



## Advanced Plasma Power – Media coverage

February 2012

### Summary of coverage:

- Eureka (online), 'National Grid project looks to convert waste into natural gas substitute', 1 March 2012
- The Engineer, 'National Grid project will turn rubbish into gas substitute', 29 February 2012
- Recycling and Waste World, 'Project launched to demonstrate the use of waste to produce bio-synthetic natural gas', 28 February 2012
- Energy Efficiency News, 'National Grid and partners plan gas-from-waste plant in UK', 28 February 2012
- Pakistan Renewable Energy Society, 'Project transforms waste into bio-SNG', 27 February 2012
- SCM Waste-to-Energy Newsletter, 'APP announce project for gas from waste', 24 February
- Renewable Energy Focus, 'Project transforms waste into bio-SNG', 23 February
- Edie.net, 'National Grid, Advanced Plasma Power and Progressive Energy announce new project to transform waste into Bio Substitute Natural Gas', 23 February 2012
- Environmental Expert, National Grid, Advanced Plasma Power and Progressive Energy announce new project to transform waste into Bio Substitute Natural Gas', 22 February 2012
- Waste Management World, 'Grid injection from plasma gasification of wastes', 22 February 2012
- 4-Traders.com, 'National Grid, Advanced Plasma Power and Progressive Energy announce new project to transform waste into Bio Substitute Natural Gas', 22 February 2012
- New Energy World Network, 'National Grid leads group to develop waste-to-biogas system', 22 February 2012
- Autocad Magazin, 'Autodesk auf dem Ecosummit', 13 February 2012
- RSA Accreditation (online), 'Rushlight Awards celebrate 2011 Winners', 11 February 2012



- Environmental Expert, 'Advanced Plasma Power celebrate Rushlight win', 4 February 2012
- Institute of Water (online), 'Rushlight Awards 2012', 3 February 2012
- Innovate UK, 'Innovative cleantech gets recognised at Rushlight Awards', 3 February 2012
- Het Belang van Limburg, 'Europese studie in de maak over ontginning Remostort', 31 January 2012



Eureka (online)

1st March 2012

**EUREKA**  
THE SITE FOR ENGINEERING DESIGN

## **National Grid project looks to convert waste into natural gas substitute**

National Grid has embarked on a project to convert commercial rubbish into a natural gas substitute using plasma technology.



In collaboration with Advanced Plasma Power (AAP) and Progressive Energy, the company aims to demonstrate the use of waste to produce bio-substitute natural gas (Bio-SNG) using a process called Gasplasma.

The three partners will work together to design, install and test the operation of a demonstration plant at AAP's Gasplasma facility in Swindon, UK.

The plant will take the waste derived and energy rich synthesis gas from the existing Gasplasma process, and convert it to meet the specification for injecting it into the gas network.

National Grid believes Bio-SNG could play a crucial role in the decarbonisation of heating and help reach the UK's binding carbon reduction targets. As part of its work on future energy scenarios, the organisation has forecast that renewable gas could be a vital part of the energy mix in the coming decades.

"This project is a great opportunity to look at the potential of Bio-SNG from both a technical and commercial perspective," said Marcus Stewart, Future Distribution Networks manager at National Grid. "The project underlines our commitment to seeking economic and innovative ways to decarbonise energy, while making the best use of the existing network."

It is estimated that renewable gas, of which Bio-SNG may be a major source, could account for as much as one fifth of the UK's heat requirement by 2050.



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Rolf Stein, chief executive of APP, said, "The development and implementation of a process to derive Bio-SNG from waste using our unique Gasplasma process has significant global implications for sustainable waste management and low carbon energy solutions. We look forward to demonstrating the process at our plant in Swindon."



# theENGINEER

## National Grid project will turn rubbish into gas substitute

29 February 2012 | By [Stephen Harris](#)



National Grid has announced a demonstration project to turn commercial rubbish into a natural gas substitute using plasma technology.

The scheme will be based at the Advanced Plasma Power (APP) Gasplasma plant in Swindon, where technology to produce a form of methane called bio-substitute natural gas (bio-SNG) will be added to an existing waste-to-energy plasma facility.

This attempt to find an alternative to declining UK fossil-fuel supplies that also reduces carbon emissions, could divert commercial waste from landfill or incinerators while producing recycled materials and fewer pollutants than similar processes.

The UK needs to develop a way to decarbonise its heat supply, as well as its electricity if it is to meet its 2050 emissions targets, said National Grid’s future distribution networks manager Marcus Stewart.

‘We see long-term use for gas as heating and if you can make that gas greener, then that helps us hit the targets,’ he told *The Engineer*.

‘Bio-SNG has the advantage of utilising a feedstock that is abundant in the UK — waste — and converts that into energy. So that does provide greater energy security than having to import energy from abroad.

