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ZOOM

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EARTH DAY 2012

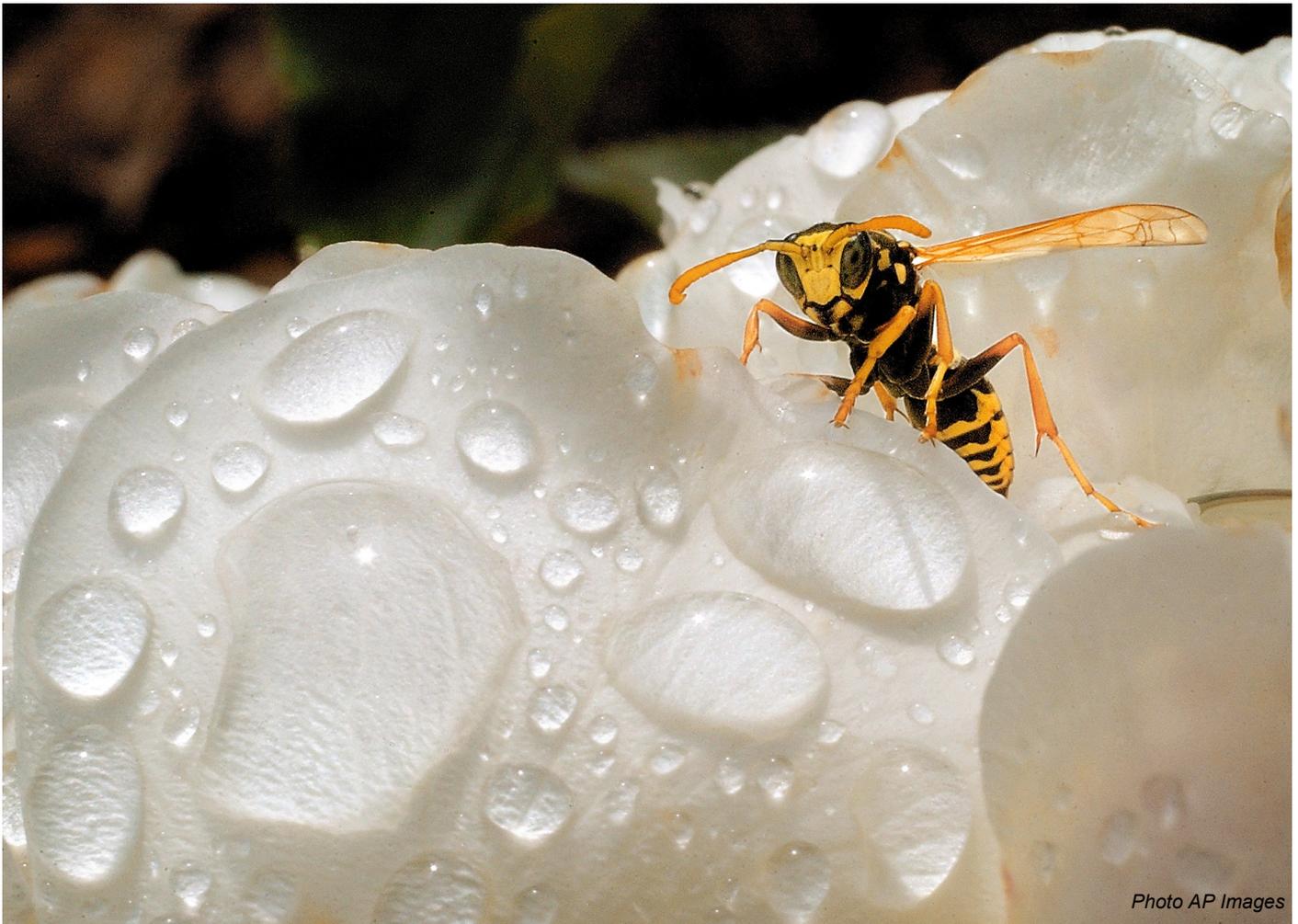


Photo AP Images

April is dedicated to Earth and nature. On April 22, Earth Day 2012 will be celebrated in all parts of the globe. In honor of this occasion, *Zoom in on America* has asked Debbie Cain, an English Language Fellow who leads workshops on environmentally themed lesson plans and classroom activities for English teachers for her views on the current state of affairs. You can read the interview with Debbie Cain on pp.3-4.

