

## The environmental benefits can be achieved by using our unique technologies:

- **ADIOX<sup>®</sup>** which is widely recognized for mercury effect prevention and for dioxin removal.
- **CUTNOX<sup>™</sup>** where injected water/air influence the combustion positively such that the initial NO<sub>x</sub>-formation is reduced.
- **VoluMix<sup>™</sup>** which injects secondary air into the combustion zone – with a complete burnout in gas phase.
- **Multi Scrubber** – compact and highly effective wet flue gas cleaning system.
- **WESP** which removes ultra-fine particles and aerosols.
- **MERCOX<sup>™</sup>** primarily in plants with a high level of metallic mercury in the flue gas.

## BABCOCK & WILCOX VØLUND AND GÖTAVERKEN MILJÖ PRESENT

# NextBAT<sup>®</sup>

The next generation of best available technology standards will be presented in the coming waste incineration BREF in 2013. The revised BREF will set new and higher standards for Waste-to-Energy plants in terms of higher efficiency and lower emissions.

NextBAT<sup>®</sup> is the Scandinavian solution to the next generation of Best Available Technology. Babcock & Wilcox Vølund and Götaverken Miljö have a long tradition for focus on high efficiency and low emissions, and together we have the solution for the future Waste-to-Energy plants.

BAT in relation to techniques means the most effective in achieving a high general level of protection of the environment as a whole.

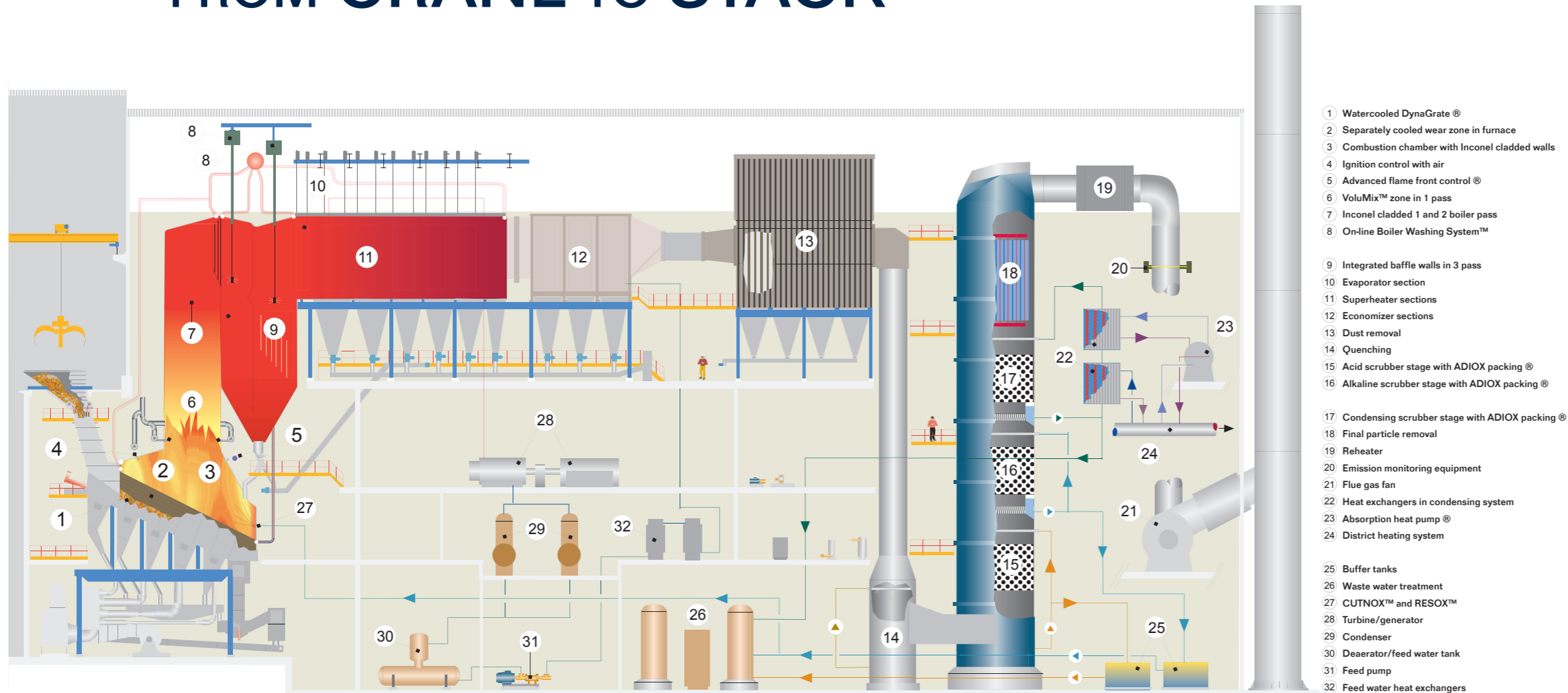
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**B&W** babcock & wilcox vølund

**GÖTAVERKEN  
MILJÖ**

# FROM CRANE TO STACK



- 1 Watercooled DynaGrate®
- 2 Separately cooled wear zone in furnace
- 3 Combustion chamber with Inconel cladded walls
- 4 Ignition control with air
- 5 Advanced flame front control®
- 6 VoluMix™ zone in 1 pass
- 7 Inconel cladded 1 and 2 boiler pass
- 8 On-line Boiler Washing System™
- 9 Integrated baffle walls in 3 pass
- 10 Evaporator section
- 11 Superheater sections
- 12 Economizer sections
- 13 Dust removal
- 14 Quenching
- 15 Acid scrubber stage with ADIOX packing®
- 16 Alkaline scrubber stage with ADIOX packing®
- 17 Condensing scrubber stage with ADIOX packing®
- 18 Final particle removal
- 19 Reheater
- 20 Emission monitoring equipment
- 21 Flue gas fan
- 22 Heat exchangers in condensing system
- 23 Absorption heat pump®
- 24 District heating system
- 25 Buffer tanks
- 26 Waste water treatment
- 27 CUTNOX™ and RESOX™
- 28 Turbine/generator
- 29 Condenser
- 30 Deaerator/feed water tank
- 31 Feed pump
- 32 Feed water heat exchangers

## Higher plant efficiency with NextBAT®

A Waste-to-Energy plant's level of efficiency in recovering energy from waste is measured by the R1 formula. High overall energy efficiency ensures maximum substitution of fossil fuels and thereby reduces the impact of greenhouse gasses (GHG). NextBAT® ensures that plant owners achieve a high R1 rate because of our unique technologies:

- DynaGrate® which is the most advanced grate on the market – minimum unburnt in slag.
- Water cooled wear zone to minimize slag build up in the combustion zone.
- Inconel® in furnace walls provides high protection against corrosion.
- ACC's (Advanced Combustion Control) maintain a stable combustion process by controlling the coefficient of resistance and combustion air.
- CFD simulation is an effective method for achieving the most efficient design and heat transfer in the boiler.
- RESOX™ is a unique technology for decreasing the corrosion rate for super heaters or for allowing higher steam temperature thereby increasing the electricity production.
- The flue gas condenser recovers an additional 20 – 25% of energy by condensing the water vapour.