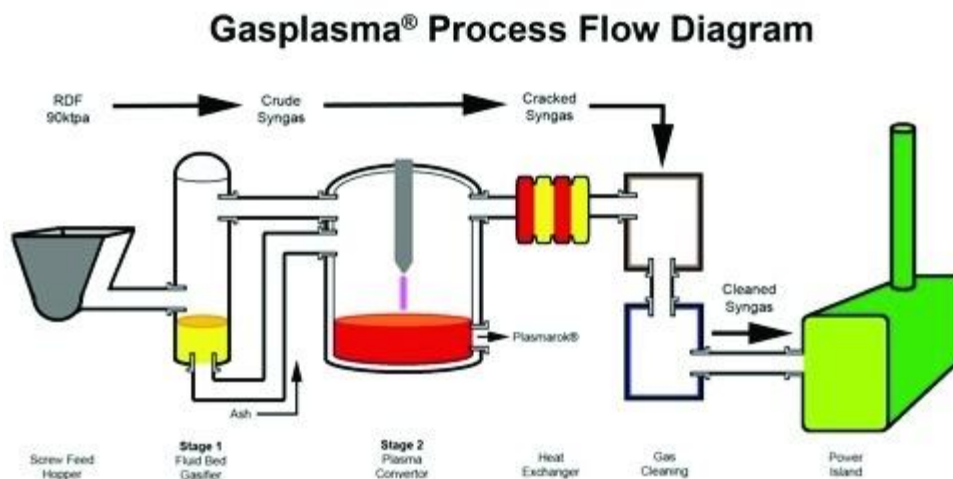
‘The other element is that we have good process engineering skills in the UK and we could develop the technology in the UK and export it abroad.’

Existing processes that produce energy from commercial and industrial waste tend to generate electricity by burning the waste to drive steam turbines or first converting it to a low-quality synthetic gas (syngas) that is then burnt.

These methods have relatively low energy efficiencies and produce large amounts of bottom-ash, as well as potentially harmful by-products such as heavy metals, which have to be disposed of.

An alternative is to use a plasma process, where bolts of electricity conducted through ionised gas (plasma) produce intense heat and UV light that break the waste down into constituent elements to form syngas, a mixture of carbon monoxide and hydrogen.

APP, using technology created by its sister company Tetronics, has combined a traditional gasifier with plasma equipment to produce a higher-quality syngas that can be burnt more efficiently in gas turbines or engines — or now converted into methane for the grid.



Source: [APP](#)



APP's process converts commercial waste into high-quality syngas, which can then be converted into methane.

'We started treating waste directly in a plasma vessel, but the parasitic loss was high and it was hard to control,' APP chief executive officer Rolf Stein told *The Engineer*.

'All gasifiers produce a pretty tarry syngas high in condensable tars, which if used in gas engines or turbines would foul them very quickly and couldn't conceivably be used in fuel cells or for bio-SNG manufacture.

'So we came up with a way of using the plasma to condition the gas by cracking all these long-chain molecules [to produce] a very clean, energy-rich syngas.'

The energy efficiency of the process depends on the fuel, but Stein said it could be more than 30 per cent — compared to more than 20 per cent for combustion processes — and burning clean syngas in engines or turbines has an efficiency of 40–50 per cent, compared to up to 25 per cent for steam turbines.

The company says a full-scale plant processing 150,000 tonnes of waste per year could provide electricity for around 15,000 homes and heat for 700 homes.

By diverting waste from landfill or incineration, the process effectively prevents more carbon dioxide from entering the atmosphere than it produces.

It also leaves about 15 per cent of the waste as a recyclable by-product, compared to 25 per cent leftover bottom-ash from combustion processes, and cuts harmful residues from gas cleaning from two per cent to 1.5 per cent.

National Grid has invested several hundred thousand pounds in the project as a way to stimulate the creation of an bio-SNG market, in the same way a bio-methane market has been seeded with organic waste processing plants.

'We're trying to demonstrate the scope of bio-SNG to market in the hope that others will develop the technology further to commercial scale,' said Stewart.

APP eventually plans to combine the system with gas-powered fuel cells for even more efficient on-site electricity production at waste management facilities.

'We are cheaper than incineration at comparable scale. Incinerators need to be larger to operate economically and that defeats the objective of the proximity principle both from a waste treatment and distributed energy/heat perspective,' said Stein.





## Recycling and Waste World

28 February 2012



# Project launched to demonstrate the use of waste to produce bio-substitute natural gas (Bio-SNG)

28 Feb 2012



The first project that demonstrates the use of waste to produce bio-substitute natural gas (Bio-SNG) has been announced by National Grid, Advanced Plasma Power and Progressive Energy.

The project, which uses waste as a feedstock to produce Bio-SNG, will be based at the Advanced Plasma Power Gasplasma facility in Swindon, UK.

It will aim to demonstrate the technical feasibility and commercial viability of the waste to Bio-SNG process and the three partners will work together to design, install and test the operation of a demonstration plant. The plant will take the waste-derived and energy rich synthesis gas from the existing Gasplasma process, and convert it to meet the specification for injecting it into the gas network.

Marcus Stewart, National Grid said: “This project is a great opportunity to look at the potential of Bio-SNG from both a technical and commercial perspective. The project underlines our commitment to seeking economic and innovative ways to decarbonise energy, while making the best use of the existing network.”

