

## INTRODUCTION TO KRDL SPECIAL SESSION

### GENERAL OVERVIEW - LATEST DEVELOPMENTS - STANDARDISATION ASPECTS

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State of the art of flue gas cleaning reduces emissions far beyond legal standards. For dust or particles the total mass emissions sunk by about 2/3 with respect to the early 80th. Emissions from coarse mode particles from staks are no problem furthermore. Problems arise from fine particles in classes of PM10 and PM2.5 or PM1 which obviously are responsible for severe health effects. The correlation between mortality and fine dust immissions is established. Measures for reduction need besides measuring techniques the evaluation of relevant sources by immission measurements and correlation to possible sources by statistical methods applied to measured data. The relevance to health effects needs furthermore personal sampling methods to get more information on daily intake of the several species. Lastly built hard coal fired power plants operate with an efficiency of about 42 % - 43 %. Reduction of greenhouse gas CO<sub>2</sub> - emissions is feasible by improving the efficiency only. Modular design of power plants by

- Segmentation in functional units
- Preliminary planning for universal application
- Adaption of functional units on special applications together with a sum of single measures like advanced development of conventional steam process and improved materials increase the plant efficiency up to 46 %. The report will present the prototype of ecological and world-wide economic hard-coal fired power plants. The realisation of the growing European Single Market results in the fact that more and more national legal rules originate in guidelines, ordinances and decisions of the European Union (EU). Especially in the section of environmental protection this becomes apparent. Meanwhile 70 % up 80 % of the environmental legislation is not anymore determined by the national member bodies, but takes place in Brussels. For a uniform execution of the EU Directives European Standards are important components. With the preparation of corresponding Technical Guidelines, which also can be ordered by the European legislator, the European Organisation for Standardisation (CEN) becomes of great importance by relieving the legislator and by standardising high performing technologies and equipment which fulfil the so called 'State of the Art'. In CEN the technical committee CEN/TC 264 'Air Quality' is responsible for the preparation of European Standards in the section of air quality. CEN/TC 264 was formed in 1991 in Bonn, Germany. At present 21 working groups and two ad-hoc working groups are developing validated European Standards to support the EU legislation. Nearly 70 % of the projects are mandated by the EU and EFTA and are established on the basis of the so-called 'New Concept'. Being cited in the European legislation the Standards and with that the described measurement technology achieves a high degree of commitment.