

Huge reduction in meat-eating 'essential' to avoid climate breakdown

Level 1 • Pre-intermediate / Intermediate

1 Warmer

Answer the questions.

- Which country produces the most CO₂ (carbon dioxide)?
a. China b. the USA c. India
- Which country has done most to protect the climate?
a. the UK b. Germany c. Sweden
- Which country produces the most renewable energy?
a. China b. Canada c. the USA
- Which country has the most cattle?
a. the USA b. Brazil c. India

2 Key words

Complete the sentences using these key words from the text. The paragraph numbers will help you.

flood

pulses

drought

deforestation

consumption

- _____ is the use of something such as fuel or energy and the amount that people use. (para 1)
- _____ are seeds that you can cook and eat such as beans, lentils and peas. (para 1)
- _____ is the process of removing the trees from an area of land. (para 2)
- A _____ is a long period of time when there is little or no rain and crops die. (para 3)
- A _____ is a large amount of water that covers an area that was dry before. (para 3)

flexitarian

yield

fertilizer

undernourished

dairy

- _____ refers to products made from milk. (para 3)
- A _____ is someone who has a mainly vegetarian diet but sometimes eats meat or fish. (para 5)
- An _____ person is not healthy because they do not get enough food. (para 6)
- A _____ is a natural or chemical substance added to soil to help plants grow. (para 7)
- A _____ is an amount of something that is produced. (para 7)

3 Find the information

Find the following information in the text as quickly as possible.

- By what percentage should people in western countries reduce their consumption of beef?
- How many more people will there be in the world by 2050?
- According to the UN report, how many years does the world have to keep global warming under 1.5C?
- What proportion of food produced today is wasted?
- How much less pork should the average citizen eat?
- By what percentage should people in the UK and US reduce their consumption of milk?

Huge reduction in meat-eating 'essential' to avoid climate breakdown

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Huge reduction in meat-eating 'essential' to avoid climate breakdown

Damian Carrington
10 October, 2018

- 1 If we want to avoid dangerous climate change, we have to reduce the amount of meat we eat. This is according to the biggest ever analysis of the food system's effect on the environment. In western countries, beef consumption needs to reduce by 90% and be replaced by five times more beans and pulses. The research also finds that enormous changes to farming are needed if we want to feed ten billion people (the expected world population in a few decades).
- 2 Food production already causes a large amount of damage to the environment, via greenhouse gases from farm animals, deforestation and water shortages from farming. But without action, its effect will get far worse as the world population rises by 2.3 billion people by 2050. "It is quite shocking," said Marco Springmann at the University of Oxford, who led the research team.
- 3 The new study follows the publication of a UN report. In that report, the world's leading scientists warned there are just 12 years in which to keep global warming under 1.5C. Even half a degree above that will significantly increase the risks of drought, floods and extreme heat. The report said eating less meat and dairy was important.
- 4 The new research combined data from every country to study the effect of food production on the global environment. It then looked at what we can do to stop a food crisis. "There is no easy solution," said Springmann. "But changes to people's diets and technological change on farms are the two essential things. Hopefully there will also be a reduction in food loss and waste." About a third of food produced today is wasted.
- 5 The researchers said a global shift to a "flexitarian" diet was needed to keep climate change under 2C. This flexitarian diet means people need to eat 75% less beef, 90% less pork and half the number of eggs. They must also triple consumption of beans and pulses and quadruple consumption of nuts and seeds. This would reduce emissions from farm animals by 50%.
- 6 In rich nations, the dietary changes needed are greater. People in the UK and US need to eat 90% less beef and drink 60% less milk. They also need to eat four to six times more beans and pulses. However, the millions of people in poor nations who are undernourished need to eat a little more meat and dairy.
- 7 To stop deforestation, water shortages and pollution from overuse of fertilizer, we need enormous changes in farming methods. These include increasing crop yields in poorer nations, more universal water storage and far more careful use of fertilizers. In some countries, fertilizers and water are already being better used, and big cuts in meat consumption are being seen among young people in some cities.
- 8 But we need a global change, Springmann said: "I think we can do it, but we really need governments to do more. People can make a personal difference by changing their diet but also by asking their politicians for better environmental regulations. That is also very important."
- 9 Professor Peter Smith at the University of Aberdeen, who was not part of the research team, said: "We know food choices are very personal and that behaviour change can be difficult to encourage, but the evidence is now very clear – we need to change our diets. It will also make us healthier so there's no reason not to make the change."