The three partners said it is estimated that renewable gas, of which Bio-SNG may be a major source, could account for as much as one fifth of the UK’s heat requirement by 2050.

Rolf Stein at Advanced Plasma Power, said: “The development and implementation of a process to derive Bio-SNG from waste using our Gasplasma process has significant global implications for sustainable waste management and low carbon energy solutions. We look forward to demonstrating the process on





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our plant in Swindon.” Phillip Cozens at Progressive Energy added: “This project is a significant step towards exploiting the capacity of the existing gas infrastructure and demonstrating the potential to deliver renewable heat at a cost that is competitive with other renewable heat options.

“The partnership has put together a strong project execution team to deliver a practical demonstration of Bio-SNG production from residual wastes. Successful demonstration would provide a blue-print for general deployment,” continued Cozens.



## Energy Efficiency News

28 February 2012



### National Grid and partners plan gas-from-waste plant in UK



National Grid, Advanced Plasma Power and Progressive Energy announced plans last week to develop a plant to transform waste into gas.

The facility at Advanced Plasma Power's existing Swindon site will use its Gasplasma® technology, in which a plasma gasification process turns waste into synthetic gas (bio-SNG). The bio-SNG will meet the necessary specifications so that it can be injected into the gas network.

The demonstration project, which the three partners will design and install together, aims to prove the technical feasibility and commercial viability of the technology.

According to National Grid, bio-SNG could provide up to 20% of the UK's heat requirements, while reducing carbon emissions and creating a sustainable waste management route.

"This project is a great opportunity to look at the potential of bio-SNG from both a technical and commercial perspective," says Marcus Stewart of National Grid.

For further information:

[www.nationalgrid.com/uk](http://www.nationalgrid.com/uk)

[www.advancedplasmapower.com/](http://www.advancedplasmapower.com/)

[www.progressive-energy.com/](http://www.progressive-energy.com/)



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Pakistan Renewable Energy Society

27 February 2012



## Project transforms waste into Bio-SNG

A project to deliver an end-to-end process for converting waste to Bio Substitute Natural Gas (Bio-SNG) using Gasplasma technology, has been initiated by National Grid, Advanced Plasma Power and Progressive Energy.

The Bio-SNG project will be based at the Advanced Plasma Power Gasplasma facility in Swindon, UK, where the technical feasibility and commercial viability of the waste to Bio-SNG process will be demonstrated.

The three partners will work together to design, install and test the operation of a demonstration plant.

The plant will take the waste-derived and energy rich synthesis gas from the existing Gasplasma process, and convert it to meet the specification for injecting it into the gas network.



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## SCM Waste to Energy

24 February 2012



### APP announce project for gas from waste

**ADVANCED PLASMA POWER** (APP), National Grid and also Progressive Energy have launched a project that will seek to deliver an end-to-end process for converting waste into bio-substitute natural gas using Gasplasma technology.

The project will be based at the Advanced Plasma Power Gasplasma facility in Swindon.

A plant will be built there that will take the waste-derived synthesis gas from the Gasplasma process and convert it to meet the specification for injecting it into the gas network.

The BIO-SNG gas as it is known, could help to decarbonise heating in the UK and help the UK to meet its binding carbon reduction targets.



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Renewable Energy Focus

23 February 2012



## Project transforms waste into Bio-SNG

23 February 2012

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*By Kari Williamson*

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The plant will take the waste-derived and energy rich synthesis gas from the existing Gasplasma process, and convert it to meet the specification for injecting it into the gas network.



Edie.net

23 February 2012



## National Grid, Advanced Plasma Power and Progressive Energy announce new project to transform waste into Bio Substitute Natural Gas

Project will deliver an end-to-end process for converting waste to Bio-SNG, using Gasplasma® technology

The first project that demonstrates the use of waste to produce bio-substitute natural gas (Bio-SNG) has today been announced by National Grid, Advanced Plasma Power and Progressive Energy.

The project, which uses waste as a feedstock to produce Bio-SNG, will be based at the Advanced Plasma Power Gasplasma® facility in Swindon, UK. It will demonstrate the technical feasibility and commercial viability of the waste to Bio-SNG process. The three partners will work together to design, install and test the operation of a demonstration plant.

The plant will take the waste-derived and energy rich synthesis gas from the existing Gasplasma® process, and convert it to meet the specification for injecting it into the gas network. Bio-SNG could play a crucial role in the decarbonisation of heating and help reach the UK's binding carbon reduction targets. As part of its work on future energy scenarios, National Grid has forecast that renewable gas could be a vital part of the energy mix in the coming decades.

Marcus Stewart, Future Distribution Networks Manager, National Grid said, "This project is a great opportunity to look at the potential of Bio-SNG from both a technical and commercial perspective. The project underlines our commitment to seeking economic and innovative ways to decarbonise energy, while making the best use of the existing network. "

It is estimated that renewable gas, of which Bio-SNG may be a major source, could account for as much as one fifth of the UK's heat requirement by 2050.