Below, you can find some environmentally themed videos and materials:

Some student-made environmental films:

<http://www.youtube.com/watch?v=H8vLSUe9Ldo&feature=youtu.be>

<http://www.youtube.com/watch?v=yP-nP4BwgRs&feature=youtu.be>

<http://www.youtube.com/watch?feature=endscreen&NR=1&v=bSKFE3Hu0s0>

<http://www.youtube.com/watch?v=fiAkHTD-3YI>

List of top 10 environmentally themed films:

<http://www.mnn.com/green-tech/research-innovations/blogs/top-10-environmental-films-of-all-time>

Lesson plans for teachers:

http://www.earthcarecanada.com/EarthCARE_Program/EarthCARE_lessons.asp#Lessons

WHAT'S NEW IN ALTERNATIVE SOURCES OF ENERGY?

SOLAR ENERGY



This artist rendering released by SolarReserve LLC shows what will be the Crescent Dunes Solar Energy Project, a solar generating facility, that is being constructed northwest of Tonopah, Nevada, in Nye County. (AP Photo)

Crescent Dunes Solar Energy Project

Northwest of the town of Tonopah in Nye County, Nevada, the largest solar power project of its kind in the world is under construction. In the middle of a huge field stands a tower that is 540 feet (164,59 meters) tall. Surrounding it in a huge circle are 17,500 large heliostat mirrors. The tower is going to receive and store solar energy caught by the mirrors.

With up to 15 hours of sunshine for over 300 days a year, the Crescent Dunes Solar Energy plant will be able to generate 110 Megawatts of power when it is in full operation at the end of 2013. The energy will supply about 75,000 homes with electricity. The famous Las Vegas Strip, which is about 300 kilometers away from the site will be powered by the plant.

Modern technology called concentrating solar power (CSP), which is used in the Project consists of heating salt. The storage system uses fluid salt which is heated to a temperature of 1000 degrees Fahrenheit (537.78 degrees Celsius). Inside the tower are tubes in which salt is circulated. The heated salt is pumped from the base and circulates into other containers. When electricity is needed, the hot salt is pumped through a heat exchanger on the ground. The steam drives an electricity turbine.

WIND ENERGY

To many people seeing them majestically astride on hill tops or by the road, blades moving gently to the rhythm of wind, brings back memories, when as little kids they would run with a pinwheel held high, making the colorful toy spin in the wind. Even though wind turbines are a thousand times bigger and look very high-tech, they work according to the same simple principle: wind makes the blades spin, producing electricity.

A wind turbine consists of a tall tower on top of which sits a large, movable box called a nacelle. Inside is a weather station which reads the wind speed and direction, the turbine's computer which directs the blades to always face into the wind and a generator which makes the electricity. The electricity is carried in cables down the inside of the tower to the substation which in turn transmits it to customers in the region.

Wind power is used in the United States on a bigger scale than ever before. New wind farms are being built making wind power competitive with the cost of fossil fuel for electricity generation. Out of 50 states, 37 now have facilities that generate wind power. Texas is in the lead with over 10,000 Megawatts of capacity. It is followed by Iowa with over 4,322 MW. The Roscoe Wind Farm in Texas is the largest wind farm in the United States, but soon the first place will go to Shepherds Flat Wind Farm in Oregon when it is completed in 2012.



A rainbow is visible looking West from Palm Springs, California next to an array of wind turbines. (AP Photo)

AN EXCLUSIVE INTERVIEW FOR ZOOM IN ON AMERICA WITH DEBBIE CAIN

Zoom: Environmental issues are now often taught in schools. A lot of teachers are very interested in the subject. Students actively seek ways in which they can help save the environment. How has this helped educate new environment-sensitive generations?

Debbie Cain: The increase in environmental education in schools in recent decades has helped immensely. First of all, students have experienced greater exposure to the environmental issues we are facing today through their school studies. Many teachers have taken this exposure (the first step in becoming acquainted with any issue) further by allowing their students to become familiar with the details connected to these issues. This has been accomplished through research and reading articles from responsible sources as well as through project based learning. Finally, students these days are being encouraged to use their critical thinking skills not only to analyze the issues but also to decide how to solve problems. Teachers have so much power in the classroom to introduce environmental themes to their students and encourage exploration and further study of the problems that our world is facing. I believe the classroom is a place in which not only the subject matter (such as language studies) should be studied, but real world issues (such as the environment and the human impact on global resources) should be delved into as well. Likewise, students should be given the opportunity to look at such global topics in their path to becoming participants as responsible and well-rounded global citizens.

