

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

MedcoEnergi (PT Medco Energi Internasional Tbk/MEI) is an energy and natural resources company listed on the Indonesia Stock Exchange with Oil & Gas, Power Generation and Copper Mining business segments. MedcoEnergi has interests in 16 oil and gas properties in Indonesia, 12 of which are producing. The Company also has interests in 12 oil and gas properties in eight further countries, with key producing assets in Oman, Thailand, Vietnam and Yemen and additional assets in Malaysia, Libya and Tanzania. In December 2021 MedcoEnergi announced it had entered into an agreement to acquire ConocoPhillips Indonesian Assets, which include a 54% working interest in Corridor PSC and a 35% interest in Transasia Pipeline Company Pvt. Ltd. The acquisition was completed in March 2022 and builds upon a track record of accretive acquisitions. It also strengthens MedcoEnergi’s footprint in Southeast Asia and is in line with its Climate Change Strategy. A wholly-owned subsidiary Medco Power operates power generation assets in Indonesia. Medco Power promotes clean energy solutions and has interests in gas-fired, geothermal energy, hydro-electricity and solar PV power plants. MedcoEnergi also holds a non-consolidating 23.13% effective interest in PT Amman Mineral Nusa Tenggara (AMNT), a copper and gold mine in Indonesia.

In 2021, we announced our Net Zero climate aspirations and established our Climate Change Strategy. The Strategy was developed in line with our vision and mission, the framework of our sustainability aspirations, the Paris Agreement and the Nationally Determined Contribution (NDC) of the countries of our operations. In implementing our Climate Change Strategy, we aim to tackle the issue of climate change, address climate-related risks and opportunities for our business and stakeholders, and secure affordable and sustainable energy and natural resources where we operate.

Financial, reserves and resources information is based on our financial statements and so includes our entire asset portfolio. The CDP submission is based on the operational control of the Company’s assets in oil & gas and power generation in Indonesia, Thailand, Oman, Malaysia and Singapore.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1 2021	December 31 2021	Yes	2 years

C0.3

(C0.3) Select the countries/areas in which you operate.

- Indonesia
- Malaysia
- Oman
- Singapore
- Thailand

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

USD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Operational control

C-OG0.7

(C-OG0.7) Which part of the oil and gas value chain and other areas does your organization operate in?

