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Energy Saving Trust

North East SOLAR CAR Challenge

2005

Project Report

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Project Background

Having heard about the success of the solar car competitions in Northampton and Kent in 2003 and 2004 the Energy Saving Trust North East Advice Centre decided to explore the possibility of holding a competition in the North East of England.

The aim was to use the event to help local authority officers dealing with energy and environmental issues to publicise the work that they are doing and to encourage more schools to look at issues around Climate Change.

The Solar Car Challenge was designed to raise awareness of the concept of solar energy in an interesting and fun way.

The project targeted 8–11 year olds (Key Stage 2). It aimed to:

- Be a fun way for children to learn about the environment, as well as engineering, science and graphic design
- Promote solar energy
- Meet National Curriculum requirements on teaching sustainability, environmental education and design and technology
- Raise awareness in schools and in the wider community of issues such as renewable energy, climate change and pollution.

Participating schools were provided with a solar cell, motor, gearing and wheels for two cars.

There were two categories to the competition, the fastest car and the best body design. The fastest car entry was designed purely for speed to compete in a flat race. The best body design gave pupils an opportunity to use their imagination in creating a body for the car. The only limit was that the car must still move.

The Cars

The car kits are the invention of the Plugging Into The Sun® initiative of the Schools & Home Energy Education Project based in Sheffield.

The project creates renewable energy and energy efficiency resources that teach pupils key concepts in science and design & technology in an exciting and fun way, encouraging pupils to use their own initiative, innovation and mechanic skills.

http://www.pluggingintothesun.org.uk

The Sponsors

Nissan UK in Washington were approached to host the final, sponsor the prizes for the design category and purchase the cars for the participating schools. They also provided medals and plaques for the winning teams.

Npower Business (who supply North East schools with power) sponsored the prizes for the speed category as well organisational costs.

PR was also handled by Nissan and npower.

Government Office North East provided funding for a teachers workshop and the Discovery Museum hosted an exhibition of the design cars.

The organisers would like to thank the sponsors for their help and hope they will be on board next year.

Participating Local Authorities and Schools

Initially 14 schools from 6 local authorities were taking part in the final. On the final day only 12 schools from 5 local authorities took part.

The local authorities taking part were:

Chester le Street DC,
Newcastle CC,
South Tyneside MBC,
City of Sunderland,
North Tyneside MBC

Chester le Street held their own mini competition to select their three schools to participate in the North East final, while the other local authorities chose their schools themselves.

The Final

The final took take place on Thursday 7th July 2005 at Nissan Motor Manufacturing (UK) Ltd, Washington Rd, Sunderland. The day started with rather a lot of cloud but the sun did eventually make an appearance.

The speed competition was held first and was hotly contested! 12 schools took part in 3 heats before the final. Races were held over a 20m race track with lanes marked out with rope.

Between the speed competition and lunch the children had the chance to look at a life size solar car which has been built by Durham University School of Engineering

and speak to Dr D.B. Sims-Williams about how it works. This proved to be a popular attraction.

During the lunch break David Garlovsky from the Schools & Home Energy Education Project, the inventor of the kits, gave a short talk about the solar panels used in the kits and about the educational value of the kits.

After lunch the design competition was held. Three judges, Linda Barker from Nissan (UK), Richard Flint of npower business and Eileen Atkinson from the Discovery Museum, were given the task of assessing the cars and talking to the children about their designs and the materials used.

There was a wide range of designs and ideas and judging proved a difficult task.

Linda Barker judging Toner Ave Primary's design entry

Winners Speed	Winners Design
1st Shiny Row Primary, City of Sunderland	1st Stocksfield Ave Primary, Newcastle CC
2nd Red Rose Primary, Chester le Street DC	2nd equal Red Rose Primary, Chester le Street DC and Hadrian Primary, South Tyneside MBC
3rd Roseberry Primary, Chester le Street DC	3rd St Cuthberts RC Primary, Newcastle CC

Shiny Row Primary

Stocksfield Ave Primary

Speed Winners

1st

2nd

3rd

Design Winners

1st

2nd =

3rd

The top three in each category won prizes for their school and each child won a medal. All the children got a certificate to say that they had participated in the competition.

The school prizes were all on an educational theme (see list below)

First Prize
- Green Powered Systems – Senior and junior

Second Prize
- Solar Construction Kit
- Art Attack - Original/Make It/Comic Creator.

