A Bright Green Future?

By Mike Edmund

The raw material for a heating revolution?

Jens Dall Bentzen is an inventor, a businessman and a person with a vision. This might fit the description of most successful inventors of course, but when EEI caught up with Mr Bentzen recently, he told us that more than anything, he considers himself an engineer. “It’s a particular way of thinking”, he said: “looking at an existing system, analysing its problems and trying to solve them; it’s all about how to make things better ”.

Mr Bentzen founded Dall Energy in 2007. And this young company has an ambitious vision, too: to develop and provide new and improved energy technologies to the global market. It focuses on inventing new and improved ways of generating green energy from biomass, and providing innovative solutions for biomass-based energy plants. And as well as their biomass heating systems, the company is also building something of a reputation. Their innovative designs have won them several awards, including the Innovation Award 2010 at the 2010 Valladolid Expobioenergía in Spain. Meanwhile, Mr Bentzen himself was awarded the prestigious European Inventor Award, Europe’s highest distinction for inventors, at a ceremony hosted by the European Patent Office last year.

The story began when Dall Energy identified the lack of innovation in medium-sized biomass technology,

Photo: European Patent Organisation.

Jens Dall Bentzen is congratulated on receiving The European Inventor Award 2011

with consequent significant market potential in this sector. *(Typically, this would involve biomass furnace systems with outputs in the 15MW range, suitable for district heating programmes – Editor)*. They set about designing a brand-new biomass-to-energy system. The results are impressive: improvements in fuel flexibility, maintenance costs and impact on the environment. For example, the innovative design also means that the furnace can burn biomass with a moisture content as high as 60%, so kitchen waste, garden waste, indeed almost anything that nature provides can be used to provide heat. And not only does his system produce as much as 30% more useful heat than existing technology, but as much as 20-30% of the total energy requirements in many countries can realistically be derived from this resource according to Mr Bentzen.

With support from the Danish R&D programme (EUDP), the initial concept was proved, and the technology developed and verified at a 2MW pilot plant: the next step was a full-scale unit. According to Mr. Bentzen, the furnace design can be scaled to provide a wide range of outputs, and an 8MW unit was selected by the town of Bogense to provide the power for its district heating project. So Bogense's heating is now carbon neutral, and EEI asked Mr Bentzen if the 6,000 people who live there know how they get their hot water. He replied that there might have been a little flurry of interest when the project started up, but now people turn on their hot water and it's there. Biomass-powered hot water has become just a part of everyday life, which pretty much sums up Jens Dall Bentzen's approach: "Replacing use of fossil fuels for producing steam and hot water, is the main vision of Dall Energy, so we are glad that the first projects we are doing are "fuel-switch projects". We hope that our innovations can contribute to less emissions, a better environment and more jobs in the future. Within, and also outside Europe".

This is a surely bright vision of the future. And it is green.