

Press release

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## **Successful test with innovative renewable energy source at Amer power plant**

Den Bosch – A consortium consisting of Topell Energy, three electricity companies (Essent, Nuon and GDF SUEZ) and ECN has successfully completed a large scale co-firing test with an innovative renewable energy source at the Amer power plant in Geertruidenberg. With the test, the consortium proves an innovative technology to produce renewable energy with 'biopellets' from biomass. The co-firing test was conducted under the 'Top consortium for Knowledge and Innovation Bio-based Economy' (TKI BBE) initiative.

### **Efficient and sustainable use of biomass**

Nikolaus Valerius, head of the Dutch Essent power plants, explains the importance of the successful test: "Biomass is an important cost efficient and available pillar of the future renewable energy supply. We find it important to make efficient use of this renewable energy source. Therefore, we tested the 'torrefaction' technology at the Amer power plant, where we have been producing Green Electricity with sustainable biomass for over 10 years. In the test, we efficiently dried biomass and converted it into light, dry and very energy-dense 'biopellets'. The successful large scale co-firing of the biopellets is an important step in our contribution to a renewable energy supply where green materials are most efficiently and sustainably used.'

### **Alternative to conventional wood pellets**

In the trial, a total of 2,300 tons of 'biopellets' have been successfully transported, handled, co-milled and co-fired to produce green electricity. Rob Voncken, CEO of Topell Energy comments on the process: "The co-firing test took place in percentages ranging between 5% and 25% (on one mill) between 1st November and 30th December 2013 at the Amer power plant. No adverse effect on milling and burning was detected in any of the tests. The trial therefore confirms that high quality 'biopellets' can be produced and co-fired at large commercial scale. Together with its high energy content and density, this confirmation makes torrefied biomass a potential better alternative to conventional wood pellets to substitute fossil fuels.'

### **Bio-based chemicals and materials**

Kees de Gooijer, director of the TKI BBE programme, says: "I am very pleased with the positive outcome of the co-firing trial. They constitute a convincing proof that torrefied biomass can contribute meaningfully to the Energy Agreement targets of the Dutch government - 25 PJ of electricity generated from biomass by 2020 - aimed at promoting green electricity and at phasing out fossil fuels. We also view this torrefaction technology as an important enabling technology for the future production of bio-based chemicals and materials".

### **Next step**

After this successful trial, some of the parties involved in the TKI BBE programme are now discussing the next steps to mobilise larger quantities of torrefied pellets for the production of green electricity, in view of the requisites of the Dutch Energy Agreement which will come into force in 2015.

### **About Essent**

Essent is the largest producer of (renewable) energy in The Netherlands and delivers electricity, gas and heat to private and business customers. The company regards the Netherlands and Belgium as its home market. The total production capacity of Essent/RWE in The Netherlands is 4,500 MW, about 1.600 MW is currently under construction. In 2012, Essent was accounted for more than a fifth of all sustainably produced electricity in the Netherlands. The company employs 3,500 people (FTE). More information is available at [www.essent.eu](http://www.essent.eu), [www.flickr.com/essentnl](http://www.flickr.com/essentnl) and [www.twitter.com/essentnieuws](http://www.twitter.com/essentnieuws)

Essent is a part of the international RWE Group. With about EUR 53.2 billion in revenue in 2012 and 70,000 employees, RWE is a leading European supplier of electricity and gas. In Europe, RWE supplies electricity and gas to more than 24 million customers. This positions RWE amongst the top five of European energy companies.

### **About Topell Energy**

Topell Energy is a Dutch clean technology company. Topell Energy has developed a cutting edge process for the production of high value solid bio-fuel from woody biomass. This process is known as torrefaction and the solid bio-fuel is usually referred to as torrefied biomass, black pellets, or biocoal.

Torrefaction of biomass results in ability to use lower quality feedstock, reduced logistics costs as well as lower capex at the power plant for handling bio-fuel. Torrefaction is instrumental in unlocking the potential of biomass for energy production.

Besides this, torrefaction also creates the opportunity to accelerate the use of biomass as feedstock for large scale gasification to produce bio-based chemicals and materials.

Topell Energy operates a commercial scale demonstration plant in Duiven, The Netherlands. The company is preparing the worldwide roll-out of its torrefaction technology by licensing its technology to bio-fuel producers.

### **About TKI BBE**

The Dutch government has identified nine 'top sectors' in which national companies have a worldwide lead. The chemicals and energy sectors are two of them. The Top consortium for Knowledge and Innovation Bio-based Economy (TKI BBE) is an agency which coordinates the cross-sector programme to realize the Dutch bio-based economy.

The Dutch government is channelling funds through the TKI BBE to support projects which contribute to the green production of heat and power. The large scale co-firing test referred to above is part of a programme conducted by a consortium which obtained subsidies from TKI BBE over the course of 2013. Aside from the parties mentioned in this press release, the consortium also includes the Universiteit Twente, TU Delft, Torrocoal and Biolake.

### **About Nuon**

Nuon is an energy company whose 4.800 employees serve 2.1 million consumers, businesses and organisations in the Netherlands. Its key commitment is to supply energy that is reliable, affordable and as clean as possible. Nuon produces and supplies gas, electricity, energy-related products, heat and natural cooling and helps customers to reduce their energy use. The company is part of Vattenfall.

### **About GDF SUEZ**

GDF SUEZ develops its businesses (power, natural gas, energy services) around a model based on responsible growth to take up today's major energy and environmental challenges: meeting energy needs, ensuring the security of supply, fighting against climate change and maximizing the use of resources. The Group provides highly efficient and innovative solutions to individuals, cities and businesses by relying on diversified gas-supply sources, flexible and low-emission power generation as well as unique expertise in four key sectors: independent power production, liquefied natural gas, renewable energy and energy efficiency services. GDF SUEZ employs 138,200 people worldwide and achieved revenues of €82 billion in 2012.

**About ECN**

Energy research Centre of the Netherlands (ECN) is the largest energy research institute in the Netherlands and develops knowledge and technology that enable a transition to a sustainable energy system. Countries and their economies develop and grow. To meet the future energy needs, the global energy system needs to become more sustainable. ECN's groundbreaking renewable energy technologies and knowledge offer businesses and governments economic opportunities and innovative distinctiveness. ECN plays a leading role in energy R&D and policy advice and has gained a strong reputation worldwide in the fields of solar and wind energy, bio-energy, energy efficiency, environmental research and policy studies. In the field of bio-energy, ECN is developing thermochemical conversion technology and providing R&D services for the implementation of a bio-based economy. Employing around 500 professionals and having multiple branches in Europe and Asia, ECN works on sustainability every day.