Overview of the Best Practice Guidance for Effective Methane Recovery and Use from Abandoned Coal Mines

Clark Talkington
Vice President
Advanced Resources International, Inc.

14th session of the Group of Experts on CMM
November 8, 2019
Primer on global AMM

• Countries continue to exploit and exhaust their coal reserves at a faster pace

• Closure of coal mines, and therefore Abandoned Mine Methane (AMM) emissions, will continue to be a relevant and important issue for the foreseeable future

• Forecasts of global coal mine methane (CMM) emissions indicate that AMM represented 17% of the total mine methane emissions in 2010 and the proportion may increase to as much as 24% in 2050.
### Top AMM producing countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of projects</th>
<th>Emissions avoided (Mt CO₂e)</th>
<th>Main AMM use</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>Unknown</td>
<td>Believed to be small</td>
<td>Unknown</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>10</td>
<td>0.36</td>
<td>Power generation</td>
</tr>
<tr>
<td>France</td>
<td>5</td>
<td>10.60</td>
<td>Industrial</td>
</tr>
<tr>
<td>Germany</td>
<td>40</td>
<td>5.71</td>
<td>Power generation</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>20</td>
<td>0.64</td>
<td>Power generation</td>
</tr>
<tr>
<td>United States</td>
<td>20</td>
<td>2.70</td>
<td>Pipeline sales</td>
</tr>
</tbody>
</table>
Overview of the BPG

• Raise awareness of AMM opportunities and hazards by providing accessible high-level guidance.
  – complements the BPG on Effective Methane Drainage and Use in Coal Mines, first issued in 2010.

• Sponsored by the United Nations Economic Commission for Europe (UNECE) and Global Methane Initiative (GMI)

• The AMM BPG was presented at the 28th session of the Committee on Sustainable Energy (Geneva, 25-27 September in 2019)
## Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Event and Details</th>
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<tbody>
<tr>
<td>23 October 2017</td>
<td>Workshop on CMM and AMM in the context of Sustainable Energy</td>
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</table>
| 24-25 October 2017    | • GoE recommended development and publication of AMM BPG  
                        • Agreed to develop the BPG in cooperation with GMI  
                        • Created Task Force to draft document                                                             |
| November 2018         | 1<sup>st</sup> draft circulated amongst Task Force                                                                                               |
| August 2019           | Drafts and final versions delivered to GMI and UNECE for review and comment  
                        UNECE editorial review                                                                                                                             |
| September 2019        | Publication on UNECE website  
Best Practice Guidance for Effective Methane Recovery and Use from Abandoned Coal Mines
Contributors to the BPG

• Principal author
  – David Creedy, Sindicatum Sustainable Resources

• Primary contributions
  – Raymond C. Pilcher, Raven Ridge Resources
  – Neil Butler, HEL-East Ltd.

• Other contributors:
  – Clemens Backhaus, A-TEC Anlagentechnik GmbH
  – Michael Coté, Ruby Canyon Engineering
  – Janusz Jureczka & Jerzy Hadro, The Polish Geological Institute
  – James Marshall, Raven Ridge Resources
  – Michal Drabik, UN Economic Commission for Europe
  – Volha Roshchanka, United States Environmental Protection Agency/ Global Methane Initiative
  – Clark Talkington, Advanced Resources International
Outline of the AMM BPG

Executive Summary

Chapter 1: Introduction
Chapter 2: Source of AMM emissions
Chapter 3: Quantifying AMM resources and predicting gas flow rates
Chapter 4: Evaluating feasibility of AMM extraction and use
Chapter 5: Optimizing AMM production
Chapter 6: AMM project development
Chapter 7: Policy and regulatory mechanisms to facilitate and promote AMM extraction and use
Chapter 8: Summary and conclusions
Chapter 9: Case studies (Germany, Poland, UK, US)

Appendices
Example case study: Stillingfleet Mine

- One of the handful AMM projects operational in the UK
- Mine was operational through 2004
- Gas is still extracted through 2019, and used in reciprocating gas engines for electricity generation
Contact Information:

Clark Talkington
Vice President
Advanced Resources International, Inc.
Phone: +1 703 528 8420
Email: ctalkington@adv-res.com

Office Location:
4501 Fairfax Drive, Suite 910
Arlington, VA 22203
Phone: (703) 528-8420
Fax: (703) 528-0439