Rolf Stein, Chief Executive, Advanced Plasma Power said, "The development and implementation of a process to derive Bio-SNG from waste using our unique Gasplasma® process has significant global implications for sustainable waste management and low carbon energy solutions. We look forward to demonstrating the process on our plant in Swindon."

Phillip Cozens, Progressive Energy said, ""This project is a significant step towards greater resource efficiency in our economy, exploiting the capacity of the existing gas infrastructure and demonstrating the potential to deliver renewable heat at a cost that is competitive with other renewable heat options. The partnership has put together a strong project execution team to deliver a practical demonstration of Bio-SNG production from residual wastes. Successful demonstration would provide a blue-print for general deployment."



Environmental Expert

22 February 2012



## **National Grid, Advanced Plasma Power and Progressive Energy announce new project to transform waste into Bio Substitute Natural Gas**

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## Grid Injection from Plasma Gasification of Wastes



22 February 2012

A project that utilises plasma gasification to generate a bio-substitute natural gas (Bio-SNG) for direct injection into the national gas grid is under development by National Grid, Advanced Plasma Power (APP) and Progressive Energy.

According to APP the project is the first of its kind and will deliver an end-to-end process for converting waste to Bio-SNG, using its proprietary Gasplasma technology.

The company said that the project will be located at its Gasplasma facility in Swindon, and will demonstrate the technical feasibility and commercial viability of the waste to Bio-SNG process.

The waste feedstocks for APP's Swindon facility include municipal solid waste; refuse derived fuel from mined [landfill](#) wastes; and contaminated woods.

The three partners said that they will work together to design, install and test the operation of a demonstration plant.

APP, a plasma gasification specialist, said that that the plant will take the waste-derived and [energy](#) rich



synthesis gas from its existing Gasplasma process, and convert it to meet the specification for injection it into the gas network.

The National Grid said that large quantities of renewable gas are required to replace diminishing fossil gas supplies, but added that gas-fired power generation is very efficient and that the gas grid, storage, and power station infrastructure is already in place.

According to APP, Bio-SNG could play a significant role in the decarbonisation of heating and help reach the UK's binding carbon reduction targets.

The National Grid backed this up with estimates that Bio-SNG could deliver up to 20% of the UK's heat requirements while reducing carbon emissions and providing a sustainable waste management solution

Marcus Stewart, future distribution networks manager at National Grid commented: "This project is a great opportunity to look at the potential of Bio-SNG from both a technical and commercial perspective."

According to Stewart, the project offers the potential to provide an economic and way to decarbonise energy, while making the best use of the existing network.

Phillip Cozens, Progressive Energy, an independent UK based specialist in clean energy project development, added:

"This project is a significant step towards greater resource efficiency in our economy, exploiting the capacity of the existing gas infrastructure and demonstrating the potential to deliver renewable heat at a cost that is competitive with other renewable heat options."



4-traders.com

22 February 2012

## **National Grid plc: National Grid, Advanced Plasma Power and Progressive Energy announce new project to transform waste into Bio Substitute Natural Gas**

**Project will deliver an end-to-end process for converting waste to Bio-SNG, using Gasplasma® technology**

The first pilot project that demonstrates the use of waste to produce bio-substitute natural gas (Bio-SNG) has today been announced by National Grid, Advanced Plasma Power and Progressive Energy.

The project, which uses waste as a feedstock to produce Bio-SNG, will be based at the Advanced Plasma Power Gasplasma® facility in Swindon, UK. It will demonstrate the technical feasibility and commercial viability of the waste to Bio-SNG process. The three partners will work together to design, install and test the operation of a demonstration plant.

The plant will take the waste-derived and energy rich synthesis gas from the existing Gasplasma® process, and convert it to meet the specification for injecting it into the gas network. Bio-SNG could play a crucial role in the decarbonisation of heating and help reach the UK's binding carbon reduction targets. As part of its work on future energy scenarios, National Grid has forecast that renewable gas could be a vital part of the energy mix in the coming decades.

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## New Energy World Network

22 February 2012



### National Grid leads group to develop waste-to-biogas system



The UK's [National Grid](#) alongside [Advanced Plasma Power \(APP\)](#) and [Progressive Energy](#) have launched a project to transform waste into a substitute natural gas (SNG).

It will be based at the APP's gasplasma facility in Swindon and will be used to demonstrate the technical feasibility and commercial viability of the technology.

The plant will take the waste-derived synthesis gas from the existing gasplasma process and convert it to the specification required for the gas network.

Marcus Stewart, future distribution networks manager at National Grid, said, 'This project is a great opportunity to look at the potential of Bio-SNG from both a technical and commercial perspective. The project underlines our commitment to seeking economic and innovative ways to decarbonise energy, while making the best use of the existing network.'

Rolf Stein, CEO of APP, added, 'The development and implementation of a process to derive Bio-SNG from waste using our unique gasplasma process has significant global implications for sustainable waste management and low carbon energy solutions. We look forward to demonstrating the process on our plant in Swindon.'



