

# EVERYDAY ECOLOGY

## English for a Greener World

地球環境の『原因・解決』



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NAN'UN-DO

**EVERYDAY ECOLOGY**  
**English for a Greener World**

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## まえがき

現代に生きる私たちにとって、エコロジーは最も関心のある事柄のひとつと言ってよいだろう。エコロジーという言葉は人々のあいだにすっかり浸透しているように思えるが、包括するものは多様で、漠然としている側面もある。本書では地球温暖化、リサイクル、緑の建築、大気汚染、生物多様性から、絶滅危惧種と言語との関連、エコロジーに関して意見を述べた著名人の紹介まで、様々な切り口で、まだまだ議論の余地のある問題や早急に解決すべき課題などを具体的に取り上げている。そして、世界各地で起きていることやその現状を知ることで、エコロジーが遠い世界での話題ではなく、究極的には地球上に住む私たち一人一人の毎日の生活の中にある問題であることに気づく。この新たなる発見と再認識こそが、私たちの意識に働きかけ、問題解決につながる「思考の変化」への第一歩となるのではないだろうか。

内容への関心は効果的な英語学習における重要な要素である。本書は単に英語を日本語に置き換え、暗記するのではなく、英語学習者が興味を持って英文に取り組み、内容を深く理解しようとする過程で自然と英語の技能が習得できる理想的な教材である。

学習の進め方としては、本文である READING を読む前に、READING READINESS 1 で重要単語を確認し、READING READINESS 2 での問題提起を考えることにより、READING の内容をより深めることが出来る。そして Notes を参考にしながら READING を精読する。READING COMPREHENSION 1、2 で READING の内容を正しく理解できているかを確認する。WORD STUDY 1 では READING READINESS 1 の KEY WORDS を使い、文の中で適切な形に変化させることで、語彙力と応用力が求められる。最後に LISTENING PRACTICE で、音声で内容を確認するというバランスのよい構成となっている。

佐藤 江里子

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# LESSON 1

## GLOBAL WARMING 1: CAUSES 地球温暖化 1：原因



 **READING READINESS 1: KEY WORDS:** Fill in the blank in each sentence below with one of these key words from this lesson's essay.

**accelerate**  
**emit**

**absorb**  
**overwhelming**

**coincidentally**  
**skeptic**

**deprive**  
**trap**

1. An \_\_\_\_\_ victory is one where the winner wins by a large margin, that is, by many points.
2. To \_\_\_\_\_ a person of his freedom, is to take his freedom away.
3. A \_\_\_\_\_ tends to doubt what he or she reads or hears.
4. To \_\_\_\_\_ a car, you step down on the gas pedal.
5. If you \_\_\_\_\_ run into an old friend at a museum, say, you didn't expect to see her there.
6. To \_\_\_\_\_ a mouse or cockroach is to catch it.
7. When you \_\_\_\_\_ information, you learn it and don't forget it.
8. Most flowers \_\_\_\_\_ or give off a pleasant odor.

 **READING READINESS 2: THINKING AHEAD:** Read and think about the questions below. Then underline the answers to the questions as you come to them in this lesson's essay.

1. Why do some people think global warming is "nothing to worry about"?
2. Why might leaky natural gas pipes be bad for the environment?
3. Where does "soot" come from and how does it speed up global warming?



[1] Climate change is *the* ecological topic of the day. No matter what “green” issue is being discussed—desertification, habitat destruction, rising sea levels—the discussion hinges on global warming. A handful of “climate **skeptics**” and “global warming deniers” still insist that rising worldwide temperatures are “just” part of a natural cooling-and-warming cycle and nothing to worry about. (Since many of these skeptics get paid by fossil-fuel producing companies, their opinions should be viewed with ... well, skepticism.) But the independent scientific community **overwhelmingly** agrees that global warming is “anthropogenic,” or man-made. Simply put, the world is heating up because of human activity. We burn fossil fuels like gas and coal to power our cars, heat our homes, cook our food, run our factories. We “slash and burn” our forests to make way for farms and housing. As a result, carbon dioxide and other greenhouse gases are **emitted** into the atmosphere, where over time they build up and form a “blanket” that **traps** the sun’s heat. The U.N. says that global fossil-fuel emissions jumped by nearly 3 percent in 2012, which, not **coincidentally**, was the hottest year on record by a full degree Fahrenheit.

