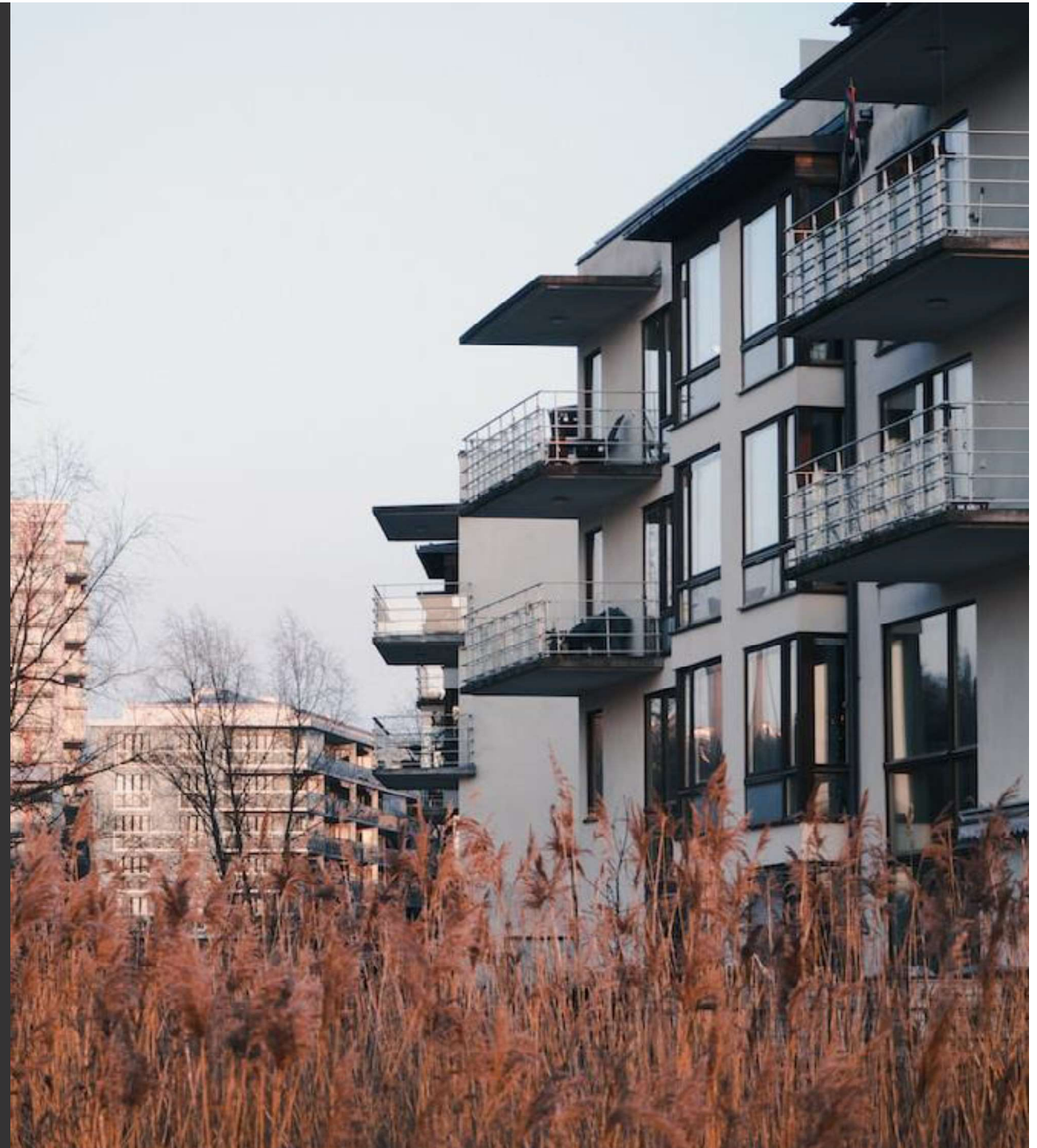


# Societal factors influencing Sustainable Building Performance. Importance of culture - briefing, influence & soft skills.

ASHLEY BATESON  
DIRECTOR, HOARE LEA

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CIBSE ANZ REGION



# The Influence of Culture on Sustainable Building Performance.

## Outline Content.

- Comparing sustainable building performance indicators (a European perspective).
- Reviewing the influence of key cultural characteristics.
- Lessons for sustainability in the built environment.



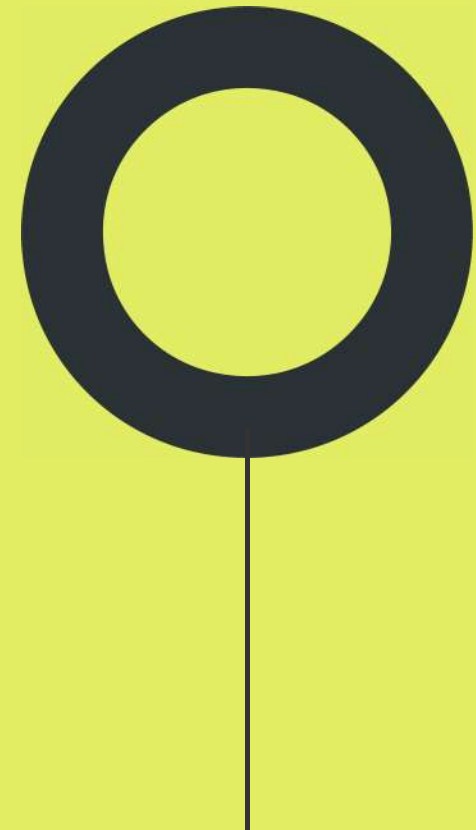
**Cultural values can explain why some countries achieve better sustainable building performance than others.**





# Cultural values influence how people :

- Take a long term perspective.
- Protect the environment.
- Approach innovation.



# Influence of Culture.

## Introduction.

This presentation reviews the influence of culture (values, norms and social standards) on sustainable building performance.