## Autocad Magazin

13th February 2012



### Autodesk auf dem Ecosummit 2012

**Am 22. und 23. März findet in Berlin der Ecosummit 2012 (ECO12) statt. Autodesk präsentiert auf der internationalen Konferenz für Smart Green Business, die bereits zum dritten Mal stattfindet, sein Clean-Tech-Partner-Programm.**

Der Softwareanbieter sieht sich in der Verantwortung, junge Unternehmen bei der Entwicklung sauberer Energien zu unterstützen und gibt ihnen mithilfe von Softwarelösungen die Chance, ihre Innovationskraft zu erhöhen und die Zeit bis zur Marktreife zu verkürzen. Auf dem ECO12 geht es um Clean Tech, erneuerbare Energien, Elektromobilität, Smart Green City, Start-up-Finanzierung und Nachhaltigkeitsmanagement. Erstmals wird im Zuge der Konferenz der neue Ecosummit Award vergeben, der die besten intelligenten grünen Unternehmen in Europa auszeichnet.

Erwin Burth, Business Development Manager CleanTech bei Autodesk, wird auf dem ECO12 über das Nachhaltigkeitsengagement von Autodesk und das Clean-Tech-Partner-Programm sprechen. „Der Ecosummit vernetzt nicht nur die in der Clean-Tech-Branche aktiven Unternehmen und Organisationen, er treibt auch die Entwicklung voran, Nachhaltigkeit als Basisstrategie in Unternehmen zu verankern“, erklärt Erwin Burth. „Autodesk nutzt auf dem Ecosummit die Chance des Austausches und möchte junge Unternehmen über das Programm und seine Vorteile aufklären.“

Autodesk unterstützt Start-up-Unternehmen aus der Fertigungs- und Maschinenbauindustrie, die sich im Bereich der sauberen Energien, Energieeffizienz, Elektromobilität oder auch Recycling engagieren. Das weltweit führende Unternehmen für 2D- und 3D-Konstruktions-, Planungs- und Entertainmentsoftware bietet Existenzgründern in diesem Bereich für 50 Euro Digital Prototyping-Lösungen im Wert von 120.000 Euro. Mithilfe der Autodesk-Lösungen können die jungen Clean-Tech-Unternehmen ihre Ideen digital entwerfen, visualisieren und simulieren, noch bevor diese realisiert werden.

Unter den bisher 43 bestätigten Sprechern des ECO12 befinden sich mit Heliatek, SolarFuel und Advanced Plasma Power (APP) drei Autodesk-Clean-Tech-Partner. Außerdem ist das Unternehmen APP, das mit seiner patentierten Gasplasma-Technologie saubere Energie aus Abfällen gewinnt, für den ECO12 Award nominiert. „Die Zukunft liegt im Bereich alternativer Energielösungen“, erklärt Erwin Burth. „Wir sind stolz darauf, dass sich dank unserer Unterstützung bereits viele gute Ideen am Markt durchsetzen konnten.“ Weitere Informationen gibt es unter <http://ecosummit.net>





RSA Accreditation.org

11<sup>th</sup> February 2012



## The Rushlight Awards Celebrate 2011 Winners

The Rushlight Awards 2011 were celebrated at a Gala Dinner at Church House Westminster, London on Wednesday 1 February 2012. It was a superb event where the large number of CEOs, directors and technology heads of leading clean technology companies in the UK and Ireland

gathered to see who would win the coveted Rushlight Awards, joined by their advisers and investors. Guest speaker at the event was Baroness Worthington, the Labour Peer, who addressed the guests in a most personable manner about her current activities, including her patronage of the Weinberg Foundation which promotes the development of thorium and involvement in GLOBE International which encourages the development of environmental legislation across the world.



### **The winners of the awards were as follows:**

#### *Overall*

The Rushlight Award : Onzo Ltd

#### *Group categories*

Rushlight Natural Energy Award : Artemis Intelligent Power Ltd

Rushlight Clean Energy Award : Nexeon Ltd

Rushlight Energy Environmental Award: joint winners : Highview Power Storage

Rushlight Energy Environmental Award: joint winners : Ocean Resource Ltd

Rushlight Resource Innovation Award : Nextek Limited

Rushlight Environmental Management Award : Advanced Plasma Power

#### *Direct entry categories*

Rushlight Solar Award : Eight19 Ltd



Rushlight Ground & Air Source Power Award : Daikin Europe NV  
Rushlight Wind Power Award : Artemis Intelligent Power Ltd  
Rushlight Powered Transport Award : Nexeon Ltd  
Rushlight Hydrogen and Fuel Cells Award: ITM Power  
Rushlight Power Gen & Transmission Award: Highview Power Storage  
Rushlight Fossil Fuels Award: Ocean Resource Ltd  
Rushlight Energy Reduction Award: Onzo Ltd  
Rushlight Organic Resource Award: Zebec Biogas Ltd  
Rushlight Resource Recycling Award: Nextek Limited  
Rushlight Waste to Energy Award: SCFI Group  
Rushlight Clean Environment Award: Advanced Plasma Power  
Rushlight Responsible Product or Service Award: Pacific Atlantic Ltd  
Rushlight Sustainable Manufacturing & Services Award: Econovate Limited  
Rushlight Environmental Analysis & Metrology Award: AMEE

