

# Argentinian refrigerant system: challenging R290 case opens more doors.

## Business benefits

The new refrigeration system using Linde R290 natural refrigerant:

- Enables customers to accelerate corporate sustainability agenda
- Significantly reduces environmental impact
- Helps meet readiness targets for existing and upcoming environmental legislation
- Enables greater energy efficiency, reducing power consumption
- Enhances process performance in oil refining and liquid gas recovery

Global legislation is phasing out CFC and HCFC refrigerants. An Argentinian petrochemical company wanted to meet these requirements as well as ensure its refrigeration system was prepared for future legislation. Linde met these needs with an R290 natural refrigerant solution, driving performance improvement and corporate sustainability.

### Introduction

A multinational Argentinian petrochemical company wanted to reduce the environmental impact of its refrigerant systems and prepare to meet future legislation. The company needed to replace old equipment utilising CFC R12 with a system using the natural refrigerant R290. The switch required significant logistical and technical support and Linde Argentina was contacted for help.

The new eco friendly solution, now fully commissioned, provides measurable commercial and environmental benefit.

Prior to the CFC ban and in the interest of best practice, the customer made the decision to accelerate its corporate sustainability agenda of reducing the environmental impact of its manufacturing business and prepare for upcoming legislation. This meant replacing the old cooling equipment with a cleaner, more energy efficient system running on the natural refrigerant R290 Refrigerant Grade Propane.

This company turned to Linde Argentina for help. It sought proven technical expertise, process application knowledge and safety training as well as the sourcing of a reliable supply of high quality product (DIN 8960:1998)

### The customer challenge

The customer had two refrigerant systems and the older one which used R12 was installed in 1980.

R12 is a chlorofluorocarbon (CFC) gas common to legacy cooling equipment. CFCs are harmful to the environment as they have high Global Warming Potential (GWP) and deplete the ozone layer on release into the atmosphere. The Montreal Protocol banned the sale of CFCs in 2010.



## Linde's solution

Using its global network to circumvent the lack of resources in Argentina and South America, Linde secured a reliable supply of high quality R290 natural refrigerant gas from North America.

It then supported the customer throughout the delivery process. It sourced the ISO tanks and cylinders required to safely transport the gas and managed the onsite storage and filling operations. Linde's technical and Safety, Health, Environmental and Quality (SHEQ) teams played a major role in this respect, overseeing product stewardship and regulatory compliance throughout the supply chain.

## Evaluation

The new eco-friendly refrigeration system is operating efficiently and safely and delivering measurable business benefits. As well as driving performance improvement in the oil refining and liquid gas recovery process, the use of natural refrigerant is helping to make the customer's operations far 'greener'.

The choice of Linde R290 natural refrigerant allowed the customer to select a gas with zero ozone depletion potential, extremely low global warming potential and the extra benefit of energy efficient operation. This allowed the customer to meet their corporate responsibility goals as well as upcoming legislation targeting CFC and HCFC phase out. Additionally, the refrigerant will meet expected future legislation targeting a reduction in the global warming impact of refrigeration systems.

The customer is delighted with the product quality and service provided by Linde Argentina. They recognise that by outsourcing this specialist technical requirement to a leading industrial gases company, they have got the best of both worlds – global solutions through local service delivery. This combination has enabled the customer to implement major process improvement while remaining focused on their core business.

Cynthia Ramos Lead Engineer,  
Linde Argentina

**“Linde was able to demonstrate its excellent global sourcing capability to secure a reliable supply of high quality R290 natural refrigerant for use in Argentina. This, combined with our product stewardship expertise, allowed the customer to meet their environmental obligations in a safe & reliable manner.”**

## Linde AG

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