad

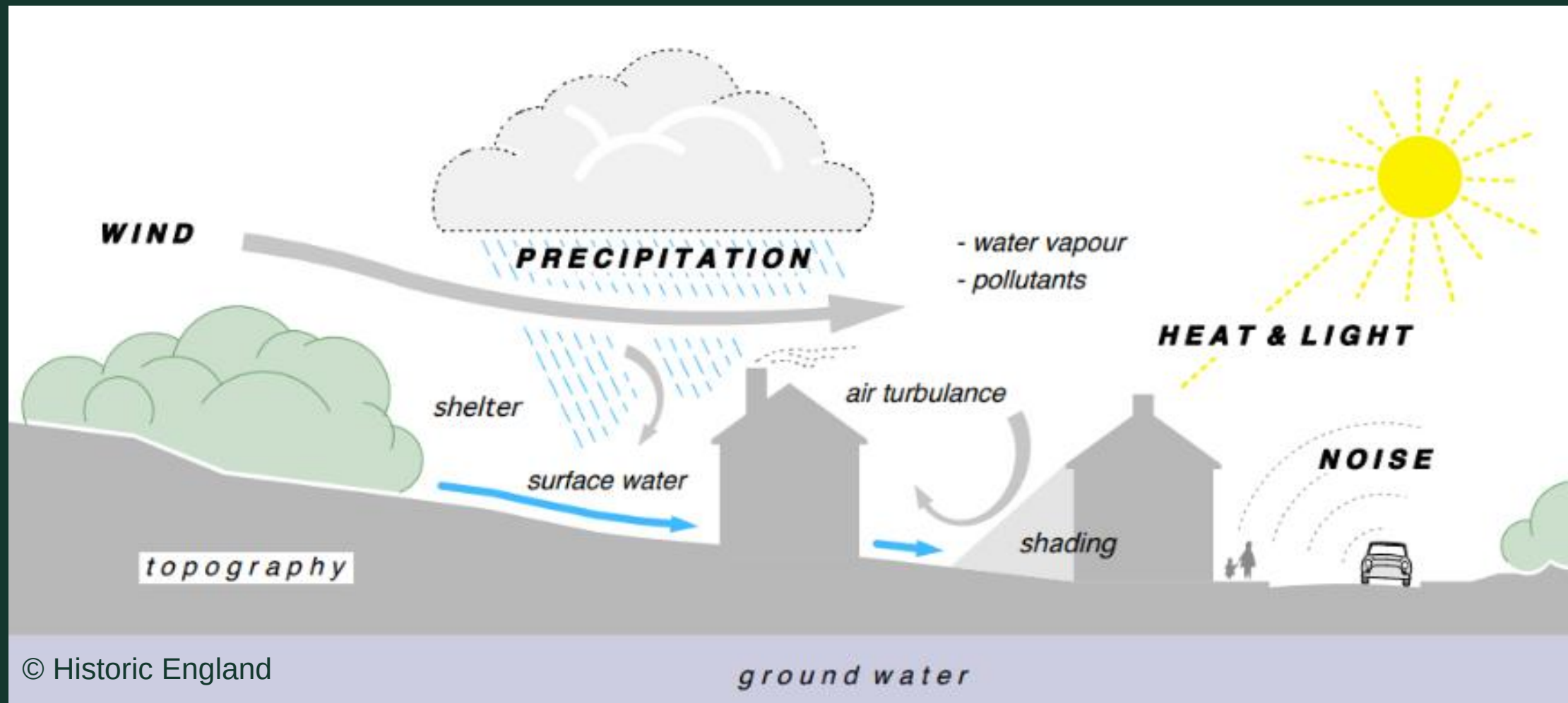
Character and  
significance of the  
building