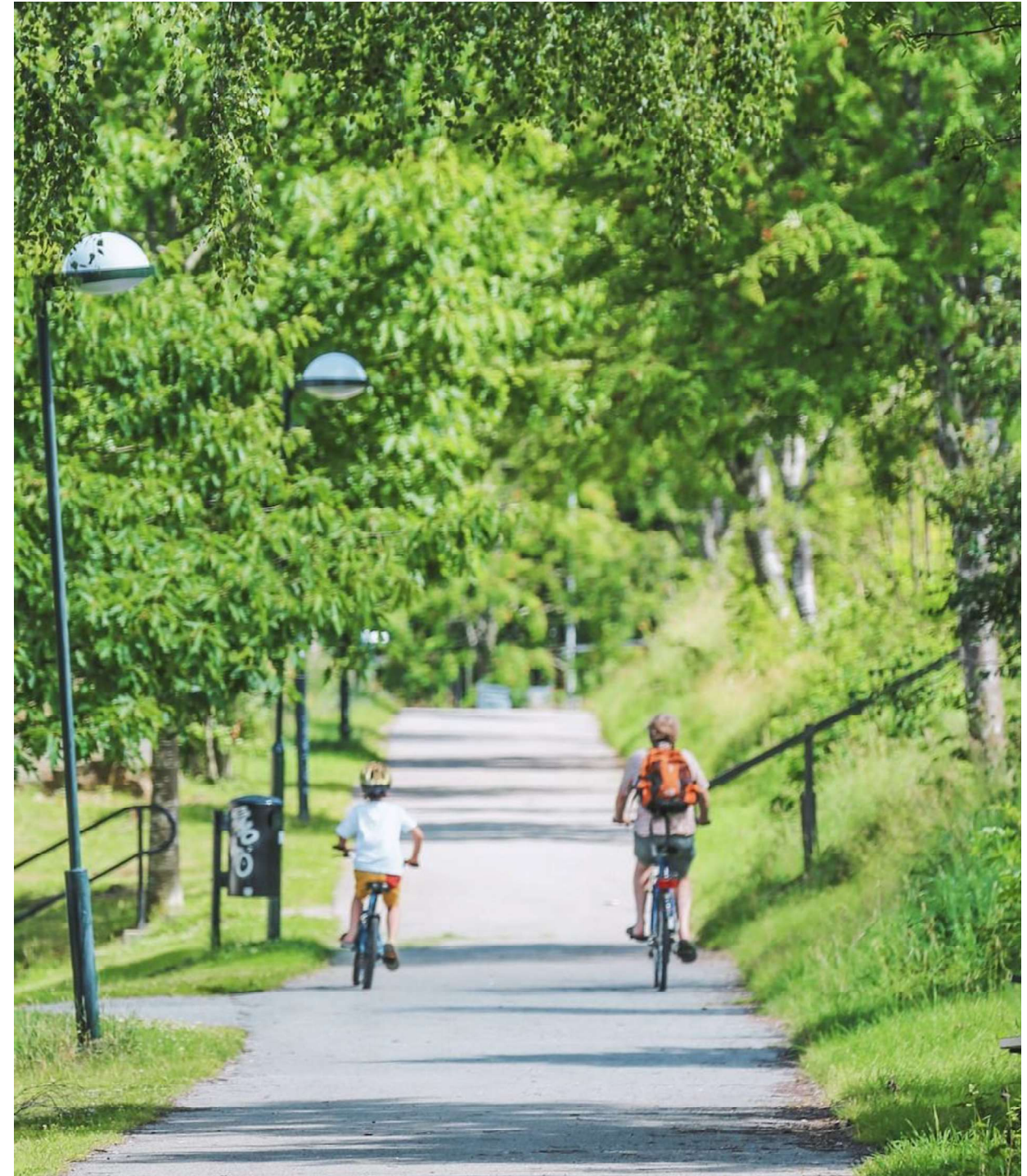
This is based on an evidence review of cultural characteristics of several European countries.

Primary focus on selected nations:

- Sweden, Denmark, Finland, Netherlands.
- Austria, Germany.
- UK, France.



Increasing  
sustainable  
building  
performance





# Sustainable Buildings. Comparing Performance.

In general, buildings with higher sustainable performance tend to be more:

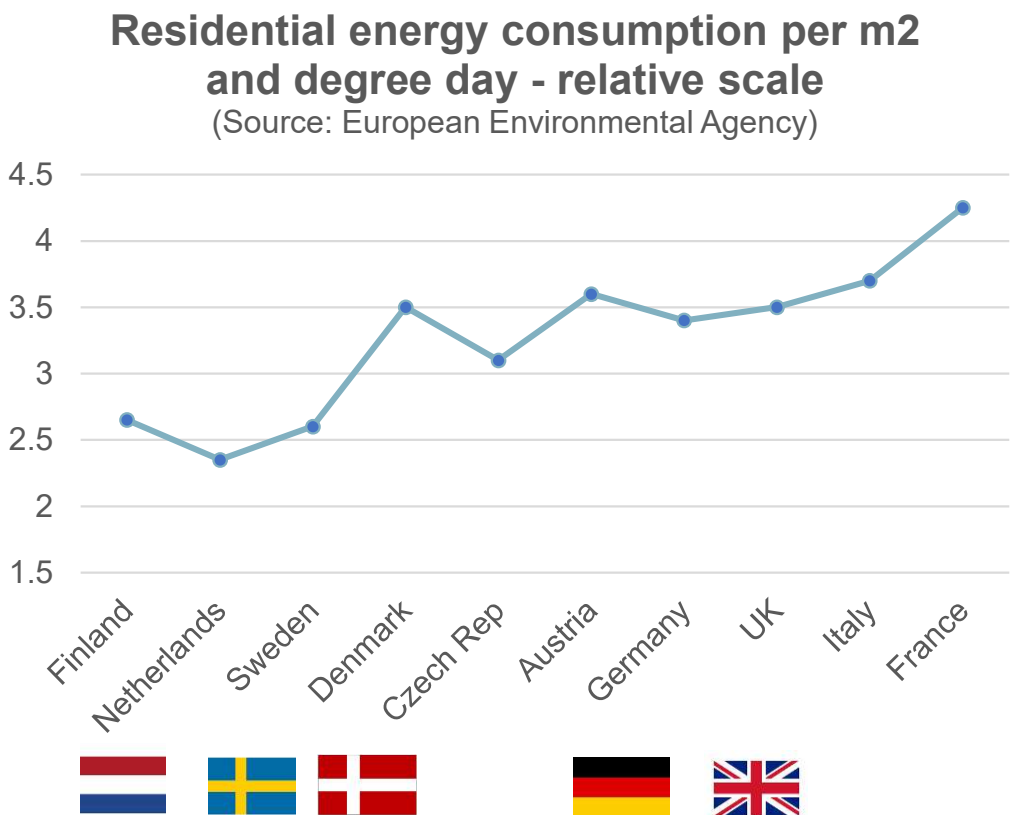
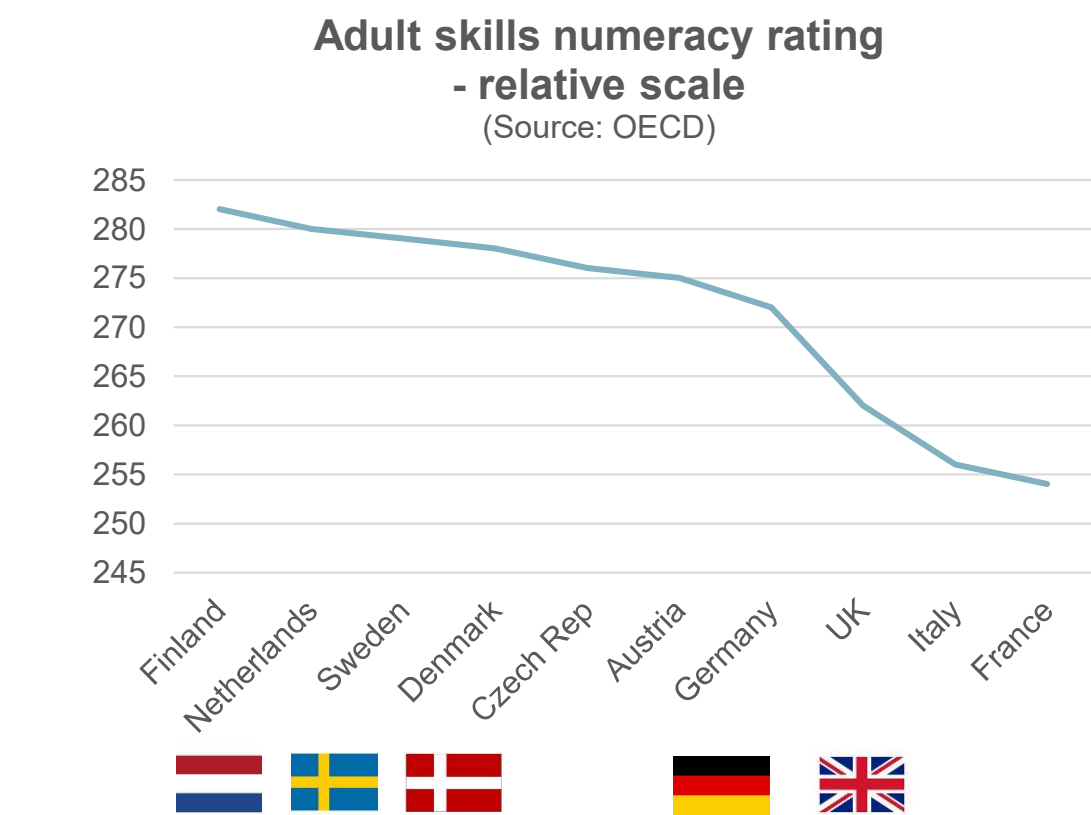
- Resource efficient
- Provide a satisfactory environment for the occupants (with better safety and wellbeing).

