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今日科学聚焦

Using Energy 能源利用

KATE BOEHM JEROME (美) 著

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KATE BOEHM JEROME (美) 著

赵庆和 注

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致读者

如果你希望读到地道的英语，在享受英语阅读乐趣的同时又能增长知识、开拓视野，这套由外语教学与研究出版社与美国国家地理学会合作出版的“国家地理科学探索丛书”正是你的选择。

“国家地理科学探索丛书”分为9个系列，内容涉及自然科学和社会研究，秉承《国家地理》杂志图文并茂的特色，书中配有大量精彩的图片，文字通俗易懂、深入浅出，将科学性和趣味性完美结合，称得上是一套精致的小百科。

这套丛书以英文注释形式出版，注释由国内重点中学教学经验丰富的英语教师完成。特别值得推荐的是本套丛书在提高青少年读者英语阅读能力的同时，还注重培养他们的科学探索精神、动手能力、逻辑思维能力和沟通能力。

本丛书既适合学生自学，又可用于课堂教学。丛书各个系列均配有一本教师用书，内容包括背景知识介绍、技能训练提示、评估测试、多项选择题及答案等详尽的教学指导，是对课堂教学的极好补充。

本套丛书是适合中学生及英语爱好者的知识读物。

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探究能源的选择

A grizzly bear roams near the trans-Alaska pipeline,
which carries oil across Alaska from Prudhoe Bay on
the Arctic Ocean to Valdez on the Pacific Ocean.



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The Switch Is

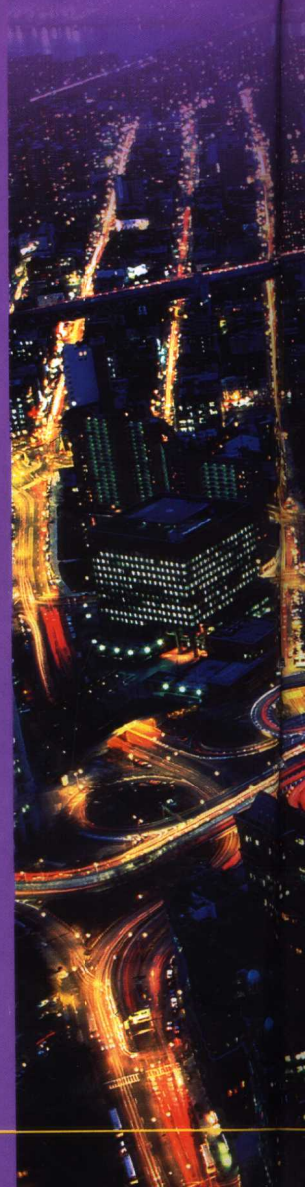
Flip¹ a switch and a light goes on. Turn a key and the car starts up. Press² a button³ and the TV springs⁴ to life.

Energy powers⁵ our lives, and there is plenty of⁶ it. Right? Well, maybe not. The fact⁷ is that we are using more energy than ever before and finding it harder to meet our increasing⁸ energy demands. So what should we be doing to protect⁹ both our future¹⁰ energy needs and our planet¹¹?

Some people say we should spend more money looking for new sources¹² of oil¹³, coal, and natural gas¹⁴. Others say we should put more effort¹⁵ into developing¹⁶ new energy sources that don't pollute¹⁷. But most people agree that we should all be conserving¹⁸ energy, or using our energy resources¹⁹ more wisely²⁰.

In this book we'll look at energy sources and explore²¹ the advantages²² and disadvantages²³ of each source. Then we'll take a closer look at ways to meet our future energy needs. You'll find out that energy use is an issue²⁴ with many questions and few clear-cut²⁵ answers.

1. flip	v.	轻击	15. effort	n.	精力
2. press	v.	按	16. develop	v.	开发
3. button	n.	按钮	17. pollute	v.	污染
4. spring	v.	跃出; 触发	18. conserve	v.	保存
5. power	v.	为……提供动力	19. resource	n.	资源
6. plenty of		大量的	20. wisely	adv.	明智地
7. fact	n.	事实	21. explore	v.	探索
8. increasing	adj.	日益增长的	22. advantage	n.	优势
9. protect	v.	保护	23. disadvantage	n.	劣势
10. future	adj.	未来的	24. issue	n.	议题
11. planet	n.	星球(此处指地球)	25. clear-cut	adj.	明确的
12. source	n.	源头	26. nighttime	n.	夜间
13. oil	n.	石油	27. Brooklyn		布鲁克林区
14. natural gas		天然气	28. Manhattan		曼哈顿