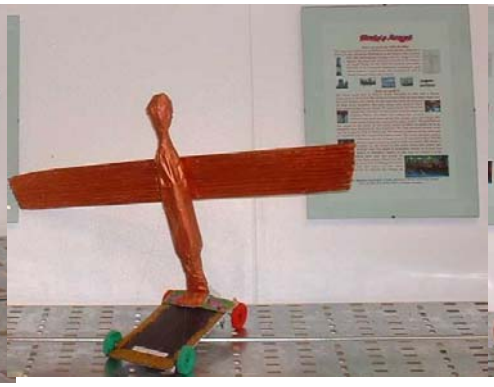
Third Prize
- Selection of books for teachers and pupils
- Worm and Ant Farms

The design entries were displayed at Nissan reception for a week.

Exhibition at Discovery Museum

The design category models went on display at the Discovery Museum in Newcastle-upon-Tyne from 18th June to 5th August 2005.

The exhibition was launched on the 20th of July by Daniel Waterston, who plays Mickey Murray in Byker Grove.



There was a stand, case studies and information packs on solar PV in the North East supplied by PV North East. PV NE provides a focus for regional activities and for advertising what the North East has to offer. (www.pvnortheast.org.uk/)

Media

PUPILS GO SOLAR

NECa 19.6.05

Powered from above: Lucy Todd, 11, Molly Spinks, ten, Rebecca Hunt, 11, and Kayleigh Liddle, 11, of St Bede's School, in Sacriston, with their solar-powered Angel of the North

Picture: ANDY LAMB

CHILDREN have taken part in a competition to create a solar-powered car.

More than 100 pupils from six primary schools in Chester-le-Street competed in the Solar Car Challenge at the Riverside Sports Complex yesterday.

There were two categories – the fastest car in a flat race over 20 metres and the best-designed car. Each car was paraded in a design pageant with a panel of independent judges from the Environment Agency, The Energy Savings Trust and npower.

The competition was organised by Chester-le-Street District Council's sustainability team.

Sustainability assistant Louise Medland said: "At one point, we had to run behind the cars with torches because of the weather, but it was a lot of fun.

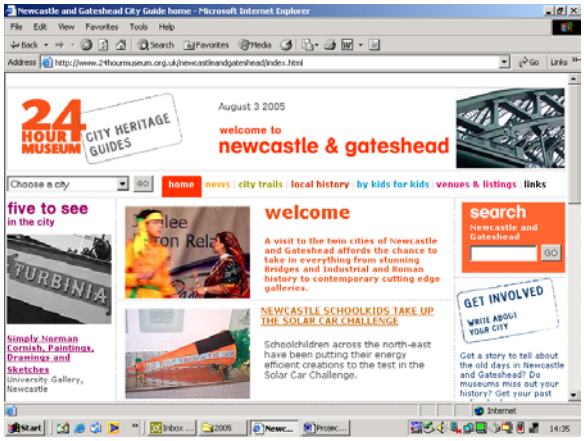
"The idea is to give children the chance to learn about renewable energy. The competition brings the technology into schools so they can interact with it and it makes learning more interesting."

Red Rose Primary School, in Chester-le-Street, won the fastest car category, covering 20 metres in 18 seconds.

St Bede's RC Primary School, in Sacriston, won the best design section with its car inspired by the Angel of the North.

Both schools will represent the district in the regional final next month.

There was disappointing media coverage of the event considering the coverage that other competitions have had in the past. However this was due to the tragic events in London which took place on the same day as the final.



An article appeared on the 24 Hour Museum website about the exhibition at the Discovery Museum.
http://www.24hourmuseum.org.uk/newcastleandgateshead/index.html

Three local newspapers also covered the events.

Driven to win

THE inaugural North-East Schools Solar Car Challenge has been declared a success.

Nissan's car plant in Sunderland played host to the event last Thursday which brought together teams from 12 schools who had designed and built miniature solar-powered kit cars.

Sunderland's Shiney Row Primary School stormed ahead in the fastest car category – completing the run in 18.94 seconds.

p23 JOURNAL 11/7/05

Youngsters' sunshine-powered cars in race for title

Solar rollers

What Next

Planning is now underway for the 2006 challenge. We hope to have more local authorities and schools involved.

Contacts

Colin MacDonald or Laura Thomson

Energy Saving Trust North East Advice Centre
St Andrews House, 90-92 Pilgrim Street, Newcastle-upon-Tyne, NE1 6SG
Telephone/Fax: 0191 230 5492
www.est.co.uk/northeast
E-mail: colin.macdonald@tadea.com or laura.thomson@tadea.com