Sustainable buildings are more likely to be designed, built and managed to a higher standard.



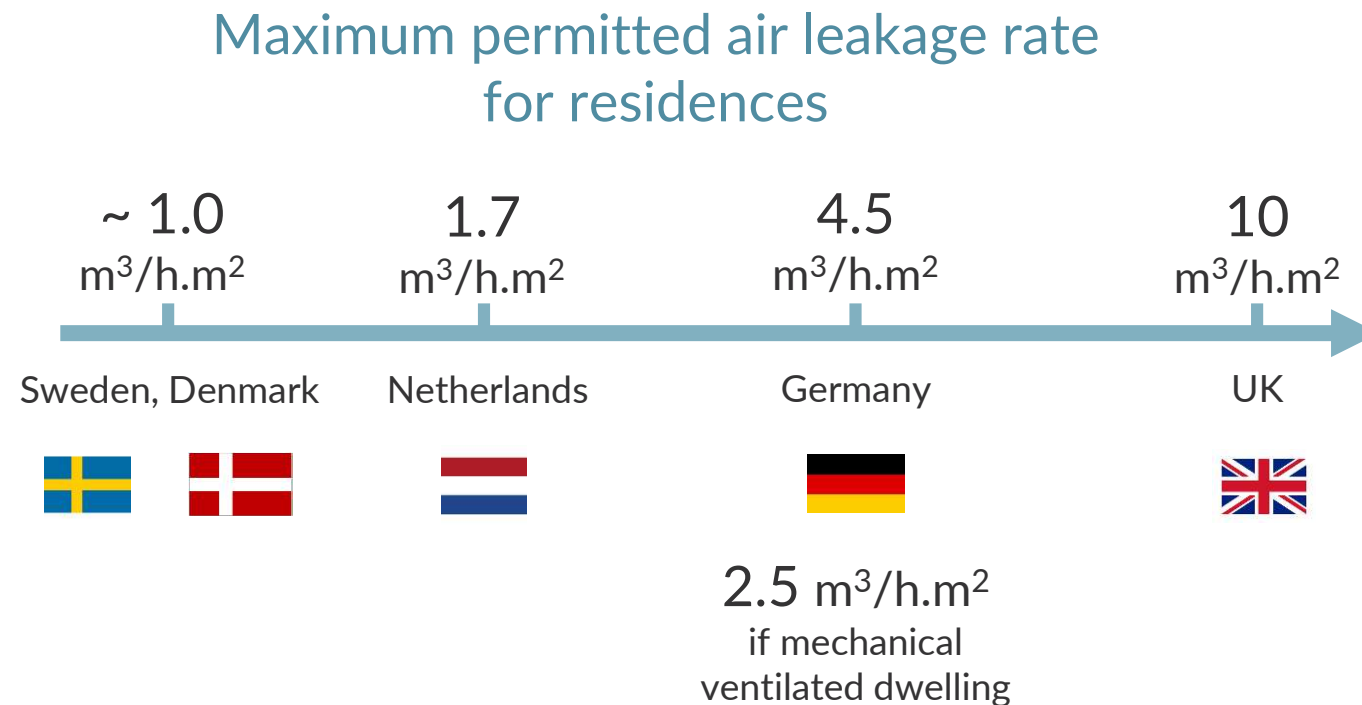
# Sustainable Building Indicators.

## Comparing technical skills/ numeracy and building energy performance of selected countries.



# Sustainable Building Indicators.

## Air leakage standards.



(Source: Building and ductwork airtightness requirements in Europe – Comparison of 10 European countries, V. Leprince et al, 2017)



This indicator shows the maximum air leakage rate for residential buildings, permitted by the building regulations in each country. UK has comparable annual heating degree days to Netherlands and Germany.