Row 1

Oil and gas value chain

Upstream

Other divisions

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, a Ticker symbol	MEDC

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Board Chair	<p>MedcoEnergi follows a Good Corporate Governance structure that has a segregation of duties between the General Meeting of Shareholders, and a two-tier Board system: the Board of Commissioners (BOC - headed by the Chairwoman) and the Board of Directors (BOD), in line with applicable regulations in Indonesia and the Articles of Association. The BOC supervises the BOD and provides advice pursuant to the Articles of Association, including the oversight of the climate related issues across the organization.</p> <p>The BOD oversees the integration of climate-related issues, risks, and opportunities into strategic planning and decision-making; monitor the climate-related risk management process; and review climate-related corporate goals, incentives, targets, and key performance indicators (KPIs).</p>
Director on board	<p>The BoD is responsible for establishing, reviewing and implementing MedcoEnergi's Climate Change Strategy and ensuring that climate-related issues, risks and opportunities are integrated within the Company's overall business strategy and objectives. In addressing climate-related risks, the BoD is tasked in formulating and implementing climate-related Work Programs and Budget, as well as in overseeing the climate risk management process.</p> <p>The MedcoEnergi Board of Directors (BoD) consists of the President Director, the Chief Executive Officer (CEO), the Chief Financial Officer (CFO), the Chief Operating Officer (COO) and the Chief Administrative Officer (CAO). Their responsibilities in integrating climate-related risks and opportunities are listed below:</p> <ul style="list-style-type: none"> • President Director: responsible for climate-related strategic key stakeholder engagement; • CEO: responsible for developing, reviewing and implementing the Climate Change Strategy and overseeing the corporate level coordination and implementation of climate-related risk management; • CFO: responsible for the financial aspects, business planning and investor relations in implementing the Climate Change Strategy; • COO: responsible for the climate-related operational aspects of our oil & gas business and ensuring progress towards our greenhouse gas emission (GHG) targets; • CAO: responsible for overseeing the corporate-level coordination and implementation of the Climate Change Strategy. <p>In 2021, the BoD was involved in overseeing the climate-related risk and opportunity assessment conducted during the year and in developing, approving and establishing MedcoEnergi's Climate Change Strategy. The Strategy aims to support MedcoEnergi's climate aspiration to achieve net zero of Scope 1 and 2 emissions by 2050 and Scope 3 emissions by 2060.</p> <p>We provide performance incentives for attaining greenhouse gas (GHG) emissions reduction targets. These targets are part of our sustainability key performance indicators (KPIs) and are included in the Team Performance Contract (TPC) of relevant teams and individuals. We link the TPC outcomes to our reward programs, including salary review and performance incentives.</p>
Other C-Suite Officer	<p>The CEO of Medco Power Indonesia (MPI), a MedcoEnergi subsidiary, is responsible in leading the expansion of the Company's renewable energy portfolio to support the regional and global trend in energy transition.</p> <p>As an example of a climate-related decision made by the C-Suite Officer, in 2021 the CEO of MPI signed a power purchase agreement (PPA) with the State-owned Electricity Company (Perusahaan Listrik Negara/PLN) to supply geothermal generated power through the Medco Cahaya Geothermal entity over a 30-year period. This decision aims to support PLN's commitment to achieve a 23% share of renewable energy in the national energy mix by 2025, as stated in PLN's Electricity Business Plan (Rencana Usaha Penyediaan Tenaga Listrik/RUPTL) and Indonesia's Nationally Determined Contribution (NDC).</p>
Board-level committee	<p>The Sustainability & Risk Management Committee (SRMC) provides assistance to the Board of Commissioners (BoC) in fulfilling its corporate governance oversight responsibilities related to sustainability and climate-related risk management. This responsibility includes addressing climate-related risks and opportunities pertaining to the implementation of MedcoEnergi's Climate Change Strategy.</p>

C1.1b

(C1.1b) Provide further details on the board’s oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – some meetings	<p>Reviewing and guiding strategy</p> <p>Reviewing and guiding major plans of action</p> <p>Reviewing and guiding risk management policies</p> <p>Reviewing and guiding annual budgets</p> <p>Reviewing and guiding business plans</p> <p>Setting performance objectives</p> <p>Monitoring implementation and performance of objectives</p> <p>Overseeing major capital expenditures, acquisitions and divestitures</p> <p>Monitoring and overseeing progress against goals and targets for addressing climate-related issues</p>	<Not Applicable>	<p>Climate change is an overarching issue that interacts with every category of the risk universe within MedcoEnergi’s Enterprise Risk Management (ERM). This is because we recognize that climate-related risks and opportunities inherently impact businesses and operations.</p> <p>Ultimately, climate-related issues are a scheduled-agenda item in the Board of Directors (BoD) weekly meetings, monthly performance reviews, quarterly performance reviews, and the project gate review meetings. During these meetings, risk registers and climate-related performance are reported by the operating businesses and divisions.</p> <p>By coordinating with these different divisions, the Corporate Sustainability & Risk Management (CSR) division is tasked with assisting the BoD in creating the required infrastructure and in implementing the Board’s agenda for sustainability and climate-related risk management. The BoD then reviews, guides and approves necessary climate-related action plans based on the information given.</p> <p>In addition to the above, there have been regular meetings in relation with the establishment of the Climate Change Strategy in 2021 between the BOD, the Climate Change working group from relevant functions coordinated by CSR and an international consultant engaged for the effort.</p>

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Yes	<p>Ensuring that members of the Board of Directors (BoD) are equipped with the necessary knowledge and tools to address climate-related risks is key in the implementation of the Company’s Climate Change Strategy. We recognize this as we highlighted that “Governance” is a key enabler in our Strategy. In 2021, two members of MedcoEnergi’s BoD completed the Climate Designation Program by Competent Boards and received a Climate Competent Boards Certification.</p> <p>The objective of the Program is to equip Boards insights and tools for Board members to provide oversight on the latest climate-related issues and deliver practical strategies to drive their company towards a net zero economy. The Program covered strategic topics that include net zero transitions, reporting and regulatory trends, climate responsible investment and insurance, board-level accountability and strategic implementation.</p> <p>Certifications from established programs, such as the Climate Designation Program above, will be used to assess board members’ competence in dealing with climate-related issues.</p> <p>Furthermore, in strengthening our internal capacity on climate change issues, we are working in collaboration with an external consultant in developing an in-house climate change capacity building program. The program will cover various aspects and issues of climate change and will involve the participation of our people across various levels from our Board of Directors to our asset-level staff.</p>	<Not Applicable>	<Not Applicable>

