

WASTEMAN Newsletter #3

Integrated Sustainable Waste Management Systems decreasing pollution discharges in the South Baltic area

Hello again!

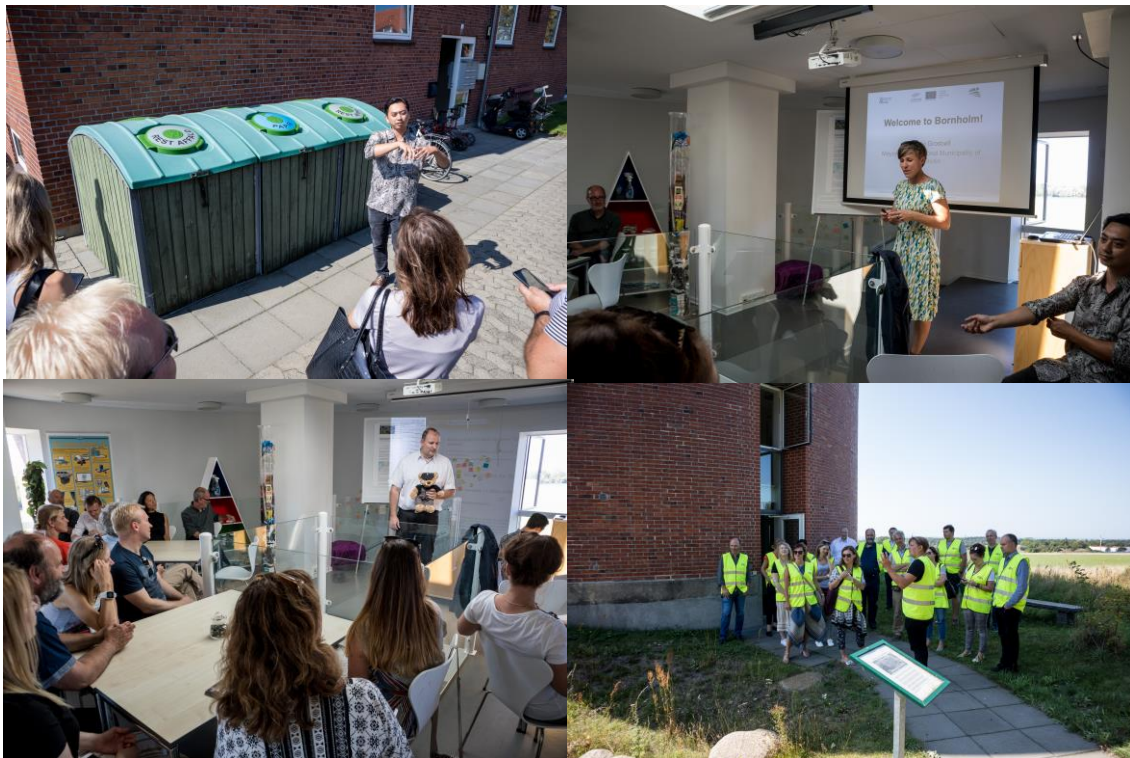
This is our latest news!

Last week we visited our Partner BOFA – Bornholms Affaldsbehandling (Bornholm's Waste Treatment). BOFA is Bornholm's waste company and receives approx. 100.000 tonnes of waste that mainly recycle, burn or landfill. This is what nice people prepared for us:



Day no. 1

First day of visiting was full of top activities. In Rønne we observed Bo42 housing association which will host BOFA's Living Lab site and visited BOFA's „Waste Tower“. There was special welcome by Mayor of Bornholm's Regional Municipality – Winni Grosbøll We participated in great workshops on Test Cases and Living Labs. We had really brainstorm on **zero waste living** and **circular economy**. And great opportunity to see how they deal with waste.



1. Bo42 housing association which will host BOFA's Living Lab site in Rønne. 2. Special welcome by Mayor of Bornholm's Regional Municipality, Willi Grosbøll. 3. Our project team on WP3 workshop. 4. Tour of BOFA facilities.

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Do you know what #CircularEconomy is?

Circular economy is an economy that learns from nature in that it wastes nothing. Circular economy (CE) is a concept beyond recycling. Key to CE is maximising the value of materials through product life extension. In 2013 the The Ellen McArthur Foundation proposed the following widely accepted definition of circular economy. "Circular Economy is an industrial system that is restorative or regenerative by intention and design. It replaces the end-of-life concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals which impair re-use, and aims for the elimination of waste through the superior design of materials, products, systems, and, within this, business models."



Want more information and tips? Stay tuned!

Day no. 2

Second day we visited Møbelfabrikken in Nexø. We had guided tour of the furniture factory which is the creativity place where you can find creative and dynamic environment that contributes to developing the company. The furniture factory offers a wide range of facilities and collaboration with experts, **regional business** service entrepreneurs and small businesses. This is fantastic Bornholm's hub for entrepreneurship, **creativity and sustainability and Circular Economy activities**. In this beautiful circumstances we had WP4 planning and discussion session and listened to the speeches of invited external speakers: *Wasteman and Ciecular Economy* by Jens Peter Mortensen (Danish Society for Nature Conservation and *Wasteman in a sustainable transition perspective and the CIRTOINNO* project by Jesper Manniche (Center for Regional & Tourism Research).

The day ended with guided tour and inspection of BOFA's Living Lab site in Pedersker together with local citizen action group.

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1. Møbelfabrikken in Nexø.- Bornholm's hub for entrepreneurship, creativity and sustainability and Circular Economy activities 2. WP4 discussion 3. Our project team and main Coordinator on vacation? Nope. Very quick stop to take the rest. 4. One of manufactory in Møbelfabrikken.

Day no. 3

Last day we visited biogas plant operated by Bigadan. Bigadan's main business activity is to provide engineering and construction services to large-scale co-digestion biogas plants with a capacity larger than 100 t/d. Since 2001, ownership and operation of large scale biogas facilities are two other of our main business fields. Today Bigadan owns and operates several commercial AD plants which also serve as test and development sites.

Biogas plant separates the gas from manure, which after completion of degassing is sold back to the farmers for fertilizing fields. The degassed slurry produces fewer odor nuisances than the untreated slurry when subsequently dispersed on the fields.

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Do you know how to make biogas?

Biogas is produced from organic waste (carbon) which biodegrades by means of bacteria in an anaerobic environment. This process is expedited at a process temperature of 38°C/100°F (mesophilic) or 52°C/125.6°F (thermophilic) in the plant's digester.



1,2,3. Biogas plant.

The biogas plant receives all kinds of organic waste - typically livestock manure and organic industrial waste. The dry solid in livestock manure contains carbon, among other things, and in the process this carbon is transformed into biogas, a compound of methane (CH₄) and carbon dioxide (CO₂).

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The manure and waste are mixed in the plant's receiving tank before being heated to 38-52°C/100-125.6°F and pumped into the digester in which the biogas is produced. The biomass stays in the digester for 2-3 weeks and the fermented slurry can subsequently be used as crop fertilizer. This fertilizer has improved qualities such as less odour inconveniences when spreading the slurry and significant reduction of green house gasses.

Typically, the biogas is utilized to produce electricity and district heat in the plant's gas engine (CHP unit). The electricity is sent into the power grid and the heat is used by local consumers.

Furthermore, biogas can be upgraded to natural gas and injected into the natural gas grid or be used as fuel for transportation.

*information from biogdan.com

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