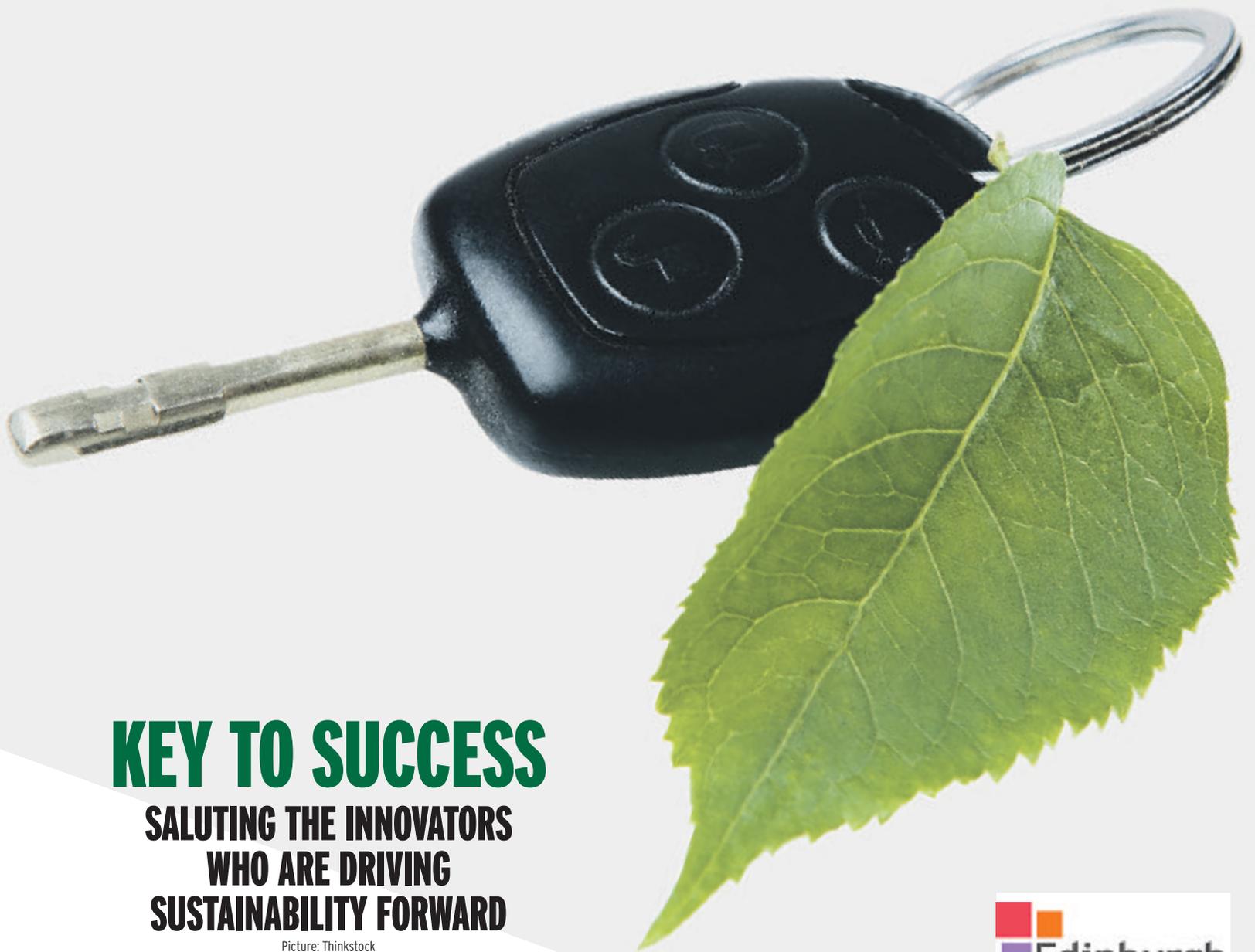


GREEN TRANSPORT PRIZE



KEY TO SUCCESS

**SALUTING THE INNOVATORS
WHO ARE DRIVING
SUSTAINABILITY FORWARD**

Picture: Thinkstock



A new award backed by educational institutions confirms Scotland as a good place to share ideas and innovation in sustainable transport, reports David Lee

Inaugural green prize event bodes well for the future

HOW do you change people's attitudes to make them more environmentally friendly? Ask Dr Alison Kidd – psychologist, director of the Eco Travel Network and now winner of the inaugural Green Transport Prize (and £50,000). She has some very clear thoughts.

