



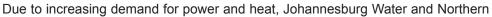
Turning Biogas into Power for South Africa

Johannesburg, South Africa Case Study

Dresser-Rand containerized CHP biogas gen-set solution for Johannesburg Water, South Africa.

The Opportunity

Johannesburg, located in the Gauteng Province, is an area of great potential in South Africa. With a population of more than 4 million, Johannesburg is the largest city in the world not situated on a river, lake or coastline. The city, once known for its gold mining, is now a center for various services and heavy industries, including steel and cement production.







Works WWT wanted to expand biogas production for use beyond firing boilers. In light of rising electricity costs and pollution concerns, the project became a reality.

The Solution

Johannesburg Water partnered with Dresser-Rand to expand and upgrade Northern Works WWT. Dresser-Rand boasts the largest installation base in its category and this is the first reference (for power generation and CHP using sewage biogas) in South Africa amongst worldwide gen-set suppliers.

The project employs a high performance anaerobic digestion process, followed by a thorough gas cleaning. This results in a massive production of biogas, which is then fed to the CHP biogas gen-set to generate 1.2MWe of combined heat and power. The heat and power produced is used in the digestion process and for grid export via Eskom to increase power supply. All of the biogas generated is used for power and heat supply, which helps minimize the impact of increased electricity costs.





For more information about Dresser-Rand **containerized biogas CHP gen-sets**, contact:

Dresser-Rand Holdings Spain, S.L.U.

Barrio de Oikia, 44 P O Box 30 20759, Zumaia (Gipuzkoa), Spain Tel: (Int'l +34) 943-86-5200 Email: guascor@guascor.com

www.guascorpower.com

For a complete list of Dresser-Rand products and services, visit us at www.dresser-rand.com, email us at info@dresser-rand.com or contact one of the following locations:

Dresser-Rand Corporate Headquarters

West8 Tower, Suite 1000 10205 Westheimer Road Houston, TX 77042 USA Tel: (Int'l +1) 713-354-6100 Fax: (Int'l +1) 713-354-6110

112, Avenue Kleber 75784 - Paris Cedex 16, France Tel: (Int'l +33) 156 26 71 71 Fax: (Int'l +33) 156 26 71 72

Regional Headquarters

The Americas

Dresser-Rand West8 Tower, Suite 1000 10205 Westheimer Road Houston, TX 77042 USA Tel: (Int'l +1) 713-354-6100 Fax: (Int'l +1) 713-354-6110

EMEA

(Europe, Middle East & Africa) Dresser-Rand S.A. 31 Boulevard Winston Churchill Cedex 7013, Le Havre 76080 France Tel: (Int'l +33) 2-35-25-5225 Fax: (Int'l +33) 2-35-25-5366 / 5367

Asia Pacific

Dresser-Rand Asia Pacific Sdn Bhd Unit 9-4, 9th Floor Bangunan Malaysian Re 17 Lorong Dungun Damansara Heights 50490 Kuala Lumpur, Malaysia Tel: (Intl +60) 3-2093-6633 Fax: (Intl +60) 3-2093-2622

©2013 Dresser-Rand. All rights reserved.

This document comprises a general overview of the products described herein. It is solely for informational purposes, does not represent a warranty or guarantee of the information contained herein and is not to be construed as an offer to sell or a solicitation to buy. Contact Dresser-Rand for detailed design and engineering information suitable to your specific applications. Dresser-Rand reserves the right to modify its products and related product information at any time without prior notice.

- Creates a reliable source of power and heat from an existing gas resource, plus the simultaneous disposal of this problem gas.
- Reduces maintenance and operation costs
- Minimizes energy costs
- Brings growth and development opportunities to South Africa
- Highly profitable operation for the client with an excellent overal efficiency and investment recovery over a short period of time
- Avoids the liberation of methane into the atmosphere
- Maximum availability and reliability even in severe environmental conditions



The Company

Dresser-Rand acquired Grupo Guascor S.L. in May 2011. Through this acquisition, Dresser-Rand now offers customized energy solution-based renewable energy and power systems with specific expertise in distributed generation. Dresser-Rand is among the largest suppliers of rotating equipment solutions to the worldwide oil, gas, petrochemical, and process industries. The company operates manufacturing facilities in the United States, France, United Kingdom, Spain, Germany, Norway and India, and maintains a network of 49 service and support centers (including 6 engineering and R&D centers) covering more than 150 countries. Dresser-Rand has principal offices in Paris, France, and Houston, Texas.





Form 2334 Johannesburg, South Africa Case Study