# 2

## Yr hinsawdd leol, lleoliad a pha mor agored ydyw i'r elfennau

### Local climate, orientation and exposure

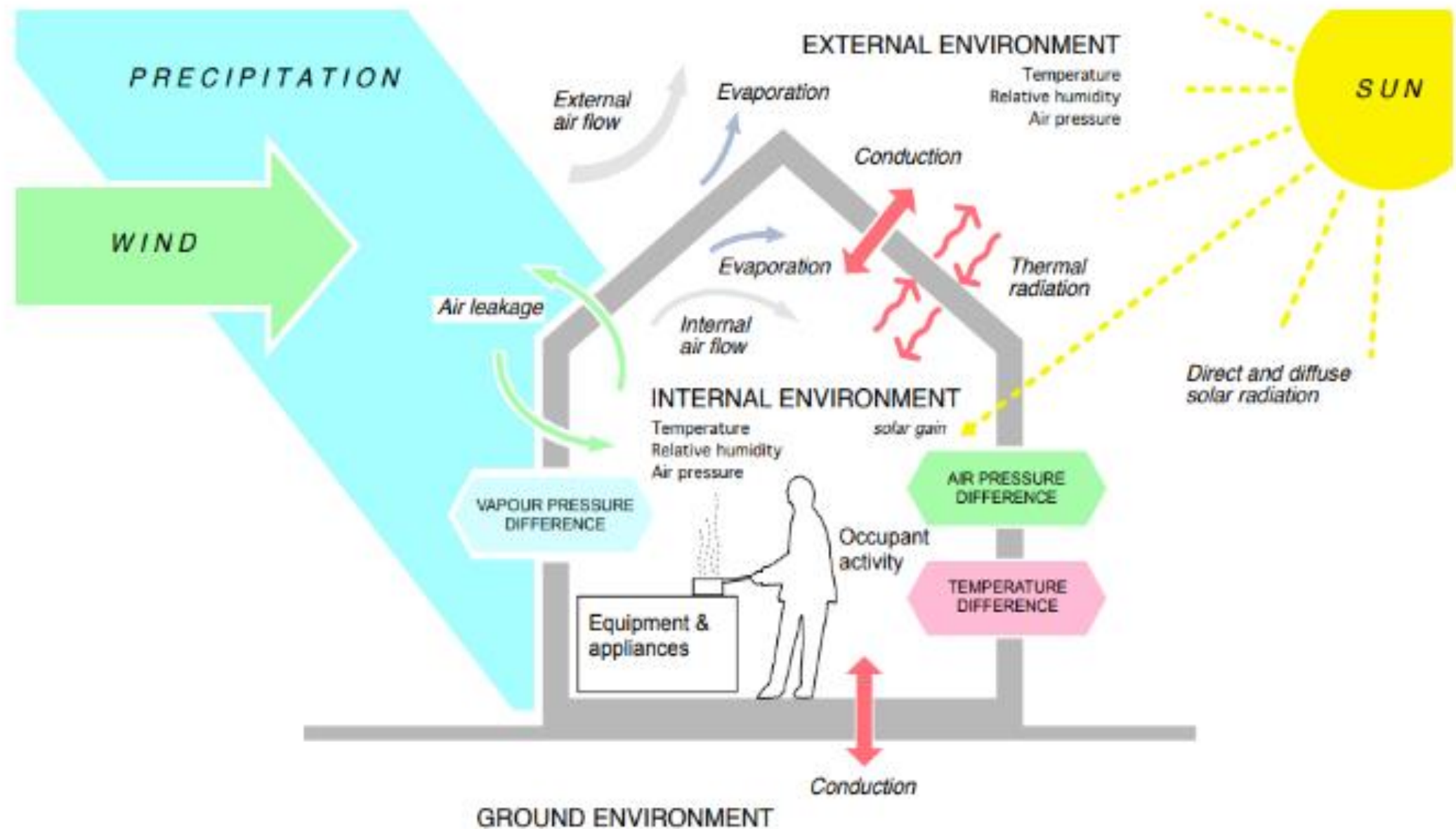




# 3

## Perfformiad ynni amlen yr adeilad

### Energy performance of the building envelope





4

# Ymddygiad hygrothermol adeiladwaith yr adeilad



## Hygrothermal