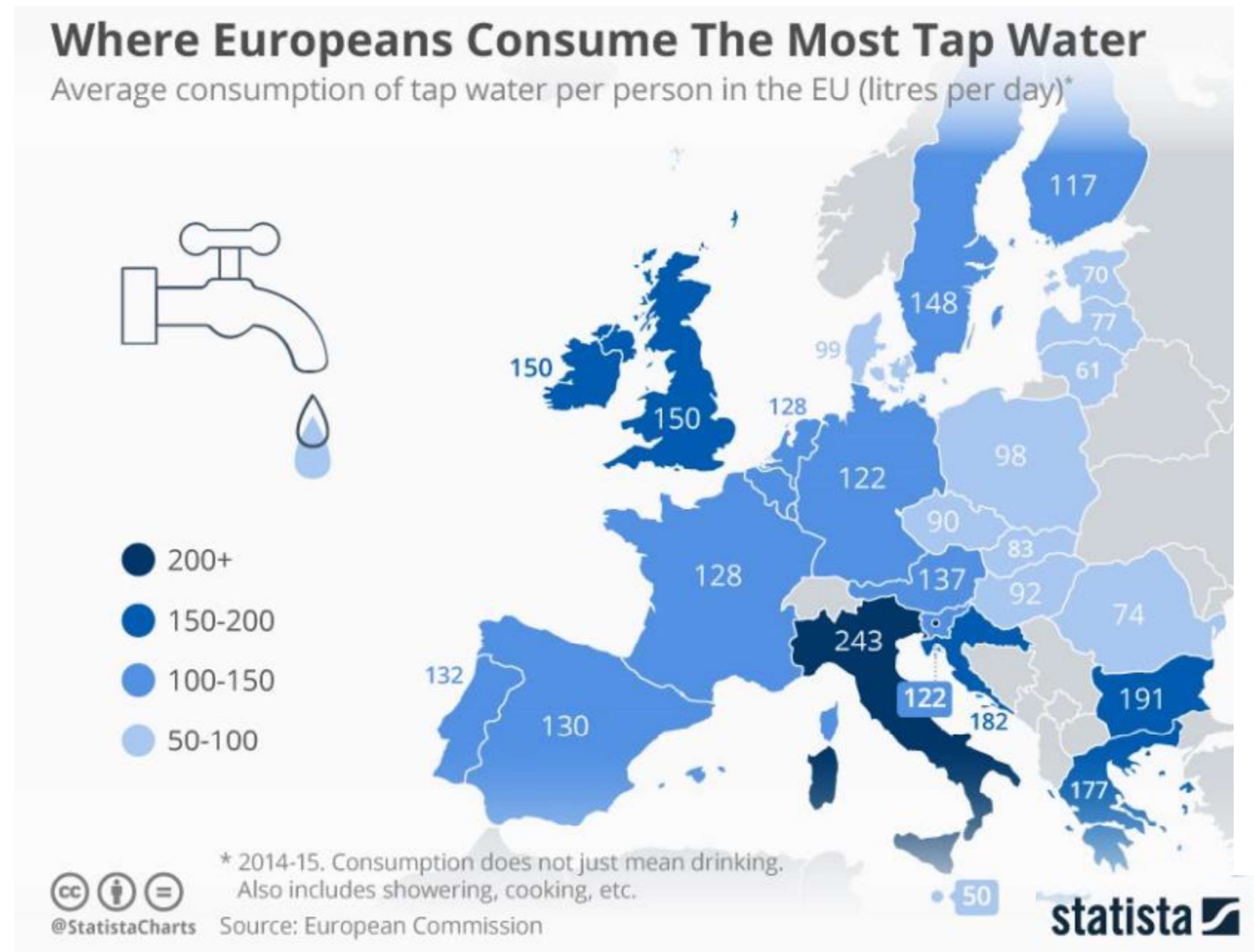


# Sustainable Building Indicators.

## Water consumption.

This indicator compares the average annual consumption of water per person.

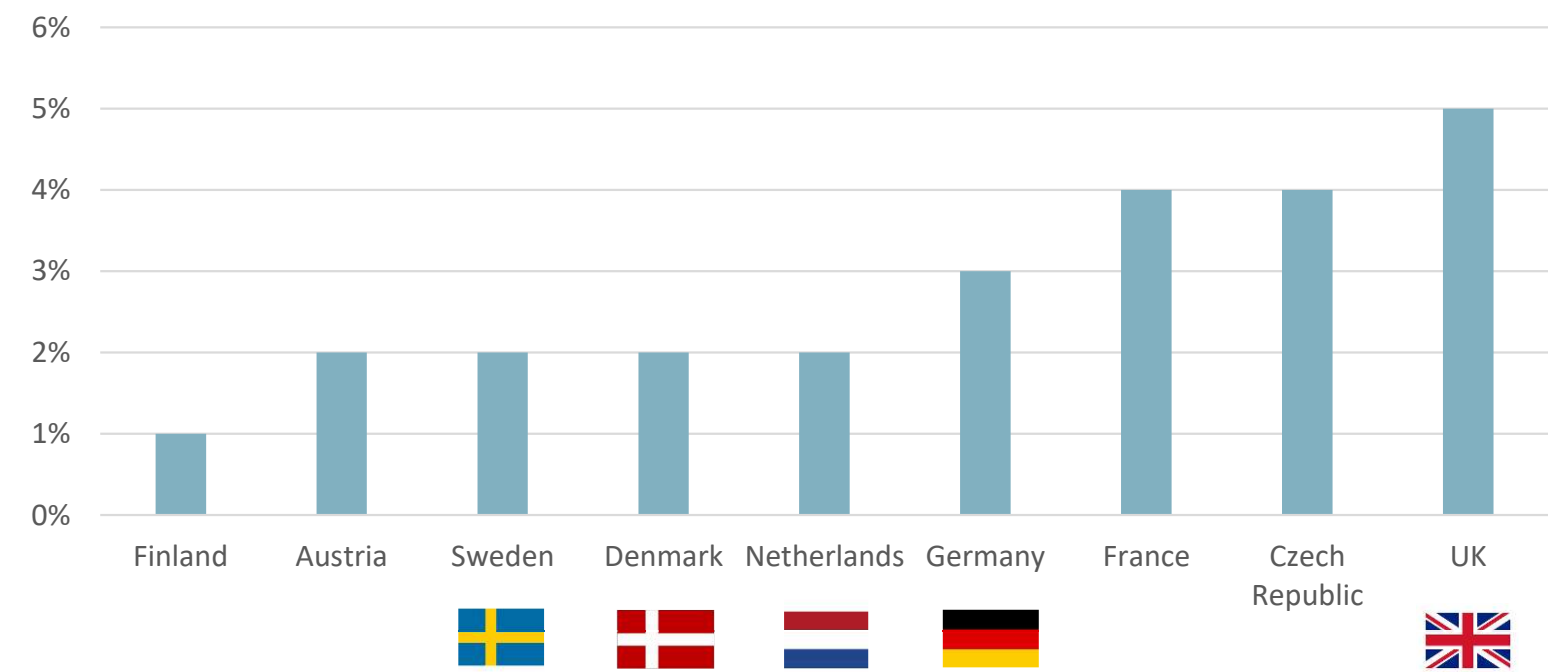
(Source: Satista/ European Commission, 2015)



# Sustainable Building Indicators.

## Fuel Poverty.

Fuel Poverty - Inability to Keep Warm in Homes, 2016  
(% of population)