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4 Comprehension check

Match the beginnings and endings to make statements about the text.

- | | |
|---|---|
| 1. If we want to stop climate change, ... | a. ... occasionally eats meat and fish. |
| 2. An increase in global warming of 2C will ... | b. ... have already reduced the amount of meat they eat. |
| 3. A flexitarian is someone who is mainly a vegetarian but ... | c. ... we have to eat much less meat. |
| 4. The report says that we need both changes in diet ... | d. ... we will also become healthier. |
| 5. Young people in some cities ... | e. ... and technological changes on farms. |
| 6. If we change our diets in the way the report recommends, ... | f. ... increase the risk of drought, floods and extreme heat. |

5 Chunks

Rearrange the words to make phrases from the text.

- times beans more and pulses five
- damage a environment large to the of amount
- no solution there easy is
- waste in loss reduction a food and
- farming enormous in methods changes
- effect the production environment food on the of

6 Two-word phrases

Match the words in the left-hand column with the words in the right-hand column to make expressions from the text.

- | | |
|----------------|---------------|
| 1. food | a. change |
| 2. climate | b. gases |
| 3. greenhouse | c. diet |
| 4. global | d. yields |
| 5. flexitarian | e. production |
| 6. crop | f. warming |

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7 Word-building

Complete the table using words from the text.

	noun	adjective
1.	technology	
2.	globe	
3.	diet	
4.	environment	
5.	essence	
6.	person	

8 Discussion

- Should we all become vegetarian? Why? Why not?

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Level 1 • Pre-intermediate / Intermediate

KEY

1 Warmer

1. a
2. c
3. a
4. c

2 Key words

1. consumption
2. pulses
3. deforestation
4. drought
5. flood
6. dairy
7. flexitarian
8. undernourished
9. fertilizer
10. yield

3 Find the information

1. 90%
2. 2.3 billion
3. 12
4. about a third
5. 90%
6. 60%

4 Comprehension check

1. c
2. f
3. a
4. e
5. b
6. d

5 Chunks

1. five times more beans and pulses
2. a large amount of damage to the environment
3. there is no easy solution
4. a reduction in food loss and waste
5. enormous changes in farming methods
6. the effect of food production on the environment

6 Two-word phrases

1. e
2. a
3. b
4. f
5. c
6. d

7 Word-building

1. technological
2. global
3. dietary
4. environmental
5. essential
6. personal

Huge reduction in meat-eating 'essential' to avoid climate breakdown

Level 2 • Upper intermediate

1 Warmer

Answer the questions.

- Which country produces the most CO₂ (carbon dioxide)?
a. China b. the USA c. India
- Which country has done most to protect the climate?
a. the UK b. Germany c. Sweden
- Which country produces the most renewable energy?
a. China b. Canada c. the USA
- Which country has the most cattle?
a. the USA b. Brazil c. India

2 Key words

Match the key words with the definitions. Then, find them in the article to read them in context. The paragraph numbers are given to help you.

drought
proactive

fertilizer
flexitarian

consumption
pulses

sustainability
undernourished

livestock
manure

- _____ is the use of something such as fuel or energy and the amount that people use. (para 1)
- _____ are seeds that you can cook and eat such as beans, lentils and peas. (para 1)
- _____ is the collective term for animals such as cows, sheep and pigs that are kept on farms. (para 2)
- _____ is the use of methods that do not harm the environment. (para 3)
- A _____ is a long period of time when there is little or no rain and crops die. (para 4)
- A _____ is someone who has a mainly vegetarian diet but sometimes eats meat or fish. (para 6)
- _____ is solid waste from farm animals. (para 6)
- An _____ person is not healthy because they do not get enough food. (para 7)
- A _____ is a natural or chemical substance added to soil to help plants grow. (para 8)
- _____ people take action and make changes before they need to be made, rather than waiting until problems develop. (para 9)

3 Find the information

Find the following information in the text as quickly as possible.