behaviour of building fabric



# 5 Cyflwr yr adeilad

## The condition of the building

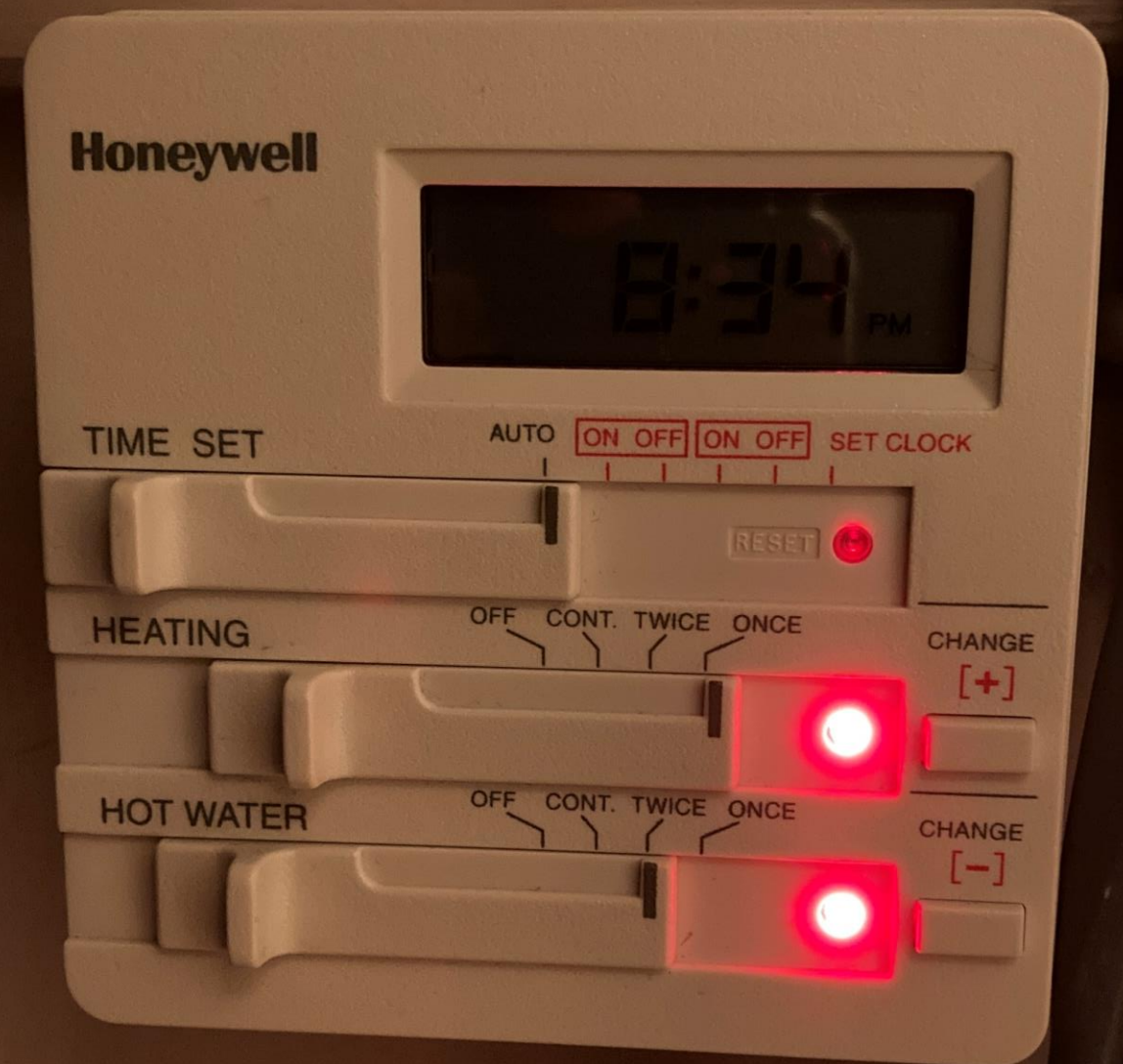




6

Perfformiad ynni  
gwasanaethau'r adeilad

Energy performance of  
building services





7

Lefel yr ynni a ddefnyddir  
mewn perthynas â nifer  
defnyddwyr ac ymddygiad  
pobl

