Engineering for a sustainable oil & gas industry

MeAdvisor™
methaneadvisor.com

Manage flaring, venting and methane emissions from upstream oil & gas operations.

Company-wide, consistent and accurate quantification and management of methane emissions.

MeAdvisor builds on rigorous engineering methods and facility-specific information to reveal actual methane emissions profiles for each source and enable the identification of optimization opportunities.

A powerful web-based system for accurate estimation and reporting

Carbon Risk Management

Demonstrate accurate GHG emissions tracking and company wide best practices. Improve Sustainability Reporting and investor confidence.

Ensure Compliance

Simplify data gathering from the field. Facilitate accurate tracking of emissions. Meet the most stringent regulatory requirements for air emissions estimation.

Profitable Operations

Identify the best opportunities for plant optimization and operating cost reductions. Maximize the value from simulation efforts.

Engineering Support

Benefit from Process Ecology's highly qualified process engineers to interpret data to detect design and operational optimization for sustainability.
In this example, 5 typical oil & gas facilities recorded flared and vented emissions for a year using MeAdvisor™.

The data showed where significant changes could be made to reduce flared, vented and GHG emissions. The second year of data shows significant improvement.

**1. Compressor Station 1 & 2**
- **Venting**: 673 → 101 \(\text{E}^3\text{m}^3/\text{year}\)
- **Flaring**: 1.4 → 306.9 \(\text{E}^3\text{m}^3/\text{year}\)
- **GHG Emissions**: 11,262 → 2,813 \(\text{tonne/Year CO}_2\text{e}\)

Achieved by:
- Decreasing Compressor Starts
- Installing a Flare for Facility
- Reducing TEG Dehy Circulation
- Sending TEG vent and Blowdowns to Flare

**2. Oil Batteries 1 & 2**
- **Venting**: 1,549 → 182 \(\text{E}^3\text{m}^3/\text{year}\)
- **Flaring**: 1,273 → 2,011 \(\text{E}^3\text{m}^3/\text{year}\)
- **GHG Emissions**: 29,305 → 10,019 \(\text{tonne/Year CO}_2\text{e}\)

Achieved by:
- Reducing PVRV Releases (ops, maintenance, design)
- Sending all tank vents and PVRVs to flare

**3. 50 MMSCFD Gas Plant**
- **Venting**: 149 → 74 \(\text{E}^3\text{m}^3/\text{year}\)
- **Flaring**: 433 → 276 \(\text{E}^3\text{m}^3/\text{year}\)
- **GHG Emissions**: 3,076 → 2,019 \(\text{tonne/Year CO}_2\text{e}\)

Achieved by:
- Decreasing Blowdowns
- Reducing EG Refrig Circulation Rate
- Reducing tank emissions by installing a new tank and sending all tank vents and PVRVs to flare.

**4. Company Wide Emissions**
- **Venting**: 2,367 → 357 \(\text{E}^3\text{m}^3/\text{year}\)
- **Flaring**: 1,707 → 2,011 \(\text{E}^3\text{m}^3/\text{year}\)
- **GHG Emissions**: 43,646 → 14,852 \(\text{tonne/Year CO}_2\text{e}\)

Achieved by:
- Recording all Non-Routine Events
- Accurately calculating Continuous Sources of emissions
- Focused capital and operating spending to reduce emissions where it makes the most sense.

**Savings**: $576k in one year

**Flared and vented volumes (m³)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Flaring</th>
<th>Cumulative Flared and vented volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>Flared 300,000</td>
<td>Vented 300,000</td>
</tr>
<tr>
<td></td>
<td>Flared 200,000</td>
<td>Vented 200,000</td>
</tr>
<tr>
<td></td>
<td>Flared 100,000</td>
<td>Vented 100,000</td>
</tr>
<tr>
<td></td>
<td>Flared 0</td>
<td>Vented 0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Flaring</th>
<th>Cumulative Flared and vented volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>Flared 300,000</td>
<td>Vented 300,000</td>
</tr>
<tr>
<td></td>
<td>Flared 200,000</td>
<td>Vented 200,000</td>
</tr>
<tr>
<td></td>
<td>Flared 100,000</td>
<td>Vented 100,000</td>
</tr>
<tr>
<td></td>
<td>Flared 0</td>
<td>Vented 0</td>
</tr>
</tbody>
</table>

methaneadvisor.com

© Copyright 2017. Process Ecology Inc. All rights reserved.

6108 Bowness Road NW
Calgary, AB T3B 0E1
(403) 690-0550
(403) 313-8931

@processseology
processseology.com