- By what percentage should citizens of western countries reduce their consumption of beef?
- How many more people will there be in the world by 2050?
- According to the UN report, how many years does the world have to keep global warming under 1.5C?
- What proportion of food produced today is wasted?
- How much less pork should the average citizen eat?
- By what percentage should UK and US citizens reduce their consumption of milk?

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Level 2 • Upper intermediate

Huge reduction in meat-eating 'essential' to avoid climate breakdown

Damian Carrington

10 October, 2018

- 1 Huge reductions in meat-eating are essential to avoid dangerous climate change, according to the biggest ever analysis of the food system's impact on the environment. In western countries, beef consumption needs to fall by 90% and be replaced by five times more beans and pulses. The research also finds that enormous changes to farming are needed to avoid destroying our ability to feed the ten billion people expected to be on the planet in a few decades.
- 2 Food production already causes great damage to the environment, via greenhouse gases from livestock, deforestation and water shortages from farming, and vast ocean dead zones from agricultural pollution. But without action, its impact will get far worse as the world population rises by 2.3 billion people by 2050 and global income triples, enabling more people to eat meat-rich western diets.
- 3 This would smash the critical environmental limits beyond which humanity will struggle to live, the new research indicates. "It is pretty shocking," said Marco Springmann at the University of Oxford, who led the research team. "We are really risking the sustainability of the whole system. If we are interested in people being able to farm and eat, then we'd better not do that."
- 4 The new study follows the publication of a UN report in which the world's leading scientists warned there are just a dozen years in which to keep global warming under 1.5C. Even half a degree above that will significantly increase the risks of drought, floods and extreme heat. The report said eating less meat and dairy was important but said current trends were in the opposite direction.
- 5 The new research combined data from every country to assess the impact of food production on the global environment. It then looked at what could be done to stop a food crisis. "There is no easy solution," said Springmann. "But dietary and technological change on farms are the two essential things, and hopefully they can be complemented by reduction in food loss and waste." About a third of food produced today never reaches the table.
- 6 The researchers found a global shift to a "flexitarian" diet was needed to keep climate change even under 2C, let alone 1.5C. This flexitarian diet means the average citizen needs to eat 75% less beef, 90% less pork and half the number of eggs, while tripling consumption of beans and pulses and quadrupling nuts and seeds. This would halve emissions from livestock and better management of manure would enable further cuts.
- 7 In rich nations, the dietary changes required are greater. UK and US citizens need to cut beef by 90% and milk by 60% while increasing beans and pulses between four and six times. However, the millions of people in poor nations who are undernourished need to eat a little more meat and dairy.
- 8 To stop deforestation, water shortages and pollution from overuse of fertilizer, enormous changes in farming practices are needed. These include increasing crop yields in poorer nations, more universal water storage and far more careful use of fertilizers. All the diet and farming options are already being implemented somewhere in the world, said Springmann. In some countries, fertilizers and water are being better used, while big cuts in meat consumption are being seen among young people in some cities.
- 9 But a global change is needed, he said: "I think we can do it, but we really need much more proactive governments to provide the right framework. People can make a personal difference by changing their diet but also by knocking on the doors of their politicians and demanding better environmental regulations – that is also very important."
- 10 Professor Peter Smith at the University of Aberdeen, who was not part of the research team, said: "We know food choices are very personal and that behaviour change can be difficult to encourage, but the evidence is now unequivocal – we need to change our diets if we are to have a sustainable future. The fact that it will also make us healthier makes it a no-brainer."

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Level 2 • Upper intermediate

4 Comprehension check

Are these statements true (T) or false (F) according to the text?

