



The UNEP Magazine for Youth

TUNZA

for young people • by young people • about young people



UNEP

Going places?



Cars
Bikes
Buses
Planes
Trains



Go green – use sustainable transport

TUNZA

the UNEP magazine
for youth. To view current
and past issues of this
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ISSN 1727-8902

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Printed in the UK

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environmentally sound practices
globally and in its own activities. This
magazine is printed on 100% chlorine-free
paper from sustainably managed forests, using
vegetable-based inks and other eco-friendly
practices. Our distribution policy aims
to reduce UNEP's carbon footprint.

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**Partners for Youth
and the Environment**



UNEP and Bayer, the German-based multinational involved in health care, crop protection and high-tech materials, are working together to strengthen young people's environmental awareness and engage children and youth in environmental issues worldwide.

A partnership agreement, originally signed in 2004 and renewed in 2007 and 2010, runs through 2013. It lays down the basis for UNEP and Bayer to implement the projects under the partnership. These include: TUNZA Magazine, the International

Children's Painting Competition on the Environment, the UNEP Tunza International Youth and Children's Conferences, youth environmental networks in Africa, Asia Pacific, Europe, Latin America and the Caribbean, North America and West Asia, the Bayer Young Environmental Envoy Program and a photo competition, 'Ecology in Focus', in Eastern Europe.

The long-standing partnership between UNEP and Bayer has become a public-private partnership that serves as a model for both organizations.

LET'S GET GOING ...



WE ALL WANT TO TRAVEL TO FAR-FLUNG PLACES or to the sun for a holiday. We all value mobility – getting to work, going to the shops, the cinema, or visiting friends and family. And like it or not, we all buy things produced in far corners of the world, whether it's a bike, a pair of trainers, tennis balls or a cup of coffee. With food, most of us aren't willing to stick to the seasons either, so goods criss-cross the equator on boats, planes, trains and trucks.

That all takes resources – the metals to make the vehicles, the oil or gas or coal used to power their mining and manufacture, and the fuel we use to run them. Then there are emissions and other pollution – from particulates and black carbon to noise.

But there's nothing as unpopular as suggesting that people should give up a long dreamed-of trip, or do without their car. Try suggesting that we only eat and drink locally produced seasonal foods. That could mean no coffee or tea, no oranges, lemons and bananas. None of us want to be grey kill-joys rather than inspirational greens.

But we have to change, and we have to persuade others, too. So do we just try to set an example in our own lives, or do we set up and run a local project, or do we lobby our politicians? Yes, yes and yes! We all can do something.

It might mean thinking about what we buy from far, far away, when there are perfectly good more local options. That'll mean looking at labels.

It might mean organizing a campaign, like the Volvo Adventurers from the UK, to get people to check their car tyres regularly and inflate them properly. They'll save fuel, reduce their emissions, and the tyres will last longer.

Or how about setting up a bike club to get more of your friends and colleagues to ride to school or college? Or get together with your community to establish a Ciclovía in your city. It'll improve your fitness, as well as being fun.

What about setting up a vegetable garden in your school or community, and growing some of your own food? There's nothing more satisfying, so teach others, too.

You could get together with your friends to work out how public transport in your area could be made better, more affordable and accessible – then lobby your local authorities and operators to implement your ideas.

And when it comes to your leisure time, become a tourist in your locality. You'll be surprised by things you didn't even know exist!

You won't be on your own. Around the world people are researching, innovating and taking action – from other young people to car makers, train operators, airlines and city planners. So let's all get going.

Young adventurers

HOW CAN WE CUT OUR CARBON FOOTPRINT, reduce waste and help our community adapt to climate change? We've all had these thoughts, but what have we done?

VOLVO ADVENTURE, which started in 2001, encourages young people to HAVE A GO! This year, more than 400 teams from schools, youth groups and conservation clubs embraced the challenge, and the eight finalists assembled in Gothenburg, Sweden in June 2013. As Volvo's Erica Wikman told Tunza, 'I'm inspired by the young people's ingenuity in finding innovative solutions. They fill me with hope!'

1st PRIZE Feeding people, minimizing waste, conserving corals

STUDENTS at the Ecogarden Club of Penjaja Pulau Community, Indonesia saw that marine litter and other waste from their island community was damaging nearby coral reefs. With dwindling fish numbers on the reefs, fishing boats are travelling further out to sea, raising safety concerns as extreme weather is increasing.