In addition to these, the following entrants were commended for their entries to their relevant categories:

SolaPlug (Solar)  
Kingspan Renewables (Ground and Air Source Heat Pumps)  
Mitsubishi Electric (Ground and Air Source Heat Pumps)  
Controlled Power Technologies (Powered Transport)  
AFC Energy plc (Hydrogen & Fuel Cells and Clean Energy Group Awards)  
Bowman Power (Power Generation & Transmission)  
V Phase (Energy Reduction and Energy Environmental Group Awards)  
C-Tech Innovation (Energy Reduction)  
Bluewater Bio (Energy Reduction)  
Onzo Ltd (Energy Environmental Group Award)  
SCFI Group (Resource Innovation Group Award)  
Econovate Limited (Environmental Management Group Award)

As well as winning the coveted Rushlight Award and having first choice of the in-kind prizes, Onzo Ltd received a 3 minute film created by Green TV on their company and key product which was shown on the night and can be seen [here](#).

The event was filmed and is planned to be streamed courtesy of Icon Presentations in the near future.

With a substantial in-kind prize system, the event was made even more exciting for the participants



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and we are most grateful for the generous prizes that have been put forward, totalling in market value terms well in excess of £500,000. The prize givers were a range of advisers, service providers and products that are of specific relevance to either early stage companies or later stage cleantech companies.



## Environmental Expert (online)

4<sup>th</sup> February 2012



Advanced Plasma Power (APP), the leading UK based advanced conversion waste-to-energy technology company, today announces that it has been recognised by the Rushlight Awards, the well respected clean-tech industry awards which celebrate the very best technologies and innovation in the environmental sector.

The company received two accolades at last week's awards ceremony; the [Environmental Management](#) Award and the Clean Environment Award.

The Environmental Management Award, one of the few coveted 'Judge's Prizes', voted for by a panel of highly respected figures from academia, politics and the energy sector, was awarded to APP from a shortlist of other award winners. The award recognises the technology that has done the most to reduce the [environmental impact](#) of a product or service. APP's innovative Gasplasma® process turns refuse derived fuel into clean [syngas](#) and a solid, vitrified product, leaving no waste residues.

Advanced Plasma Power, who are based in Swindon, also took home the Clean Environment Award. This award recognises the technological development that has done the most to combat environmental contamination. APP were recognised for their contribution to the world's first enhanced landfill mining project, which will process some 16 million tonnes of landfilled waste and return the landfill site to its natural state.

The Rushlight Awards celebrate and promote the very best of new technology, innovation and practice across the environmental sector. The awards were presented at a ceremony held on Wednesday night in London. The event was attended by a cross section of the great and the good from the environmental and [green energy](#) sector, including CEOs, investors and representatives from the UK's leading clean technology companies.

Rolf Stein, CEO of Advanced Plasma Power, who attended the event, commented;

"It is an honour to receive these awards, voted for by our peers in the clean-tech sector. We are especially delighted to have been singled out by the judges to receive the [Environmental Management](#) Award for our Gasplasma® technology. Sustainable [waste management](#) is a growing challenge across the world, but waste is too often neglected as a material and energy resource. The Rushlight Awards bring recognition to our innovative, flexible and efficient approach to waste-to-energy, and the important role Advanced Plasma Power can play in realising a sustainable zero-waste future."



## Institute of Water (online)

3<sup>rd</sup> February 2012

# Institute of Water

## RUSHLIGHT AWARDS 2011/12

Eventure Media presented the 5th Rushlight Awards 2011 at a sumptuous Gala Dinner last night at the Assembly Hall at Church House Westminster, London. Attended by companies and organizations that are leading the way in clean technology, investors, city advisers, specialist and general media, trade associations and government departments, the dinner followed, for the third year, the very successful Rushlight Clean Technologies Show which took place at Central Hall Westminster, just across the road.

The key note speech at the dinner was given by Baroness Worthington, the Labour peer, climate campaigner and patron of the Weinberg Foundation.

Baroness Worthington said: "I like to quote Alan Kay – the man credited with the invention of the personal computer – he said 'the best way to predict the future is to invent it'. And that is why everyone in this room is here tonight – you are all involved in inventing the future. And your future is one where your new sprockets and valves are making a real impact on reducing our dependency on fossil fuels and reducing greenhouse gases."

The overall winner was Onzo Ltd who have developed a suite of innovative appliance detection algorithms which disaggregate household electricity consumption from a single source of electricity data into individual appliance consumption. The data source can be a clip-on sensor, such as the one in Onzo's Smart Energy Kit, or a smart meter

The judges commented: "Onzo has developed an intuitive product that creates valuable energy savings for its growing user base. The simplicity and reach of Onzo's offering led the judges to select the company as the 2011 Rushlight Award winner."

