



Environmental Control  
Engineering (Pty) Ltd.



Air Conditioning | Ventilation | Air Pollution Control | Solar Power

## COMPANY OVERVIEW

Environmental Control Engineering & Services (Pty) LTD was established in 1991 to provide engineering contracting services for air conditioning, ventilation and air pollution control within the industrial and mining sectors. Major areas of business are turnkey contracts providing specialised air treatment systems. Since 1991, Environmental Control Engineering has consistently grown in size, turnover and in high profile repeat clients becoming a multi-disciplinary company. ECE has a solid reputation for effective project management from concept to commissioning plus extensive experience in process plant, industrial works, climate control rooms, laboratories, hospitals, stores, office blocks and plant rooms.



## MISSION

ECE's mission is to provide quality service and cost-effective installations through excellence in design, project management and site installation by well trained and highly motivated team of professional engineers and technicians. ECE has made important contributions to controlling emission for the iron and steel, pulp and paper, coal-fired utility and hazardous waste industries.

ECE's core business is the design, supply and installation of air conditioning, ventilation, refrigeration, climatic and air pollution control systems. ECE's specialised climatic control and mechanical engineering expertise embraces a diverse base, which includes the mining, metallurgical, steel, paper, food and general industrial sectors.

The management of ECE owns the company. This means that we can both promise and fulfill our commitment to give all our clients every possible assistance and attention, as we are personally involved with each project.

# PROJECT MANAGEMENT

Professional project management is an integral part of our DNA. Each project, no matter how big or small, receives the same attention to detail and our proven track record reflects this. Quality, safety and environmental impacts are of the utmost important to us and therefore receive special consideration.

ECE's quality control policy has been based on the quality system standard ISO 9001. Each project's Quality Control Plan is formulated to cater for the client's specific requirements. ECE has a solid reputation for effective project management from concept to commissioning plus extensive experience in process plant, industrial works, climate control rooms, laboratories, hospitals, stores, office blocks and plant rooms.



## PROFESSIONAL ENGINEERING, DESIGN AND CONSULTING

With the expertise available within ECE, we are able to offer a consulting service to all branches of industry. Assessing HVAC or pollution control requirements and investigating the effectiveness of existing plant and equipment are some of the ways ECE can assist in our clients' needs.

The ECE team consists of qualified engineers and professional engineers with many years of experience.

Knowledge and understanding of the processes of the industry is essential to provide innovative solutions. ECE has extensive experience in air conditioning, ventilation as well as dust & fume extraction.





## AUDITING

ECE provide auditing services to laboratories, process plants and consulting teams throughout Africa. From analysing existing installations to certification of new installations, our auditing department will provide a professional, reliable and accurate audits of planned, existing and completed projects.

Most importantly, we provide our clients with the facts and answers they need to make intelligent business decisions concerning their equipment and facilities. By using the latest equipment and cutting edge technology it allows ECE to optimize our clients electro-mechanical assets and provide documented reports for what's really happening on their equipment.



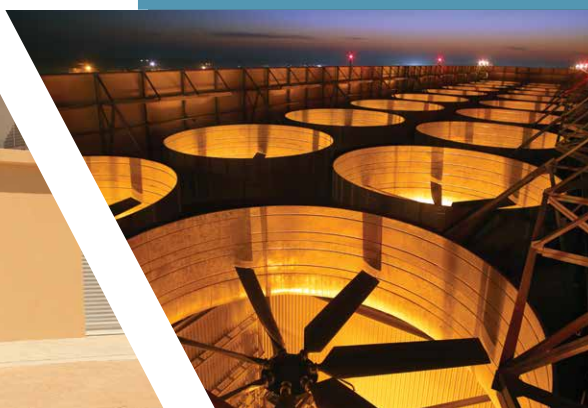
# VENTILATION

ECE will design, supply, manufacture, install and commission ventilation systems for any commercial and industrial spaces as well as specialised projects, specifically designed to suit each client's needs. ECE's ventilation systems range from mining applications such as tunnel ventilation systems to hospital and laboratory clean rooms, to auditoriums and lecture rooms.



