

Let's Learn from the Thais

By Willet Sunga

We get most of our energy from nonrenewable sources, which include fossil fuels (coal, oil, and natural gas). Although the supplies of these fossil fuels are vast, they are limited. And more important, Earth's atmosphere and biosphere may not survive the environmental impact of burning such enormous amounts of these fuels.

The good news is, fossil fuels are not the only source of energy, and burning fuel is not the only way to produce heat and motion. Renewable energy offers us a better way. Some energy sources are "renewable" because they are naturally replenished. Their supply is so enormous that they can never be meaningfully depleted by humans. Moreover, renewable energy sources show significant promise in helping to reduce the amount of toxins that are by-products of energy use. Not only do they protect against harmful by-products, but using alternative energy helps to preserve many of the natural resources that we currently use as sources of energy.

Thailand Makes a Powerful Move

Thailand is one of the most stable countries in Asia. Its energy industry has shown strong growth in line with the advent of the economic recovery. The demand for power supply has also increased considerably due to expansion in the manufacturing sector.

For many years, Thailand depended heavily on imported fossil fuels. As a result, greenhouse emission has increased rapidly that its emission per capita before the year 2010 may exceed the world average emission in the base year 1990. To put an end to this, the government made a big move by resorting to an alternative source of energy – wind power.



FAST FACT

Germany is the largest producer of wind power in the world. In 2007, it produced 22,247 MW of electricity.

In 2007, the Thai government officially started the operation of a wind-energy plant in Pattaya located on the east coast of the Gulf of Thailand. After eight months of hard work, 45 sets of wind turbines with 4.5-kilowatt capacity each have been installed. The Bt84-million (almost P110-million) wind plant can generate enough

electricity to light up 100 houses all day long, with around 200 kilowatts of installed capacity.

The power plant, according to its designer and developer, Dr Weerachai Ruaynarin of Rajamongkol University Thanyaburi, is an answer to the problem on irregular electricity supply in the island.

When there are strong winds, community people can use electricity from the turbine all day long. But if wind speeds are low, they can use it for 10 hours and draw the rest from a battery that has stored energy from the wind earlier. This is one of the disadvantages of wind energy. Winds are intermittent. Nonetheless, residents of Pattaya claim that they get to save on their electric bill.

Aside from this benefit, Dr. Weerachai also pointed out that the real value of this project is in its educational purpose. "It will have a great role in raising public awareness in this renewable and clean energy source. It will also serve as a site for visiting and training students in wind-energy engineering and operation," Weerachai says.

This wind-energy plant could be a forerunner to many more across the country. Thailand's commitment to explore the range of cost-effective alternative energy sources will definitely pave the way to its future economic growth and sustainability.

Promising Future

In 2005, worldwide capacity of wind-powered generators was 58, 982 megawatts. This makes up only less than one percent of worldwide electricity use. Today, with the establishment of wind power plants all over the world, its capacity has reached 94.1 gigawatts at the end of 2007.

The use of renewable sources is expected to increase over the next decade as the focus on environmentally-friendly electricity generation develops. And soon enough, the world will be able meet all its energy demands.

Sources

www.windenergynews.com/content/view/976/45/

http://en.wikipedia.org/wiki/Wind_power

<http://en.wikipedia.org/wiki/Thailand>

www.ambbangkok.um.dk/NR/rdonlyres/2295E8D4-C11C-4012-8898-8636D0BBEBAD/0/SectorOverviewEnergyinThailand26april2007.pdf

Energy Riddles



1. Why did the foolish gardener plant a light bulb?



2. How do energy-conscious people feel about wind power?

3. And, how do we know that wind power is popular?



4. How did Benjamin Franklin feel when he discovered electricity?



5. What does the nuclear scientist do in his spare time?

6. How is energy conservation like a baseball team?



7. How are renewable power plants like people who enjoy going to the beach?



8. In which part of the jail are energy criminals kept?



9. What is a renewable energy source that is used every day at your school?



10. What did the solar cells say to their cloudy boss?



WIND FARM

Find the words in the “Wind Farm” Puzzle.

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LWVTRBZHIIOBUACVJLNFZPUVHIIBTTR
WEJXOAJQJZCGTFTEXVBQXCDRMRUQYY
HSLSFJDOSQ UEKMJNWYLVMTIIXZH
ZBF KVOIBCUIOJPTZXGUUNDUIBK
RDZ PQMVPIJI VXD CAD VWUPLJ LIN
VW KTAPNGHKGT TLYNGK VUR GJDY
VD KQWJSOBTFR REIPKCGI SJYYF
S TYGQAIDJ WIITVGCNQ YUQS
K J OCKAKD B R XYGMYYPE P DCD
VX XD QZAH DL TP IJVJMZH WN RX
QI QAB SB BLT UXA QGDVIW XBG H
KA LAMREHTOEG OXTRXIUCJS HNLW
PE JMLXPULZOS MBPYMXEJUL FJSIW
PC JBZTSRBRQI CYKGT HQLOF HCVCR
MBNPQD TJKHIRETAWYZZVQWBHMYOAES
IXHHRAZVGEYOLJK WGPFFIRFVHDLG
CRJWXMP EWA INMY WLBZEY SUNRLW R
CHCYGV PUKJAI A PHOTONS FOV NA
SSYS THLJNCT SOPXHZTATO PUL
W DIOOCMVYK ASCTQYVYXVSD TQO
N JBV CJTWBMQ UHTINASRNEF HS
D CPPSOLUT D P JSGTWIVTIU G E
S ATGMVBK LF SO ELBAWENER DU
W X PPFOK AZC CNH JHITXWKJ VRI
J P KBT LVAEFO DGT AUNHIYOXR GMQ
Y GT BUTUKBPI VRSMSACYHHCP YWS
W SWDKBAHF EOP QMFKNFZRJMOY AKI
P KLCIYITBKSK OOXOHALAFRUW LSL
U XIQPACXMZYH BNLREXNM TFDY ZQV
MWG DTS ESOS LSTQ BTXNDHANZQEIU GE
  
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biomass
 dam
 ethanol
 geothermal
 hydro
 photons
 photovoltaic
 renewable
 solar
 sun
 water

Answers to Energy Riddles

1. He wanted to grow a power plant.
2. They're blown away!
3. Because it has so many fans.
4. He was shocked!
5. Goes fission.(fishin')
6. They can both use a switch hitter.
7. They all like sun, wind, and water.
8. The fuel cells.
9. Brain power!
10. We need rays!

Wind Farm

A 20x20 grid of letters with several words highlighted in a crossword puzzle style:

- LAMREHTOEG (horizontal, row 10, column 3)
- PHOTONS (horizontal, row 14, column 10)
- ELBAWENER (horizontal, row 15, column 10)
- REXNMTFDY (vertical, column 18, row 15)
- PHOTONS (vertical, column 10, row 14)
- ELBAWENER (vertical, column 10, row 15)
- REXNMTFDY (vertical, column 18, row 15)