On 开关已打开



A nighttime²⁶ view of the Brooklyn²⁷ and Manhattan²⁸ Bridges in New York

(注释见第4页)



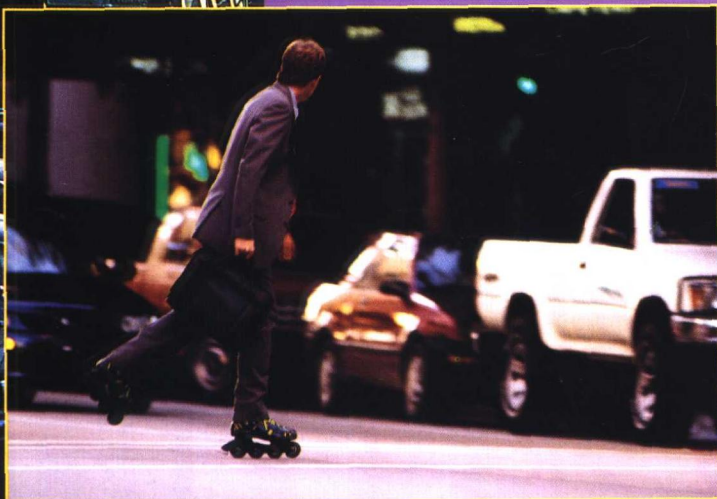
How Well Are We Doing?

Good News

- Untapped¹ sources of energy in the form of oil, coal, and natural gas still can be found.
- New sources of energy that create² less pollution³ are being developed and used more frequently⁴.
- People are making greater efforts⁵ to conserve, or save, energy.

Bad News

- People are using more and more energy each year. Experts⁶ estimate⁷ that the United States alone could need at least 1,300 new power plants⁸ over the next 20 years.
- The burning of fossil fuels⁹ provides¹⁰ more than 85 percent of energy in the U.S. However, fossil fuels pollute the planet, and supplies of fossil fuels eventually¹¹ will run out¹².
- Alternative¹³ energy sources are not yet completely affordable¹⁴ or efficient¹⁵.



To save fuel, this man skates to work.

In the United States drivers use more gasoline¹⁶ than in any other country in the world.

1. untapped	<i>adj.</i>	未开发的
2. create	<i>v.</i>	产生
3. pollution	<i>n.</i>	污染
4. frequently	<i>adv.</i>	频繁地
5. effort	<i>n.</i>	努力
6. expert	<i>n.</i>	专家
7. estimate	<i>v.</i>	估计
8. power plant		发电厂
9. fossil fuel		矿物燃料
10. provide	<i>v.</i>	提供
11. eventually	<i>adv.</i>	最终
12. run out		枯竭
13. alternative	<i>adj.</i>	可替代的
14. affordable	<i>adj.</i>	负担得起的
15. efficient	<i>adj.</i>	有效率的
16. gasoline	<i>n.</i>	汽油

Meeting Our Energy Needs

满足能源的需要

Supply and Demand 供给与需求

The modern need for energy began more than a hundred years ago when cars and electric light bulbs¹ began to replace² horse-drawn³ carriages⁴ and candles. Today we depend on⁵ energy to power everything from computers to space shuttles⁶.

Energy is very important to our lives. The energy in food powers our bodies. The energy stored⁷ in fuels lets us produce electricity, run our cars, and make products⁸ like clothes and toys. Over time, our energy needs have grown. Today we are using more energy than ever before.

In the United States, most of the energy that we use in homes and schools comes from large utility⁹ companies¹⁰. These companies usually burn fuel, such as coal, to make electricity. However, there are many sources of energy that can meet our energy needs. As you might guess, there are advantages and disadvantages to each.