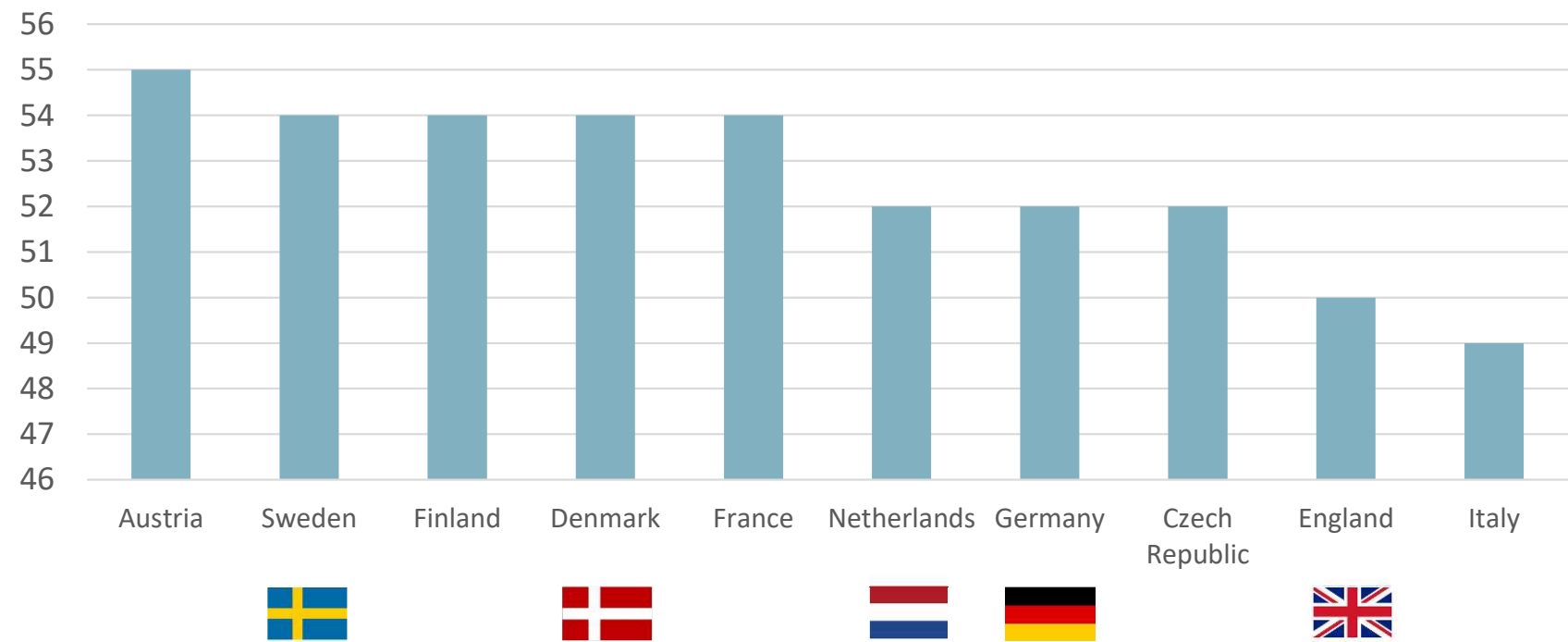
(Source: ENTSO-E, Power Facts Europe, 2019)



# Sustainable Building Indicators.

## Acoustic Insulation Standards.

Airborne Sound Insulation Between Dwellings - Regulatory Requirements (equivalent values,  $D_{nT,w}$  [dB])



(Source: Sound insulation in multi-storey housing in Europe, B. Rasmussen, 2017)



This indicator shows the minimum required reduction in sound transmission between dwellings, with the aim of reducing noise nuisance between neighbours.

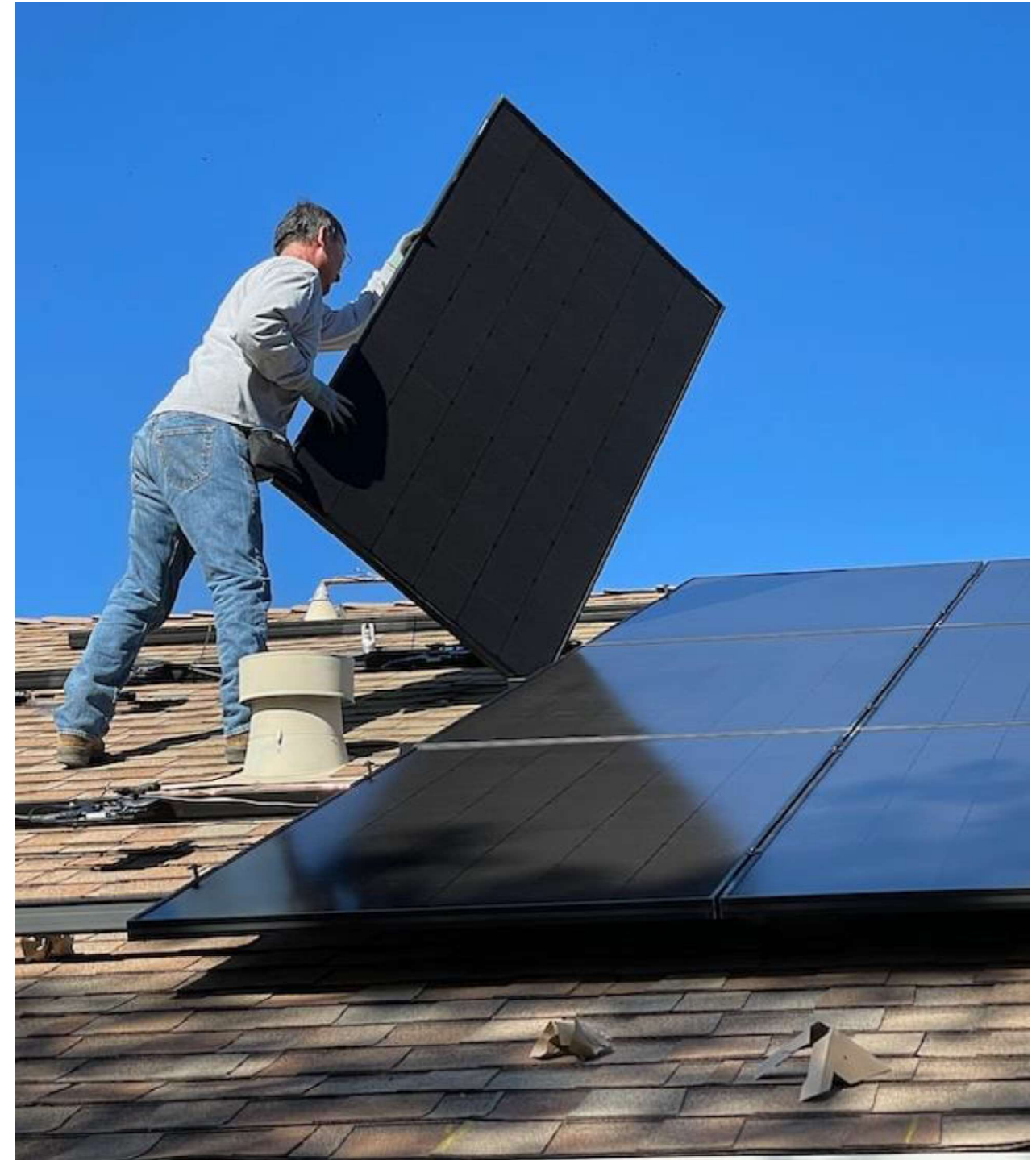


# Cultural Comparisons. The influence of technical competency.

People in the Nordic countries, Netherlands and Germany have, on average, a higher technical competency and numeracy level than UK, France and Italy.