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly
President	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly
Other C-Suite Officer, please specify (Board of Commissioners)	<Not Applicable>	Managing climate-related risks and opportunities	<Not Applicable>	Quarterly
Other committee, please specify (Sustainability and Risk Management Committee)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Half-yearly
Chief Financial Officer (CFO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly
Chief Operating Officer (COO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly
Other C-Suite Officer, please specify (Chief Administrative Officer)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly
Please select	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Please select	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Please select	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

We strategically integrate climate change considerations into the Company’s governance structure. The MedcoEnergi Board of Commissioners (BoC) provides supervision to the Board of Directors (BoD) on risk management for all businesses, including climate-related risks and issues, with the support of the Sustainability & Risk Management Committee (SRMC). The President Director and Chief Executive Officer (CEO) has the ultimate responsibility for planning, managing and controlling the supervision of the management of MedcoEnergi. This responsibility includes developing, reviewing and establishing the Climate Change Strategy to integrate climate-related risks and opportunities into the business strategy as well as to steer the Company in achieving its net zero climate aspirations.

The BoD is supported in addressing climate-related risks by the climate change working team which includes relevant corporate functions. These key functions report on their operations to the BoD and participate in Quarterly Performance Review (QPR) meetings, supporting the BoD’s integration of climate-related risks and opportunities into business strategy and decision-making. Climate-related issues are tracked, reported and monitored in the QPR.

The following lists several management level positions from key functions and their climate-related responsibilities :

- **Sr Manager, Corporate Sustainability and Risk Management:** coordinates the BoD’s climate change agenda with the key functions and subsidiaries including the implementation of the Climate Change Strategy, climate-related risk assessment facilitation, and key function support in engaging various internal and external stakeholders;

- **VP, Corporate Health Safety and Environment:** leads and coordinates the implementation of the Climate Change Strategy, monitors and reports GHG emission performance, develops organization capability in tackling climate change, facilitates the development of risk mitigation plan and the execution of climate-related opportunities across the organization;

- **Sr. Manager, Sustainable Development Division:** serves as the subject matter expert (SME) in the the climate-related risk assessment process, supports the assets in executing the Climate Change Strategy and supports the project gate reviews on climate-related issues;

- **Head of Health, Safety, Environment, Social and Security of Medco Power Indonesia (MPI):** leads and coordinates the implementation of the Climate Change Strategy, monitors and reports GHG emission performance, facilitates the development of climate change risk mitigation plans and execution of climate-related opportunities in MPI in coordination with VP Corporate Health Safety and Environment;

- **Sr VP, Assets:** implements the Climate Change Strategy for oil and gas assets; and

- **Head of MPI Business Platform:** implements the Climate Change Strategy in MPI assets.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	We provide performance-based incentives for attaining GHG emissions reduction targets as part of the Company’s sustainability key performance indicators (KPIs) and Team Performance Contract. These incentives are rewarded to teams and individuals within the relevant corporate functions (i.e. Health, Safety and Environment (HSE), Operations, Sustainable Development Division, Corporate Sustainability & Risk Management, Medco Power Indonesia’s Health, Safety, Environment, Social and Security).

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Other, please specify (Asset team and relevant corporate functions related to GHG emissions reduction initiatives within MedcoEnergi)	Monetary reward	Emissions reduction project	The monetary incentive is rewarded to employees upon the Company’s performance and achievement of the GHG emissions reduction targets, as part of MedcoEnergi’s sustainability key performance indicators (KPIs). The incentive is calculated as part of the year-end reward calculation for employees.