[2] The trend toward a hotter Earth has other causes as well. One is natural gas, which has some environmental advantages over other fuels like coal (it burns cleaner, for example). But could its dangers outweigh its benefits? Recent tests show that many of the steel and plastic pipes that transport natural gas are now in serious disrepair. In other words, they leak, spilling methane, the odorless gas that is the main component of natural gas, into the air and soil. According to the *Washington Post*, methane is “about 25 times more powerful as a heat-trapping gas than carbon dioxide.” What’s more, methane leaks contribute to smog and kill trees by **depriving** them of oxygen and “drying them out,” says the *Post*.

[3] A new study, just published in the *Journal of Geophysical Research: Atmospheres*, points out another important cause of global warming. The black-carbon soot emitted by diesel engines and wood-burning stove has about two-thirds the climate impact of carbon dioxide, making a very serious threat to the environment. When soot’s fine particles float in the air, they speed up warming by **absorbing** heat and also by darkening snow and ice. This soot also **accelerates** the melting of glaciers and disrupts local weather patterns, the study concludes.



**Notes** green 環境保護 (の) skepticism 懐疑論 anthropogenic 人為的起源の what's more そのうえ contribute to ~ ~の一因となる *Journal of Geophysical Research: Atmospheres* 『地球物理学研究ジャーナル：大気』。アメリカ地球物理学連合 (AGU) が発行している学術雑誌。 black-carbon soot 黒い炭素のすす wood-burning stoves 薪ストーブ the climate impact 環境負荷

**READING COMPREHENSION 1: FACTS AND FIGURES:**

Write the requested information on the lines.

1. three environmental issues mentioned in paragraph 1

---

2. another way to say “climate skeptic”

---

3. what “anthropogenic” means

---

4. by how much fossil fuel emissions increased in 2012

---

5. one advantage of natural gas

---

6. what many leaky pipes are made of

---

7. which traps heat better, methane or carbon dioxide

---

8. the bigger threat to the environment, carbon dioxide or soot

---

**READING COMPREHENSION 2: IDEAS:** Choose the best answer to complete each sentence below.

1. The author says we shouldn’t take “climate change skeptics” too seriously because
  - (A) they aren’t real scientists.
  - (B) they work for energy-producing companies.
  - (C) they are too naïve and hopeful.
2. The statement that CANNOT be inferred (guessed) is
  - (A) our lives depend on fossil fuels right now.
  - (B) burning forests increases greenhouse-gas levels.
  - (C) global temperatures will rise by even more in 2014.
3. The author suggests all of these EXCEPT
  - (A) we should stop using natural gas because its dangers far outweigh its advantages.
  - (B) leaky natural gas pipes cause other environmental problems as well global.
  - (C) global warming is made worse when snow and ice are darkened by the fine particles in soot.
4. By “disrupts local weather patterns,” the author means
  - (A) makes local residents complain about the weather.
  - (B) changes the usual weather that an area experiences.
  - (C) causes cold weather.



**WORD STUDY 1: USING KEY WORDS:** Fill in the blank in each sentence below with one of the Key Words on page 7. Change the form where necessary.

1. "Did you arrange or plan to meet Rick in New York?" "No, it was a total \_\_\_\_\_."
2. Manchester \_\_\_\_\_ Chelsea by a score of 6 to 1.
3. Which paper towel is more \_\_\_\_\_? I mean, which one soaks up liquid best?
4. Four people were \_\_\_\_\_ in the elevator for five long hours!
5. I'm still \_\_\_\_\_. I don't think Gary's telling the truth.
6. The prisoner was \_\_\_\_\_ of food and water for five days.
7. The plant's growth rate is \_\_\_\_\_ by increasing the amount of sunlight it gets.
8. Replacing the pipes has cut our methane \_\_\_\_\_ by 25 percent.



**WORD STUDY 2: USING COMMON PHRASES:** Rewrite the sentences below by substituting one of these common phrases for the underlined part of each sentence. Make the necessary changes. Listen to check your answers.