# SUBSTATION HVAC

When considering Heating, Ventilation and Air Conditioning systems for Substations, there are several unique challenges that require unique engineering solutions. Switchgear, both high and low voltage and instrumentation equipment are very susceptible to dust and high temperatures. Each ECE system is designed specifically for that application and environment. By assessing each scenario using ambient dust and temperature data as well as equipment heat loads and specifications, we determine the most cost effective system design that will ensure the longevity of our clients equipment.



# FILTRATION

ECE provide customised fan filter units designed to suit a variety of commercial and industrial applications. Designs range from small carbon filters fitted to overhead cranes to large installations providing 400 cubic meters per second of air to industrial process plants.

Some examples for which fan filter units have been applied are:

- Removal of noxious or toxic fumes before introducing the air into working environments.
- Low maintenance system where access or personnel is limited.
- Minimal initial cost systems where budget constraints limit design.
- High air flow volumes.
- Compressor and blower house ventilation.

The following different types of Fan Filter Pressurisation units are available from ECE:

- Vortex Filter Unit (with Primary, Secondary and Vortex Filters)
- 4-Stage Filter Unit (with Primary, Secondary, Activated Carbon and HEPA Filters)
- Activated Carbon Filter Unit
- Dual Stage Fan Filter Unit (Primary and Secondary Filter)
- Cartridge Type Fan Filter Unit (with optional reverse pulse self-cleaning system)

## AIR CONDITIONING

Whether our client requires a small mid wall split type air conditioner for an office or a large chilled water building HVAC system, ECE can provide a solution. ECE have successfully installed air conditioning systems in hospitals, high rise diamond sorting buildings as well as offices and homes. We are not limited to exclusive supplier agreements and can provide air conditioners

from entry level manufacturers to exclusive high-end air conditioners. Our air conditioning designs focus on the end user experience with particular emphasis on capital costs, comfort and energy consumption.





## AIR POLLUTION

Air pollution is a major part of our lives affecting both our daily lives and the environment as a whole. At ECE we design, supply, manufacture, install and commission air pollution control equipment that provide our clients with an engineered solution that meets both local and international guidelines. We are proud that our dust and fume extraction systems have a positive impact on our planet and that we are contributing to securing the future of our children and their future.

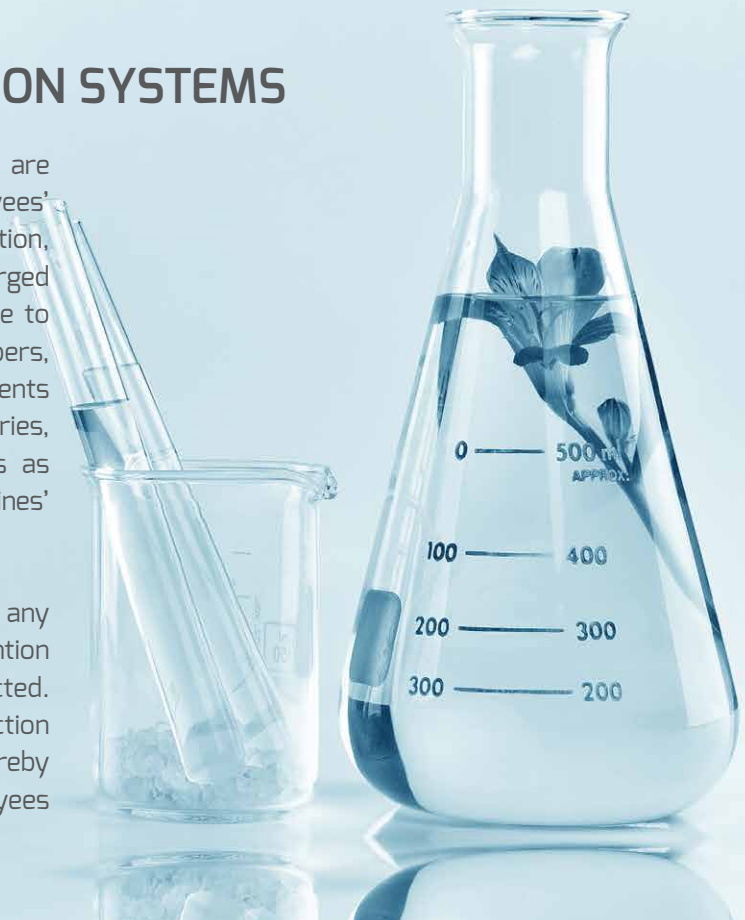
Systems we have installed include fume extraction systems designed to remove  $SO_2$  from furnace processes, Lead Oxide fumes from Assay Laboratory furnaces, packaging plant dust extraction systems as well as various conveyor transfer point dust extraction systems. Projects, we have successfully installed include traditional baghouses, cartridge type filter units, incinerator off-gas cleaning systems, cyclonic filtration systems and wet scrubbers.