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	1	2	<p>Our short-term time horizon is one to two years, during which we can complete our committed projects. Within this short-term horizon we develop detailed operational and financial projections and use them to manage performance and expectations and the projections are annually reviewed and shared within the Boards.</p> <p>Our GHG forecasting and financial planning processes are used to determine risks and opportunities that could have a material financial impact for that period. Our short-term climate-related risks are generally government policy-related and managed at the asset level through policy and technology to reduce emissions.</p> <p>In addition to regulatory policies, our climate-related qualitative risk assessment indicated that climate-related physical risks are on-going and present across all time horizons. For our short-term physical risks, we will be conducting quantitative risk assessment and developing the appropriate response measures as per the findings of the assessment and international best practice.</p>
Medium-term	2	5	<p>Our medium-term time horizon is two to five years, during which we identify future risks and opportunities and revise our portfolio significantly if required. Based on our climate-related risks and opportunities assessment, we identified that the medium-term horizon is where we start to see a greater stakeholder pressure to shift the business towards a low-carbon future.</p> <p>Medium-term risks take longer to impact our business and may include emerging policies pertaining to stringent mandates for GHG emissions and carbon pricing. Our annual business planning exercise spans across the short and medium term time horizon. Our GHG forecasting and financial planning processes are used to determine the risks and opportunities that could have a material financial impact for that period. These risks are managed by the asset, but if significant, may also be managed by corporate strategies and company-wide risk assessments. Other medium-term risks and opportunities that we have identified include the advancement of renewable energy, the deployment of Carbon Capture, Utilization and Storage (CCUS) within the region as well as the decrease in oil demand in the transport sector.</p>
Long-term	5	20	<p>Our long-term horizon is 5 years and beyond, which can extend as far as 20 years forward depending on the type and nature of the risk (or opportunity). For this time horizon, it is expected that our current portfolio to go through changes and evolution with the energy transition. Based on our climate-related transition risks and opportunities assessment, technologies such as renewable energy, green hydrogen and CCUS will be deployed at a much greater scale within the region.</p> <p>Generally long-term risks and opportunities are managed by our scenario analysis, as they include long-term government policy, technology trends and consumer preferences that affect supply and demand.</p> <p>Furthermore, the long-term horizon is where we foresee that the chronic physical risks we identified (such as extreme heat and water scarcity) during our climate-related risks assessment will manifest. Moving forward, we intend to improve the granularity of our risks assessment to have a greater understanding of the impacts of such risks in the long-term horizon. From the findings, we will be able to develop response measures accordingly and involve the asset team and appropriate corporate functions such as Planning and HSE team.</p>

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

PT Medco Energi Internasional, Tbk (MedcoEnergi) and its subsidiaries have implemented a holistic and integrated Enterprise Risk Management (ERM) framework that follows ISO 31000:2018 on Risk Management. MedcoEnergi identifies a risk or an opportunity if it has a significant probability that it could influence or impact the Company's project portfolio and value chain, business strategy, operational performance and the Company's ability to generate value to its stakeholders. Risks are identified across 8 risks category: strategic, financial, operations, people and organization, IT and business support, regulatory and legal, health safety environment and security, and social and community. Through this framework, climate change is an overarching topic that profoundly interacts with every category of this risk universe.

In assessing the consequence of a risk, MedcoEnergi considers financial and non-financial types of impact, including: (1) Financial, (2) Environment, (3) Health & Safety, (4) Community, (5) Reputation and (6) Legal. The severity of impact is categorized into five levels, as shown below:

- Slight (impact < USD 10M);
- Minor (USD 10M < impact < USD 30M);
- Moderate (USD 30M < impact < USD 80M);
- Major (USD 80M < impact < USD 200M); and
- Extreme (impact > USD 200M).

We define a risk as having substantive financial or strategic impact, if the identified risk has impact of "4 – Major" in one of our impact category. Risks that fall into this category are those that have a significant influence in achieving the Company's vision and mission and MedcoEnergi's ability to deliver stakeholder value from its existing and planned businesses and operations. These risks are prioritized and reviewed by the senior-level management quarterly and the Sustainability & Risk Management Committee (SRMC) at least twice per year. MedcoEnergi considers major financial impact or higher of approximately USD 80 million of our net present value (NPV) and above as having substantive financial impact.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations
Upstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

MedcoEnergi and its subsidiaries implement a holistic, integrated and consistent Enterprise Risk Management (ERM) framework to identify, assess and respond to any risks that could have an impact to our business' objective and sustainability. Through the ERM framework, we acknowledge that climate change is an overarching topic that profoundly interacts with every category of this risk universe.

