



Interview to **Herbert Tretter**, coordinator of the EU-funded **Bioenergy4Business Project**

Could you explain in few words what the Bioenergy4Business project is about? Which countries are involved in this EU-funded project and why have they been selected?

Bioenergy4Business (B4B) is a Horizon 2020 project trying to address the key societal challenge of providing secure, clean and efficient energy for Europe. More precisely, the project aims at facilitating the use of locally available solid biofuels for heat purposes instead of fossil fuels. Focusing only on heat was a deliberate choice, as bioheat is the most efficient and viable biomass utilisation in both private and public sectors.

B4B has an original approach in terms of its geographical scope: it targets both countries that are already advanced in the use of biomass for heating, like Finland, Denmark, The Netherlands, Germany and Austria, and less advanced ones.

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The objective is to have advanced partner countries transferring their know-how and experiences to "bioheat transition countries" such as Poland, the Slovak Republic, Croatia, and Greece and to less advanced countries like Romania, Bulgaria and Ukraine. In addition to this, we proposed the European Biomass Association (AEBIOM) to join the consortium in order to open up the project's outreach beyond

the partner countries.

In short, B4B gathers 11 partner countries willing to convince key stakeholders to make a switch from fossil fuel to bioenergy, with Denmark and Belgium contributing with their experience and contacts in the sector.

Where does the idea of Bioenergy4Business project come from? Which concerns does it try to address?

The B4B project idea actually comes from two simple observations. First, solid biomass, like by-products from wood-based industries (forest wood chips, pellets and straw) has proven to be a cheap, reliable and readily available fuel option. In some countries, solid biomass utilisation therefore has reached a very high degree of market penetration, e.g. biomass district heating in Austria. However, less advanced countries often have heat markets dominated by fossil fuels even though good potential for sustainable solid biofuels exists. This potential is often far from being fully exploited and sometimes even completely untapped. Thanks to AEA experience, we know that to stimulate a change mechanism, favorable conditions should be met and key stakeholders should be educated first. One of the key objectives of B4B is also to raise both policy and business actors' awareness and create an interest for bioheat within a core market segment, that of mid-scale installations.



What are the advantages/benefits of using biomass for mid-scale installations?

Do you have a good example of a successful switch to bioheat in mind?

Solid biomass heating systems are particularly attractive for installations with both high and constant heat demand. Medium- and large-scale biomass boilers have lower specific investment costs than smaller ones, which decline even more at installations with high operating hours. This is why European businesses and larger public, commercial and residential buildings are interesting markets for solid biomass – and statistics show that fossil fuels still dominate heat production in these areas.

A first good example that comes to my mind regarding a successful switch to biomass is an in-house pellet boiler application, the case of Elhitsa kindergarten in Chepelare (Bulgaria). Before the realisation of their bioheat project, heating was supplied exclusively by a heavy oil-fueled boiler located in the ground floor. Due to its high energy costs, the kindergarten managing team was looking for good and efficient solutions to improve energy efficiency and fuel costs. In 2008, a modern pellet boiler system (230 kW, situated in a 20-feet metal container, fully equipped with the pellet storage and hydraulic and electric system) was installed. The new pellet system showed a pay-back time of 2.2 years, achieved by the fuel switch and insulation of hot water distribution pipes. This project shows that municipal buildings all over Europe have significant potential for energy savings and for the implementation of bioheat units.



Elhitsa kindergarten in Chepelare (Bulgaria)

Source: <http://joomla.res-league.eu/>

Another area Bioenergy4Business addresses is biomass district heating. How attractive is solid biomass for district heating?

The most viable option in the district heating sector – often fossil-fueled like in Eastern European countries – is a fuel switch to biofuels, as such investments do not involve costs for new heating grid installations. New biomass boilers delivering base load can operate very efficiently and economically in this case.

New district heating systems involve very high investment costs for piping. Bioheat projects with high and constant heat demand and short distribution grid lengths are the most promising ones in my opinion. Such projects do not have to be particularly large-scale to be successful.

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Large-scale new “public infrastructure projects” with less attractive heat to grid length ratios in general do not have such good pay-back times as the options highlighted before. If potential district heating operators look beyond business figures, they will find the biomass option a worthwhile community level option as well. A positive perception of such infrastructure investment projects by end consumers and the local community is a necessary success factor. Project developers should clearly open the dialogue by stating the real advantages of biomass compared to fossil fuels. First, the money spent for heating bills stays in the region and generates local value added and jobs. Secondly, climate change is mitigated by using nearly zero emission biofuels (due to short transport distances) and finally revenues from biofuel supply can cover costs for a proper maintenance of forests, enabling an increased value of wood stock (better round-wood qualities and quantities are achieved).

