



## Challenges of our time – discussing solutions for future energy and sustainable homes

### Changing buildings creates conflicts

In Worksheet 1, you found out why buildings matter for the energy transition. But knowing that change is necessary does not tell us how change should happen, who should act or who should pay for it. In this worksheet, you will compare policy approaches in Germany and the United Kingdom, explore different interests and advise a family facing a difficult decision.

#### PART A – From climate goals to political decisions ★

##### 1. LOOKING BACK

Think about your final comment from Worksheet 1. Why can changing a building be difficult?

Choose the two difficulties you consider most important: costs - technical limits - lack of information - political rules - social inequality - other: \_\_\_\_\_

Explain your choice.

##### 2. WHO SHOULD TAKE RESPONSIBILITY?

Who should be responsible for making buildings more sustainable?

Rank the following actors from 1 (= most responsibility) to 4 (= least responsibility):

- homeowners
- governments
- energy companies
- society as a whole

Compare your ranking with a partner. Choose the actor you placed first and give one reason for your decision.

#### PART B – How do governments support change? ★ ★

Making buildings more sustainable is not only a technical challenge. Governments can set rules, provide funding and create incentives – while homeowners have to decide what is possible in their own homes.

##### 1. COMPARE THE POLICY APPROACHES

Study Materials A and B. For each country write down:

- the main aim
- supported measures
- financial support
- one open question you still have

Then write down one similarity and one difference between the UK and German approaches.

The UK government's Warm Homes Plan aims to upgrade **5 MILLION HOMES BY 2030**. It combines direct support for low-income households with grants and low- or zero-interest finance.

Supported measures include:

- Home energy-efficiency improvements (e.g. better insulation, windows and draught proofing)
- Solar panels to generate renewable electricity
- Batteries to store electricity
- Heat pumps for low-carbon heating

The plan also includes measures to improve the energy performance of privately and socially rented homes.

Special support is available for low-income households, helping to reduce energy bills and tackle fuel poverty.

A key part of the UK's plan for cleaner, healthier and more secure homes.

Material A: United Kingdom: The Warm House Plan, based on [UK Government](#), generated with AI

Germany supports homeowners who replace old heating systems with climate-friendly technologies.

Basic grant **30%** of eligible costs. Depending on the household and the heating system being replaced, additional bonuses may be available. In total, support can reach up to 80% of eligible costs in qualifying cases.

Supported technologies include:

- Heat pumps (e.g. air-to-water or ground-source heat pumps)
- Solar thermal systems for heating and hot water
- Biomass heating (e.g. wood pellets)
- Connection to heating networks (e.g. district heating)

Who can receive support?

- Private homeowners (single-family homes)
- Depending on the programme: additional support for lower-income households
- Support for owner-occupied homes (main focus)

Further information

- For a single-family home, up to €28,000 of eligible costs are currently taken into account (for the heating system).
- Applications are made through the KfW (federal funding bank).
- Exact conditions depend on the individual situation and the technology used.

Goal

The funding programme is part of Germany's efforts to reduce greenhouse-gas emissions in the building sector and to make the transition to climate-friendly heating financially easier for households.

Good to know: The funding is part of Germany's broader strategy to improve energy efficiency in buildings, reduce emissions and increase the use of renewable energy.

Efficient buildings. Stronger communities.

Material B: Germany: Funding sustainable heating, based on [Federal Ministry for Economic Affairs and Energy](#), generated with AI



## 2. FROM POLICY TO A REAL DECISION

Government programmes describe what may be supported. But homeowners do not live in an average building – they live in one particular home, with a particular heating system, budget and set of priorities.

A qualified energy adviser in the chimney sweeping trade therefore has to connect two perspectives: policy information and the individual building.

Discuss with a partner: What would an adviser need to know about a household and its building before recommending a next step?

### PART C – The Miller family needs a new heating system ★ ★ ★

Study the case study.

- Identify** the features of the building that could influence the family's decision.
- Explain** why the decision about the heating system is urgent.
- Explain** why the family cannot simply implement every sustainable measure.
- Choose** the **three factors** that you think should matter most when advising the family.

#### CASE STUDY

### The Miller family

A real-life decision: a new heating system

*Built in 1985*

*Same home. A more sustainable future.*

#### About the house

The Miller family lives in a detached house. Their gas heating system is old and needs to be replaced soon. They would like to make their home more energy-efficient, but they have a limited budget and cannot do everything at once.

*A typical situation – what would you advise?*

#### Key facts about the house

- Year built** 1985
- Insulation** Poorly insulated (walls and roof)
- Current heating system** Old gas boiler (needs to be replaced soon)
- Roof** Suitable for solar panels
- Budget** Maximum budget: €25,000

#### The family's goals

- A reliable heating system
- Lower energy bills in the long term
- A comfortable home for the whole family
- A solution that is financially realistic
- Contribute to climate protection

#### Challenges

- Limited budget (max. €25,000)
- House is not well insulated
- Heating system needs to be replaced soon
- Several possible measures (e.g. insulation, heat pump, solar panels)
- Uncertainty about costs and funding
- Cannot implement all improvements at once

#### Questions the family is asking ...

- Which solution is the most suitable for our house?
- What will it cost – and what funding can we get?
- Should we first improve the insulation or replace the heating system?
- Can we combine different measures?
- How can we keep our monthly costs manageable?
- What is realistic for our situation?