The respective functions, assets and subsidiaries may set their own requirements and/or criteria on top of the baseline standards and processes to support the effective management of their risks.

The Corporate Sustainability and Risk Management (CSR) division facilitates the risk management process by coordinating with each risk owner from the functions and assets to monitor and ensure progress towards our sustainability and climate targets.

With regards to identifying and integrating climate-related risks, we have carried out the following processes:

Risk identification and assessment

We initiated our climate risk identification in 2021, with a preliminary qualitative climate-related risk physical and transitions risks assessment, covering all our business including our direct operations and upstream. For our physical climate-related risks assessment, we used two scenarios, RCP 4.5 and RCP 8.5, for baseline and 2050 projections; and for our transition scenarios, we used IEA's STEPS and SDS for 2030 and 2040 projections. In identifying climate-related risks and opportunities that have a substantive financial or strategic impact, we utilise the following categorization, which encompasses both our direct operations and upstream business:

- Slight (impact < USD 10M);
- Minor (USD 10M < impact < USD 30M);
- Moderate (USD 30M < impact < USD 80M);
- Major (USD 80M < impact < USD 200M); and
- Extreme (impact > USD 200M).

The categorization above is based on our corporate-level risk matrix, which we implement to all other business risks other than climate-related risks.

Across our direct operations and upstream business, we use the same time horizons to categorize our risks. Our short-term risks cover one to two year time horizons, and they are accounted for in our current projects' operational and financial projections which we use to manage our performance and expectations. Our medium-term risks cover two to five years; these risks are identified based on our climate-related risks and opportunities assessment, and are managed by our business units. Our long-term risks are those that may impact the company in 5 years and beyond, identified by our scenario analysis, and are managed by the relevant corporate functions.

The findings of the assessment was concluded based on a combination of desktop-based analysis and engagement of various functions within MedcoEnergi. The priority climate-related risks and opportunities was then approved by our Board of Directors

Risk prioritization, adaptation planning and implementation

The risk assessment will be followed by adaptation planning, which includes prioritization of climate-related risks and planning for adaptation measures to either mitigate, transfer, or control those risks.

While there are many climate-related risks, it is critical to prioritize them for the sake of effective risk management. To prioritize identified risks and determine materiality, we engaged with key internal stakeholders, using defined criteria to gauge priorities and perceptions of the importance of each material issue. The results indicate the relative significance of climate-related risks to MedcoEnergi.

Prioritization of climate risks allows us to efficiently direct our resources towards measures that address high-priority risks, such as GHG emissions. Therefore, we have focused our efforts on implementing GHG mitigation and low carbon transition initiatives.

Periodic review and feedback

At MedcoEnergi, we require operational functions to register any risk occurrence and report them during the QPR, facilitated by the CSR. The same principle applies to climate-related risk management. Furthermore, as per the ISO 31000:2018 standard on Risk Management, continual improvement is a key process in maintaining and improving the suitability, adequacy, and effectiveness of our risk management framework.