1. light bulb		电灯泡	6. space shuttle		航天飞机
2. replace	v.	代替	7. store	v.	存储
3. horse-drawn	adj.	马拉的	8. product	n.	产品
4. carriage	n.	马车	9. utility	n.	公用事业
5. depend on		依靠	10. company	n.	公司

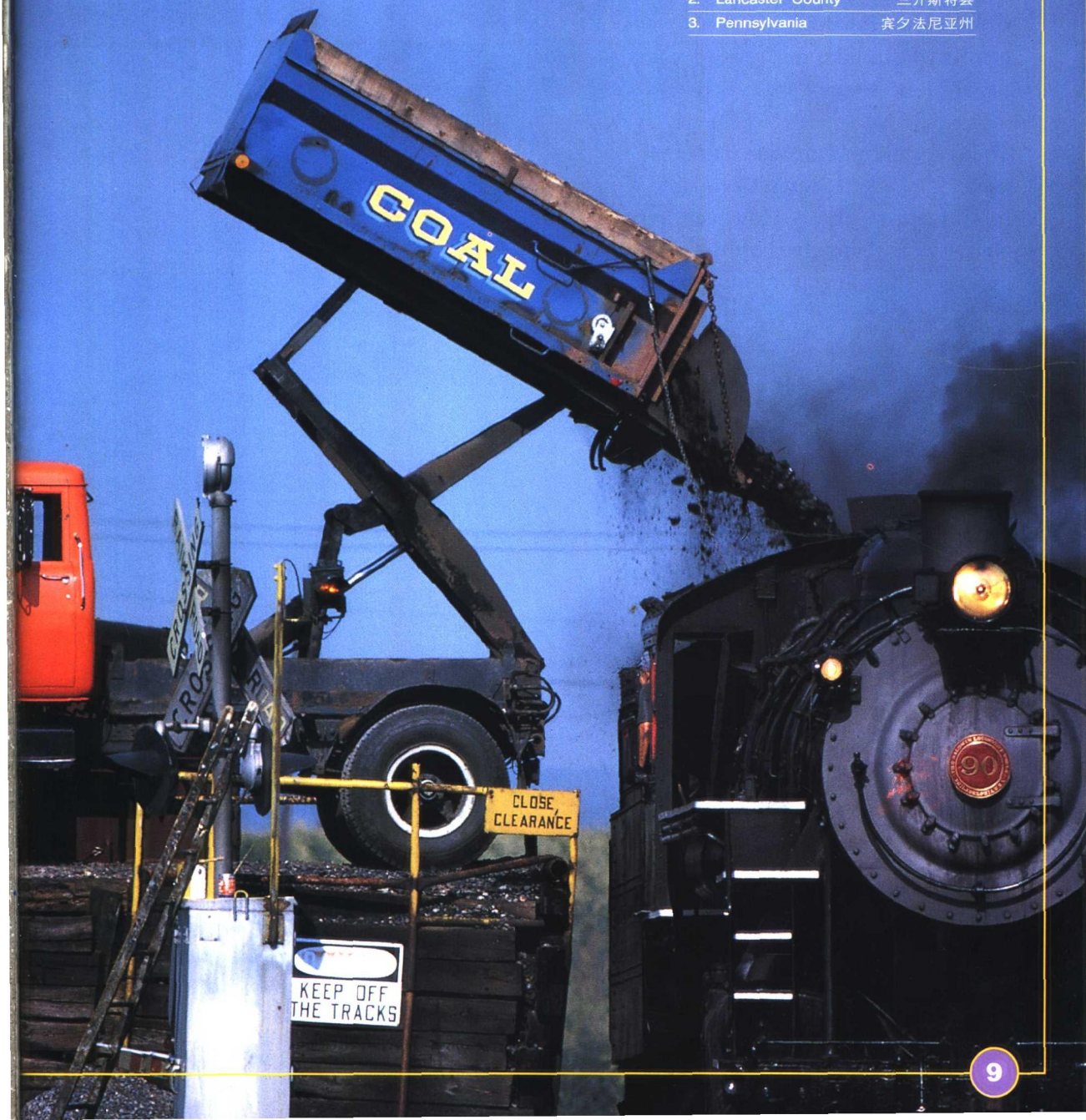


A driver fills a railroad
car¹ with coal in
Lancaster County²,
Pennsylvania³.