1. If we want to stop climate change, we have to eat more meat.
2. An increase in global warming of 2C will increase the risk of drought, floods and extreme heat.
3. People who have a flexitarian diet never eat meat.
4. We should increase the number of eggs we eat.
5. The report says that fertilizers should be used more carefully.
6. If people change their diets, they will also become healthier.

5 Find the word

Find the following words in the text.

1. a noun meaning *the process of removing the trees from an area of land* (para 2)
2. an adjective meaning *very large* (para 2)
3. a verb meaning *increase something so that it is three times bigger than before* (para 2)
4. a verb meaning *increase something so that it is four times bigger than before* (para 6)
5. a verb meaning *reduce something by 50%* (para 6)
6. a noun meaning *an amount of something that is produced* (para 8)
7. a verb meaning *make something such as an idea, plan, system or law start to work* (para 8)
8. a two-word noun meaning *a question or problem that is very obvious or very easy to deal with* (para 10)

6 Two-word phrases

Match the words in the left-hand column with those in the right-hand column to make expressions from the text.

- | | |
|---------------|--------------|
| 1. climate | a. shortages |
| 2. global | b. practices |
| 3. greenhouse | c. warming |
| 4. water | d. change |
| 5. crop | e. gases |
| 6. farming | f. yields |

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Level 2 • Upper intermediate

7 Word-building

Complete the table using words from the text.

	verb	noun
1.	consume	
2.	analyse	
3.	manage	
4.	store	
5.	reduce	
6.	behave	

8 Discussion

Discuss the statements.

- If we want to save our planet, we all have to become vegetarians now.
- Global warming is a myth.

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Level 2 • Upper intermediate

KEY

1 Warmer

1. a
2. c
3. a
4. c

2 Key words

1. consumption
2. pulses
3. livestock
4. sustainability
5. drought
6. flexitarian
7. manure
8. undernourished
9. fertilizer
10. proactive

3 Find the information

1. 90%
2. 2.3 billion
3. a dozen
4. about a third
5. 90%
6. 60%

4 Comprehension check

1. F
2. T
3. F
4. F
5. T
6. T

5 Find the word

1. deforestation
2. vast
3. triple
4. quadruple
5. halve
6. yield
7. implement
8. no-brainer

6 Two-word phrases

1. d
2. c
3. e
4. a
5. f
6. b

7 Word-building

1. consumption
2. analysis
3. management
4. storage
5. reduction
6. behaviour

Huge reduction in meat-eating 'essential' to avoid climate breakdown

Level 3 • Advanced

1 Warmer

Answer the questions.

- Which country produces the most CO₂ (carbon dioxide)?
a. China b. the USA c. India
- Which country has done most in climate protection?
a. the UK b. Germany c. Sweden
- Which country produces the most renewable energy?
a. China b. Canada c. the USA
- Which country has the most cattle?
a. the USA b. Brazil c. India

2 Key words

Complete the sentences using these key words from the text.

sustainability
pulses

fertilizer
subsidy

livestock
proactive

consumption
flexitarian

drought
manure

- _____ is the use of something such as fuel or energy and the amount that people use.
- _____ are seeds that you can cook and eat such as beans, lentils and peas.
- _____ is the collective term for animals such as cows, sheep and pigs that are kept on farms.
- _____ is the use of methods that do not harm the environment.
- A _____ is a long period of time when there is little or no rain and crops die.
- A _____ is someone who has a mainly vegetarian diet but sometimes eats meat or fish.
- _____ is solid waste from farm animals.
- A _____ is an amount of money that a government or other agency pays to help to reduce the cost of a product or service.
- A _____ is a natural or chemical substance added to soil to help plants grow.
- _____ people take action and make changes before they need to be made, rather than waiting until problems develop.

3 Find the information

Find the following information in the text as quickly as possible.