This competency helps people to:

- understand and appreciate new technologies.
- assess the impacts and benefits of environmental improvements.
- improve performance outcomes.



# Cultural Comparisons.

## The influence of environmental awareness.

International research shows that if people are more culturally aware of environmental conditions, a higher level of sustainability results.

**The more people learn about the environmental consequences of an activity the more likely they are to be conscious of reducing detrimental impact.**

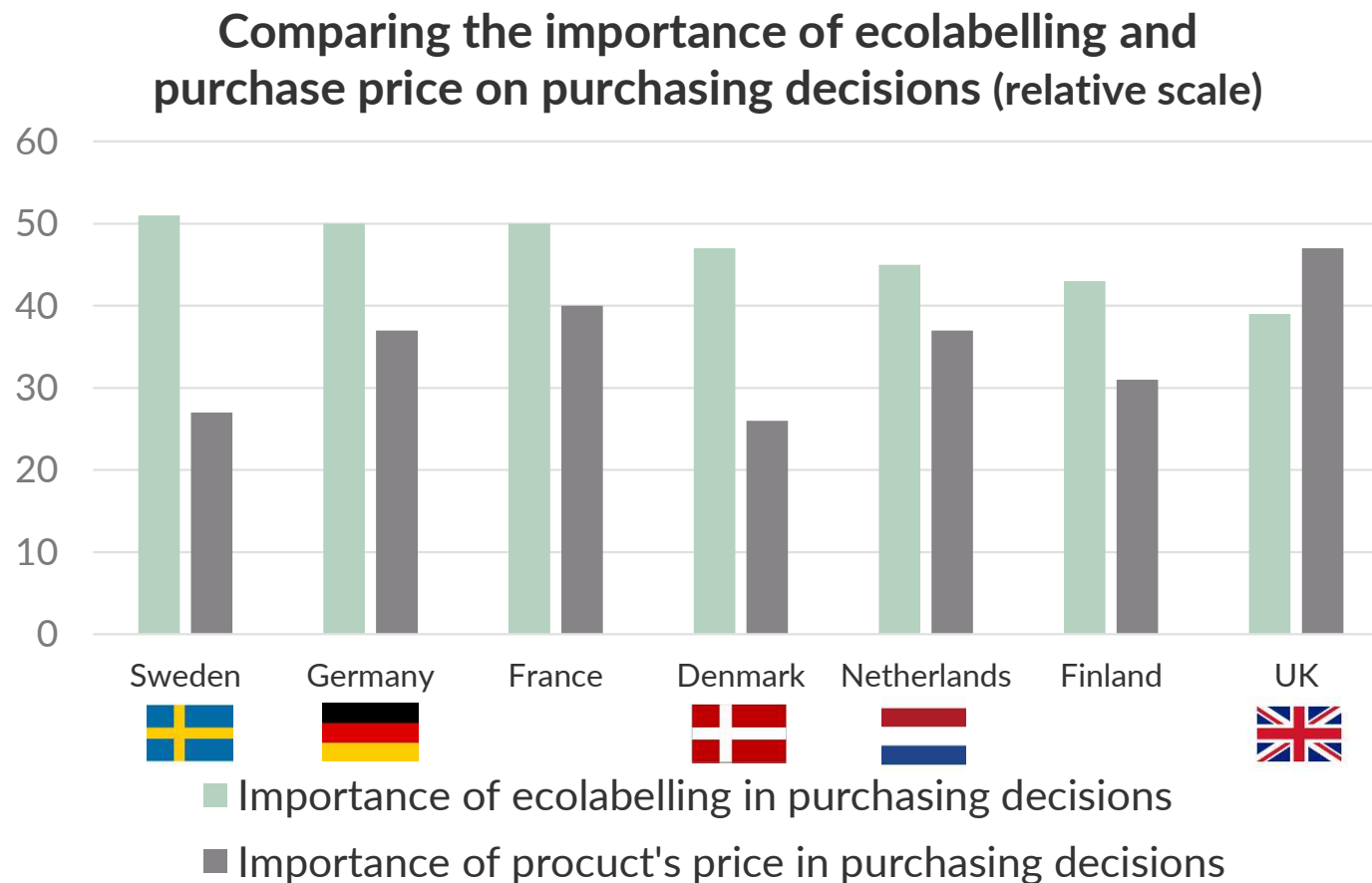
An example of environmental awareness is the awareness of product eco-labelling.

In a European survey the UK's perception of the importance of product eco-labelling was below average and of the awareness of what a product eco-label looks like was the lowest in Europe.



# Cultural Comparisons.

## The influence of environmental awareness.



(Source: European Commission, 2009)



# Cultural comparisons. The influence of professional expertise.

A culture of professionalism and high-performing working practices can influence sustainable outcomes because of the link to:

- Trust in professionals and experts.
- Willingness to collaborate.
- Support for R&D
- Support for innovation.

Trust in experts and trust in others in general, also has an influence on how effective people are in their work, which can translate to more effective and integrated planning, design and management strategies.



## Cultural comparisons. The influence of professional expertise.

The cultural status of an engineer varies across Europe.

As an example, in the UK the term 'engineer', which in many countries means a professionally qualified person, can be applied to someone who repairs or fixes equipment.

In other countries these people are often named 'mechanics' or 'technicians'.

