

ENERGETIC ACTION

Caroline Taylor/UNEP/Topham



Where there's sunshine

In Poland, as part of her studies, Dorota Banaś successfully researched and designed a solar power system to work in conjunction with the heating of one of the student halls of residence at the Gdynia Maritime University.

The project, for which Dorota was selected as a Bayer Young Environmental Envoy (BYEE), involved conducting

Seeing the light

Five 16-year-olds in Ladysmith, South Africa, have saved the equivalent of the impact of seven transatlantic flights on global warming by persuading members of their community to use energy-saving light bulbs instead of ordinary incandescent ones. Pearl Bedhasie, Nokuthaba Ncube, Alex Fang, and Kimantha and Lavanya Naidoo – who formed the

Ladysmith Enviro Club – distributed 4,000 low-energy compact fluorescent bulbs to local households, schools and businesses. This won them the 2005 Volvo Adventure award, endorsed by UNEP and given annually for environmental action by young people.

They calculate that the new bulbs – donated by Climate Care, which offsets pollution by funding conservation projects – are saving the town a total of 1,584,000 kilowatt hours and reducing carbon emissions by 1,742 tonnes,

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Waste not...

Three students from Acarlar College, just north of Istanbul, are providing cheap fuel to nearby villagers and cleaning their environment by using dung from local sheep and cattle, and food waste from their school cafeteria. Basri Can Esen, Merve Yildirim and Duygu Akgün built a biogas generator to generate methane, demonstrated how to use it for cooking, and got the villagers involved.

The practice has taken off in the community. Collecting

Rethinking rubbish

Patricia Velasco was alarmed by the amount of waste being produced at her university in Quito, Ecuador, and by quite how many resources we all use – often briefly but in ever-increasing amounts – only to throw them away.

'It's not just the things we buy, like mobile phones,' says Patricia, 'but all the unsolicited "junk mail", and the paper and

packaging that ends up blowing around the streets. Why should our precious forests, whose health is so important for our well-being, be turned into a waste product of our consumer lifestyles?'

Through a study, for which she was made a Bayer Young Environmental Envoy, Patricia worked out that recycling paper can use just a quarter of the energy needed to produce virgin paper. 'That surprised me,' Patricia tells TUNZA, 'and inspired me to campaign for the Science Faculty, where I

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Bamboo benefits

Bamboo can be used as a biofuel, and five students in Aichi prefecture, Japan, are investigating it. Hiroki and Tomohiro Hiramatsu, Tomoaki and Ikuyo Hasegawa and Tomoya Sasaki want to exploit it to heat bath water and for cooking because, as it grows very quickly, it can be used as a continuous, renewable source of fuel.

All over the world, young people are finding ways to produce and use sustainable energy in their own communities. Here are some recent initiatives.

experiments using a small-scale prototype system to measure solar energy conversion into heat. She used this as well as meteorological data to find the optimum positioning for her system on the building's roof and calculate the number of solar panels needed.

Dorota's project also analyzed the economic viability of the solar system in a country not always blessed by sunshine. 'What I found was promising,' Dorota tells TUNZA, 'despite the fact that in Poland solar power at present can only

supplement, not replace, fossil fuels. My study demonstrated that investment in the system would be cost-effective in the long run, even in a country that has long, cold, dark winters when we need a lot of heat and light. I feel that is positive news for the future of solar energy in Europe.'



equivalent to those from seven New York to London flights. They also saved money for the community at a time of fast-rising electricity prices. And, since they are four times more efficient and last five or more times longer than incandescents, they take less materials and energy to manufacture, and require less waste disposal at the end of their lives.

The friends used money from households that volunteered to pay for the energy-saving bulbs to buy and plant 267 trees around their town.



JohanWingborg/www.wingborg.se

the dung and food waste has made the school surroundings noticeably cleaner. The villagers have an inexpensive and renewable source of cooking fuel. And the residue left after using the gas is a useful fertilizer, which they sell.

Something similar is planned by three students at St Paul's in New Delhi. Vandit Vijay, Akshay and Kishore Kumar decided to tackle household waste, unhygienic and smelly because it was not being disposed of properly in their community. Over two years, households learned to separate domestic waste into containers: for biodegradable waste to be turned into compost and materials to be sent for recycling.

The project has already made a big difference, but Vandit – who attended the 2005 children's summit in Aichi, Japan – and his friends want to go further. They are designing a biogas plant and hope to have one for every 16 to 20 houses in the community. They calculate that its 250 families already generate enough biodegradable waste to produce 10 cubic metres of biogas daily, enough to cook 30 meals for a family of five or six.



study at Central University of Ecuador, to recycle all its paper and cardboard.'

But this is just a start. Patricia now wants paper recycling to expand throughout the University, and is meanwhile investigating ways of using other waste produced on campus for biogas production, as well as possibilities for recycling the constituents of everyday items like batteries. And it's all backed up by awareness-raising aimed at students, University staff and administrators alike.



Edward Cooper

Burning bamboo died out some 30 years ago in the face of the increasing use of fossil fuels. When no longer cut for fuel, the overgrowth blocked sunlight from other trees – such as ginkgo. The group is now measuring increased light for other plants as bamboo is cut for fuel. And they are looking into using bamboo chips as a mulch to improve soil.