- How many more people will there be in the world by 2050?
- By what percentage should UK and US citizens reduce their consumption of milk?
- Which two countries are given as examples of countries where fertilizers and water are being better used?
- According to the UN report, how many years does the world have to keep global warming under 1.5C?
- What proportion of food produced today is wasted?
- By what percentage should citizens of western countries reduce their consumption of beef?

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Level 3 • Advanced

Huge reduction in meat-eating 'essential' to avoid climate breakdown

Major study also finds huge changes to farming are needed to avoid destroying Earth's ability to feed its population

Damian Carrington

10 October, 2018

- 1 Huge reductions in meat-eating are essential to avoid dangerous climate change, according to the most comprehensive analysis yet of the food system's impact on the environment. In western countries, beef consumption needs to fall by 90% and be replaced by five times more beans and pulses. The research also finds that enormous changes to farming are needed to avoid destroying the planet's ability to feed the ten billion people expected to be on the planet in a few decades.
- 2 Food production already causes great damage to the environment, via greenhouse gases from livestock, deforestation and water shortages from farming, and vast ocean dead zones from agricultural pollution. But without action, its impact will get far worse as the world population rises by 2.3 billion people by 2050 and global income triples, enabling more people to eat meat-rich western diets.
- 3 This would smash critical environmental limits beyond which humanity will struggle to live, the new research indicates. "It is pretty shocking," said Marco Springmann at the University of Oxford, who led the research team. "We are really risking the sustainability of the whole system. If we are interested in people being able to farm and eat, then we'd better not do that."
- 4 "Feeding a world population of ten billion is possible but only if we change the way we eat and the way we produce food," said Professor Johan Rockström at the Potsdam Institute for Climate Impact Research in Germany, who was part of the research team. "Greening the food sector or eating up our planet: this is what is on the menu today."
- 5 The new study follows the publication of a landmark UN report in which the world's leading scientists warned there are just a dozen years in which to keep global warming under 1.5C, beyond which even half a degree will significantly worsen the risks of drought, floods and extreme heat. The report said eating less meat and dairy was important but said current trends were in the opposite direction.
- 6 The new research combined data from every country to assess the impact of food production on the global environment. It then looked at what could be done to stop the looming food crisis. "There is no magic bullet," said Springmann. "But dietary and technological change on farms are the two essential things, and hopefully they can be complemented by reduction in food loss and waste." About a third of food produced today never reaches the table.
- 7 The researchers found a global shift to a "flexitarian" diet was needed to keep climate change even under 2C, let alone 1.5C. This flexitarian diet means the average world citizen needs to eat 75% less beef, 90% less pork and half the number of eggs, while tripling consumption of beans and pulses and quadrupling nuts and seeds. This would halve emissions from livestock and better management of manure would enable further cuts.
- 8 In rich nations, the dietary changes required are ever more stark. UK and US citizens need to cut beef by 90% and milk by 60% while increasing beans and pulses between four and six times. However, the millions of people in poor nations who are undernourished need to eat a little more meat and dairy.
- 9 Reducing meat consumption might be achieved by a mix of education, taxes, subsidies for plant-based foods and changes to school and workplace menus, the scientists said. To halt deforestation, water shortages and pollution from overuse of fertilizer, profound changes in farming practices are needed. These include increasing crop yields in poorer nations, more universal water storage and far more careful use of fertilizers. "I was surprised by the fact that we need a combination of very ambitious options," Springmann said. "We really need to push it to the edge of what is possible."
- 10 All the diet and farming options are already being implemented somewhere in the world, said Springmann. In the Netherlands and Israel, fertilizers and water are being better used, while big cuts in meat consumption are being seen among young people in some cities. But a global change is needed, he said: "I think we can do it, but we really need much more proactive governments to provide the right framework. People can make a personal difference by changing their diet but also by knocking on the doors of their politicians and saying we need

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Level 3 • Advanced

better environmental regulations – that is also very important. Do not let politicians off the hook.”

