

WARM UP

1 Look again at page 138 of your coursebook, then use the words in the box to complete this description of passive solar building design.

- insulated •
- reject • cool •
- collect • heat •
- glass • position

Windows, walls and doors

(1) _____ and store solar energy in winter to (2) _____ the building, while they are able to (3) _____

it in summer which reduces the cost of air conditioning to keep the building (4) _____.

The (5) _____ of windows is very important, as is the kind of

(6) _____ used. Finally, the building also has to be well (7) _____.

GLOSSARY

- to adjust:** *adeguarsi*
- in turn:** *a sua volta*
- to last:** *durare*
- to live up to:** *essere all'altezza*
- to slash:** *ridurre drasticamente*
- airtight:** *ermetica*
- recovery:** *recupero*

Passive homes



Homes for a Changing Climate

Energy costs are growing higher and higher each year and people are continually trying to adjust to climate change. These two factors are leading people to want more from their home, especially with regard to energy saving features which in turn, will help create a healthier environment. Another priority high on the house buyer's list is that their home should be built to last, so construction firms nowadays have a lot to live up to and their answer to all these demands is passive houses.

These homes are built according to very strict building standards which ensure that on completion, the construction is not only comfortable and placed on the market at a reasonable price, but its energy costs are much lower than traditional houses. Passive house constructors indeed, claim to be able to slash the heating energy consumption of a building by 90%. Since buildings are responsible for 48% of greenhouse gas emissions in our atmosphere, then

passive houses could have a dramatic impact on energy conservation. A passive house is very well-insulated and almost airtight, so loss of heat gained from the sun and internally from people and electrical equipment, is kept to a bare minimum. The need for air-conditioning is also kept as low as possible by taking advantage of the natural shade available, and by positioning the windows correctly. Fresh air is supplied by an energy recovery ventilator, which provides high quality indoor air.

Nowadays, many in the construction sector have applied this philosophy to design and are building towards a carbon-neutral future. In the last decade, more than 15,000 buildings in Europe including schools, residences, factories and offices have been designed and built or renovated to passive house standards. Even government agencies have begun to include these building standards in their policy-making which is good news for all of us.



www.passivehouse.us

READING COMPREHENSION

2 **PET** Read the text and decide if the statements below are true (T) or false (F).

- 1 People could choose to live in passive homes because they are cheaper to heat.
- 2 Due to energy saving features, passive homes are very expensive to buy.
- 3 Passive house builders declare that they can cut energy bills by half.
- 4 You won't find many draughts in a passive house.
- 5 The energy produced by the occupants of a passive home helps to heat it.
- 6 Over the last ten years 15,000 buildings have been constructed in Europe in line with passive house standards.

T	F
<input type="checkbox"/>	<input type="checkbox"/>

VOCABULARY

3 Choose the correct alternative in the following sentences about passive houses.

- 1 People choose passive houses because of growing energy costs and climate *change/exchange*.
- 2 Free *solar/sun* energy is used efficiently to reduce heating costs.
- 3 Instead of relying on air conditioning, *shade/shadow* is used effectively to keep the building cool.
- 4 Super *isolation/insulation* ensures heat is not lost.
- 5 There are fewer carbon *transmissions/emissions* from a passive house.
- 6 Passive houses greatly reduce energy *conservation/consumption*.

WRITING

4 **PET** An area in your town is under redevelopment and you have been asked by your local council to describe passive house standards, giving details of the features and advantages of this new kind of building design. Write the report for the council (about 100 words).