"I don't buy the idea that we can simply change attitudes," she said. "I think that our attitudes follow our behaviours – talk people into trying something different and if they enjoy it, their attitudes will follow their behaviours. Even better if it is cool and fun."

The seven Renault Twizys, the lightweight electric vehicles (EVs) operated by the Eco Travel Network (ETN) in the Brecon Beacons in Wales, certainly look like fun – and Dr Kidd says this is borne out by the terrific reaction from the local tourism businesses who use them and hire them out to visitors.

They are a genuine, low-carbon, low-cost (and fun) alternative to the high-

polluting 4x4s which tourists often bring to the narrow country roads of central Wales.

Dr Kidd said 95 per cent of journeys in the Brecon Beacons were under 25 miles and 63 per cent under five miles. Fuel was expensive and contributed to rural poverty, and low-carbon Twizys, which can cover up to 50 miles and have a top speed of 50mph (though this is often impossible in rural Wales), seemed like a great solution. ETN is a not-for-profit business; it owns and insures the fleet of Twizys, which are funded, hosted and hired out by rural businesses who pay an annual membership and service fee.

"The important thing is putting them where people are staying – and that they can be charged through a normal 13-amp socket," said Dr Kidd. If the Twizys (quadracycles, not cars) work in Wales, Dr Kidd insists, they can work in rural Scotland too. ETN has already had discussions with the Isle of Eigg and tourism businesses in Loch Lomond, while St

Andrews University is keen to bring the idea to the East Neuk of Fife.

Dr Kidd said: "Twizys are perfect for rural tourism businesses – and we want to use the £50,000 prize to extend our network to more small businesses like campsites and B&Bs – and to attract further investment to develop a more rugged vehicle that can be used on country roads and rougher tracks.

"Sometimes, that last quarter-mile up a rough track to a holiday cottage needs a more rugged vehicle. We have learned a lot in Wales and this kind of project would be perfect for rural Scotland too – especially some of the islands like Mull and ideally places with renewable energy sources to power the vehicles."

The Green Transport Prize was established with a total prize pot of £100,000 by Edinburgh College, the University of St Andrews and Edinburgh Napier University, with support from SEStran, the South East Scotland Transport Partnership.

The aim was to highlight the reputation Scotland is winning as a place to share ideas, innovation and imagination in the green transport field.

The Green Transport Prize attracted entries from across the UK and as far as New Zealand. The six shortlisted entries are listed below. In the end, however, it was the Twizys which captured the imagination of the judges. Dr Kidd picked up the £50,000 first prize at an awards ceremony at the Scottish National Gallery in Edinburgh on Tuesday night.

Two runners-up were awarded £25,000 each to develop their ideas – CREST, a scheme to convert waste product into a fuel for shipping and an ultra-light rail scheme using hydrogen fuel technology targeted at large towns and smaller cities.



Prof Frank Chambers, of the University of Gloucestershire, said he would be seeking match funding for the prize and added: "We are working directly with vehicle manufacturers and with the University of Birmingham and hope to make headway with our project."

The light rail project is not a "Rolls Royce" tram system like that in Edinburgh, Mr Chambers stressed; it was much cheaper and used the anaerobic digestion process to create "green hydrogen" to power the vehicles.

"This is not a conventional tram system like in Edinburgh and it does not cost £764 million. It is an affordable system for large towns and small cities who could not afford a conventional tram. There are no overhead wires and it is not

"Talk people into trying something different. If they enjoy it, their attitudes will follow their behaviours. Even better if it is cool and fun"

Dr Alison Kidd, Eco Travel Network

heavy and over-engineered so you don't need to dig all the streets up," he said. "It is tried and tested technology – people are making the vehicles in the UK but 95 per cent are being exported"

The test proposal for the project covers both Gloucester and Cheltenham,

Eco-Port

THIS was perhaps the most joined-up of all the finalists – a sustainable, attractive charging facility for all modes of electric transport.

Sustainable and often recycled materials are used



to build the Eco-Port, which is powered by the latest solar technology on its roof.

This power is used to charge up to four cars or vans, eight electric bikes and six electric motorbikes or scooters at any one time. It can be used in a number of locations, including colleges and universities, hospitals, railway stations, car parks and shopping centres.

