Understanding the application of sustainable development goals in oil and gas business activities

U S Hamzah*
Lecturer of Magister Programme of Petroleum Engineering, FTKE, Universitas Trisakti, Jakarta, Indonesia

*syahmudi@yahoo.com

Abstract. The oil and gas industry is the centre of the global economy and many national economies, including in developed and developing countries. This is also important for sustainable development, because oil and gas are the main pillars of the global energy system and, as such, are drivers of economic and social development. By mapping the linkages between the oil and gas industry and the Sustainable Development Goals (SDGs), the aim of this study is to encourage oil and gas companies to further incorporate relevant SDGs into their businesses and operations, validate their current efforts and trigger ideas. Oil and gas business activities that are in line with the sustainable development agenda can lead to greater efficiency, cost savings and competitiveness, and increase social permits to operate. The method used is to analyze the achievement of SDGs by paying attention to past experience and expectations of potential oil and gas activities going forward in efforts to achieve operational, environmental and social sustainability. Results of this study are to increase understanding of the relationship between SDGs and oil and gas business activities. Conclusion of this study is to emphasize that the oil and gas industry has the potential to contribute to the 17 SDGs.

1. Introduction
The achievement agenda for the Sustainable Development Goals (SDGs) in 2030 is a historic global agreement to eradicate extreme poverty, fight inequality and injustice and not leave anyone behind. The agenda was approved by world leaders at the United Nations in 2015, there were 17 Sustainable Development Goals (SDGs) that succeeded as a continuation of the Millennium Development Goals (MDGs). SDG is universal with all signatories expected to contribute internationally by doing it domestically [1].
A total of 17 SDGs are as follows [2]:

- **No poverty.** End poverty in all its forms everywhere.
- **Zero hunger;** End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
- **Good health and wellbeing;** Ensure healthy lives and promote well-being for all at all ages
- **Quality education;** Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- **Gender quality;** Achieve gender equality and empower all women and girls.
• **Clear water and sanitation;** Ensure availability and sustainable management of water and sanitation for all.

• **Affordable and clean energy;** Ensure access to affordable, reliable, sustainable and modern energy for all.

• **Decent work and economic growth;** Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

• **Industry, innovation and infrastructure;**
  - Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

• **Reduce inequality** Reduce inequality within and among countries

• **Sustainable Cities and communities;** Make cities and human settlements inclusive, safe, resilient and sustainable

• **Responsible consumption and production;** Responsible consumption and production ensure sustainable consumption and production patterns

• **Climate action;** Take urgent action to combat climate change and its impacts

• **Life below water;** Conserve and sustainably use the oceans, seas and marine resources for sustainable development

• **Life on land;** Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

• **Peace and justice;** Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

• **Partnership for the goals.** Strengthen the means of implementation and revitalize the global partnership for sustainable development

![Figure 1. 17 SDGs [1].](image)

Indonesia is one of the member states of the United Nations that plays an active role in determining the goals of the Sustainable Development Goals as set out in the Transforming Our World document: The 2030 Agenda for Sustainable Development [3].

Based on Presidential Regulation of the Republic of Indonesia Number 59 of 2017 Concerning Implementation of Achievement of SDGs, Indonesia have commitment to implement of SDGs [3].

Oil and gas sector activities in Indonesia have applied the principles of sustainable development and in the implementation of their activities, from the stage of exploration, exploitation to abandonment of post-operation restoration sites [4,5].
The oil and gas contract regulation has fulfilled the principles of sustainable development, with environmentally sound profit sharing contracts, which began implementing environmental baseline assessment at the operation stage, environmental impact analysis studies at the field development stage and conducting an environmental site assessment [5].

The achievements of oil and gas activities in Indonesia are very encouraging in achieving the Company's Environmental Performance Rating Program in Environmental Management organized by the Ministry of Environment and Forestry. Oil and gas activities received the gold award as the highest award, out of 20 gold titles, oil and gas activities received 14 awards [8,9].

Oil and Gas Company Gold Rating five years Performance of PROPER KLHK as below:

| Year Period   | Oil & Gas Other Company Total Company |
|---------------|---------------------------------------|
| 2013-2014     | 4 5 9                                 |
| 2014-2015     | 7 5 12                                |
| 2015-2016     | 7 5 12                                |
| 2016-2017     | 11 8 19                               |
| 2017-2018     | 14 6 20                               |

2. Methods
The method used is to analyse the achievement of SDGs by paying attention to past experience and expectations of potential oil and gas activities going forward in efforts to achieve operational, environmental and social sustainability.

