

UNIT 1

Energy and Daily Life





Lead-in

The world depends on a great deal of its energy in the form of fossil fuels. Examples of fuels include gasoline, coal and natural gas. Each day, people bathe, cook, clean, do laundry and drive using various types of fuels. However, fossil fuels are a double-edged sword. On the one hand, energy consumption has improved our lifestyles substantially. On the other hand, carbon footprint has increased so sharply that air pollution is threatening the planet. How can we create a cleaner and more efficient world? Have you heard about any advanced technology or invented products in the energy field?

Energy Talk

We will thoroughly advance the energy revolution. Coal will be used in a cleaner and more efficient way, and greater efforts will be made to explore and develop petroleum and natural gas, discover more untapped reserves, and increase production. We will speed up the planning and development of a system for new energy sources, properly balance hydropower development and ecological conservation, and develop nuclear power in an active, safe, and orderly manner. We will strengthen our systems for energy production, supply, storage, and marketing to ensure energy security.

—Xi Jinping

The 20th National Congress of the Communist Party of China

Oct. 16th, 2022

深入推进能源革命，加强煤炭清洁高效利用，加大油气资源勘探开发和增储上产力度，加快规划建设新型能源体系，统筹水电开发和生态保护，积极安全有序发展核电，加强能源产供储销体系建设，确保能源安全。

——习近平

中国共产党第二十次全国代表大会

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Listening



Fuels Used in Our Daily Life

Words and Expressions

backhoe	/'bækhəʊ/	<i>n.</i>	反铲挖土机
calcium	/'kælsiəm/	<i>n.</i>	钙
convert	/kən'veɜ:t/	<i>v.</i>	(使)转变, (使)转换
crane	/kreɪn/	<i>n.</i>	起重机, 吊车
crude oil deposits			原油矿床
crumble	/'krʌmbl/	<i>v.</i>	(使)破碎
extract	/ɪk'strækt/	<i>v.</i>	提取, 提炼
for good			永远, 永久
furnace	/'fɜ:nɪs/	<i>n.</i>	熔炉
radioactive decay			放射性衰变
sluice	/slu:s/	<i>n.</i>	水闸, 闸门
transmit	/trænz'mɪt/	<i>v.</i>	传送, 输送
uranium	/'ju'reɪniəm/	<i>n.</i>	铀

1. Listen to the recording and then match the fuels in the left column with the roles they play in daily life in the right column.

_____ 1) gasoline	A. It is the primary fossil fuel for power plants to generate electricity.
_____ 2) natural gas	B. It is consumed by nuclear power plants to generate energy.





_____ 3) coal	C. It is essential for transportation. Cars, buses and trucks run on it.
_____ 4) alcohol	D. It is called the fuel of life. It can also generate power for homes in areas near running streams and rivers.
_____ 5) uranium	E. It heats the Earth, fuels the water cycle and helps plants grow.
_____ 6) water	F. It powers the heating and cooking systems, such as stove tops, water heaters and dryers in your home.
_____ 7) solar energy	G. It is mixed with gasoline for much of the U.S. needs of liquid fuel.

2. Listen to the recording again and fill in the blanks with what you hear.

Gasoline

The most 1) _____ used in daily life runs cars, school buses and trucks. Gasoline and diesel are non-renewable fuels created from 2) _____ in the ground or beneath the oceans. Lawnmowers and other 3) _____ also run on gasoline. Construction sites power backhoes, dump trucks, cranes and other equipment with diesel.

Natural gas

Natural gas can power the heating systems, stove tops, water heaters and dryers in your home. Natural gas burns very cleanly and 4) _____ when burning, according to the

Natural Gas.org. This type of fuel 5) _____
_____ methane but can contain other gases
as well. Natural gas often occurs as underground pockets near oil
deposits. Oil 6) _____ that rise to the higher
levels of underground pockets of oil trapped within rock layers.
Wells tap into these pockets to remove the natural gas for use in
your home.

Coal

Many electrical plants burn coal as the primary fossil fuel
for powering the electrical supply for homes across the country.
According to the American Coal Foundation, 7) _____
_____ fuels the electrical needs for more than
half of all U.S. homes. Machines crumble the coal into small
particles that get placed inside a furnace. The coal gets burned
to heat water and 8) _____ that fuels a turbine
to create mechanical energy. This mechanical energy converts
to electrical energy in a generator then gets transmitted through
substations that deliver electricity to customers.

Uranium

Although uranium isn't "burned" to make heat like coal
or natural gas is, it still counts as fuel as nuclear power plants
consume it and 9) _____ from it. It is also like
coal or other fuels in that it is non-renewable: When the supply
is used up, it is gone for good. Unlike fossil fuels, uranium
creates heat through radioactive decay, a process that, weight
for weight, can 10) _____. The downsides of
uranium include dangerous radioactivity and waste that remains
radioactive for thousands of years.