Chester Zoo has shown an interest, according to Ian Williamson, pictured, who is head of strategy and market development at Green Thinking, of which Green Bays is a part.

www.greenbays.co.uk

Gridpost

THERE are 100,000 lamp-posts in Edinburgh alone and GridPost wants to use them to provide easy access to charge electric vehicles, by wire or by induction.

Business partners Robert Steele and Andy Rowe (pictured) say that 2,000 street lamps are replaced or repaired every year in Edinburgh. Converting them at the same time could form the basis to start a nationwide network to tackle the anxiety around the distance between charging points that is often blamed for the slow uptake of EVs.

The project even has its own acronym, Greensleeves

– Grid Resourced Electric Energy Network Street Lamp Enabled Electric Vehicle Energy Source.



Pronto Pedal Power Delivery

Some 50 per cent of urban journeys involve the movement of goods; 33 per cent of these journeys could be done by cargo bike, reducing both urban pollution and congestion.

Pronto Pedal Power Delivery already moves light goods sustainably in Edinburgh for about 50 clients, including lawyers and accountants, flower shops and delis.

The company covered about 8,000 miles last year, making a significant reduction to



CO₂ emissions. It now wants to invest in a high-quality, electrically-assisted cargo trike to help smooth out the many hills of Edinburgh – and allow it to increase the range of work it can carry out.

www.prontopedalpower.co.uk



The winner Alison Kidd (Eco Travel Network) then above Left to right, Neil Bon (Pronto Pedal Power Delivery), Andy Rowe (GridPost), David Jones (CREST), Frank Chambers (University of Gloucestershire), Russell Imrie (SEStran), Ian Williamson (Eco Port); far left, one of the Eco Travel Network's Renault Twizys
Pictures: Lesley Martin



Minister's praise for green transport idea

TRANSPORT Minister Keith Brown, pictured above, praised the Green Transport Prize and said the kind of innovation shown by the six finalists was crucial to making a real difference to the way we travel in the future.

"A cleaner, greener transport sector which operates more effectively with smaller carbon emissions is absolutely vital," said Mr Brown. "It is vital for the environmental benefits, for sustainable economic growth and for our quality of life."

Congratulating the awards organisers, Mr Brown added: "Events like this show that Scotland is a place to come to highlight innovation, to share knowledge and to come up with ideas that can make a real difference."

"The quality of the entries was very high and it was difficult to get down to six finalists, so everyone making the shortlist should be very proud. These ideas are so good – and if we can all get behind them, we will see real improvements."

Mr Brown said the Green Transport Prize was an important part of a bigger picture – the plans the Scottish Government has to work with local authorities, businesses and other stakeholders to meet the world-leading 2020 climate change targets set by the Scottish Parliament in 2009.

It was a complex picture, he said – reducing travel by promoting alternatives like tele-conferencing or video-conferencing was important, as well as promoting cycling and walking for shorter journeys.

Mr Brown also highlighted the need for sustainable travel plans and fuel-efficient driver training for all modes of transport.

He praised companies such as Alexander Dennis which had grasped the business opportunities of the environmental agenda by manufacturing low-carbon buses which were now moving into lucrative export markets.

"One of the key messages for the future is that if you need to use a car, make it an electric vehicle (EV) – and the Scottish Government will publish its EV roadmap this summer," said Mr

"A greener transport sector which operates more effectively with smaller carbon emissions is absolutely vital"

Brown. He added that the government and its agency Transport Scotland was working closely with all EV stakeholders, including businesses and groups developing hydrogen fuel cell technology.

"We are putting in more infrastructure by the end of 2013 to ensure people with EVs have access to charging posts," the minister said. "We are sometimes ridiculed for having more charging posts than EVs but we need the infrastructure to help drivers of EVs over their 'range anxiety'."

including a link to Cheltenham racecourse and the local airport. "This is applicable to most urban areas worldwide and it will happen sometime this century," said Mr Chambers.

David Jones, who presented for the second runner-up CREST, was overwhelmed by his £25,000 cheque and thanked everyone effusively and repeatedly. "This money will allow us to source an engine and put it in a tug on the Thames to prove that boats can run on glycerol. I'd like to paint the vessel green to give it real visibility and call it The Little Green Tug Company. This will create a small business and give jobs to a crew – and allow us to evaluate how glycerol works."