Zoom: New "clean" technologies of energy production are developed and used. Will they eventually win over the traditional ways?

D.C.: I hope so. We have no choice but to look into alternative energy sources. Some countries have been more forward thinking, and have subsequently embraced cleaner energy technologies more than others. Unfortunately, my home country, the United States, receives poor marks in this area. It is sobering to look at statistics that show the United States consumes much more energy per capita compared to many other countries in the world. We could learn a lot by looking at the way of life developing countries as well as developed countries that get much of their energy from such renewable sources as solar, water, and wind. The United States could greatly reduce its carbon footprint by looking into clean energy sources as well as emulating countries which have done so already.

Zoom: What environmental threats are most serious today?

D.C.: Humans are living carelessly in many ways, but I believe the biggest environmental threat is related to overconsumption. We (especially those of us living in developed countries) are overdoing everything: overspending, overbuy-

ing, overusing, and over disposing - in a nutshell, we are consuming too much. This is a strain on resources (because of increased demand for products) as well as land space (because of landfills that are filling up with the products we dispose of as well as packaging that accompanies such products). It also contributes to pollution (because of such factors as increasing demands for transport to carry such products). How can we break this pattern of overconsumption?

...by living simply.

This means...

Shop less (ask yourself, "do I really need this new sweater, or should I make do with the piles of sweaters I have sitting in my closet?").

Throw away less (ask yourself, "do I really need to buy a new bicycle? Or can I fix my old one?". Also ask yourself, "Do I really need this food items that is encased in so much packaging? Or, is there a way to acquire a similar food item without so many layers of plastic, cardboard, and so on?").

Such actions are sometimes more time-consuming (mending a pair of socks takes more time than buying a new pair), often require more physical labor (walking to work is tougher than driving), and almost always demand creativity (thinking of new and novel ways to reuse containers in a useful and sustainable way requires the skill of thinking outside the box,) but these are sacrifices we must commit to. We are in debt to the environment, because of years and years of misuse, and we need to start repaying this debt through these actions that might, in the beginning at least, require more effort.

These practices can be summed up with the simple rule of "reduce, reuse, recycle" (the three R's), a phrase that became a catchphrase probably around the same time the concept of Earth Day was taking hold. Even though the three R's became popular quite a few years ago, it is based on sound ideals and is a rule that should be followed today.

Zoom: What environment saving activities are the most effective on a global scale and on a single household scale?

D.C.: On a global scale, individuals should pressure their own governments to adopt policies that are more environmentally friendly.

In the household, a change in thinking, and an accompanying change in practices, needs to be adopted. Here are some examples...

Bring a reusable, cloth carrier bag to the grocery store instead of using a plastic bag each time you purchase goods. Walk, ride a bike, and use public transport instead of driving a car to work. Or, form a car pool.

Recycle when you can.

Reduce packaging by shopping at a co-op, which offers produce in large bins instead of packaging it simply.

Buy locally produced food; support your local farmers and gardeners. This reduces a demand for long distance trucking of goods.

Let your money be your power. Buy from shops that have environmentally respectful practices in place. Likewise, don't patronize companies that disregard the environment.

Educate others. If you are a teacher, create lesson plans and projects that deal with environmental education. If you are a parent, pass on knowledge and good practices to them. Additionally, even through your own actions, you can set an example as a steward for the environment for people who may not even know you, but who witness what you are doing.

Zoom: Certain issues relating to protecting the environment have changed considerably over the years. Leaving food unattended in the so called "bear country" or worse still, feeding bears, is only now perceived as a bad activity bringing the animals more harm than good. How does

Debbie Cain, a native of the state of Minnesota, U.S.A., is an ESL/EFL teacher with 17 years of experience in the classroom. She is currently an English Language Fellow teaching at the University of Bihac in Bosnia and Herzegovina. She has taught in the United States, Japan, the Czech Republic, and Hungary. In her free time, she enjoys cooking, reading, Latin dancing, and volunteering for a local animal welfare organization.

Exercise Speaking

Work in pairs. Look at the pictures below that show two alternative ways of generating power: biofuels and geothermal energy. Choose the picture you want to talk about. Describe it to your partner and then tell them what you think of alternative sources of energy. What do you do to help save the environment?



Left: DuPont scientist Max Li develops new biofuels in his state-of-the-art fermentation lab at the DuPont Experimental Station in Wilmington, Delaware. Right: Geothermie-Kraftwerks in Landau. Photos AP Images

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