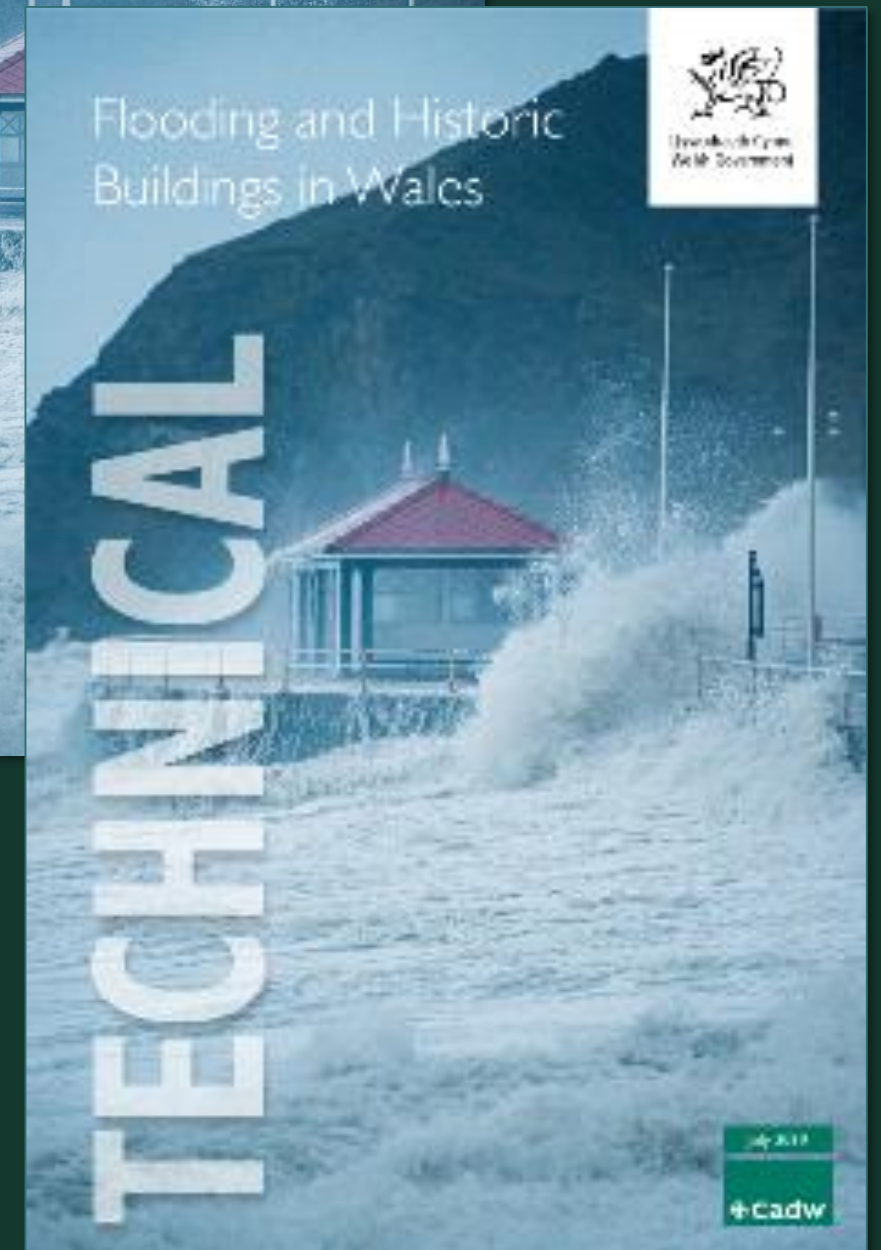
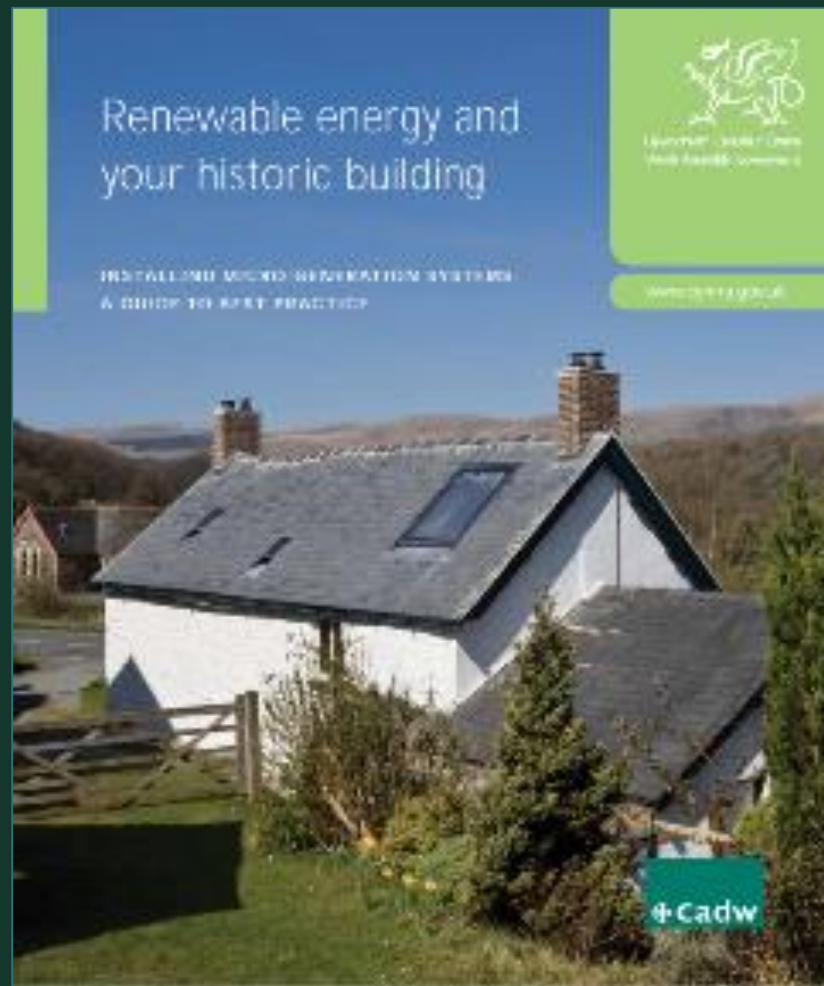