**handful of      hinge on      make way for      point out**

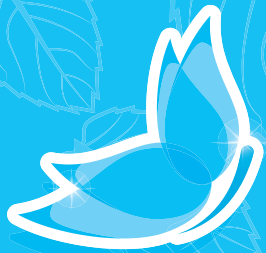
1. The election was decided by only one vote.  
\_\_\_\_\_
2. The old houses were torn down to allow a park to be built.  
\_\_\_\_\_
3. Could you please show me my errors?  
\_\_\_\_\_
4. Only a few people came to my disk-jockey performance.  
\_\_\_\_\_



**LISTENING PRACTICE:** Listen to the short talk and read the sentences below. Circle T if the sentence is true, F if it is false.

1. T F Farming is another way to say agriculture.
2. T F Livestock farming is especially responsible for agriculture's contribution to global warming.
3. T F The only greenhouse gas that cows, sheep, and goats produce is methane.
4. T F Most experts agree that the amount of methane a cow expels on an average day is 500 liters, which is far more than the amount of pollution emitted by the average car in one day.





## LESSON 2

# GLOBAL WARMING 2: CONSEQUENCES 地球温暖化 2：結果



**READING READINESS 1: KEY WORDS:** Fill in the blank in each sentence below with one of these key words from this lesson's essay.

**dire**  
**migrate**

**disgusting**  
**prediction**

**eventually**  
**scarce**

**evidence**  
**vulnerable**

1. Police seek and need \_\_\_\_\_ to solve a crime.
2. A country whose food resources are \_\_\_\_\_ needs to import food from abroad.
3. Something that is \_\_\_\_\_ makes you sick to your stomach.
4. Most bird species \_\_\_\_\_ or fly south in the winter.
5. When you make a \_\_\_\_\_, you guess what might happen in the future.
6. Synonyms for \_\_\_\_\_ include terrible, dreadful, and awful.
7. An army that is in a \_\_\_\_\_ position is open to attack from the enemy.
8. A plan that \_\_\_\_\_ fails doesn't work out in the end.



**READING READINESS 2: THINKING AHEAD:** Read and think about the questions below. Then underline the answers to the questions as you come to them in this lesson's essay.

1. What is one of the possible health consequences of global warming?
2. What groups of people will suffer, or already are suffering, most from the effects of climate change?
3. How will rising levels of water in the seas and oceans affect coastal areas?



[1] The causes of global warming are numerous; its consequences are innumerable. **Predictions** for what the world has in store for it if climate change continues are **dire** indeed. As the planet heats up, every ecosystem on Earth, from the remotest desert oasis to the most populous urban area, will be in harm's way. Extreme weather conditions like droughts, heat waves, and hurricanes will become more frequent. Plants and animals will die out and crops will fail, making food and water resources increasingly **scarce**. Diseases will spread as tropical insects and other pests **migrate** northward to escape the heat. Rivers will dry up and their many benefits to mankind will evaporate with them.

[2] As a 1,146-page scientific panel report recently concludes, this is no longer a concern for the future alone. It's an issue that is staring us in the face. "There is so much that is already happening today," says the report. "Climate change affects everything you do. It affects where you live, where you work, and where you play, and the infrastructure you need to do all these things." Several populations—including children, the old, the sick and disabled, the poor, native peoples—are already especially **vulnerable**.

[3] According to another study by the U.S. National Snow and Ice Data Center, there's no better **evidence** that the earth is heating up—and no climate-change phenomenon with more serious consequences—than the melting and shrinking of the polar ice caps. In 2012, the ice cap at the North Pole shrank to an all-time low, half the size it was in 1980. This is alarming news since, as one scientist, Walt Meier, put it, sea ice is one of the "most sensitive of nature's thermometers." What happens in the Arctic changes climate all over the world. Sea ice, in essence, acts like a global air conditioner. When it melts, it's as if the "cooler" isn't working efficiently. White ice reflects more than 90 percent of the sun's heat off the earth, says Meier, but when darker open-ocean takes its place, more than half that heat is absorbed into the water. Global warming accelerates, more ice melts, and sea levels rise even faster. **Eventually**, coastal areas will end up under water, destroying cities, ruining crops, and forcing people to crowd inland and seek higher ground. And, to add insult to injury, sewer systems will overflow, fouling lakes, rivers, and other waterways: a prospect that is as **disgusting** as it is depressing.