# LABORATORY EXTRACTION SYSTEMS

Our laboratory fume extraction systems are designed specifically with the client employees' working environment in mind. In addition, ensuring that no harmful gasses are discharged into the atmosphere is of great importance to us. From NOX scrubbers to acid fume scrubbers, we have installed reliable equipment for clients such as Anglo American Research Laboratories, Palabora Mine, Sibanye Gold Laboratories as well as Impala and Lonmin Platinum Mines' laboratories.

To ensure the workers are not exposed to any toxic, acidic or alkaline fumes, special attention is paid to how the various fumes are collected. We only use fume cupboards and extraction hood designs accepted by the industry, thereby ensuring the safety of the clients' employees and the efficiency of the system.





# HEAT TOLERANCE SCREENING CHAMBERS

ECE are the world leaders in Heat Tolerance Screening (HTS) chambers as well as climatic conditioning chambers. Our world-first control philosophies have changed the way the mining sector implements close control throughout their HTS Chambers. ECE have successfully designed, supplied, installed and commissioned Heat Tolerance Screening Chambers to both gold and platinum mines in South Africa.

Environmental Control Engineering & Services are the sole supplier of this system, having developed the system hand-in-hand with the Department of Minerals and Energy of the Republic of South Africa, the CSRI as well as the various End Users.

Our HTS chamber is the only system that reliably guarantees conformity to both the CSIR and Department of Minerals & Energy South Africa's guidelines on thermal stress. The high level of accuracy that our system controls temperature, humidity and air velocity assures our clients that when governmental auditing agencies visit, no problems are detected and no downtime is experienced.





## SOLAR ENERGY

The sun has produced energy for many millions of years and will do so for many millions more. It is estimated that there is enough hydrogen still in the sun's core to last another 4.5 billion years. Every day the sun radiates enormous amounts of heat and light energy and at ECE we are committed to finding new and innovating ways to harness this energy.





## CLIENTS

At Environmental Control Engineering & Services we are extremely proud of our client history with Blue Chip companies headlining our list of satisfied clients. Anglo American, De Beers, Impala Platinum, Sasol, Assmang, Mittal Steel, Exxaro, Goldfields and AngloGold Ashanti are but a few of our direct end users and Amec Foster Wheeler, Bateman, DRA, Hatch and WorleyParsons are only a few of the major design houses and E & PC clients that we have completed projects for.

Throughout Africa, clients such as Zambia's Kansanshi Copper and Lumwana Mines rely on ECE's extensive knowledge base when designing their mines plants. In Namibia, the uranium mines, Swakop Uranium and Trekkopje have trusted ECE with all their HVAC and air pollution requirements.





Environmental Control  
Engineering (Pty) Ltd.

Tel +27 11 791 2950 | Fax +27 11 791 2955 | Email: [ece@eceworld.co.za](mailto:ece@eceworld.co.za)

5 Naaf Street | Strydom Park | Randburg | Johannesburg | South Africa | 2194

PO Box 324 | Ferndale | 2160 | Johannesburg

[www.eceworld.co.za](http://www.eceworld.co.za)