The group category winners were:

1. Artemis Intelligent Power for their ultra-efficient Artemis Digital Displacement® hydraulic transmission system which has been scaled up to replace the problematic gearbox and power electronics used in conventional wind turbine drivelines. It provides a compact and robust power transmission with variable speed, grid fault resilience, low weight, modular design and much higher efficiencies than previously achieved with hydrostatic transmissions;
2. Nexeon Ltd have effectively addressed the life cycle issues associated with silicon used for anode coatings, thereby enabling silicon's strong affinity for lithium to be exploited in lithium ion batteries. This enables batteries to have greater power storage and to be smaller and lighter, thereby, inter alia, improving the performance of electric vehicles significantly;
3. Highview Power Storage who have developed and deployed the world's first Cryogenic Energy Storage system using a novel system design and development of 'asymmetric' cold recycle and storage. The system can be scaled to 100MWs/GWhs of storage and it can harness low grade waste heat (sub 100°C) from industrial processes converting it to additional electricity. All the components are available from mature supply chains;
4. Ocean Resource Ltd for their carbon capture and storage and oil recovery enhancement solution which combines an autonomous high stability buoyant structure moored to an integrated gravity base and fluid riser, seabed injection wells, and a 45,000 tonne capacity liquid CO<sub>2</sub> storage facility with an insulated loading system to enable liquid CO<sub>2</sub> to be injected into a subsea reservoir to sequester the CO<sub>2</sub> and/or to facilitate enhanced



oil recovery or methane release for energy production;

5. Nextek Ltd who have developed and deployed the first closed loop process for food-grade post-consumer recycled propylene packaging. The technology uses a novel process to decontaminate the polypropylene involving a high temperature melt and a solid low temperature decontamination so that food-grade standards can be achieved, thereby enabling virgin polypropylene to be displaced.

6. Advanced Plasma Power who have developed a unique two-stage gasification technology, Gasplasma, which enables the clean, efficient and sustainable conversion of waste-to-energy. The two well-proven technologies convert non-recyclable waste into a clean hydrogen-rich syngas and an inert vitrified product which can be used as a building material. This process is being used on the world's first enhanced landfill mining project in the world.

The complete list of winners is set out below and the winners and the commended entries, together with a description of their technology and innovations, are set out in the roll of honour at [www.rushlightawards.co.uk](http://www.rushlightawards.co.uk).

## **Overall**

### **The Rushlight Award Onzo Ltd**

#### **Group categories**

Rushlight Natural Energy Award Artemis Intelligent Power Ltd

Rushlight Clean Energy Award Nexeon Ltd

Rushlight Energy Environmental Award – joint winners Highview Power Storage Ocean Resource Ltd

Rushlight Resource Innovation Award Nextek Limited

Rushlight Environmental Management Award Advanced Plasma Power

#### **Direct entry categories**

Rushlight Solar Award Eight19 Ltd

Rushlight Ground & Air Source Power Award Daikin Europe NV

Rushlight Wind Power Award Artemis Intelligent Power Ltd

Rushlight Powered Transport Award Nexeon Ltd

Rushlight Hydrogen and Fuel Cells Award ITM Power

Rushlight Power Gen & Transmission Award Highview Power Storage

Rushlight Fossil Fuels Award Ocean Resource Ltd

Rushlight Energy Reduction Award Onzo Ltd

Rushlight Organic Resource Award Zebec Biogas Ltd

Rushlight Resource Recycling Award Nextek Limited

Rushlight Waste to Energy Award SCFI Group

Rushlight Clean Environment Award Advanced Plasma Power

Rushlight Responsible Product or Service Award Pacific Atlantic Ltd

Rushlight Sustainable Manufacturing & Services Award Econovate Limited

Rushlight Environmental Analysis & Metrology Award AMEE



## Innovate UK

3<sup>rd</sup> February 2012

# Open Innovation

## Innovative cleantech gets recognised at Rushlight Awards

By: Tessa Darley February 3, 2012 5:21 PM

The [Rushlight Awards](#) showcase innovative cleantech for the future. Read on to find out about who featured in this year's competition.

**Artemis Intelligent Power** for their ultra-efficient Artemis Digital Displacement<sup>®</sup> hydraulic transmission system which has been scaled up to replace the problematic gearbox and power electronics used in conventional wind turbine drivelines. It provides a compact and robust power transmission with variable speed, grid fault resilience, low weight, modular design and much higher efficiencies than previously achieved with hydrostatic transmissions;

**Nexeon Ltd** have effectively addressed the life cycle issues associated with silicon used for anode coatings, thereby enabling silicon's strong affinity for lithium to be exploited in lithium ion batteries. This enables batteries to have greater power storage and to be smaller and lighter, thereby, inter alia, improving the performance of electric vehicles significantly;

**Highview Power Storage** who have developed and deployed the world's first Cryogenic Energy Storage system using a novel system design and development of 'asymmetric' cold recycle and storage. The system can be scaled to 100MWs/GWhs of storage and it can harness low grade waste heat (sub 100°C) from industrial processes converting it to additional electricity. All the components are available from mature supply chains;

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**Advanced Plasma Power** who have developed a unique two-stage gasification technology, Gasplasma, which enables the clean, efficient and sustainable conversion of waste-to-energy. The two well-proven technologies convert non-recyclable waste into a clean hydrogen-rich syngas and an inert vitrified product which can be used as a building material. This process is being used on the world's first enhanced landfill mining project in the world.