**Notes**

indeed (形容詞のうしろに置いて) 全く heat up 暖まる heat wave 猛暑 fail (収穫・供給などが) 不足する evaporate 消える stare ~ in the face ~の身近に迫る infrastructure インフラ (水道・電気・鉄道・学校・工場などの文明社会の基本設備) 基盤 the U.S. National Snow and Ice Data Center (NSIDC) 米国雪氷データセンター。氷雪圏の観測およびデータの管理・配信などを行う米国の研究機関。環境科学共同研究の一部門で、コロラド大学ボルダー校内にある。 In essence 本質的に open-ocean 外洋



## READING COMPREHENSION 1: FACTS AND FIGURES:

Write the requested information on the lines.

1. a word in paragraph 1 that means “too many to be counted”

---

2. two examples of ecosystems

---

3. three extreme weather conditions mentioned in paragraph 1

---

4. a verb in paragraph 1 that means “dry up”

---

5. who compiled and published the 1,146-page report

---

6. how large the North Pole ice cap is today compared to 1980

---

7. two things Walt Meier compares sea ice to

---

8. an expression in paragraph 3 that means to “make matters worse”

---



## READING COMPREHENSION 2: IDEAS: Choose the best answer to complete each sentence below.

1. In paragraph 1, the author implies all of the following EXCEPT
  - (A) the causes of global warming are more important than its consequences.
  - (B) animals, plants, and crops will have a hard time surviving in higher temperatures.
  - (C) tropical insects and other pests spread various diseases to humans.
2. The main idea of paragraph 2 is that
  - (A) the panel’s report can be believed and trusted because it is scientific.
  - (B) several populations are especially at risk.
  - (C) global warming is already having negative effects on people’s lives.
3. It can be inferred from the information in paragraph 3 that
  - (A) the U.S. National Snow and Ice Data Center is only concerned with what happens in the United States.
  - (B) in another 30 years, all the sea ice at the North Pole will have melted.
  - (C) global warming is both a cause and consequence of melting polar ice caps.



**WORD STUDY 1: USING KEY WORDS:** Fill in the blank in each sentence below with one of the Key Words on page 11. Change the form where necessary.

1. \_\_\_\_\_, I would like to start up my own website-design business.
2. She talked so fast I could \_\_\_\_\_ understand her.
3. People's \_\_\_\_\_ to colds increases in the winter.
4. \_\_\_\_\_, Bob has dropped out of school. He hasn't been to class for weeks.
5. Many people in the audience were \_\_\_\_\_ by the movie's bloody violence.
6. Sales decreased rapidly, and the company's financial situation became increasingly \_\_\_\_\_.
7. I \_\_\_\_\_ that technology will solve all our climate-change problems.
8. The annual \_\_\_\_\_ of the swallows has now begun.



**WORD STUDY 2: USING COMMON PHRASES:** Rewrite the sentences below by substituting one of these common phrases for the underlined part of each sentence. Make the necessary changes. Listen to check your answers.

**die out    in harm's way    in store for    take [someone's] place**

1. The dodo bird became extinct several centuries ago.  
\_\_\_\_\_
2. The tornado has put the town in danger.  
\_\_\_\_\_
3. You will be surprised. [Hint: start with "You have ..."]  
\_\_\_\_\_
4. Smith is now playing instead of Jones on the U.S. WBC team.  
\_\_\_\_\_



**LISTENING PRACTICE:** Listen to the short talk and read the sentences below. Circle T if the sentence is true, F if it is false.

1. T F All climate-related changes are equally disastrous.
2. T F Jeff Z. Klein is a former Canadian hockey player.
3. T F Global warming is making the ice in many parts of northern Canada too thin and unfit to skate on.
4. T F Ice skating rinks and hockey arenas must now use refrigeration systems to cool the ice.
5. T F Part of Canada's national identity depends on hockey.