### Engineering as proportion of degrees in different European countries.

>16%

Finland  
Sweden  
Austria

~ 12%

Germany  
Denmark  
France

~ 8%

UK  
Netherlands  
Ireland

(Source Engineers Europe, 2009)

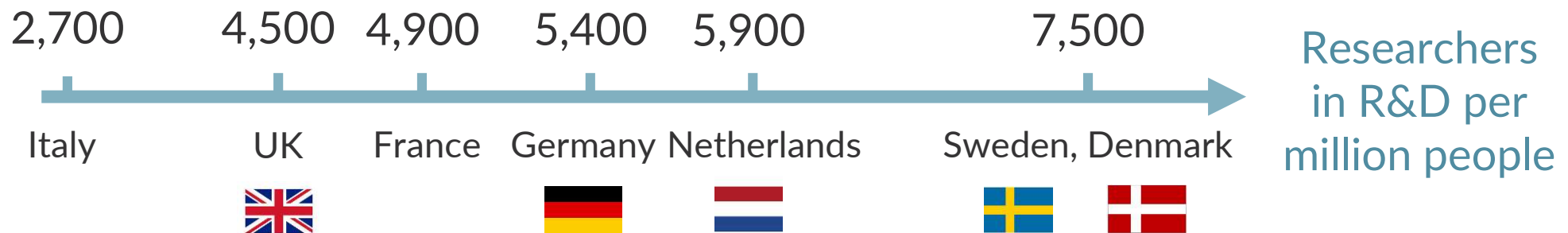
# Cultural comparisons.

## The influence of professional expertise.

### Investment in R&D

Comparison of number of researchers working in different countries (per million people)

Source: Researchers in R&D (per million people) | Data (worldbank.org)



### Career training

A comparison in Europe showed that the Nordic countries, Germany and Netherlands spend twice the amount on CPD training for their employees than in UK. (ADAPT, 2011)



# Cultural Comparisons.

## The influence of collectivist versus individualist cultural values.

### Collectivist values.

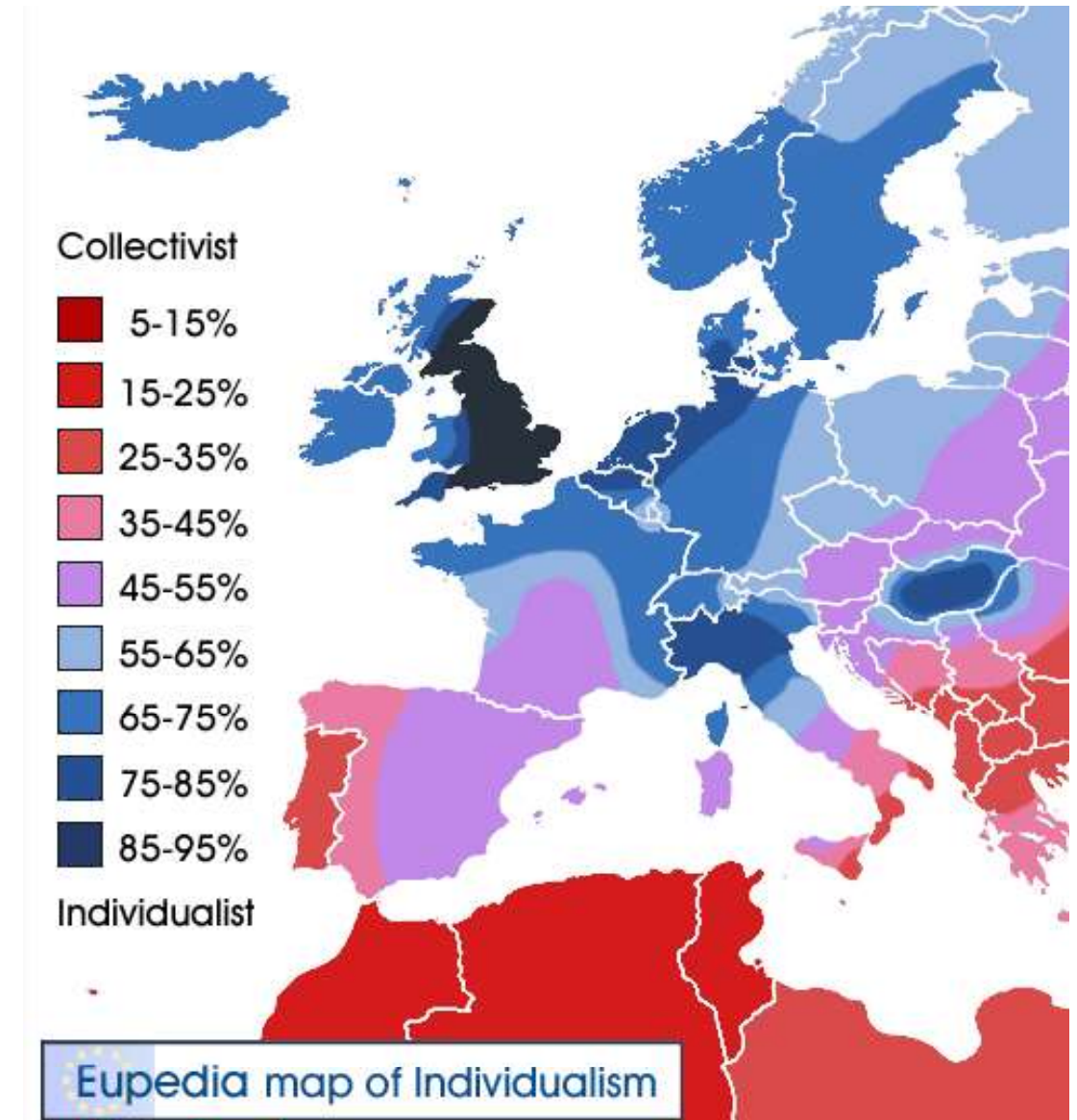
- Prioritise collective goals.
- Sense of social purpose.
- Emphasis on working together and collaboration.

### Individualist values.

- Prioritise individual goals.
- Sense of individual rights and independent purpose.
- Emphasis on personal success.

Collectivist cultural values are shown to align with pro-active engagement in climate / environmental protection and prioritising environmental performance in decision making.

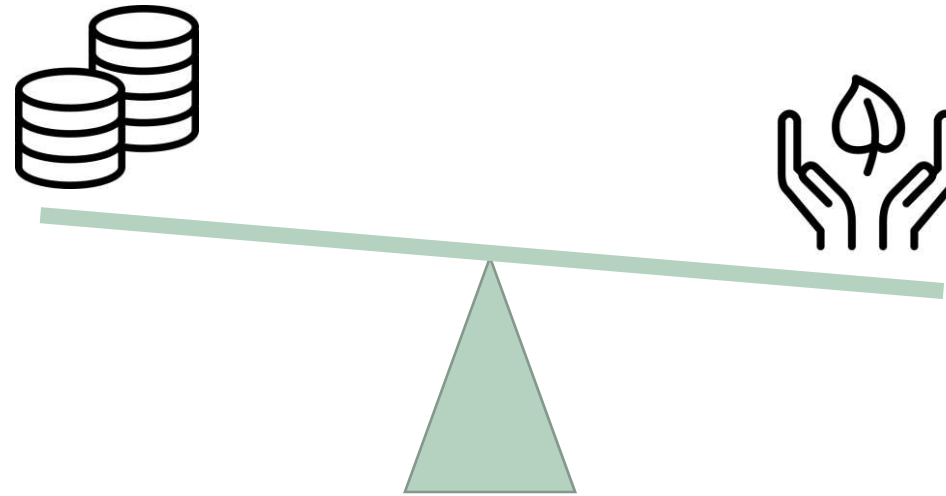
(Sources: Zubaidi, 2000; Xiang, 2019)



(Source: [www.eupedia.com](http://www.eupedia.com))

# Cultural comparisons.

## The influence of environmental awareness and collective purpose.



**Environmental impact and long term perspectives** have more of an influence in decision making over purchase price if **environmental awareness and collective purpose** is rated higher.

