

News Release

Is rubbish the answer to Cooling the Planet?

Young engineers make the most of waste to win IMechE international finals

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Can creating energy from animal or human waste be the answer to combating climate change? A team of young eco-engineers think it is and so did the judges as they announced the winners at an international environmental competition to come up with ideas that will help us in **Cooling the Planet**, organised by the Institution of Mechanical Engineers (IMechE).

The finals of Cooling the Planet were held at IMechE's London headquarters, Birdcage Walk on 5 March and it was attended by Liberal Democrat MP Phil Willis. The competition comes hot on the heels of IMechE's groundbreaking '*Climate Change: Adapting to the Inevitable?*' report. Six teams (including one from Malaysia) created practical and sustainable approaches to curbing emissions using geo-engineering and mitigation – and the overall winning team was announced as Planet AECOM, from London engineering consultancy Faber Maunsell.

The team of six young engineers aged between 23 and 26, which featured two women, came up with a solution based on reducing the use of fossil fuels, recycling carbon and using either human or animal sewage to create energy. The waste is exposed to extreme heat using a method called hydro-pyrolysis, which turns it into oil and gas to be used as fuel. This method can also produce biochar, a product to help fertilise soil.

The idea was a winner because it could be adapted for both developing and developed countries, which was also demonstrated by using cooking oil to generate fuel when it is heated – useful to countries such as India and China. The idea also relates to another groundbreaking IMechE report '*Energy from Waste: A Wasted Opportunity*', which urged the Government to invest more money into Energy from Waste plants.

Dr Tim Fox, IMechE's Head of Environment and Climate Change, said: "We were particularly impressed with the winning team's holistic approach to the idea. They conducted excellent research and topped off their presentation with real belief and passion."

There are dozens of potential solutions floating around, from mirrors in space to algae on buildings. This team of young engineers battled it out, alongside five others, to assess the risks, costs and other factors for each idea and entered one of two categories: mitigation, which reduces the carbon emissions generated; and geo-engineering to remove carbon from the atmosphere or cool the planet artificially.

As well as winning the overall competition, Planet AECOM's ideas came out on top in the mitigation category and will now be incorporated into the IMechE's statement of recommendations on climate change to the Government. Artificial trees proved a hit in the geo-engineering category for Rutherford Appleton Laboratory in Oxfordshire. Each member of both winning teams won £500 each.

The Planet AECOM team included Lizzie Batchelor, 26, from Clapham; Fabia Pennington, 25, based in Finsbury Park, North London; Gabriel Burton, 25, who lives in Oval, South-East London; David Davies, 24, from Croydon; Peter Armitage, 23, of Bowes Park, North London; and 23-year-old Paul Szczesiak from Hemel Hempstead.

Winner Lizzie Batchelor was delighted about her team's win: "We all put so much work into developing our ideas and to be recognised as the winning entry was the cherry on the cake. Despite using our spare time to work on the project, we all enjoyed doing the research. As engineers we do not have the time to learn about new technology the way we did as students and this competition gave us the chance to do that. It has been great to speak to other people who have the same passion we have for helping to combat climate change."

The competition opened in October 2008, with 25 teams registering and over 100 young engineers from around the world. Encouraging young engineers to use their skills to combat climate change is at the very heart of the IMechE's work because one of its key themes is 'environment'. The latest environment theme report released by the IMechE is '*Climate Change: Adapting to the Inevitable?*' considers the possible climate changes which we may expect over the next 1,000 years due to continuing CO₂ emissions, and recommends what engineers need to do to adapt to our future world so that we can cope with these changes.

Teams were judged by an eminent panel of judges which included Professor Tim Lenton, of University of East Anglia, Dave Watson, Head of Environment and Sustainability at United Utilities, Chris Cox, IMechE Young Member Ambassador for the Environment and Dr Colin Brown, IMechE's Director of Engineering and the panel's chairman.

MP Phil Willis, who is also Chairman of the Government's Universities, Innovation and Skills Select Committee, commented: "Engineers are the people who converted cutting-edge science into reality and Cooling the Planet has encouraged young people to think outside the box. If I could capture the enthusiasm, commitment and passion that these young engineers have for and take it to the House of Commons, then the world would be in a better condition."



Cap: (From left) IMechE's Chief Executive Stephen Tetlow with winning team Planet AECOM Paul Szczesiak, Fabia Pennington, Lizzie Batchelor, David Davies, Peter Armitage and IMechE's Director of Engineering, Colin Brown

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Notes to Editors

- If you would like further information or to arrange interviews please contact the IMechE Press Office on 0207 304 6992/688 or email media@imeche.org.
- The Institution of Mechanical Engineers (IMechE) was established in 1847 and has some of the world's greatest engineers in its history books. It currently has around 80,000 members in 120 countries representing mechanical engineers involved in a diversity of fields such as the automotive, rail, aerospace, medical, power and construction industries to name a few. Visit www.imeche.org for more information.