Using organic waste collected during clean-ups, the young people made compost to establish an 'ecogarden'. They used other rubbish, including plastic waste, as containers and components in their irrigation and composting systems. Their garden is open to the public, so islanders can learn horticultural techniques and get seeds for growing and selling their own food – providing the fishing communities with an alternative, sustainable food and income source.

Contact wahyusanjayaeco@gmail.com for more info.

2nd PRIZE Check those tyres!

YOUNG INNOVATORS from Newland House School, Twickenham, UK have come up with a common-sense approach to tackling the unnecessary waste of fossil fuels and carbon emissions – check your vehicle tyres!

Correctly inflated tyres can reduce fuel consumption by 4 per cent and extend tyre life, but most drivers don't check their tyres regularly – if ever. The kids first tested the efficiency of tyre valve caps that illuminate when the pressure is too low and then set about changing driver behaviour through an awareness campaign run in cooperation with the Sainsbury's supermarket chain – a major fuel provider. The boys also lobbied political leaders, including the UK's Minister of Business, Innovation and Skills. The idea is so simple, cheap and effective, it could and should be replicated everywhere!

If you think you could do something similar, contact barry_mcgovern@hotmail.com for more details.

3rd PRIZE

Go renewable!

AS IF installing their own wind-turbine to supply their school with its own energy wasn't enough, Camden Hills Regional High School's Windplanners (USA) had to raise the necessary funds from amongst a sceptical local community. Nevertheless, they succeeded in raising some \$516,000.

The turbine currently supplies 10 per cent of the energy the school needs and the aim is to raise that to 20 per cent in the next five years. As they still had some personal energy left, the students carried out an audit to see where the school could save energy.

The team was commended by Naomi Poulton, Deputy Director of UNEP's Communication Division, for 'demonstrating how, through persistence, education and awareness raising, a local community can be persuaded to change attitudes and behaviour to embrace sustainable energy solutions'.

Interested? Visit: www.fivetowns.net/subsites/windplanners.

TUNZA PRIZE

So simple, totally compelling

The Volvo Adventure TUNZA Small Beginnings Award for projects that can grow to make a considerable difference to sustainability went to Sishu Griha Montessori and High School of Bangalore, India. They demonstrated how reducing the brightness of a computer screen or monitor could, magnified across the world, significantly reduce energy use and global CO₂ emissions.

Setting the brightness at 40 per cent (you'll hardly notice the difference) saves 33 per cent of the energy used at 100 per cent. Adjusting 3,000

computers, the students calculate, would save enough energy to power one Indian home for a month. Now think – there are 17.5 million computers in India, and turning them all down would save 125,000 tonnes of carbon emissions a year; take it worldwide and that saving rises to 7.8 million tonnes.

The team is ready to share its blueprint of how to launch a campaign in your school, college, club or company – and then spread it to others. It REALLY could make a difference, so contact rao.settigunte@gmail.com.



Banson



Challenge finalists



STUDENTS FROM HRISTO BOTEV SECONDARY SCHOOL, BULGARIA are organizing waste collections in their community, its separation and the composting of biodegradable elements. This is used for the school's organic vegetable garden, but the students are also teaching local farmers to compost and improve their soils.

FIJI'S KIA DISTRICT SCHOOL REEF RANGERS are working to conserve the island's coral reefs – some of the most spectacular in the world. They hold beach clean-ups and tree-planting events, while their contribution to an EcoFestival has

resulted in greater awareness of marine conservation in their community.

PERU'S YOUTH GROUP HUMEDALES DE PUCUSH UCLO OJO DEL MUNDO is running an ambitious project tackling climate change and biodiversity loss through wetland restoration.

PUPILS AT THE ÖZEL PENDİK İKBAL ANADOLU SCHOOL IN TURKEY run a thoughtful project to restore the harmony between people and nature by nurturing and raising awareness about one of the longest-lived symbolic trees – the olive.

Banson

What matters most?

WHAT DO ENVIRONMENTAL PROFESSIONALS THINK? TUNZA asked Erica Wikman, Volvo's Director of Sustainability Communication, and Annika Fredgren, Volvo Cars' Environment Manager what they think.

