



METHANE  
GUIDING  
PRINCIPLES

# Methane Guiding Principles Signatory

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ENN Energy Holdings  
March, 2024



**Company:** ENN Energy Holdings

**Year of Joining Methane Guiding Principles:** March, 2021

**Senior Representative:** Mr Liu Jianwei, Chief Gas Technology Engineer

## Principle One:

### Continually reduce methane emissions.

Please state what specific activities or projects your company has undertaken to reduce methane emissions. Please refer to the previous year’s annual MGP reporting where applicable to refer to intended activity. Link to sustainability report where relevant to provide further detail.

- Describe how the reduction was achieved including description of the asset type, technology type, timeframe. What was the end result?
- Provide data to support your description e.g., the actual amount of emissions reduction achieved, or the reduction in methane intensity.

2023 Completed Activity	2024 Intended Activity
<ul style="list-style-type: none"> <li>• In 2023, we conducted comprehensive and precise leak detection of the pipeline network and facilities using portable gas detectors, sniffer dogs (in Xiaoshan, Zhejiang), and vehicles equipped with laser methane detectors. A total of 291 laser methane leak detection devices were deployed at all city-gate stations, focusing on 24-hour continuous monitoring of regulators, pipelines, filters, relief valves, and storage tanks.</li> <li>• Replacing Old Pipelines: In 2023, the Company replaced 22 kilometers of old cast iron pipes and 711 kilometers of buried steel pipes, totaling 733 kilometers of pipeline replacement.</li> </ul>	<ul style="list-style-type: none"> <li>• In 2024, ENN Energy will focus on four main areas of work:</li> <li>• Continue the on-site measurement of methane emissions in the production process in collaboration with China University of Petroleum.</li> <li>• Participate in the development of the national standard "Greenhouse Gas Emission Accounting and Reporting Requirements Part XX: Urban Gas Supply Enterprises."</li> <li>• Equip all citygas companies with PPM (parts per million) level laser methane detection vehicles for network leak detection, with some companies also equipped with PPB (parts per billion) level equipment.</li> <li>• Continue the hydrogen blending project at Taixing ENN, conducting related tests on pipelines, regulators, and user measurements, as well as theoretical calculations related to leak explosions.</li> </ul>

## Principle Two:

### Advance strong performance across the gas supply chain

Please include answers to the following questions:

1. Did you participate in any methane research or plan to do so?
2. Did you conduct any outreach on methane management?
  - Describe what action you have taken to engage industry players across the value chain to better understand how to achieve robust methane emissions management. Outreach activity could include training sessions, participation in webinars, influencing of NOJV partners, or publication of guidance. Activity could also include commercial incentives or engagement with investors to drive better performance by others.
  - Provide details of any outcomes that resulted from your action.

2023 Completed Activity	2024 Intended Activity
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## Principle Three:

### Improve accuracy of methane emissions data.

- Describe action taken to improve methane emissions data collection methodologies. This could be application of new technology at an operated site(s), investment and participation in R&D initiatives, development of monitoring/modelling software, or support to research that improves the accuracy of the quantification of methane emissions.
- Where new technology /software has been piloted or adopted, it is helpful to describe how it works, the reasons it was selected, and how it was deployed. Any data that can be shared to demonstrate improvements is useful.
- How these new methods/technologies has been adopted into your accounting process if at all.

2023 Completed Activity	2024 Intended Activity
<ul style="list-style-type: none"> <li>• Completed in-depth methane control and emission work in citygas business scenarios, including methane emission data measurement, and exchange control and emission means with the industry.</li> <li>• In 2023, ENN Energy collaborated with China University of Petroleum (East China) to conduct methane emission tests at typical stations (citygate stations, storage and distribution stations, and combined gate and storage and distribution stations) and during replacement scenarios. We calculated the methane emission rates in these station scenarios, as well as during residential gas replacement and external network replacement. The results of these measurements provide guidance and recommendations for the company's subsequent emission reduction efforts.</li> </ul>	<ul style="list-style-type: none"> <li>• In 2024, ENN Energy will primarily continue with methane emission testing.</li> <li>• Additionally, focusing on hydrogen blending project, and conducting on the impact of hydrogen blending on methane usage, as well as its effects on pipelines, regulators, and metering equipment.</li> </ul>

## Principle Four:

### Advocate sound policy and regulations on methane emissions

Advocacy consists of active participation in legal consultation processes, external policy statements, and direct engagement with government.

- Consider providing details on the region or regulation involved, how you undertook your advocacy, others involved, and the outcome.

2023 Completed Activity	2024 Intended Activity
<ul style="list-style-type: none"> <li>• In November 2023, the Ministry of Ecology and Environment, in conjunction with relevant departments, issued the "Methane Emission Control Action Plan," which systematically arranged and deployed methane control related works in China. ENN Energy deeply understands the significance of methane control and attaches great importance to methane management, considering methane emission control as a crucial task in achieving the Company's net-zero emission target by 2050.</li> </ul>	<ul style="list-style-type: none"> <li>• As a founding member of the China Oil and Gas Methane Alliance, ENN Energy participated in the Alliance's 2024 annual meeting. Together with member companies, ENN Energy exchanged information on the 28th United Nations Climate Change Conference and discussed the 2024 annual work plan. The Company will also share leading technologies in methane control within the industry to serve as a reference for advocacy of sound policy and regulations on methane emissions.</li> </ul>

## Principle Five: Increase transparency

Please include answers to the following question:

1. Are you participating in OGMP 2.0, or do you intend to do so? If you are participating in OGMP 2.0 you may provide a link to the website.
  - Describe what activity you have carried out e.g., providing information in relevant external reports on methane emissions data, methodologies, and progress and challenges in methane emissions management.
  - If you have contributed towards the standardization of comparable external methane reporting describe the activity, you have taken.

2023 Completed Activity	2024 Intended Activity
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## Methane Emissions

<p>Do you report absolute methane emissions within your sustainability report? <i>If so, provide link.</i></p>	
<p>Do you report a methane intensity within your sustainability report? <i>If so, provide link.</i></p>	
<p>What is your organization's total absolute methane emissions? Provide a figure in tons. Provide latest data publicly available.</p>	
<p>State your methodology.</p>	
<p>State your reporting boundary.</p>	
<p>What are your organization's methane intensity? Provide latest data publicly available.</p>	
<p>State your methodology.</p>	
<p>State your reporting boundary.</p>	
<p>Do you have a methane emission target? If yes, please state what it is, including the boundaries and methodology. If no, are you developing such a target? Please state your intended timeline.</p>	<p>Together with members of the China Oil and Gas Methane Alliance to reduce the average methane emission intensity of natural gas production processes below 0.25%.</p>