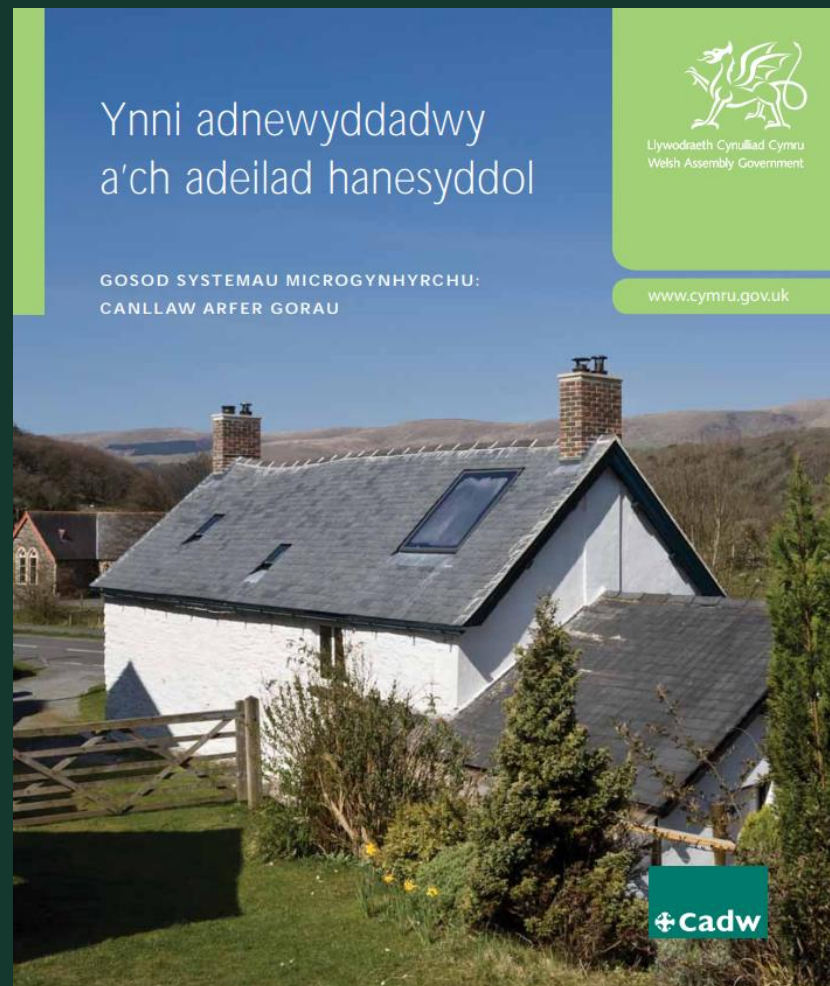
Levels of energy use related to  
occupancy and human  
behaviour





