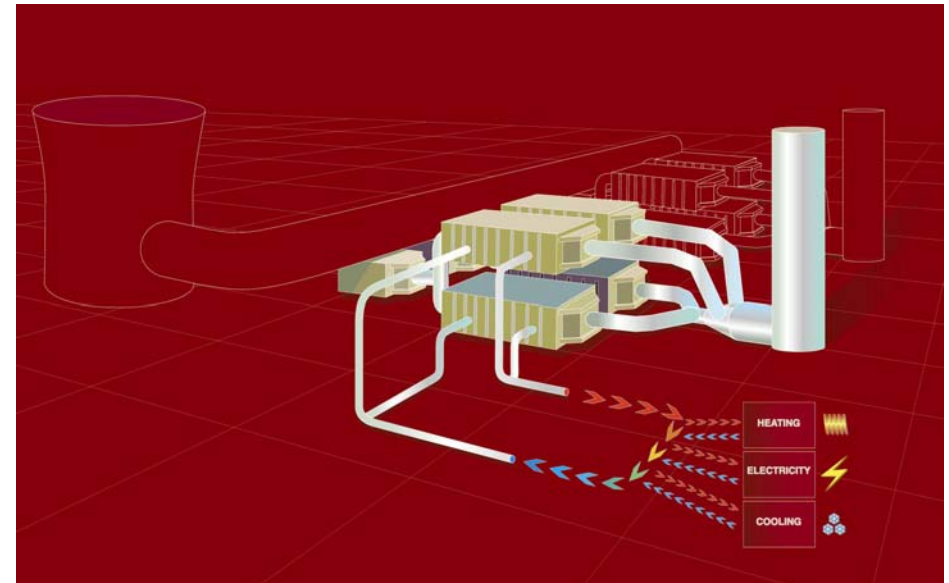

PROVEN TECHNOLOGY for Ventilation Air Methane



Richard Mattus
Business Manager
Energy & Process Systems

MEGTEC Systems



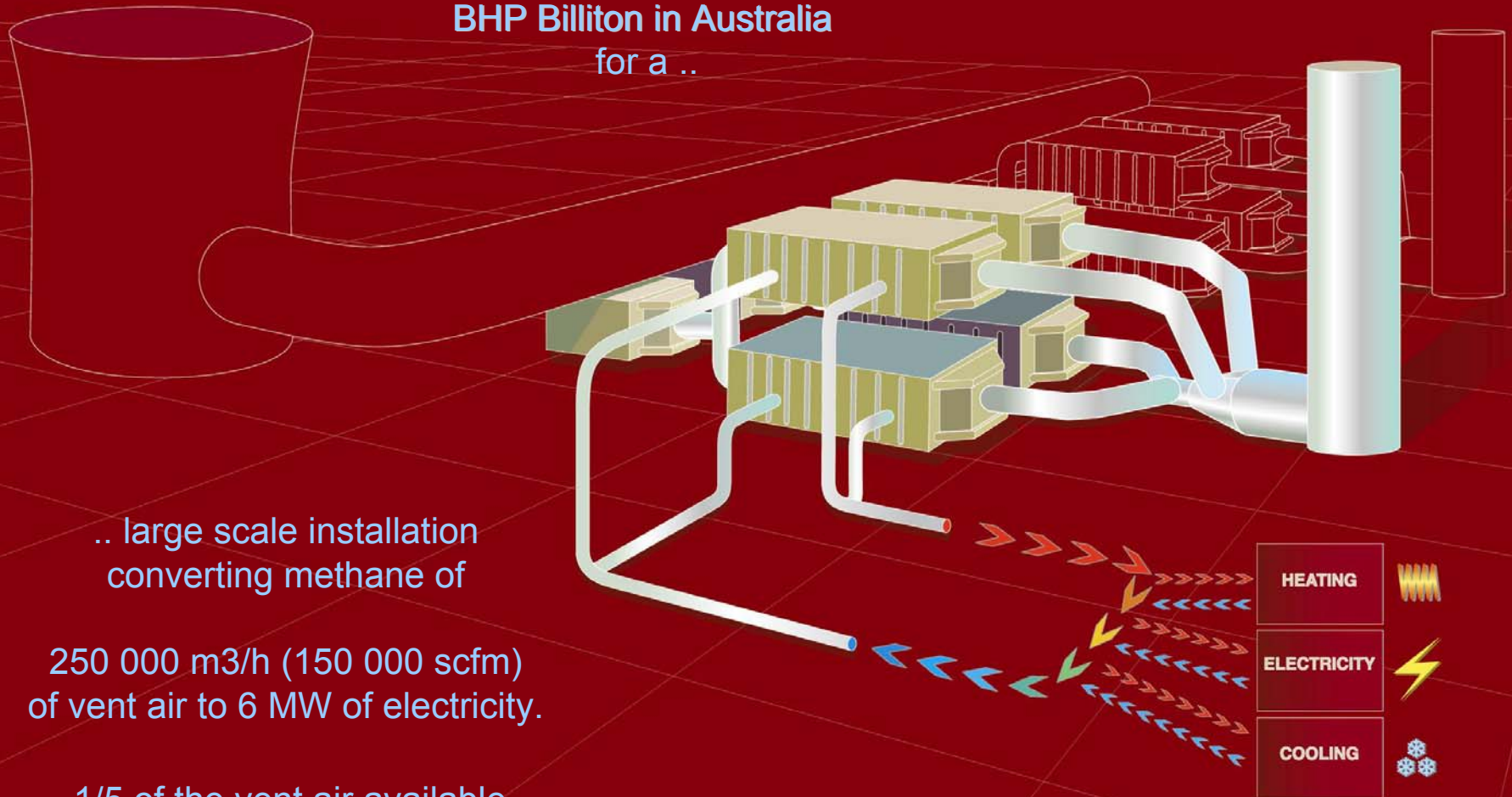
CONVERTING
VAM INTO USEFUL ENERGY
- FIRST LARGE SCALE INSTALLATION

Ad Hoc Group of Experts on Coal Mine Methane, Geneva, 6th Dec. 2004

CONVERTING COAL MINE VENTILATION AIR METHANE INTO USEFUL ENERGY



Project with
BHP Billiton in Australia
for a ..



.. large scale installation
converting methane of

250 000 m³/h (150 000 scfm)
of vent air to 6 MW of electricity.

1/5 of the vent air available.



Globally leading supplier
of emission control equipment for
low concentrations of hydrocarbons to air.

Approx 3000 installations in 30 years.
All types of oxidizers.

*Inhouse competence and experience
of boilers and boiler design.*

VOCSIDIZER references



More than 700 installations of
VOCSIDIZER world wide



Whereof the majority operate on natural gas methane

PROVEN TECHNOLOGY

VAM ABATEMENT



1st INSTALLATION AT A COAL MINE

- abating vent air methane in 1994



TRIAL UNIT AT BRITISH COAL:

[Demonstration of abatement.](#)

8000 m³/h of ventilation air with 0,3 – 0,6 % methane.

PROVEN TECHNOLOGY

VAM PRIMARY FUEL FOR GENERATION OF ENERGY



2nd INSTALLATION AT A COAL MINE

- small scale generation of energy



TRIAL UNIT AT APPIN COLLIERY, BHP AUSTRALIA 2001 - 2002

[Demonstration of heat recovery.](#)

6000 m³/h of ventilation air 90 % recovery as hot water. Operated during 12 months.

