



EMISSIONLESS PTY. LTD.

COMPANY PROFILE

Emissionless
power generation
is only one step away.

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Emissionless Pty. Ltd.

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www.emissionless.com

OVERVIEW

Emissionless Pty. Ltd. is a specialist engineering company, which focuses solely on the provision of solutions to industrial air pollution problems. Emissionless is a privately owned Australian company, head-quartered in Melbourne and was formed in September 2005, as a dedicated spin-out of a main stream air pollution control technology business for the specific purpose of delivering "dramatically reduced emissions" and "zero emission" systems for coal fired power generators.

Emissionless is structured to address the broadest range of industrial applications. We specialize in difficult applications, and excel in areas our competitors fail. This is because we take a holistic approach to solving our client's problems.

To this end we are a total package provider. Delivering everything from the initial investigation & testing, project management, engineering & detailed design, fabrication & construction, installation & commissioning, to after sales service, support & preventative maintenance.

Emissionless is primarily focused on the provision of leading edge air pollution abatement technologies that reduce the emission of greenhouse and acid rain gases. These technologies include; the pre-combustion treatment systems for power station coal that dramatically reduced the emission to atmosphere of CO₂, SO₂, NO_x, Hg & PM. It also includes post-boiler flue gas cleaning systems that deliver zero emission to atmosphere.

Whilst the GHG reduction technologies are important, both locally and globally, the application of our expertise in the process engineering, energy efficiency, environment protection, OH&S arenas are just as important, and as such we provide a range of solutions to just about every industrial application.

CORE TECHNOLOGIES

- Coal pre-combustion treatment for CO₂, SO₂, NO_x, Hg & PM emission reduction
- Drying air preparation for fast, high efficiency, steady output product drying
- CO₂ conversion (open loop for near zero emission & closed loop for zero emissions)
- Adsorption Chillers (no LiBr, no corrosion, no crystallization, 1-3 yr ROI)
- Cryogenic range (<123°K) refrigeration for petroleum's processing
- Ultra low emission baghouses for flue gas temperatures up to 260°C

TURN-KEY SOLUTIONS

At Emissionless we tailor solutions to totally meet your precise and specific needs. We adopt a "horses for courses" approach and select time saving methods, models, design & analysis tools and procedures to achieve the most cost effective outcomes. In many cases we can draw from a vast library of previous successful experiences.

We take a holistic approach to problem solving and wherever possible will tie together under a single umbrella all the project elements, starting from initial problem investigation, through design, costing, feasibility, capex preparation, tendering, project management, contracts management, procurement, construction, installation, commissioning, performance testing to operational support.



SERVICES

Either directly or in conjunction with strategic alliance and JV partners our range of services encompasses;

- ✓ Problem investigation from a process perspective.
- ✓ Process measurements & data acquisition
- ✓ Equipment performance assessments
- ✓ Problem specific research & development
- ✓ Inception to grave analysis
- ✓ Actual life cycle and true cost of ownership analysis and comparisons
- ✓ Energy saving opportunity analysis
- ✓ Return On Investment analysis
- ✓ Project development
- ✓ BOO & BOOT project development
- ✓ IPP project development
- ✓ Total or partial project management
- ✓ Engineering & Design
- ✓ System & equipment sizing
- ✓ Drawings & documentation
- ✓ System & equipment specifications
- ✓ Tendering & contract documentation preparation
- ✓ Flow analysis & modeling
- ✓ Computation fluid dynamic (CFD) analysis
- ✓ Plume dispersion modeling
- ✓ Process gas composition determinations
- ✓ Emission testing
- ✓ Flow testing
- ✓ Environment Impact Assessments
- ✓ EPA Works Approval applications
- ✓ Vested interest & community group consultations
- ✓ Regulatory passage management
- ✓ Equipment procurement, construction & installation
- ✓ Complete system performance testing & commission
- ✓ System operation documentation
- ✓ Operational assistance and training
- ✓ Preventative maintenance program development
- ✓ Maintenance personnel training
- ✓ Hazop assessments
- ✓ Risks analysis