Mr Jones said he was convinced that

glycerol could help in the shift away from heavy "bunker fuels" traditionally used by the shipping industry, which he described as "cheap, dirty and sulphur-laden". There was massive potential for carbon savings if fuel use habits started to shift, he suggested, and CREST was demonstrating "a revolutionary alternative to marine fuel".

He added: "Marine pollution is a very serious matter and it is getting worse – and it is pollution which will drive this shift." He added that glycerol (which he described as "gooey, sweet and non-toxic") could also be sourced naturally from algae and was therefore very widely available, and had tremendous potential.

Steve Tinsley, of Edinburgh College, who led the Green Transport Prize

project, said: "We had a series of fantastic entries from across the UK and even one from New Zealand. Choosing a final six was difficult, but we ended up with three worthy prize-winners. The whole project aimed to identify ideas which could be adopted in different settings and we all look forward to seeing the Twizys coming to Scotland."

Councillor Russell Imrie, chairman of SEStran, who presented the awards, said: "We saw some brilliant innovators presenting some excellent ideas. All six projects would have been worthy winners – and the Green Transport Prize certainly showed that Scotland is living up to its historic reputation as a great place to come to share innovative ideas and knowledge."

University of Gloucestershire

THE University of Gloucestershire urged the delegates to not think of traditional trams, but rather ultra-light rail – an affordable scheme using hydrogen fuel technology targeted at large towns and smaller cities.

Prof Frank Chambers (pictured) from the institution admits that this solution is "not a Rolls Royce system", but has the benefits of no overhead wires and it is not heavy and over-engineered, so there is no need to dig the streets up.

The technology is tried and tested and the suggested location for the first major introduction is Gloucester and

Cheltenham, including a link to Cheltenham racecourse and the local airport.
www.glos.ac.uk



Eco Travel Network



MOST rural journeys are short – and most of those are very short. Unfortunately, many people take these short journeys in 4x4s – fine for long journeys, but inefficient and high-polluting in rural areas.

The solution? The Renault Twizy – a low-carbon, low-cost

electric vehicle (technically, a "quadricycle") that allows tourist businesses and visitors to tootle efficiently around the country roads of the Brecon Beacons and have great fun at the same time.

And now the Twizys could be coming to Scotland...
www.ecotravelnetwork.co.uk

CREST

MARINE pollution is a very serious matter and it is getting worse, said David Jones (pictured) of CREST (Charlton Riverfront Engineering for Sustainable Transport) as he outlined his revolutionary alternative to the dirty "bunker fuels" used currently by the shipping industry – glycoFuel.

This green fuel solution is derived from glycerol, a non-toxic and currently low-worth product from the biodiesel industry. By the simple process of desalination, glycerol could make a massive impact on harmful emissions from shipping worldwide. CREST

plans to see how it works by testing it on a tug on the Thames.
www.se7crest.wordpress.com





Mandy Exley, a co-founder of the Green Transport Prize, is an EV advocate
Picture: Ian Rutherford

Full of ideas to fuel the future

Pursuing principles and creating partnerships, Edinburgh College is making pragmatic progress on the environmental front, writes Mandy Exley

IT IS surprising what can be achieved when two women get together to discuss ideas over a bottle of wine – and when Lisa Black of South East of Scotland Transport Partnership (SEStran) and I did just that, it started an exciting chain of events that led to the Green Transport Prize.

I wanted to get an electric car for the college after a conversation with a friend at Enterprise Cars, and Lisa was on the look-out for good sustainable transport projects. Mitsubishi found us a car and off we went – setting up a great electric vehicle (EV) monitoring project which provides really useful information on the benefits of EVs, how they perform and what users think of them.

There are now 12 cars being monitored around Edinburgh, Midlothian and East Lothian. The whole project has been about partnership – with SEStran, with Mitsubishi and with our partners using the EVs, including Midlothian Council and the Scottish Qualifications Authority (SQA).

It is about learning and acquiring knowledge from others who know more than you do – and sharing what you have learned. By doing that, we have moved forward – taking practical steps to create something significant and sustainable in the long-term.

It is also about skills. The college couldn't originally access the charging points we wanted so staff and students designed and built them. College staff are developing their own knowledge and skills by becoming students themselves and carrying out a research project on the EVs at Edinburgh Napier University.

Scholarships were funded by Mitsubishi, and engineering students do modules on EVs – designed by the Institute of the Motor Industry and Toyota – so that when they go into the workplace, they can understand and work with EVs. They also collect and analyse data and feed it back into the project to help us learn more.

