

# CETAC-WEST

## Clean Technology Choice: Process Ecology



**“Meeting emissions reduction targets by accurately quantifying emissions and pinpointing reduction opportunities.”**

Acknowledging the need for accurate emissions monitoring and reporting, a Calgary-based company - **Process Ecology** - began developing software to better manage emissions. By applying engineering analysis to this data, **Process Ecology** not only ensures regulatory compliance, but they can also identify emissions reduction and process optimization opportunities at oil and gas facilities.

Without an industry accepted standard for emissions monitoring and reporting, historically many companies have used Excel spreadsheets or accounting platforms with little or no engineering intelligence built in. Emissions factors set by the Canadian Association of Petroleum Producers (CAPP) or the American Petroleum Institute (API) are often used to track and calculate annual emissions. However, these estimates do not provide any detail on how to go about detecting emission point sources and therefore do not offer any recommendations for emissions reduction. Further, these calculations are often over-estimated, resulting in inaccurate records and possibly higher penalties for the producers.

In 2007 when the Energy Resources Conservation Board (now the Alberta

Energy Regulator) released new regulations requiring producers to report on benzene emissions, the industry was faced with a technical challenge. Some emissions sources, such as glycol dehydrators, are low pressure and low concentration emitters, making emissions metering unfeasible.

The team at Process Ecology knew these emissions could be accurately estimated through process simulation modeling. Representing 100 years of experience in process simulation development and modeling, the team developed a cloud-based system - **Benzene Emissions Advisor (BeAdvisor™)** - which relies on rigorous process simulation models to accurately estimate and manage these emissions. Such a system is a huge advantage over spreadsheet-based compliance as most tasks can be automated, and errors associated with data-input reduced.

Recently Process Ecology expanded its cloud-based emissions simulation software to include the estimation of a wide range of methane/GHG sources and venting/flaring volumes at upstream oil and gas facilities. This advanced software package, **Methane Emissions Advisor (MeAdvisor™)**, accurately estimates oil and gas facility methane, volatile organic compounds and other GHG emissions for reporting

purposes. A key strength is the ability to more accurately estimate specific sources (e.g. non-routine events, and routine emitters such as tanks and dehydrators). It provides a cost effective way to not only report these emissions but also identify emissions reduction and optimization opportunities.

**MeAdvisor™** provides an accurate estimate of emissions without having to be an expert. Facility data is uploaded to the system to enable emissions inventory and tracking. In addition to an engineering interface, **MeAdvisor™** has an easy to use interface specifically for the operators, eliminating the need for an expert process engineer onsite. **MeAdvisor™** also tracks emissions sources where factors are the only option, ensuring a complete inventory of methane emissions.

With improved accuracy of emissions inventory and source detection, **MeAdvisor™** offers a significant opportunity to reduce emissions and meet emissions reduction targets.



**PROCESS ECOLOGY**

To learn more, please visit:  
[www.processecology.com](http://www.processecology.com)