# Rhagor o wybodaeth

## Further information



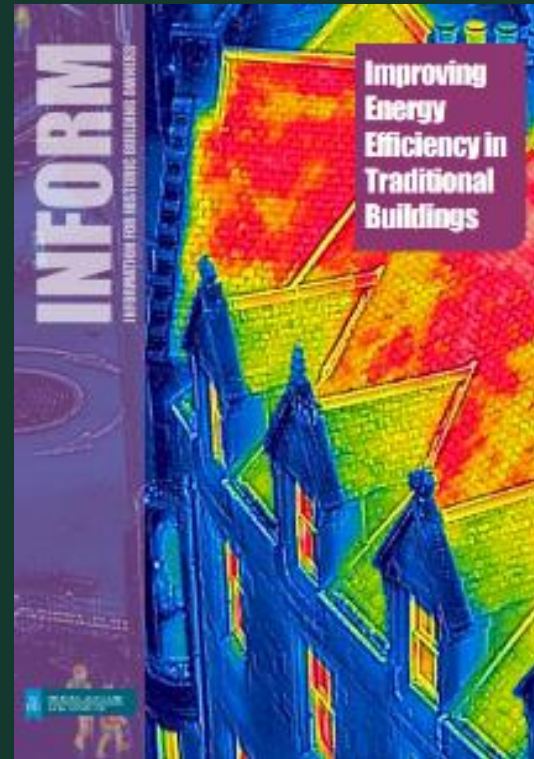
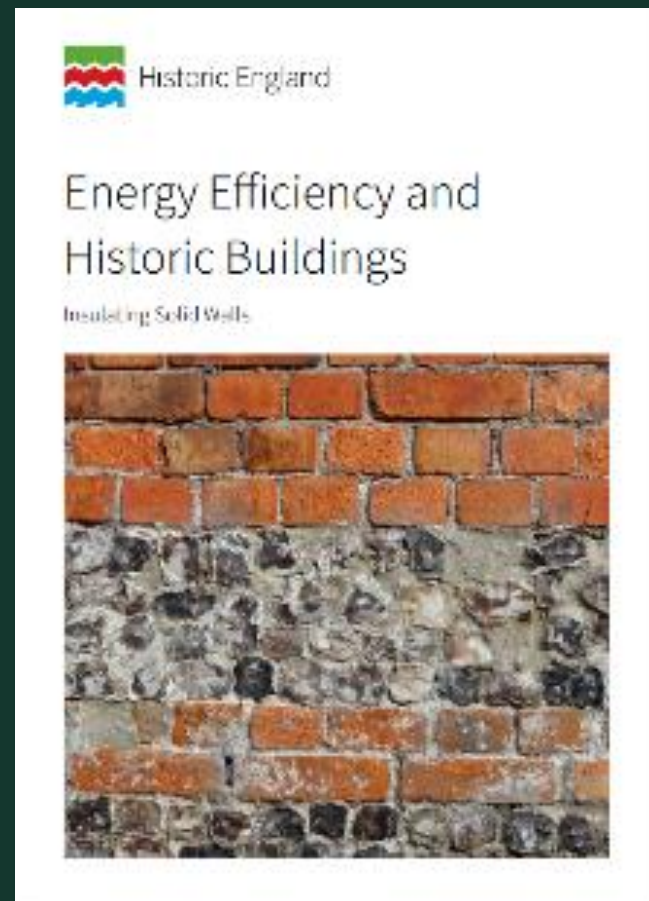
<https://cadw.llyw.cymru/cyngor-a-chymorth>  
<https://cadw.gov.wales/advice-support>