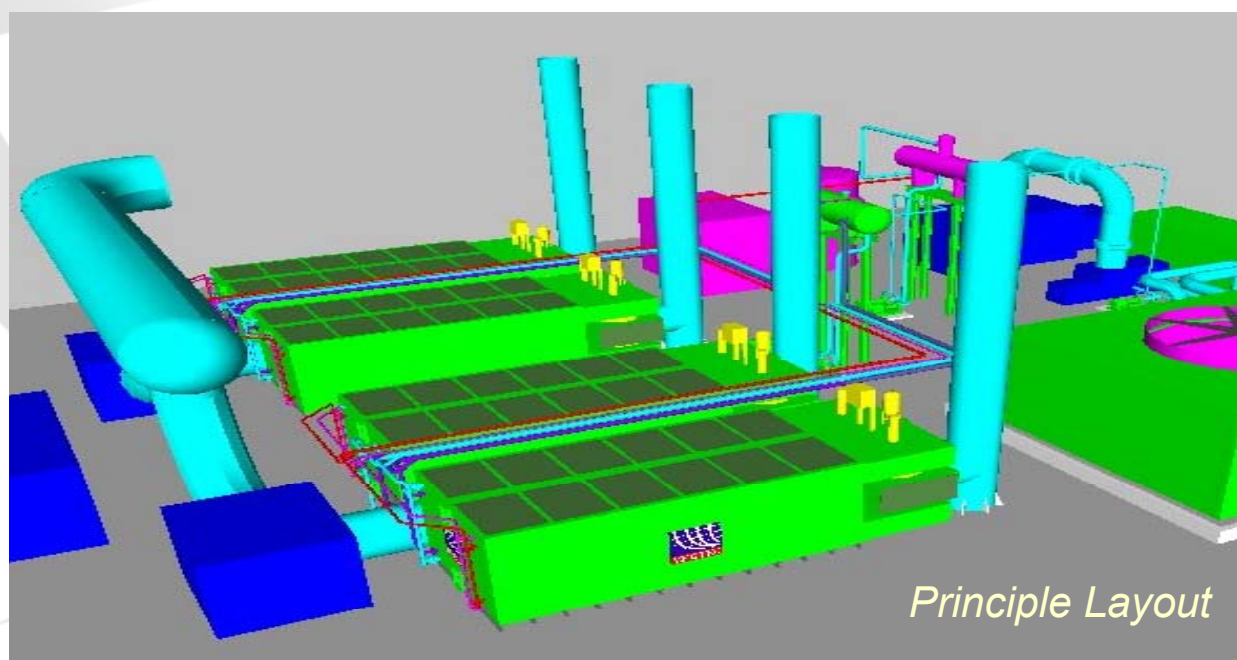
LARGE SCALE

VAM PRIMARY FUEL FOR GENERATION OF ENERGY



3rd INSTALLATION AT A COAL MINE

- first large scale generation of energy



INSTALLATION AT West CLIFF COLLIERY, BHP Billiton AUSTRALIA 2005

[Demonstration of large scale heat recovery.](#)

250 000 m³/h of ventilation air generating 6 MW of electricity

LARGE SCALE

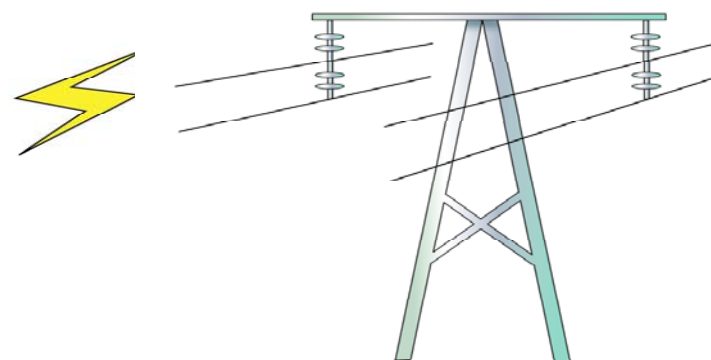
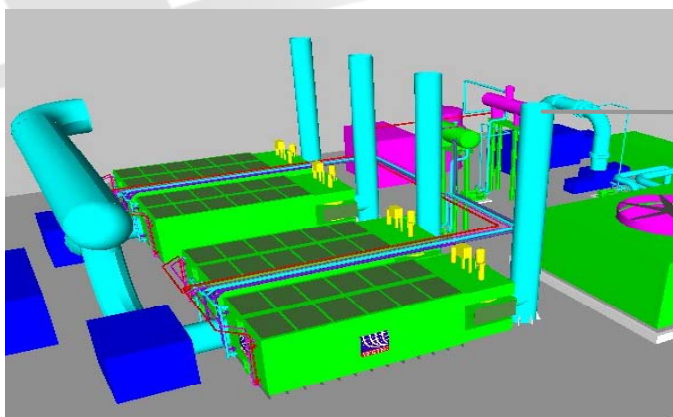
VAM PRIMARY FUEL FOR GENERATION OF ENERGY



Industrial reference VOCSIDIZER of 60 000 Nm³/h
- same size as module for coal mine VAM

