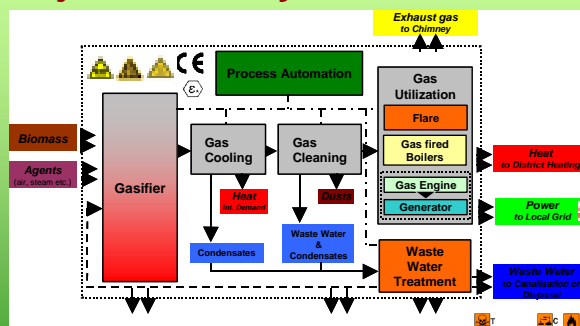


Guideline for Safe and Eco-friendly Biomass Gasification

(Gasification – Guide)
www.gasification-guide.eu

Project summary

- Partnership
- Gasification experts
- Technology developers
- Researchers/scientists
- Regulatory authorities
- Health, safety and environment (HSE) specialists



Typical gasification plant configuration and potential hazards

- Main **objective**: accelerate the market introduction of biomass power gasifiers up to about 5 MW
- Expected **results**: Guideline + Software Tool

Background

- International Networks GasNet and IEA Bioenergy Task 33
 - consider lack of knowledge and awareness of potential Health, Safety and Environment (HSE) risks associated with the construction, operation and maintenance of biomass gasifiers an important non-technical barrier;
 - do not have the financial means to effectively tackle this problem
- Members of the target groups are either
 - not familiar with the technology (permitting authorities, NGO's, etc.)
 - not aware of HSE hazards or not able to judge the HSE risks (investors, end-users, permitting authorities, communities)
 - not aware which directives or standards apply (technology developers, manufacturers, plant managers)

Objectives

- Identify Health, Safety & Environment (HSE) hazards in design, construction and operation & maintenance of biomass gasifiers
- Provide guidance to manufacturers and technology developers
- Disseminate project results to target groups
- Contribute to simplification of permitting procedures
- Propose harmonisation in EU legislation
- Develop a roadmap for upgrading the Guideline to a Standard

Main Steps

- Legal frame of plant permission and operation
- Risk assessment on Health, Safety and Environment aspects
- Case studies and validation of the Guideline
- Dissemination and communication

Expected Results

- Stimulation and promotion of the uptake of biomass gasification technology
- A biomass gasification guideline on HSE aspects that is endorsed by key target groups and market actors, including relevant authorities
- A software tool for easy assessment of HSE risks associated with biomass gasification plants
- Increased understanding of HSE risks of biomass gasification plants leading to simplified and more appropriate permitting procedures
- Active involvement of target groups and market actors through co-operation with biomass gasification networks (GasNet and IEA Bioenergy Agreement Task 33) and with a project Advisory Board
- Recommendations for the upgrading of the HSE guideline to an International Standard

Achievements

- Production of a Guideline and associated risk assessment software tool that are highly appreciated by the target group, as proofed by (a) No. of website visitors; (b) No. of requests for a Guideline copy, (c) No. of endorsement statements
- Inventory of HSE hazards at biomass gasification plants including dangerous events and consequences
- Organisation of a series of national, regional and European workshops (5 in total) on HSE issues in biomass gasification

Deliverables and Impact

- Completion of a full set of deliverables, including the final Guideline and the software tool “Risk Analyser”, that will facilitate the accelerated market introduction of biomass gasification
- To increase the project’s impact the Guideline was also made available in German and French
- Inventory of HSE hazards at biomass gasification plants including dangerous events and consequences
- Broad acceptance and use of the Guideline by key market actors and target groups. More than 120 stakeholders requested and used the draft Guideline, prior to its formal release in Dec. 2009
- Organisation of five workshops on HSE issues in biomass gasification

Partners and Contact

- Coordinator:
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 - COWI A/S, Denmark
 - Technical University Sofia, Bulgaria
- Subcontractors:
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 - FEE e.V. Germany