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & Inclusion	Please explain
Current regulation	Relevant, always included	<p>Current climate-related and sectoral-specific regulations are followed closely by the relevant corporate functions within MedcoEnergi. This is to ensure that the Company continues to remain compliant with the existing regulations pertaining to our business and operations.</p> <p>In line with our Enterprise Risk Management Policy, we consider current regulation risks in our climate-related risk assessments. We assess the current regulatory risk aspects, including risks related to the existing regulatory requirements and reporting obligations. Specific examples include regulation concerning greenhouse gas (GHG) emissions and inventory, and the Nationally Determined Contributions (NDCs) under the Paris Agreement for Indonesia and the relevant countries in which MedcoEnergi operates or invest such as Thailand, Oman, etc. Such regulations would strategically and financially impact our Company as we would be required to align to the reduction targets set by host governments. As a result, this may increase our investments in developing and deploying GHG reduction initiatives (CAPEX and OPEX) across our operations.</p> <p>For instance, Indonesia's NDC targets a GHG reduction of 29% unconditionally and 41% with international support by 2030, against business-as-usual (BAU) scenarios of 834 Mt CO₂e and 1,185 Mt CO₂e. Furthermore, the country has pledged to become Net Zero by 2060 or sooner, highlighting the energy sector as one of the five key sectors of focus. As a publicly listed energy and natural resources company in the country, MedcoEnergi is expected to align its climate targets and reduction initiatives to support this NDC.</p>
Emerging regulation	Relevant, always included	<p>To keep in line with the Paris Agreement, MedcoEnergi recognizes that governments are increasingly introducing stringent regulations on climate and greenhouse gas (GHG) emissions. As per our Enterprise Risk Management (ERM) framework, we consider risks from emerging regulation across all our countries of operations in our climate-related risk assessments. We assess the emerging regulatory risk aspects, including risks related to enhanced requirements and reporting obligations.</p> <p>In Indonesia, the following climate-related regulations have been introduced:</p> <ul style="list-style-type: none"> • The Indonesia Government's Law 7/2021 on Harmonization of Tax Regulation, aimed at introducing a domestic carbon tax in the near future. Although this has been established, carbon tax has yet to be implemented and the implementing regulations should be enacted; • Indonesian Financial Services Authority's Circular Letter No. 16/2021 concerning the Annual and Sustainability Reporting which may give way for a more stringent regulation on sustainability and environmental impact reporting; and • Presidential Regulation No. 98/2021 on the Economic Value of Carbon, which sets a domestic carbon price of approximately USD2.06/tCO₂e. The regulation will be implemented mid-2022 for the coal-mining sector, but could potentially affect the energy and power sector in the near future (2025 for other industries). Furthermore, there is a possibility of higher carbon price to be introduced depending on the industry it will be applied to. <p>In Thailand, there is a draft Climate Change Law, which aims to reach the target of carbon neutrality in the energy and transport sector by 2070, whereby the country will commit to reducing annual greenhouse gases emission by 20–25 per cent by 2030.</p> <p>Once the regulations listed above are implemented to our industry, they will impact our operational and investment strategy moving forward. For instance, our Corp HSE would need to ensure that we deploy initiatives to reduce and minimise our operational carbon footprint. On the other hand, Corp Planning would need to consider the price of carbon to ensure our projects and/or investments' financial viability. Furthermore, there is a growing need to ensure transparency in the Company's climate journey, especially with the recently released Indonesian Financial Services Circular Letter No. 16/2021 concerning the disclosure and reporting requirements regarding climate data.</p>
Technology	Relevant, always included	<p>We consider technology risks in our climate-related risk assessments and as part of our Enterprise Risk Management (ERM) framework. Among the technological risks we identified is the large-scale deployment of renewable energy in the region as well as the adoption of Carbon Capture, Utilization, and Storage (CCUS) and hydrogen technologies. Large-scale deployment and accessibility to renewable energy may impact our business should it become the preferred and cheaper option as opposed to the traditional fuels by customers. With regards to hydrogen and CCUS technologies, in Indonesia, their adoption and deployment are still very limited. Therefore, CCUS may potentially require a high CAPEX for its R&D and large-scale deployment within MedcoEnergi's operations.</p>
Legal	Relevant, always included	<p>In line with our Enterprise Risk Management Policy, we consider legal risks in our climate-related risk assessments. We assess the regulatory and legal risks, including the risks related to changes to or non-compliance with the regulatory environment, or political uncertainty.</p> <p>With the increasing climate-related pledges and regulations in our host governments, we aim to continue to monitor national regulations relevant to our business to prevent any forms of non-compliance. Legal risks related to non-compliance would negatively impact MedcoEnergi's business, stakeholder confidence and reputation as a key player in the energy resources industry in Southeast Asia. In turn, this would impact our access to potential investors and business partners. To prevent this from occurring, we have managed a data collection, management and reporting process and we engage a third party to assure our climate-related data.</p>
Market	Relevant, always included	<p>With our host countries committing to climate targets, we recognize that there are, and will be, risks related to the shift or market demand for carbon-based commodities and services.</p> <p>For instance, with the recent developments at COP26 and host governments' updated NDCs, there is a greater demand for low-carbon products and energy sources. This trend negatively impacts MedcoEnergi's oil business but, on the other hand, increases the demand for our gas; and hence, moving forward, we aim to expand our natural portfolio to meet this regional demand.</p> <p>Furthermore, renewable energy has taken a spotlight in terms of potential energy sources for a low-carbon future.</p> <p>We recognise that Indonesia is still exploring the technological feasibility and infrastructure for the technologies such as Carbon Capture, Utilization and Storage (CCUS). Research and development (R&D) on other low-emission technologies may also require high capital expenditures (CAPEX). Meanwhile, renewable energy (RE) within the region is still a nascent industry, especially when compared to regions like North America and Europe.</p>
Reputation	Relevant, always included	<p>We acknowledge the importance of a consistent and transparent disclosure of the Company's climate performance and journey. In line with our Enterprise Risk Management Policy, we consider reputation risks in our climate-related risk assessments. We assess the reputation risks, which could impact to demand of our products, our social license to operate and our share price. Furthermore, reputation-related issues could result in declining stakeholder trust and our access to investors. This could impact MedcoEnergi's valuation, earnings, and funding.</p>
Acute physical	Relevant, always included	<p>At MedcoEnergi, we recognize that the physical impacts of climate change put our entire business and operations at risk. Therefore, we consider acute physical risks in our climate-related risk assessments in line with our Enterprise Risk Management (ERM) policy. In 2021, we conducted a qualitative climate-related physical risk assessment on selected assets in Indonesia, Thailand and Oman. From the assessment, three key acute physical hazards were identified: coastal floods, inland floods and cyclones and winds. The increased frequency and severity of natural hazard events (such as floods and cyclones) can damage our asset infrastructure, compromise the safety of our employees, and increase costs related to asset damage and insurance.</p>
Chronic physical	Relevant, always included	<p>Changes and extreme fluctuations in the physical climate parameters could impact our business and operations in the long-run. We consider chronic physical risks in our climate-related risk assessments in line with our Enterprise Risk Management (ERM) policy. In 2021, we conducted a qualitative climate-related physical risk assessment on selected assets in Indonesia, Thailand and Oman. From the assessment, two key chronic physical hazards were identified: extreme heat and water scarcity. They may impact our operations, our equipment, and the safety and efficiency of our workforce. They may also affect our reputation in the long term if our adaptive measures are insufficient to mitigate their impacts.</p> <p>In accounting for this risk, MedcoEnergi aims to continue to monitor climate trends and explore opportunities to maintain asset operation and the safety of our employees.</p>