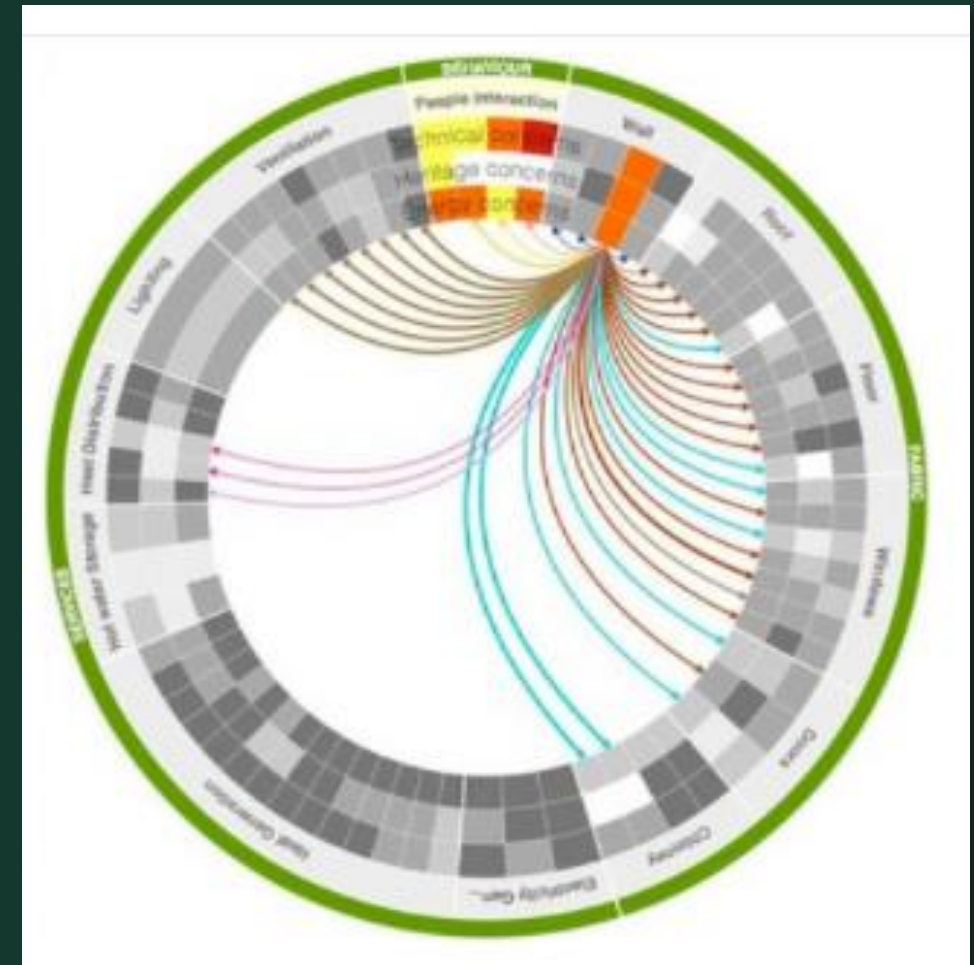
# Darllen pellach

## Further reading

<https://historicengland.org.uk/>



STBA Guidance Wheel  
<https://stbauk.org>



[www.historicenvironment.scot](http://www.historicenvironment.scot)



# Diolch

# Thank you