What do you think are today's greatest environmental issues?

EW: Climate change, of course, and water is also extremely important. All people have the right to a clean environment, access to water, healthy food and safe living conditions. The tricky bit is that we'll all have to change our lifestyles to be more sustainable.

AF: And we've all got to get smarter and more efficient in how we use resources. That includes lowering our burden on the climate. It's a big challenge.

What part do you feel that industry can play?

EW: The most important thing for any industry is to take responsibility and act for the long term. That's the core problem.

AF: Absolutely. It means collaboration, too ... between companies, academics, policy makers and people to find the best and most efficient solutions to making sustainable and long-term development possible for everyone.

What are the most important things that young people can do to contribute?

EW: Be wise! Consume less, reuse and recycle more, and think sustainability in everything you do.

AF: Talk to your family, teachers and friends about how important it is that they think about how they're impacting the environment and the world they'll leave YOU!

EW: And – become engineers and help develop sustainable solutions for the future!

The **SHIPPING** news

Xuejingwen/Dreamstime.com

WHEN WE THINK ABOUT TRANSPORT

and carbon emissions, we typically point an accusing finger at air travel. Shipped bananas are greener than air-freighted avocados, right? Hmm ... it's not so simple: the global shipping industry, which transports about 90 per cent of world trade, actually has nearly twice the carbon footprint of aviation – nearly 1.2 billion tonnes of carbon a year, or 4.5 per cent of all global emissions. According to a recent UN study, it's a figure almost three times higher than previously thought. So we can no longer pretend that anything we buy from far away – including raw materials embedded in products – doesn't contribute significantly to global warming.

The problem has largely been invisible because the emissions occur in international waters – and therefore haven't been included in national carbon counts – and shipping is subject to fewer stringent environmental laws than land transport. These problems are now being addressed by individual countries and shipping companies, with the guidance of the International Maritime Organization, the UN agency responsible for shipping. Change on a global regulatory level is slow, but some initiatives – like innovation aimed at reducing emissions, voluntary classification schemes that take measures to reduce shipping's environmental impact, and environmental education and training in the shipping industry – all help.

Korionov/Dreamstime.com

Impacts on health

CONTAINER SHIPS EMIT POLLUTANTS including nitrogen oxides, sulphur oxides, particulate matter and black carbon that both contribute to climate change and damage human health – leading to up to 60,000 premature deaths a year in the USA, and 39,000 in the European Union – through related cancer, heart disease and asthma. This health impact is greater than that posed by cars – it's calculated that 15 giant tankers emit the same amount of pollution as all the cars in the world.



Invaders and beyond

COMMERCIAL SHIPS can carry invasive plants, animals and pathogens around the world in their ballast water: one estimate suggests that 10,000 marine species are transported around the world every day. Grey- and black-water discharge, oil and fuel spills also damage ecosystems, while chemicals used to prevent organisms like barnacles sticking to hulls are also considered toxic. Even noise associated with ship traffic can have a negative effect on marine habitats, and is of growing concern.

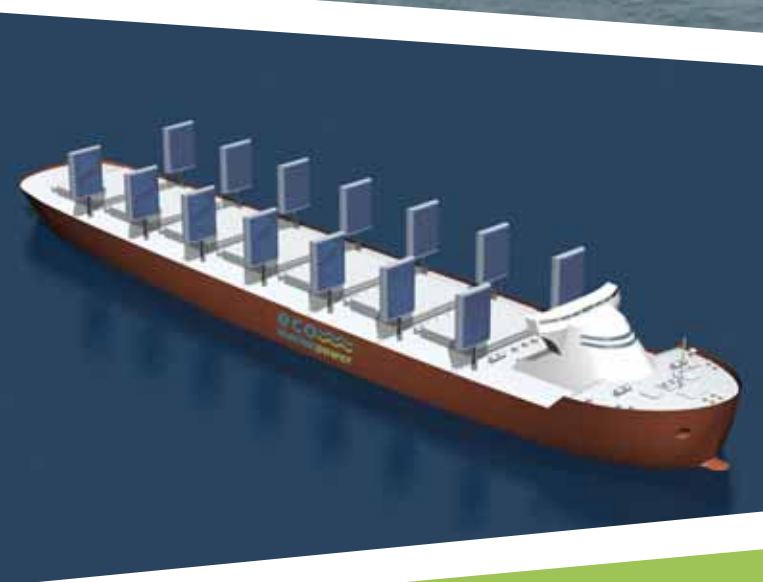
Absolute rubbish

IF YOU'RE A RICH COUNTRY with too much waste, what do you do? Export it, of course! More than 20 million containers of waste are shipped annually out of the European Union, and in 2011 the USA exported 23 million tonnes of scrap. Most goes to China, where it has value as a resource to be reused. Chinese container ships to the West return to China filled with metals, paper, plastics and electronic waste.

