

CASE STUDY



**Process Ecology Saves up to \$60K/Day by Reducing Emissions and Avoiding Shutdowns at Gas Dehydration Facilities**

**“We continually rely on Aspen HYSYS® as the industry standard process simulator to help clients accurately predict emissions and meet strict environmental regulations.”**

- James Holoboff, Director, Process Ecology



Process Ecology is a Calgary-based oil and gas consultancy that assists companies such as Encana and Devon Energy in the operation of their facilities. Industry knowledge and expertise, combined with tools such as Aspen HYSYS, provide value to its customers in developing efficient and environmentally compliant plants. Some of their projects include providing process support, building complex simulation models and generating plant validation and performance tools.

**Process Ecology uses the Aspen HYSYS glycol dehydration property package to reliably model dehydration facilities, saving customers thousands of dollars per year in operating costs.**

### CUSTOMER PROFILE - Process Ecology - Engineering & Construction

#### CHALLENGE

Improve gas dehydration processes while meeting environmental regulations.

#### SOLUTION

aspenONE® Engineering, featuring Aspen HYSYS, to design and rate natural gas glycol dehydration facilities.

#### BENEFITS

- Saved up to \$60K/day by avoiding plant shutdowns due to noncompliance
- Saved up to \$30K/year in energy costs for a single dehydrator
- Optimized operations for dehydration units with process simulation
- Accurately predicted and lowered emissions, ensuring compliance
- Generated emissions reports in an efficient and repeatable way

## CASE STUDY

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In the area of energy management, Process Ecology has assisted clients by optimizing gas dehydration processes and maintaining compliance with local and federal emissions regulations. The company uses the Aspen HYSYS glycol dehydration property package to reliably model dehydration facilities, saving customers thousands of dollars per year in operating costs.

**Process Ecology has shown savings of up to \$30,000/year USD for a single dehydrator in energy costs, often through reductions in the glycol circulation rate.**

Using the full aspenONE Engineering suite, Process Ecology has developed an automated process to generate documentation required to meet environmental regulations. Through several successful projects, the company validates Aspen HYSYS and its ability to accurately predict air emissions in glycol dehydration facilities.

### **ENHANCING PROCESS DESIGNS WITHOUT SACRIFICING ENVIRONMENTAL COMPLIANCE**

One of the key services Process Ecology offers its clients is the optimization of gas dehydration plants. To ensure the quality of these processes, it is imperative to model them in a simulator with highly accurate thermodynamic and physical property calculations.

It is also crucial to ensure that units adhere to environmental regulations. Some of the steps associated with this task include: gathering and importing data, performing required calculations, managing results, and generating consistent regulatory paperwork. If regulations are not met, companies potentially face costly consequences such as the suspension or shutdown of facilities. For a typical dehydration unit, this can cost as much as \$60,000/day USD.

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### **AUTOMATING EMISSIONS MODELING AND DOCUMENTATION**

Aspen HYSYS offers a glycol property package, a proven solution for modeling gas dehydration facilities that include equipment such as pumps, flash tanks and gas contacting and glycol regenerating options. The technical accuracy of Aspen HYSYS is recognized where alternate solutions may be prone to error, such as predicting dry gas water content. In their projects, Process Ecology has shown savings of up to \$30,000/year USD for a single dehydrator in energy costs, often through reductions in the glycol circulation rate.

### **PREPARING FOR FUTURE CHALLENGES**

With the continual improvement in available technology and growing environmental concerns, the oil and gas industry is changing. Companies must be vigilant in finding new ways to lower their costs while remaining environmentally conscious and avoiding emissions penalties. With the automated workflow developed in Aspen HYSYS, Process Ecology can now simulate gas dehydration processes for accurate improvements in process design and emissions reduction. Furthermore, the company can rely on the flexible method to quickly adapt to new customer needs and changes in regulations.

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AspenTech is a leading supplier of software that optimizes process manufacturing—for energy, chemicals, engineering and construction, and other industries that manufacture and produce products from a chemical process. With integrated aspenONE® solutions, process manufacturers can implement best practices for optimizing their engineering, manufacturing, and supply chain operations. As a result, AspenTech customers are better able to increase capacity, improve margins, reduce costs, and become more energy efficient. To see how the world's leading process manufacturers rely on AspenTech to achieve their operational excellence goals, visit [www.aspentech.com](http://www.aspentech.com).

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