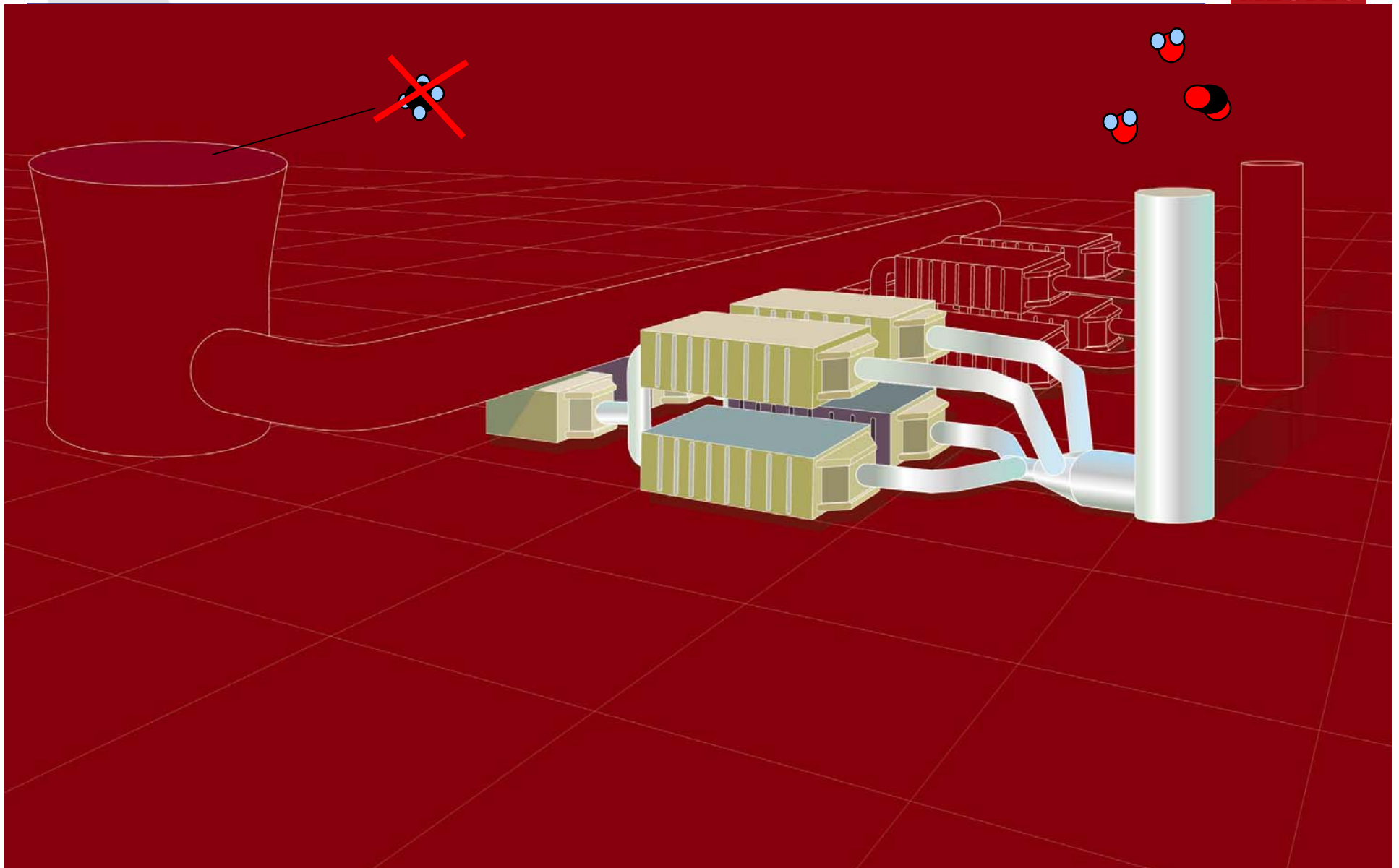
LARGE SCALE

VAM PRIMARY FUEL FOR GENERATION OF ENERGY

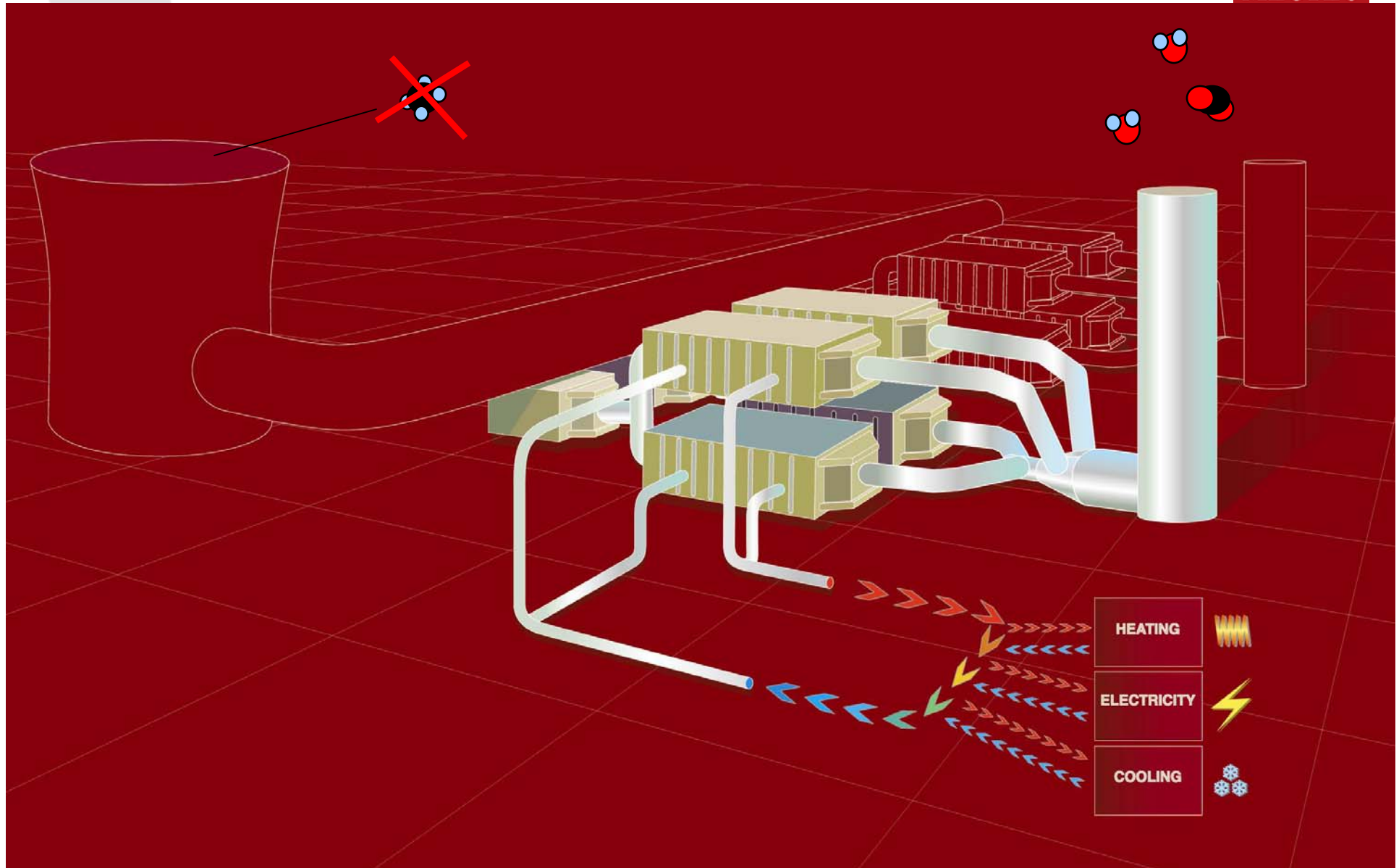


An installation taking the full flow of ventilation air generates approx 20 - 25 MWe

CONCLUSION 1: The VOCSIDIZER CAN ABATE
the VAM-emissions