How to Reduce Our Carbon Footprint

Words and Expressions

compulsion	/kəm'pʌlʃn/	n.	强迫，强制
engulf	/ɪn'gʌlf/	v.	吞没，淹没
justifiably	/'dʒʌstɪ'faɪəbli/	adv.	言之有理地，无可非议地
lumbering	/'lʌmbəriŋ/	adj.	步态笨拙的
mitigate	/'mɪtɪgeɪt/	v.	减轻，缓和
myriad	/'mɪrɪəd/	n.	无数，大量
relegate	/'reɪlɪgeɪt/	v.	使贬职；使降级
spate	/speɪt/	n.	一连串，接二连三
the stick and the carrot			大棒加胡萝卜，软硬兼施
urbanite	/'z:bənəɪt/	n.	城市居民
viable	/'vaɪəbl/	adj.	可实施的，切实可行的



1. Listen to the recording and choose the best answer to each of the following questions.

- 1) According to the article, which of the following statements about the air pollution in China is NOT true?
 - A. It occurs in many cities in China.
 - B. It occurs more frequently in northern China than in southern China.
 - C. It is caused by the consumption of large amounts of energy in our daily life.

- 2) Why is it hard for individuals to take the required measures to curb air pollution according to the author?
- A. People usually put their personal concerns in the first place.
 - B. There is no element of compulsion or positive incentives in the implementation of these measures.
 - C. Both A and B.
- 3) According to the author, a greener lifestyle includes the following behaviors EXCEPT _____.
- A. people switch on electrical appliances in their home when necessary
 - B. people make a car journey wherever they go
 - C. people use sharing bikes
- 4) Which of the following statements about the way the Personal Carbon Trading system works is NOT true?
- A. Those whose carbon footprint remains below the average level would be rewarded in some way.
 - B. Those with excessive use of energy would not pay for it.
 - C. Each citizen is issued with a certain number of points every year.
- 5) The best title for this article may be “_____”.
- A. Measures Taken in the United Kingdom to Curb Air Pollution
 - B. How to Reduce Carbon Footprint in China
 - C. Air Pollution in China



2. Listen to the recording again and fill in the blanks with what you hear.

Air Pollution

The recent spate of pollution to 1) _____ Beijing—and many other cities in China—should lead us to the conclusion as to what measures we can take as 2) _____ who are faced with this growing problem on a daily basis to help mitigate it.

Economic Growth

China's 3) _____ of economic growth since the turn of the century has improved the lifestyles of many of its population in ways which would have been 4) _____ just a matter of a few decades previously.

Increase of Carbon Emission

But this has also led to the development of lifestyles which consume amounts of energy that would have been 5) _____, with the carbon footprint of the average Chinese urbanite increasing from the mere imprint of a baby's footprint to one which would 6) _____ crashing about before us.

So the next time we complain or 7) _____ feel concerned about the dangerous levels of air pollution, we should also look ourselves squarely in the face and consider what we should do to help bring our own carbon footprint down by a few sizes.

Before you make your next car journey, you ought to consider whether there is any other viable 8) _____,

or the next time you reach to switch on one of the myriad of electrical appliances in your home, you ought to consider whether it is absolutely necessary for you to do so.



Viewing



Solar Energy Products You Should Buy

Video One

Words and Expressions

Bluetooth	/ˈblu:tu:θ/	<i>n.</i> 蓝牙 (一种无线传输技术)
hybrid	/ˈhaɪbrɪd/	<i>n.</i> 混合物
infrastructure	/ˈɪnfəstrʌktʃə(r)/	<i>n.</i> 基础设施
patented	/ˈpætntɪd/	<i>adj.</i> 得到……专利权的
photovoltaic	/ˌfəʊtəʊvɒlˈteɪk/	<i>adj.</i> 光电池的
plug	/plʌg/	<i>v.</i> 填塞
scenario	/səˈnɑ:riəʊ/	<i>n.</i> 可能发生的情况

1. Watch a video clip about solar energy products and decide whether the statements are true or false. Write “T” for true and “F” for false.



- _____ 1) HELIOS is a hybrid Bluetooth headphone that captures solar power.
- _____ 2) With a full battery, HELIOS can deliver half an hour of music.



- _____ 3) If you're out of HELIOS battery, you will run out of music.
- _____ 4) The Kali PAK, a green energy generator, fits dozens of off-the-grid energy needs.
- _____ 5) The 39-amp battery is powerful enough to charge your iPhone up to 40 times, an iPad up to 120 times.

2. Watch the video clip again and answer the following questions.

1) What is the function of the mini USB port equipped in HELIOS?

2) How can HELIOS allow you to answer calls hands-free?

3) When do we always run out of power according to the speaker?

4) Why is Kali PAK completely sustainable and autonomous?

5) Who will Kali PAK be donated to? Why?

Video Two

Words and Expressions

compatible /kəm'pætəbl/ *adj.* 兼容的; 可共存的

deplete /dr'pli:t/ *v.* 消耗, 耗尽

faucet /'fɔ:sɪt/ *n.* 水龙头