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier
Risk 1

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Emerging regulation	Carbon pricing mechanisms
---------------------	---------------------------

Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Through the introduction of various regulations, the governments of our countries of operations have started to lay the groundwork in establishing a carbon pricing mechanism, ultimately creating a domestic carbon market in their respective countries.

For example, the Indonesian Presidential Regulation No. 98/2021 on the Economic Value of Carbon promises to establish a domestic carbon market that involves carbon trading and results-based payment. The Indonesian Law No. 7/2021 has already set a minimum carbon price of Rp 30/kgCo2e, approximately around USD 2.06/tCO2e, with the implementation timeline 2022-2024 for coal power plant and 2025 for all other sectors. However, as of July 2022, the implementation to coal power plant has been delayed.

In Thailand, the 'National Reform Plan (2018)' mandates the government to develop an economic instrument, such as a cap-and-trade program, to incentivize the private sector to reduce emissions. Since 2013, the Thai Greenhouse Gas Management Organization has developed a Monitoring, Reporting and Verification (MRV) system as well as a voluntary trading mechanism under the Thai Voluntary Emissions Reduction Program (T-VER). More recently, in August 2021, the National Energy Plan stated that the country aims to reach the target of carbon neutrality in the energy and transport sector by 2070, in which the carbon market will play a critical role in realizing this target.

Singapore has implemented a carbon tax since January 2019. The tax has been applied to GHG emissions from the industrial and power sectors (annual GHG emissions of 25 ktCO2e or more). For the first five years, the carbon tax rate will be set at SGD 5/tCO2e (USD 4/tCO2e) with the intention to increase it to SGD 10-SGD 15/tCO2e (USD 7/tCO2e to USD 11/tCO2e) by 2030. In the initial implementation of the carbon tax, companies will not be allowed to use international credits against their carbon tax liability, but Singapore remains open to linking its carbon tax framework to other carbon pricing jurisdictions with high environmental integrity.