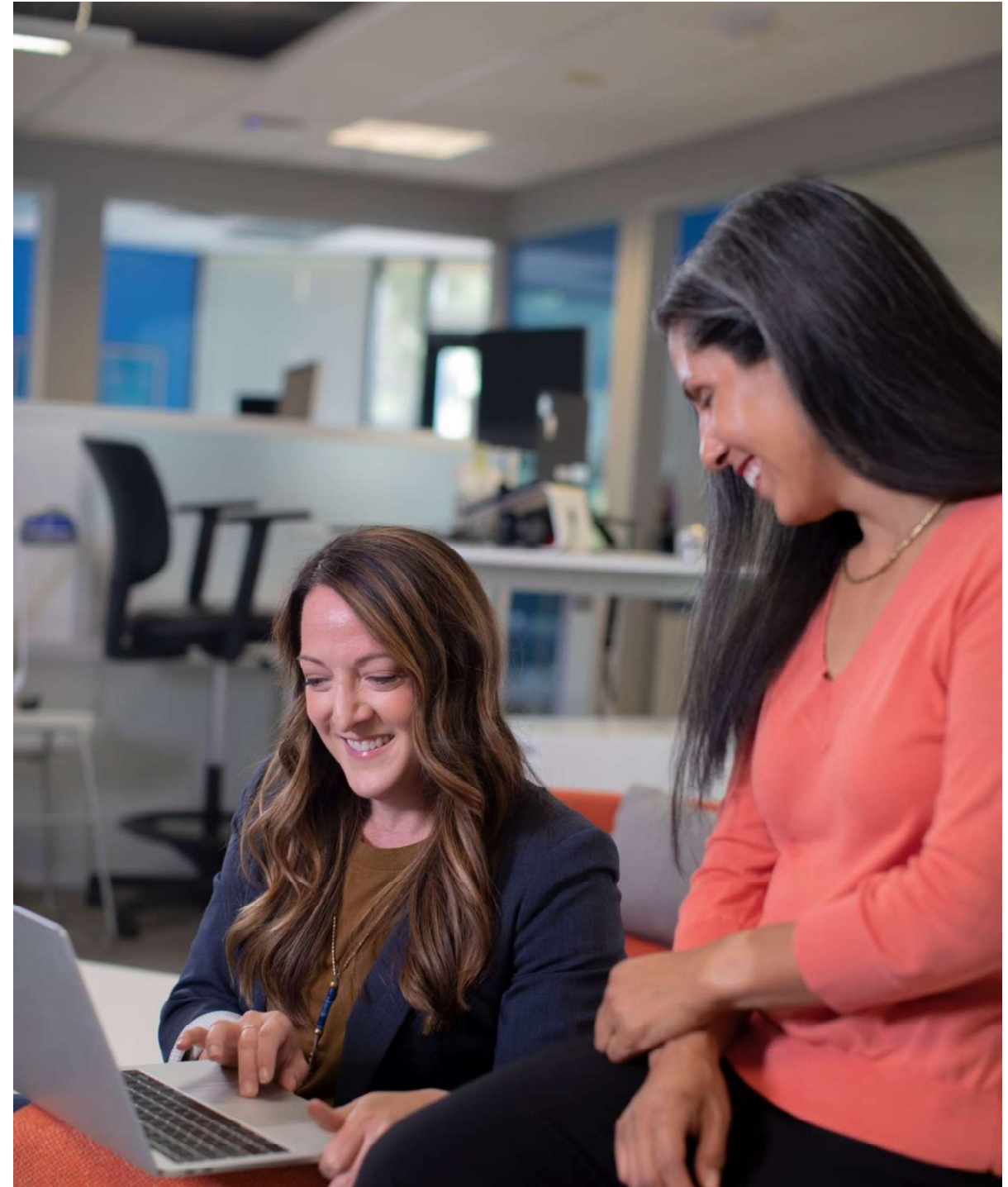
# Cultural Comparisons. The influence of inclusion.

Research shows:

- Females tend to have greater awareness of climate change and concern for protecting the environment than males do.
- Female representation in policy making has been found to lead to more stringent climate change policies.
- Females are generally better at championing accountability, transparency and the needs of diverse stakeholders.

Better inclusion of female participation in planning, design and management of the built environment can therefore help accelerate the delivery of achieving sustainable development/ building outcomes.

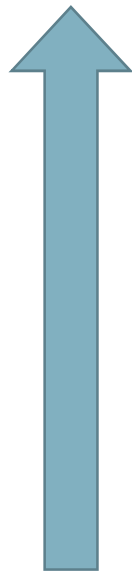
(Sources: Mavisakalyan, 2019, and UNFCCC, 2021)





# Cultural comparisons. The influence of inclusion.

Increasing participation of females in the professional and technical workforce.



Sweden, Norway, Finland,  
Denmark, France.

Germany, Austria.

Netherlands.

UK.

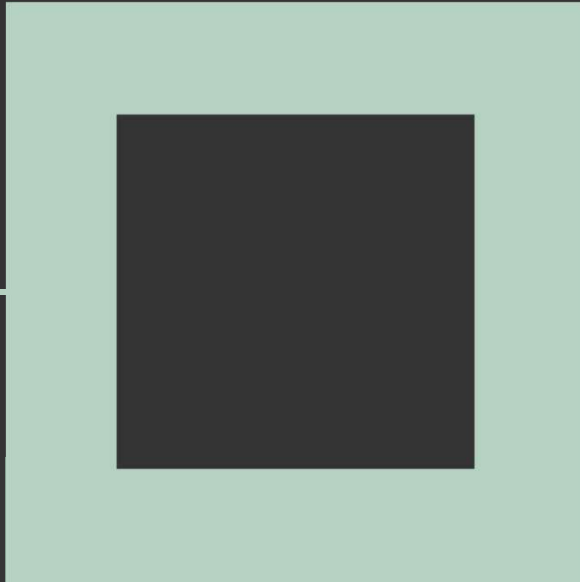
Italy.



(Source: World Economic Forum, 2022, Global Gender Gap Report)

## Conclusions.

1. Increase technical understanding.
2. Raise environmental awareness.
3. Promote professionalism and expertise.
4. Identify collective long-term goals.
5. Accelerate inclusion.



Thank you.  
[hoarelealea.com](https://hoarelealea.com)

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