The Communication Group plc



### *Over all winner*

The over all winner was [Onzo Ltd](#) who have developed a suite of innovative appliance detection algorithms which disaggregate household electricity consumption from a single source of electricity data into individual appliance consumption. The data source can be a clip-on sensor, such as the one in Onzo's Smart Energy Kit, or a smart meter.

### *Rushlight Awards*

Now in their 5th year, the RSA-accredited Rushlight Awards are a celebration and a promotion of new technology, innovation and best practice across the whole environment spectrum for organisations throughout UK and Ireland. Designed to highlight innovation and the holistic environmental benefit of technologies that are most likely to or are already creating a stir in the market, they are a means of disseminating the successes to support further development. The group and overall winners will be eligible to be considered to represent the UK in the European Business Awards for the Environment 2014

Het Belang van Limburg

31st January 2012

DERTIG PARTNERS UIT TIEN LANDEN DIENEN ONDERZOEKSPROJECT IN



Op Remo ligt 16 miljoen ton afval. Dat wil men weer opgraven.  
Foto: Toop VAN GALLEN

# Europese studie in de maak over ontginning Remostort

**LEUVEN/HOUTHALEN-HELCHTEREN**

De kans is groot dat de geplande ontginning van de Remostortplaats in Helchteren model gaat staan voor heel Europa. De KU Leuven heeft een Europees onderzoeksproject ingediend waaraan partners uit tien landen deelnemen. Het onderzoek, dat vier jaar duurt, moet Europese wetgeving en steunmaatregelen voorbereiden.

"Limburg zit aan de top van Europa. Heel Europa kijkt naar ons", zegt onderzoeker Tom Jones van de KU Leuven. Industrieel ecoloog Jones is voorzitter van het Vlaams onderzoekconsortium voor 'Enhanced Landfill Mining', het ontginnen van oude stortplaatsen. Dat onderzoek, gesteund door Group Maclieckx en het IWT, het agent-

schap voor Innovatie, Wetenschap en Technologie, kost zes miljoen euro en loopt nog tot 2013. Het is de bedoeling om het onderzoek vanaf 2013 op Europese schaal te voeren, met een dertigtal partners uit tien landen. "De KU Leuven is coördinator en de VITO, UHasselt, Group Maclieckx zijn partners in Vlaanderen. Daarnaast zijn er

ondermeer partners uit Nederland, Groot-Brittannië, Polen, Italië en Spanje", zegt Jones.

**Besparing**

Het totale onderzoeksbudget bedraagt 8,5 miljoen euro. De eerste 'half was positief, in februari wordt het project voor de tweede definitieve fase ingediend. "We hebben in de eerste ronde een panel met Europese topexperts kunnen overtuigen", zegt Jones. Dat is gebeurd met duizelingwekkende cijfers, want Europa tek 150.000 tot 500.000 stortplaatsen. Als die met de 'Remotechnologie' opgeruimd kunnen worden, zou dat een onmiddig grote besparing zijn. Jones maakt gewag van een miljard euro, dat is een miljard keer een miljard. Al de grondstoffen die weer hergebruikt worden, zouden voldoende

zijn voor de materialenconsumptie van alle EU-landen voor een periode van vijftig jaar. "Er kan ook veel landoppervlakte herwonnen worden en er is een groot potentieel om CO<sub>2</sub>-uitstoot te verminderen. Alleen al bij Remo gaat het om 1 miljoen ton CO<sub>2</sub> over een periode van twintig jaar."

**Techniek**

Volgens onderzoeker Tom Jones werkt de plasmatechniek prima en is die milieuvriendelijk. "Op vlak van energieproductie haalt men zeker zo goede rendementen als de Massieke verbranding en we zijn er zeker van dat die rendementen nog zullen verbeteren. De 'plasmaark', het slakachtig materiaal dat overblijft, kan als cementvervanger en binder zijn in de betonindustrie. Technisch-wetenschappelijk zijn

er geen grote problemen." Op vraag van de 'locals', de mensen van Houthalen-Helchteren, worden ook de gezondheidsaspecten onderzocht in het Europees project. De economische haalbaarheid van het project, valt of staat met subsidie van de overheid. "Als je de voor- en nadelen afweegt, krijg je milieuoconomisch duidelijk een positieve balans", zegt Jones. "Je wint land en natuur terug, je produceert secundaire grondstoffen, energie en je vermijdt op langere termijn verontreiniging van bodem en grondwater. Gezien de grote investeringen, meer dan 200 miljoen euro, zijn 'incentives' nodig om dergelijke activiteiten te laten gebeuren. We moeten alleen niet te lang blijven wachten, want ook in andere continenten staat men klaar om te beginnen." Guy THUMIS