Recycling should be an environmentally good thing, but transporting waste around the world isn't. The ultimate answer is to reduce the amount of waste we generate and improve local recycling systems. In fact, China has recently enacted Operation Green Fence, which strictly regulates the quality of waste it will accept, turning back containers that have too much unrecyclable or substandard material. Each country should ask itself: are we ready to handle our own waste?



Skysails GmbH



www.ecomarinepower.com

Into the future

ARE THERE GREENER WAYS to move stuff? In the past, when ships were totally wind-powered, it took the fastest ones just 21 days to get from Sydney, Australia, all the way to London! So what's shaping up for the future?

SKYSAIL is essentially a kite that tows a ship, boosting its propulsion to supplement traditional fuel. In good conditions, it provides up to 2,000 kW of supplementary pulling power, lowering fuel costs and really reducing emissions.

HYDROGEN FUEL-CELLS are being trialled, too. The *Viking Lady*, a Norwegian merchant vessel, runs on a hybrid energy system, reducing fuel consumption by more than 20 per cent. In a demonstration, a 330-kW, zero-emissions fuel cell was installed and ran the vessel for almost 10 months.

AQUARIUS ECOSHIP – still in development – features rigid sails, waste heat recovery systems, solar panels and computer control systems. Such innovation holds promise both for retrofitting old vessels and for integrating into new ship production.

Slow down!

WE ALREADY HAVE SPEED LIMITS for land transport that reduce fuel use: mandatory limits on European trucks have reduced emissions by up to 11 per cent a year, while in the USA, an emergency national maximum speed law, enacted during the 1974 oil crisis, set a speed limit of 88 km per hour, saving 175,000–275,000 barrels of oil daily. So why not ships? According to a 2009 study, ship emissions could be reduced by up to 70 per cent if speed were halved. Slowing ships down when near land would also have positive health effects, reducing pollution. And slower ships mean fewer collisions with marine mammals and other ships.

Scanrail/Dreamstime.com



Need versus want

WE ALL BUY GOODS made with raw materials from a faraway place, assembled somewhere else, then transported long distances to our home town. But is that really necessary? We can't remove every foreign product from our lives – and we do want to support the global economy – but it would help to consider what local produce we could buy and use. Water is a glaring example, so too are fruit, vegetables, cheese, wine and beer. Locally produced clothing and building materials are available too. So, if there's a choice – go local!

‘Baby you can drive my car...’

CARS ARE WONDERFUL – used with care. Over long distances and full of passengers – they offer convenient, affordable and energy-efficient travel. But much of our car use is wildly inefficient: more than 80 per cent of European drivers’ journeys average less than 20 km, while in the UK, more than a quarter are just over 3 km, and most are in towns or cities.



Ginasanders/Dreamstime.com

What about electric cars?

Otherwise known as EVs, electric vehicles have no exhaust emissions, and electric motors are up to four times more energy efficient than combustion engines. Sales are rising, with annual global trade projected to reach 3.8 million vehicles by 2020. Of course the environmental benefits depend on power sources: EVs beat conventional vehicles when it comes to greenhouse gas emissions if the grid is fed from a mix of conventional power sources and renewables – even taking into account their energy-intensive manufacture.

At the moment, EVs are expensive, running out at \$35,000 or more. But your investment is offset by lower fuel and maintenance costs, car tax exemptions and, in some cities, free parking. And government subsidies are also helping buyers: in the UK, you get a government discount of 25 per cent of the vehicle’s cost, up to around \$7,600. Similar subsidies and tax exemptions exist in the USA, where some states offer hefty subsidies on top of federal grants; and in China, India, Japan, Sweden and other European countries.

Range anxiety

EVs are fine for short journeys,



Zap!

Recent developments mean that



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