What is the BREF for large combustion plants?

In European Union, the Industry Emission Directive 2010/75/EU regulates the approval and operation of industrial plants. The most important tool of the Directive is the Best Available Techniques (BAT) Reference Document (BREF), also known as the Best Available Techniques (BAT).

There are over 30 BREFs, of which the LCP BREF (Large Combustion Plants) has been developed for large combustion plants.

BAT	**B**est **A**vailable **T**echniques
BREF	**B**est Available Techniques **Ref**erence Document
LCP	**L**arge **C**ombustion **P**lants

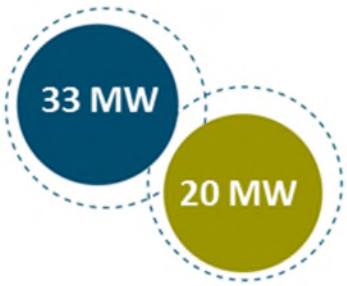
What is the document about?

The BREF for large combustion plants aims to reduce the environmental impact of pollutant emissions from large combustion plants. About 1000 pages define the best available techniques (BAT) for preventing and reducing environmental impacts.

What is important about this document?

The BREF contains **BAT conclusions**. These are emission limit values to be achieved with the best available techniques. This forms the basis for the plant approval requirements.

Who does the document concern?



The document applies to large combustion plants with **a thermal capacity of 50 MW or more**, irrespective of which and how many fuels are burned.

Decisive here is that individual plant capacities are added up: If two or more combustion plants emit (or could emit) over a common chimney, the thermal output is calculated from the sum of the individual services.

Two plants in one location with 33 MW and 20 MW of thermal power make up a total capacity of 53 MW. Thus, the document applies to both systems.

Who is not covered by the document?

Excluded from the rules in the BAT conclusions are installations with a thermal capacity of less than 50 MW and installations with a limited yearly operation time, which are subject to derogation under Directive 2010/757/EU.

Individual outputs with a thermal output of less than 15 MW are not included in the sum of individual outputs of a chimney.

There is a separate BREF for combustion of refinery fuels at a refinery site.

When do the plants have to meet the limit values?

The decision of 31.07.2017 of the European Commission has adopted the BAT conclusions for large combustion plants.

The emission values must be complied with no later than four years after publication. The exact emission values are expected to be transposed into national law by the end of July 2021 in the EU member states. In Germany, the 13th BImSchV is being adapted.

Where will the limits be?

Currently, the BAT conclusions set emission limits that apply to the Best Available Techniques (BAT) under economically and technically feasible conditions - BAT-AELs (Associated Emission Levels). Thus, they already give a helpful orientation to the defined state.

The emission limits depend on various factors, including:

- Is it a new plant (after 2014) or an existing plant?
- Which fuel is used?
- What is the thermal capacity?
- How many hours a year is the system operated?

The following table shows where the limit values will be.

Combustion plant total rated thermal input [MWth]	NO_X-emissions at 3% O_2 [mg/Nm³]			
	existing facilities		New installations (from 2014)	
	fuel oils	natural gases	fuel oils	natural gases
Daily average				
< 100	210 - 330	85 - 110	100 - 215	30 - 85
≥ 100	85 - 110		85 - 100	
Yearly average				
< 100	150 - 270	50 - 100	75 - 200	10 - 60
≥ 100	45 - 100		45 - 75	

According to the European Union BAT reference document

What does this mean for the plant operator?

The plant operator must ensure that the plant is operated in accordance with the BAT standards in compliance with the emission limit values and corresponds to the state of the art.

What must the operator do with regard to BAT?

It is recommended that the plant operator promptly conduct a review of their facilities to determine if they meet future requirements under BAT.

If there is a need for modernization, appropriate measures should be defined by 2019. In 2020, implementation can be initiated in good timeline in order to be prepared for the limit values required from 2021 onwards.

Which solutions does SAACKE offer for BAT plant modernization?

Power plant combustion technology has been SAACKE's core business for more than 80 years – SAACKE provide a professional system analysis before plant modernization as well as solid planning in new plant construction.

SAACKE's latest-generation burner technology defines the state of the art in terms of current and future technology - with proven outstanding performance at over 1,250 MW installed capacity.

SAACKE combustion technology can be used to meet the new BAT limits.

SAACKE solution competence
is the answer to the required BAT limit values

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