1. railroad car 火车车厢

2. Lancaster County 兰开斯特县

3. Pennsylvania 宾夕法尼亚州



Here Today, Gone Tomorrow

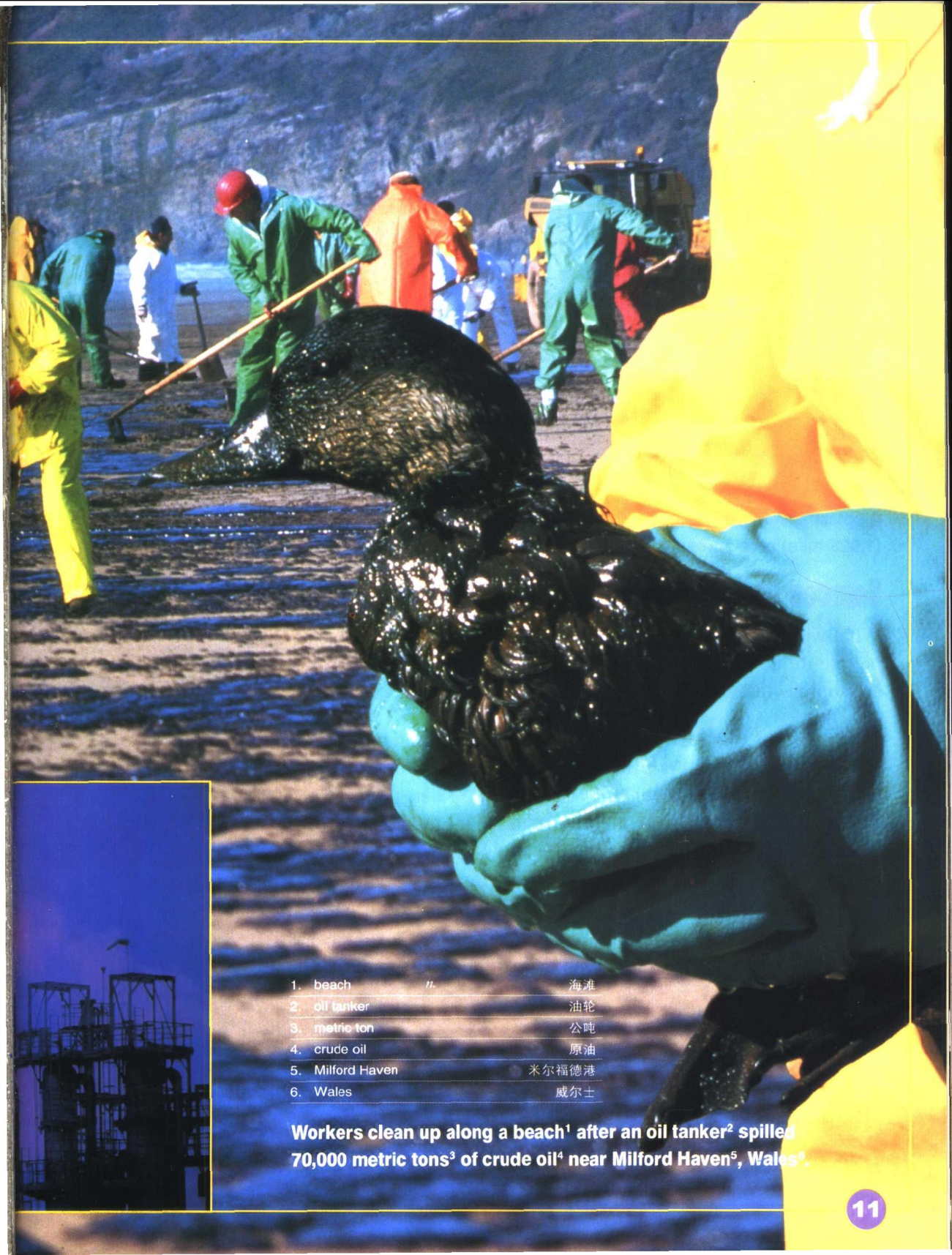
Fossil fuels are sources of energy in the form of coal, oil, and natural gas. These fuels are called fossil fuels because they are formed over millions of years from the fossils¹, or remains², of dead plants and animals. Eventually the fossils are buried³ under dirt⁴ and rock⁵. Over time pressure⁶ from dirt and rock and heat from within Earth change the fossils into coal, oil, and natural gas. It would take millions of years to renew⁷, or make more, fossil fuels. So they are called nonrenewable energy sources.

Today fossil fuels provide more than 85 percent of the energy we use in the United States. Compared with other sources of energy, fossil fuels are cheap. However, burning fossil fuels pollutes the air. Burning them gives off the gas carbon dioxide⁸. Some scientists think high levels⁹ of this gas are causing¹⁰ global warming¹¹, or the heating up of our planet. Fossil fuels also can cause other problems in the environment¹². Oil spills¹³ can kill plants and animals and pollute their habitats¹⁴. The mining¹⁵ of coal can damage¹⁶ the land. And most experts predict¹⁷ that our supply of fossil fuels will run out within the next few centuries.