Thanks to such concerted approaches, Austria, for example, has developed more than 1,100 biomass district heating projects over 1 MW during the last 30 years (2,100 in total).

B4B has already identified specific market segments that could be more eager/adapt to switch to bioheat – could you tell us more?

Indeed, one of the first project tasks was to identify the most promising national heat market segments in light of a possible bioenergy switch. For this purpose, domestic biomass boiler manufacturers or importers, planning engineers and project developers were interviewed to gather their knowledge of national heat markets. The interview results were supplemented with statistics on the fossil fuel use in these market segments, and the corresponding market structure. The market segments which were most frequently identified as promising are public buildings, wood-based industries, hotel industries as well as agriculture and forestry. Other identified target markets are existing and new district heating systems, hospitals and nursing homes, commercial buildings, food and fodder industry and multi-storey buildings. The activities of the B4B project will now focus on these national target markets.

Which steps and aspects should a business owner take into consideration when planning to switch to bioheat with an efficient, viable project?

If sufficient supply of biofuels is available in the region, and the plant site allows for adequate storage capacity, a preliminary technical concept for biomass utilisation can be developed and economically assessed (pre-feasibility study). If the result of these initial considerations turns out to be positive, a detailed technical planning of the project by a planner or engineering company can follow.

Generally speaking, bioheat projects have higher investment costs than fossil fuel projects, which then basically pay off due to lower biofuel costs. Nonetheless, it is equally important that investment costs are adequate. Sound planning, which is based on high planning standards and experience, requires an in-depth (medium- to long-term) heat demand analysis. This, in turn, enables a technically and economically optimised design and dimensioning of plant components (boiler, pipes, fuel storage etc.). In my view, projects with over-dimensioned

boilers, pipes etc. are not only too costly, but also inefficient, which adds up to poor economics over the lifetime of the project. Saving initial expenses by not investing adequately in highly efficient, reliable and environmentally sound equipment is the wrong approach and has similar effects as over-dimensioning.

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What are the specific actions that will be enforced to inform and help interested companies to switch from fossil fuel to bioenergy?

The main instrument for informing our target audience is our project website www.bioenergy4business.eu. Potential investors, operators and project developers can find a lot of helpful and specific information on our 11 target partner countries free of charge here, such as:

- An overview of existing framework conditions (regulatory, legal, administrative)
- A review of existing business models and financing schemes
- Reports on the most promising heat market segments in the target countries
- Best practice examples of bioheat utilisation and of biofuel supply chains
- Brochures on bioheat self-supply, biofuel supply, and biomass district heating
- A multilingual biofuel parameter conversion tool covering a wide range of solid biofuels
- Model contracts for biofuel delivery
- A report on best practices for supply side development
- A multilingual bioheat plant assessment tool, and pre-feasibility evaluation of biomass district heating and in-house bioheat self-production projects
- Model feasibility studies on bioheat self-supply and biomass district heating
- Recommendations for best practice biomass policy solutions

Furthermore, the following events will be offered to (potential) national bioheat actors: Two national information days, Two national policy workshops, three two-day training seminars to assess and develop bioheat projects and two two-day international study tours.

As a project manager, what are your expectations regarding the outcomes of B4B?

B4B strives to convince potential investors and operators of the opportunities that bioheat offers from locally available biofuels. If a continuous demand pull (a market growth of the demand side) can be created, biomass supply will be organized by market forces itself. To support the creation of such an enabling environment, the project builds bridges between policy and market actors to improve framework conditions for biomass-based heating. I hope that the outcomes of such an enabling environment are a better/new access for solid biofuels to interesting heat markets and more/new solid biofuels used in

European heat markets.

If a company owner wants to access information about bioheat or technical recommendations, how could they reach their local representatives?

Basic information on the bioheat development status of the respective country can usually be gathered from local energy planning offices, energy agencies, biomass associations and from dedicated EU projects, like www.bioenergy4business.eu.

Detailed information can be gathered from biomass boiler manufacturers, engineering offices, energy service and biomass contracting companies (larger projects), biomass installers (smaller projects) and other experts.

From April 2016 to June 2017, the Bioenergy4Business local partners offer a telephone hotline for a start-up support to bioheat initiatives. Services offered are information on available subsidies, regulations, technical concepts, fuel suppliers; up to assistance in using the project's Excel tool for assessing the economic feasibility of the project.

About the Project



The Horizon 2020 project Bioenergy4Business (B4B) aims at supporting and promoting the (partial) substitution of fossil fuels (such as coal, oil, gas) used for heating with available bioenergy sources (such as by-products of the wood-based industry, forest biomass, pellets, straw and other agricultural biomass products) in the project partners' countries and beyond.

For more information on the project, connect to <http://www.bioenergy4business.eu/>