*Making the right decision is not easy.*

Case study: The Miller family, generated with AI

### PART D – Who wants what? – From a building problem to a conflict ★ ★ ★

At first, the Miller family's situation may look like a technical problem: Which heating system should they choose?

But their decision also involves money, climate goals and different ideas about responsibility. The same situation can therefore look very different depending on whose perspective you take

The following statements are **fictional**, but they represent typical interests in debates about sustainable building renovation.

**HOMEOWNER:** "We know our heating system has to be replaced, but we cannot afford a complete renovation at once. We need a reliable solution and must keep our monthly costs manageable."

**CLIMATE ACTIVIST:** "Replacing one fossil-fuel system with another would lock the family into emissions for years. The priority should be to reduce energy demand and move away from fossil fuels as quickly as possible."

**GOVERNMENT REPRESENTATIVE:** "The transition has to reduce emissions, but it must also be realistic for households. Public funding can help people invest in cleaner heating and energy-efficiency measures, especially where upfront costs are a barrier."

#### 1. IDENTIFY THE INTERESTS

For each perspective write down the priority and a possible conflict it may cause with the other perspectives.

#### 2. FIND THE CLASHES

Choose one conflict and explain why they make advice to the Miller family more difficult.



## PART E – The chimney sweeper as energy adviser ★ ★ ★

### 1. BEFORE YOU RECOMMEND ANYTHING ...

Decide what you would need to check. Do not start with your favourite technology. Start with the building and the household.

This reflects the professional perspective of the German chimney sweeping trade, as the condition and efficiency of an existing building should be assessed before renovation measures or heating options are recommended.

Funding can strongly influence what is realistic for a household. The following UK example shows how financial support can change the options available to homeowners.

**The Boiler Upgrade Scheme (BUS)** provides grants to help homeowners replace fossil-fuel heating systems with low-carbon alternatives.

**Greener homes. Lower emissions.** Supporting the transition to cleaner heat.

**What can you get?** Current grant amounts (England and Wales, 2026)

|                                        |                                         |                                |
|----------------------------------------|-----------------------------------------|--------------------------------|
|                                        |                                         |                                |
| <b>£7,500</b>                          | <b>£7,500</b>                           | <b>£5,000</b>                  |
| for an eligible air-to-water heat pump | for an eligible ground-source heat pump | for an eligible biomass boiler |

**Higher support for some homes**  
Eligible off-gas-grid properties in England and Wales can receive higher grants, for example:

- up to **£9,000** for an air-to-water heat pump
- up to **£9,000** for a biomass boiler

**Good to know**

- The grant is available for homeowners in England and Wales.
- The installer must be certified.
- Certain conditions apply (e.g. building, property type, technology).
- Full details can be found on the GOV.UK website.

**Why does this matter?**  
Financial support can make low-carbon heating more affordable and help reduce greenhouse-gas emissions from homes.

**Investing in cleaner heating today.**  
Cleaner homes. Stronger communities.

**A fairer, greener UK for future generations.**

Material C: United Kingdom: Boiler Upgrade Scheme, based on [UK Government](#), generated with AI

a) Read the Material C.

b) Why might this kind of financial support change the advice given to a household? Explain.

### 2. GIVE YOUR ADVICE

Imagine you are the qualified energy adviser advising the Miller family.

Recommend a **realistic next step**. Your recommendation must:

- identify** what should happen **first**,
- explain** what could **wait**,
- consider** the family's **£25,000 budget**,
- balance** at least **two conflicting interests**,
- refer** to relevant information from Material B or another **policy source from this worksheet** and **explain** what would need to be checked before a final technical decision is made.

#### Useful language:

- From a technical point of view, ...
- Before making a final decision, I would check...
- Given the family's limited budget, ...
- One important consideration is ...
- The policy information shows that ...
- From the homeowner's perspective, ...
- At the same time, climate goals require ...
- I would recommend ... first because ...
- A realistic compromise would be ...

## PART F – Reflection: what makes the energy transition fair? ★ ★ ★

At the beginning of this worksheet, you asked who should take responsibility for making buildings more sustainable.

You have now seen that governments can provide funding and set policy goals – but households still have to make decisions that fit their building, budget and needs.

The Miller family shows why the energy transition is not only a technical issue. It is also a question of responsibility and fairness.

Discuss in small groups: *Who should carry the costs and responsibility for making homes more sustainable?* Consider:

- Who benefits from more sustainable buildings?
- Who can afford the upfront investment?
- What should happen when a household cannot afford the required change?
- How much responsibility should governments take?
- How much responsibility should homeowners take?