ACCEPTED BY

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Belgium: Public Waste Agency (OVAM)
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RAMBOLL ASSISTANCE

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REFERENCES

3 Plants in Sweden - 3 Plants in Austria
3 Plants in German - 2 Plants in Switzerland
3 Plants in Belgium - 7 Plants in Denmark

MORE INFORMATION

Please contact Ramboll for further information regarding the product.
bioma.info@ramboll.com

Christian Riber
T: +45 5161 8314

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Ramboll was founded in 1945 and with close to 10,000 employees today, we are the largest Northern European consulting group. The Ramboll Group specialises in a broad variety of consulting services with waste-to-energy as one of our key fields of expertise.

We have been in the waste-to-energy business for more than four decades, and during this period we have assisted numerous clients in planning and implementing waste-to-energy projects, primarily in Europe.

We consider that our experience, expertise and staff resources probably make Ramboll the most experienced and qualified consultant within waste-to-energy in the world. Currently we have more than 60 experts solely working on Waste-to-Energy projects out of 6 offices in 5 countries.

Ramboll is at present involved in more than 35 ongoing waste-to-energy projects. Our services include every phase of a waste-to-energy project, from project definition through to procurement and supervision during construction, commissioning and follow-up on operation and maintenance.

www.ramboll.com/wte
ADVANTAGES

• Biogenic energy production (for green certificates)
• Waste characterisation (e.g. water and plastic content)
• Automated online data processing and reporting.
• Evaluates measurements and reports if they are plausible
• Easy to use, requires minimal training
• Fossil CO₂ emission

RESULTS

The following charts and graphs illustrate some results of the Balance-Method for WtE Facilities in Europe. The facilities treat both Municipal Solid Waste and Industrial Wastes and the results are indicated by average values and standard deviations.

INTRODUCTION

With the BIOMA software installed at a WtE plant it is amongst other things possible to determine the fossil CO₂ emission based on existing measurements. The method and the software is developed by TU Vienna.

DESCRIPTION

The Balance-Method is based on the mathematical solution of theoretical balance equations (for materials, substances and energy) and measured data, which are derived from conventional operating data of Waste-to-Energy Facilities (e.g. flue gas volume, steam production, mass of Bottom ash). The following balance equations are used:

- Mass balance
- Ash balance
- Carbon balance
- Energy balance
- O₂ consumption
- Difference between O₂ consumption and CO₂ production

OPERATING DATA

The operating data from the WtE Facility for the calculation are regular measurement, which in most cases will be already available.

The BIOMA software will import these data, undertake online data processing and deliver continuous results.

FIELD OF APPLICATION

Waste-to-Energy Facilities (grate furnace, fluidised-bed furnace, rotary kiln).
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BIOMA
Online CO₂ origin determination