1. fossil	<i>n.</i>	化石
2. remains	<i>n.</i>	残余; 遗骨
3. bury	<i>v.</i>	掩埋
4. dirt	<i>n.</i>	泥土
5. rock	<i>n.</i>	石头
6. pressure	<i>n.</i>	压力
7. renew	<i>v.</i>	更新
8. carbon dioxide		二氧化碳
9. level	<i>n.</i>	含量
10. cause	<i>v.</i>	引起
11. global warming		全球变暖
12. environment	<i>n.</i>	环境
13. spill	<i>n.</i>	溢出
14. habitat	<i>n.</i>	栖息地
15. mining	<i>n.</i>	开采
16. damage	<i>v.</i>	损坏
17. predict	<i>v.</i>	预言
18. oil refinery		炼油厂

**Natural gas burns
at an oil refinery¹⁸.**





- | | | |
|------------------|---|------|
| 1. beach | 海 | 滩 |
| 2. oil tanker | 油 | 轮 |
| 3. metric ton | 公 | 吨 |
| 4. crude oil | 原 | 油 |
| 5. Milford Haven | 米 | 尔福德港 |
| 6. Wales | 威 | 尔士 |

Workers clean up along a beach¹ after an oil tanker² spilled 70,000 metric tons³ of crude oil⁴ near Milford Haven⁵, Wales⁶.

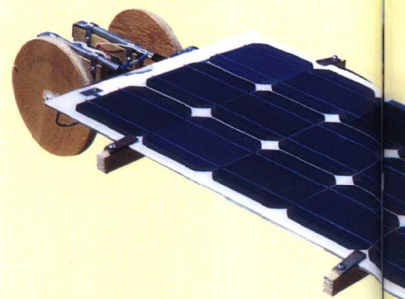


A solar race-car⁶ driver gets ready for the World Solar Challenge⁷, a 3,100-km (1,925-mile) race across Australia⁸.

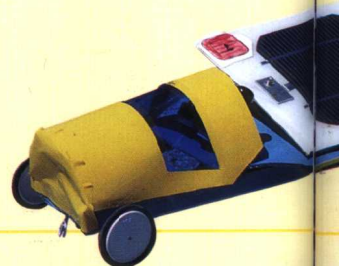
Sources That Don't Die Out¹

What will we use for energy if we don't burn fossil fuels? Many people think we should use renewable energy sources, which are sources that won't get used up².

*Sun—Solar Power*³ Wouldn't it be great if we could turn sunlight into electricity? As a matter of fact⁴, we can! Solar power is power produced using energy from the sun. Energy from the sun is a renewable energy source. It's also a clean source of energy. That means it produces much less pollution than fossil fuels. But solar power does have one big disadvantage. Sunlight isn't always available⁵. When night falls, we can't use this energy source. Another problem is that using the sun's energy to make electricity costs more than using other energy sources, such as fossil fuels.



1. die out	逐渐消失	5. available	<i>adj.</i>	可获得的
2. use up	耗尽	6. race-car	<i>n.</i>	赛车
3. solar power	太阳能	7. challenge	<i>n.</i>	邀请赛
4. as a matter of fact	事实上	8. Australia		澳大利亚





A man leads his horse toward a wind turbine.

Air—Wind Power Have you ever seen an old windmill¹ on a farm? For centuries, farmers have used windmills to pump² water and grind³ grain⁴. Windmills use the power of moving air, called wind power. Wind power is still used today. Rows of tall wind turbines⁵ in wind farms use the wind to generate⁶ electricity.

Like energy from the sun, energy from wind is renewable and a clean source of energy. However, it does have some disadvantages. Many places do not have the steady⁷ winds needed to drive large wind turbines. Wind turbines also can be noisy and require⁸ lots of space.