- Based on Oil and Gas Production Sharing Contracts in Indonesia, since 1995, the principles of sustainable development have been implemented. The contractor must conduct an
environmental site assessment at the beginning of the contractor's activities, conduct an environmental impact analysis in the production stage and conduct an environmental site assessment when stopping part all activities

- The Oil and Gas Law in Indonesia No. 22 Year 2001 has emphasized the importance of applying the principles of sustainable development in its operations, taking into account the environmental and socio-economic aspects of the community surrounding the activities [5].
- Understanding the characteristics and potential activities of oil and gas activities to adjust their activities to achieve SDGs.
- The potential achievement of proud oil and gas activities in the company’s environmental performance rating program organized by the ministry of environment and forestry. (2013-2018 PROPER Rank of K-LHK) [9].

Roadmap Framework:

- Establishing the sector’s current position with respect to its impact on the SDGs across its value chain.
- Identifying key impact opportunities through which the sector can make the most transformative contribution to the SDGs collectively.
- Discuss with the sector to action while also engaging others who can help deliver success.

The objectives, main activities and desired outcomes under each of these three steps are summarized in Figure 4. The remainder of this document covers each step in more detail and provides templates and tools to help bring the process to life.

Figure 4. Key steps involved in an SDG sector roadmap.

Sector Implementation of SDGs Mapping:

- Sector relevant SDGs target
- How can the sector contribute?
- Relevant value chain stage (life cycle perspectives)
- Current level of impact (direct & indirect impact)
- Level of potential impact (high, medium or low)

3. Results and discussion

3.1. Results

Result of this study is to increase understanding of the relationship between SDGs and oil and gas business activities.
By mapping the linkages between the oil and gas industry and the SDGs, the aim of this study is to encourage oil and gas companies to further incorporate relevant SDGs into their businesses and operations, validate their current efforts and trigger ideas.

Oil and gas business activities that are in line with the sustainable development agenda can lead to greater efficiency, cost savings and competitiveness, and increase social permits to operate.

3.2. Discussions

3.2.1. How are the SDGs different from the MDGs? The 17 SDGs with 169 targets are broader in scope and go further than the MDGs by addressing the root causes of poverty and the universal need for development that works for all people. The goals cover the three dimensions of sustainable development: economic growth, social inclusion and environmental protection.

Building on the success and momentum of the MDGs, the new goals cover more ground, with ambitions to address inequalities, economic growth, decent jobs, cities and human settlements, industrialization, oceans, ecosystems, energy, climate change, sustainable consumption and production, peace and justice.

3.2.2. Localizing SDGs in Indonesia. SDGs Mainstreaming into Development Agenda as describes at below:

![Figure 6. SDGs mainstreaming into development agenda [10].](image_url)
3.2.3. What the next step that must be done to formulate priority work programs for oil and gas activities in Indonesia to achieve SDGs by carrying out the following activities:

- Identify 17 SDGs into groups of sustainability aspects (environmental, economic & social)
- Field survey of all upstream and downstream oil and gas business activities to map priorities and potential activities that can support the achievement of the SDGs.
- Evaluating the results of field surveys to formulate activities to achieve SDGs 2020-2030 in the oil and gas sector.

Prioritizing oil and gas business activities that can support the achievement of the 17 SDGs.

4. Conclusions

Conclusion of this study is to emphasize that oil and gas business activities have the potential to contribute to the achievement of 17 SDGs. The next step that must be done is to formulate priority work programs for oil and gas activities in Indonesia to achieve SDGs by formulate upstream oil and gas activities to achieve SDGs 2020-2030 relevant to the oil and gas sector.

Acknowledgement

I would like to thank Warek I, Dekan FTKE, and KaProdi Magister Teknik Perninyakan Universitas Trisakti, who gave me the opportunity to participate in the AASEC Conference in Denpasar, Bali.

References

[1] Government of United Kingdom 2018 Department for International Development, Corporate Report, December 2017 Updated 23 May 2018 Implementing the Sustainable Development Goals
[2] UNDP, IFC, IPIECA 2017 Mapping The Oil And Gas Industry To The Sustainable Development Goals: An Atlas.
[3] Presidential Regulation of The Republic of Indonesia Number 59 of 2017 Concerning Implementation of Achievement of SDGs, Indonesia have commitment to implement of SDGs.
[4] Model PSC Bilingual 2013 Production Sharing Contract of Oil and Gas in Indonesia SKK Migas
[5] Indonesia Oil and Gas Law No. 22 Year 2001.
[6] IPIECA, IOGP, OGP Report Number 461 2011 Ecosystem services guidance Biodiversity and ecosystem services guide and checklists.
[7] IPIECA, API Energy 2015 IOGP Oil & Gas Industry Guidance On Voluntary Sustainability Reporting.
[8] "PROPER” Collaboration and Business Entity for SDGs, Ministry of Environment and Forestry of Republic of Indonesia, 2018 Company Environmental Performance Rating Program in Environmental Management, Jakarta, 2019.
[9] Decree of The Minister of Environment and Forestry of The Republic of Indonesia No 613/MenLHK/Setjen/ Kum.1/12/2018 Concerning 2017-2018 Company Performance Rating Results In Environmental Management, Jakarta December 2018
[10] Badan Perencanaan Pembangunan Nasional RI 2018