- 11 Professor Tim Benton at the University of Leeds, who was not part of the research team, said: “Ultimately, we live on a finite planet, with finite resources. It is a fiction to imagine there is a technological solution allowing us to produce as much food as we might ever want, allowing us to overeat and throw food away.” He said the environmental burden of the current food system “undermines the ability of future generations to live on a stable and ecologically rich planet.”

- 12 Professor Peter Smith at the University of Aberdeen, who was also not part of the research team, said: “We know food choices are very personal and that behaviour change can be difficult to encourage, but the evidence is now unequivocal – we need to change our diets if we are to have a sustainable future. The fact that it will also make us healthier makes it a no-brainer.”

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4 Comprehension check

Read the text and answer these questions.

1. What, according to the text, needs to replace the consumption of beef?
2. What four elements of food production cause enormous damage to the environment?
3. What will be the effect of a 300% increase in global income?
4. How will it be possible to feed a world population of 10 billion?
5. What kind of diet is needed to keep climate change under 2C?
6. Why do millions of people in poor nations need to eat more meat and dairy?
7. Apart from changing their diet, how can people make a personal difference?
8. Apart from ensuring a sustainable future, what other benefit would people have from changing their diet?

5 Find the word

Find the following words and phrases in the text.

1. a noun meaning *the process of removing the trees from an area of land* (para 2)
2. a verb meaning *increase something so that it is three times bigger than before* (para 2)
3. a verb meaning *increase something so that it is four times bigger than before* (para 7)
4. an adjective meaning *very great* (para 9)
5. a five-word verb phrase meaning *allow someone to avoid a duty, an unpleasant situation or a punishment* (para 10)
6. an adjective meaning *existing in only limited numbers or amounts or continuing only for a limited time or distance* (para 11)
7. an adjective meaning *clear, definite and without doubt* (para 12)
8. a two-word noun meaning *a question or problem that is very obvious or very easy to deal with* (para 12)

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Level 3 • Advanced

6 Verb + noun collocations

Match the words in the left-hand column with those in the right-hand column to make expressions from the text.

- | | |
|------------|----------------------------|
| 1. cause | a. the impact of something |
| 2. worsen | b. your behaviour |
| 3. assess | c. the risk of something |
| 4. make | d. a report |
| 5. change | e. damage |
| 6. publish | f. a difference |

7 Word-building

Complete the sentences using the correct form of the word in brackets at the end of each sentence.

1. Farming causes water _____. [SHORT]
2. The _____ of the whole system is at risk. [SUSTAIN]
3. The risks of drought, floods and extreme heat will _____ worsen. [SIGNIFICANT]
4. Millions of people in poor nations are _____. [NOURISH]
5. Better _____ regulations are needed. [ENVIRONMENT]
6. More universal water _____ is also required. [STORE]

8 Discussion

Discuss the statements.

- If we want to save our planet, we all have to become vegetarians now.
- Global warming is a myth.
- Junk food should be banned.

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Level 3 • Advanced

KEY

1 Warmer

1. a
2. c
3. a
4. c

2 Key words

1. consumption
2. pulses
3. livestock
4. sustainability
5. drought
6. flexitarian
7. manure
8. subsidy
9. fertilizer
10. proactive

3 Find the information

1. 2.3 billion
2. 60%
3. the Netherlands and Israel
4. a dozen
5. about a third
6. 90%

4 Comprehension check

1. beans, pulses, nuts and seeds
2. greenhouse gases from livestock, deforestation, water shortages from farming and dead zones in the oceans from agricultural pollution
3. More people will be able to eat meat-rich western diets.
4. by changing the way we eat and the way we produce food
5. a flexitarian diet
6. because they are undernourished
7. by knocking on the doors of their politicians and demanding better environmental regulations
8. They would be healthier.

5 Find the word

1. deforestation
2. triple
3. quadruple
4. profound
5. let someone off the hook
6. finite
7. unequivocal
8. no-brainer

6 Verb + noun collocations

1. e
2. c
3. a
4. f
5. b
6. d

7 Word-building

1. shortages
2. sustainability
3. significantly
4. undernourished (or *malnourished*)
5. environmental
6. storage