CONCLUSION 2: **The VOCSIDIZER CAN CONVERT**
the VAM-emissions into useful energy

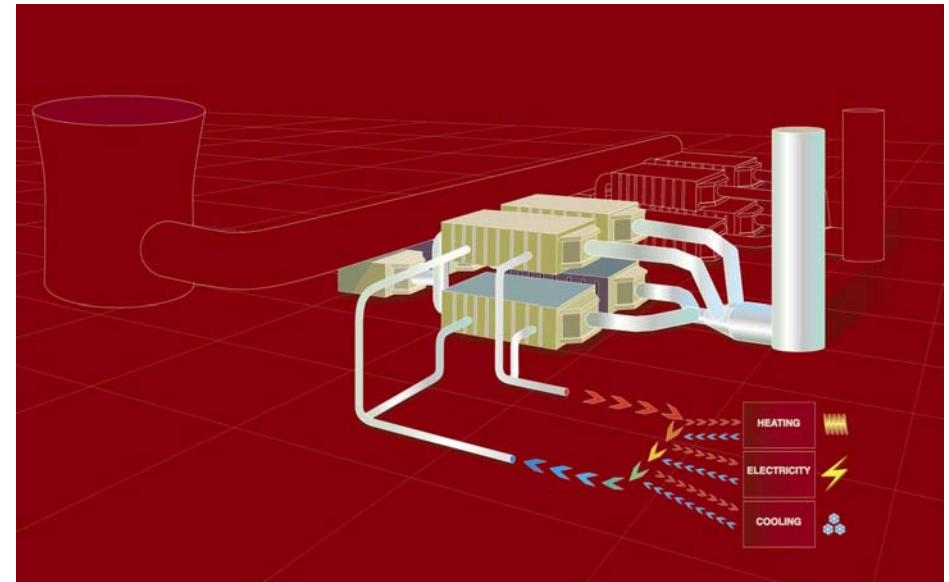


PROVEN TECHNOLOGY for Ventilation Air Methane



Richard Mattus
Business Manager
Mining, Energy & Process Systems

MEGTEC Systems



RMATTUS@MEGTEC.SE