Draft summary of facts on co-firing of waste in cement kilns

prepared for the ISWA working group on Energy Recovery

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WASTE – TO – ENERGY IN AUSTRIA
WHITEBOOK FIGURES, DATA, FACTS
CAN CERTAIN WASTES BE CO-INCINERATED IN INDUSTRIAL FURNACES?

The quality of the fuel must be suitable for the industrial furnace (calorific value, chemical composition, storage stability, dosability, etc.), the incineration requirements must be met (control technology, minimum temperature and minimum residence time, minimum oxygen content, etc.), and the required atmospheric emission and residue treatment must be ensured, including monitoring by measurement. Certain wastes can be converted into quality-assured waste fuels through appropriate sorting, separating and processing steps.
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DUE TO THE CONSTANTLY CHANGING COMPOSITION with unknown and sometimes strongly fluctuating contents of harmful substances, waste incineration plants need to fulfill stricter requirements than power plants and industrial furnaces in which specific fuels are fired.

Co-incineration of certain waste fuels in suitable industrial production plants can be an economically and ecologically expedient way to complement dedicated waste incineration plants.
Development of the utilization of waste fuels in the Austrian cement clinker industry 1988 - 2013

Alternative fuels 2013: approx. 483,700t
Substitution of primary fuels 2013: 72.4%

Source: VÖZ Vereinigung der Österreichischen Zementindustrie, 2015
White Book - topics on co-firing

SRF production lines for calcinator and fluidized bed incineration

Source: UNTHA shredder technology, 2015
Illustration for the complexity of resource and energy efficiency in cement and cement clinker production
White Book- topics on co-firing

Topics to be addressed

- Fuel specification - Mechanical preparation, Cl- content, LCV
- Emissions
- Energy Efficiency
- Product Quality
- Plant availability
- Process modifications
- Market situation (of alternative fuels)
- …
Thank you for your Attention!

Comments & Questions?

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