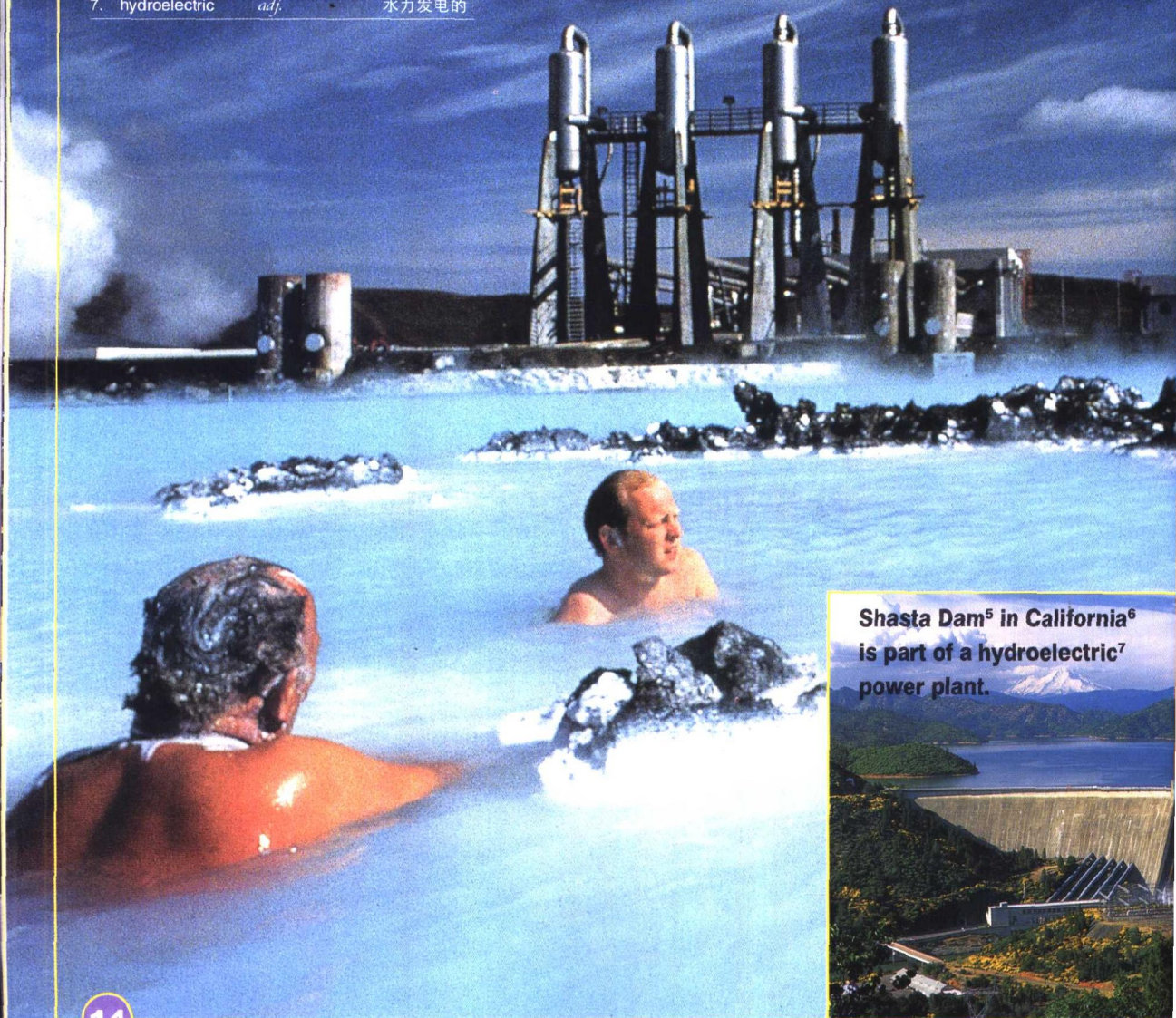


Solar-powered race cars

1. windmill	<i>n.</i>	风车
2. pump	<i>v.</i>	(用泵)抽
3. grind	<i>v.</i>	碾磨
4. grain	<i>n.</i>	谷物
5. wind turbine		风力涡轮机
6. generate	<i>v.</i>	产生
7. steady	<i>adj.</i>	稳定的
8. require	<i>v.</i>	需要

This geothermal¹ power plant in Iceland² helps heat homes and also warms swimmers in a runoff³ pond⁴.

1. geothermal	<i>adj.</i>	地热的
2. Iceland		冰岛
3. runoff	<i>n.</i>	(融雪等的地表)径流
4. pond	<i>n.</i>	池塘
5. Shasta Dam		沙斯塔大坝
6. California		加利福尼亚州
7. hydroelectric	<i>adj.</i>	水力发电的



Shasta Dam⁵ in California⁶ is part of a hydroelectric⁷ power plant.