The project has practical and tangible benefits and experience is shared – with other colleges, between colleges and universities, and between the public and private sector.

Last year The EVent shared knowledge between all those involved, and the college has continued to build the sustainability of the project. The Green Transport Prize is part of that. It's not about stopping one project and start another; it is about building something sustainable and long-term. I sit on the board of E-cosse, the Scottish partnership of government, industry and other groups, again to learn and to

share what we are doing. A sub-group specifically on skills around EVs is now being created – because if we are trying to advance EVs to ensure mass take-up, we need people who can fix them and understand the constant improvements in battery technology.

Some people tell me it's no good having electric cars if you are just plugging them in and running them from fossil fuels, not renewable sources. That criticism doesn't wash at Edinburgh College, which has developed the largest solar meadow in Scotland at its Midlothian campus as part of the drive towards clean and green technology. The solar meadow has taken the campus "off the grid", and can power 170 homes as well as the electric vehicle fleet.

This is all helping to develop a strong virtuous circle and the college is now using its skill and knowledge to work with the Scottish Government to install charging infrastructure across all 13 new college regions.

Edinburgh College is committed to making its own fleet entirely electric by 2020, working with VisitScotland on a tourist trail from the Falkirk Wheel to the solar meadow (using EVs, of course)

"We don't want to stop one project and start another; we want to build something that is sustainable and long-term"

and looking to develop a jointly-funded post with Edinburgh Napier University to continue knowledge transfer and carry out further research and development.

Edinburgh College is showing leadership in this area and making progress in a pragmatic way to show others that they can do it too.

The Green Transport Prize is a culmination of all of this work. With Edinburgh Napier and St Andrews universities, along with SEStran, the college decided this was another great way to share knowledge and move forward. We were all delighted by the number and the quality of the entries received. We want to keep building this whole project – and hopefully an annual Green Transport Prize can be part of that.

This whole agenda is important to me – but it is also important to the 28,000 students at Edinburgh College. Environmental issues are at the forefront of what they care about and talk about. All these partnerships are about demonstrating and promoting green credentials to students. They are the future workforce and it is crucial that what is offered meets the current and future needs of that workforce.

Skills and training is the business of Edinburgh College but it must meet business and industry needs. Those students who spend time in workshops and gather data from electric vehicles are important – because they are doing it for real and helping build a sustainable future.

● Mandy Exley is Principal of Edinburgh College

THE SCOTSMAN
CONFERENCES

DIARY

NOT FROM THE TOP DECK

His project might have won £25,000, but Frank Chambers of the University of Gloucestershire didn't win many friends with his socio-economic analysis of bus passengers. Describing ultra-light rail as a way to make travellers feel they were on a "luxury" mode of transport, he suggested that bus passengers were not of the higher social echelons. "I tried it for a week and gave up," he said. "I was the only person on the bus with a briefcase." There were sharp intakes of breath from audience members, many of whom travel by bus and own a briefcase.



LEANING ON A LAMP-POST

Andy Rowe of GridPost had a very grounded slogan for his proposal. "Think lamp-posts," he told the audience. He said that Edinburgh alone has 100,000 of them and he and his business partner, Robert Steele, "lived, breathed and dreamed lamp-posts".

GETTING IN A TWIZY

There have been some surprising personal spin-offs from using the Twizys, Alison Kidd revealed, after picking up the first prize of £50,000. "They are definitely cool. I am 58 and driving alone in a vehicle that doesn't go very fast – yet teenage boys will whistle, coo and scream because they love the cars!"



THINKING BROWN

Russell Imrie, who presented the awards, said all the ideas on show were great, everyone was a winner and that they should all get a prize. When event chair David Lee asked if he would dip into his own pocket to do that, the SEStran chairman backed off, swiftly. Later, the chair pointed out that the winners and runners-up were not receiving their prizes on the night. "There are no brown envelopes stuffed with cash, in case you get any ideas," he said.

CREAM OF THE FLOCK

The prize for the most unexpected and bizarre reference of the night came from David Jones of CREST, one of the two runners-up. Describing how glycerol – the basis for the marine fuel highlighted in his project – was also created naturally through algae, he showed a picture of birds in Namibia and uttered the immortal line: "It's like sun tan cream for flamingos."