APPLICATION AREA

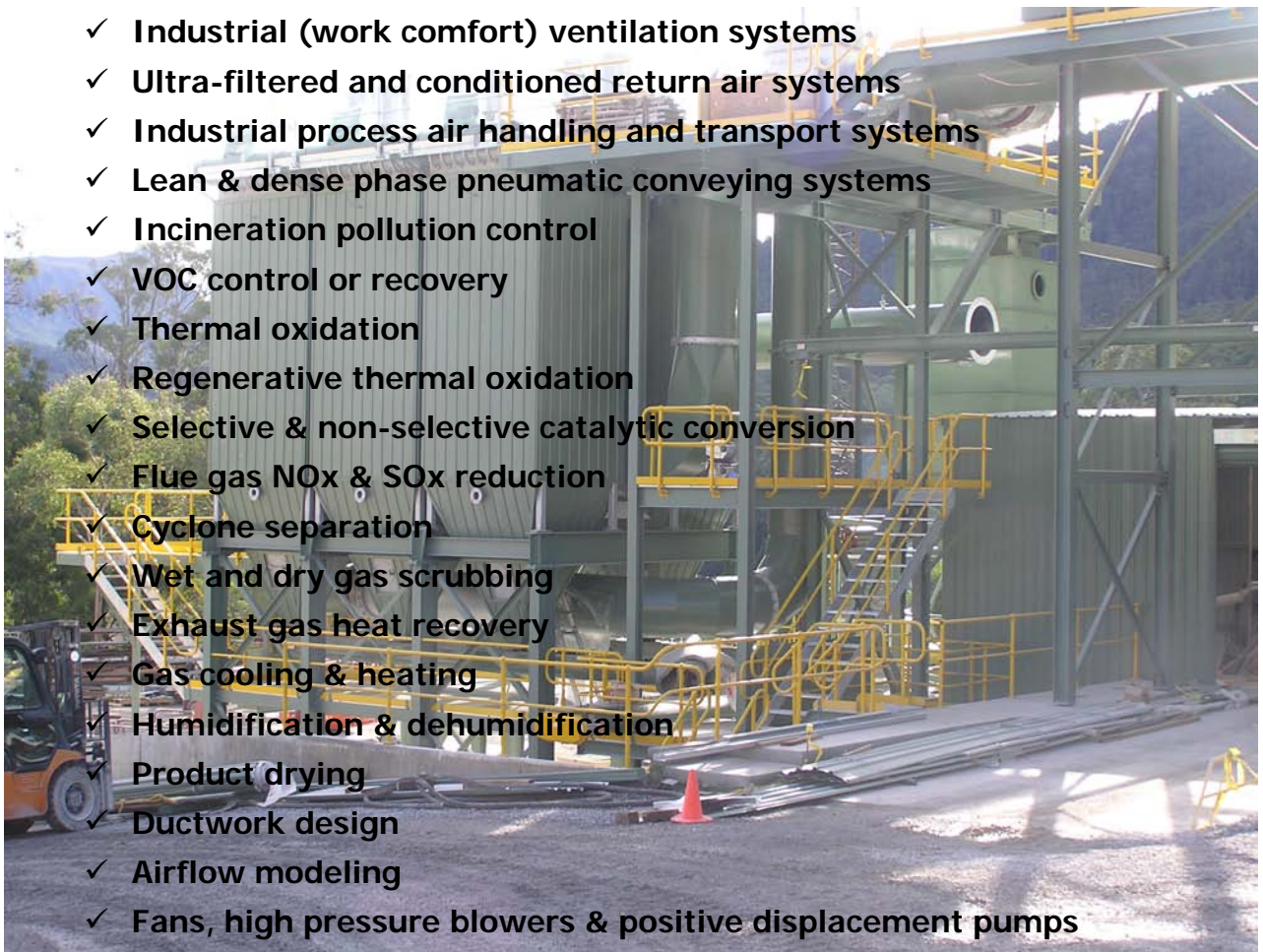
Emissionless provides the complete range of engineering, design and project management services that is required to deliver complete, concept to operation solutions to today's most arduous industrial air pollution control problems.

Emissionless specializes in high temperature applications and specifically filtration and flue gas cleaning for;

- ✓ Coal fired (critical & sub-critical) boilers
- ✓ High temperature/pressure CFB & IGCC boilers
- ✓ Waste oil and or bio-mass fired boilers
- ✓ Multi-fuel rotary kilns for Cement & Quicklime production
- ✓ Fluidized bed kilns, furnaces & dryers
- ✓ Rotary dryers
- ✓ Shaft kilns

In addition to filtration and flue gas cleaning systems Emissionless is also involved in many other air & gas handling systems, including;

- ✓ **Industrial (work comfort) ventilation systems**
- ✓ **Ultra-filtered and conditioned return air systems**
- ✓ **Industrial process air handling and transport systems**
- ✓ **Lean & dense phase pneumatic conveying systems**
- ✓ **Incineration pollution control**
- ✓ **VOC control or recovery**
- ✓ **Thermal oxidation**
- ✓ **Regenerative thermal oxidation**
- ✓ **Selective & non-selective catalytic conversion**
- ✓ **Flue gas NOx & SOx reduction**
- ✓ **Cyclone separation**
- ✓ **Wet and dry gas scrubbing**
- ✓ **Exhaust gas heat recovery**
- ✓ **Gas cooling & heating**
- ✓ **Humidification & dehumidification**
- ✓ **Product drying**
- ✓ **Ductwork design**
- ✓ **Airflow modeling**
- ✓ **Fans, high pressure blowers & positive displacement pumps**



Picture: Waste oil fired kiln flue gas cleaning system - 2006