Carbon pricing will result in higher operational costs, reduced cash flow and profitability of MedcoEnergi's assets in the countries. To account for this risk, we are continuously exploring opportunities to reduce our GHG emissions in our operational assets. Furthermore, we are exploring the potential of introducing an internal carbon price to prepare our business for future regulations.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

5400000

Potential financial impact figure – maximum (currency)

18300000

Explanation of financial impact figure

For the minimum impact, we use the reference of Indonesian Law No. 7/2021 of USD 2.06/tCO2e carbon price with the note that the implementation to the coal power plant as the first sector to apply the tax has been delayed as of July 2022. For the maximum financial impact, we utilize Singapore's SGD 10 (USD 7/tCO2e). Since the price has already been established in Singapore, we are making the assumption that it will be viewed as best practice amongst neighboring countries in the region. As conservative approach, this pricing assumption is multiplied by the total GHG emissions of the Company (both oil and gas and power business) for the reporting year:

Potential financial impact figure – minimum = (1,692,215+918,637)tCO2exUSD2.06/tCO2e = USD5,378,355 (rounding up 5,400,000).

Potential financial impact figure – maximum = (1,692,215+918,637)tCO2exUSD7/tCO2e = USD18,275,964 (rounding up 18,300,000).

Cost of response to risk

200000

Description of response and explanation of cost calculation

The introduction of carbon pricing mechanisms fall under our climate-related transition risks which we have identified this year. With the support of an external sustainability and climate change consultant, we conducted a high-level climate-related risks assessment, utilising IPCC and IEA scenarios, and updated our GHG inventory and calculation tool, encompassing our Scope 1, 2 and 3 emissions. In strengthening our internal capacity for climate adaptation, MedcoEnergi would be more equipped in understanding the impact of this risk into our overall business.

The cost of response stated here is based on the costs of hiring an external consultant firm in carrying out the high-level climate change risk assessment as well as the GHG inventory and calculation tool. The number, however, excludes the cost of implementing GHG reduction actions by the assets. The cost is estimated as per the following:

- Assumed time taken for the project: 5,000 hours.
- Assumed cost for hiring the consultancy firm: 20 USD/hour.
- Assumed cost for internal capacity building: 50,000 USD.
- Assumed cost for IT system development: 50,000 USD.
- Total assumed cost: (5,000 hours * 20 USD/hour)+50,000 USD+50,000 USD = 200,000 USD in year 2021.

Comment

We are currently assessing further the potential financial impact, such as the assumption on how many % of emissions would be covered, either the high end or the low end. The % coverage is meant to be an assumption on the sectors that the carbon pricing regulation would cover. If the government imposes the regulation on power plants, for instance, but not oil and gas, then the emissions taxed would only be from our power subsidiaries - and this would be reflected in the chosen % coverage in the assumption. Or in the case that the regulation only covers certain gases.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical	Other, please specify (Increased severity and frequency of extreme weather events such as cyclones and floods)
----------------	--

Primary potential financial impact

Increased direct costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

In 2021, we conducted an initial qualitative climate-related physical risk assessment (hotspot analysis) on selected material assets in Indonesia, Thailand and Oman. This exercise proved to be an important first step in helping us understand the potential impact of physical risks on our assets against two climate change projections.

The assessment concluded that the increased severity and frequency of acute physical events such as extreme tropical storms, wildfires, cyclones and wind, have the potential to impact the company's direct operations. An example is the delayed schedule in drilling or project execution and disruption to operational activities in Sumatra, Kalimantan and East Java due to extreme weather event. Furthermore, such events will pose damage to our buildings and infrastructure, compromise the safety of our employees as well as result in the increased cost of replacement and repair for damaged infrastructure.

In mitigating the impacts of such risks, we intend to make our physical risk assessments more robust within our business and operational assets to improve their climate adaptation and resilience. Moving forward, we intend to expand this assessment by including more assets within the Company as well as by performing a quantitative assessment to fully understand the risks' financial impact to the Company. We will continue to comply with national and/or international best practices for monitoring mechanisms and develop a response mechanism to our operations to reduce impacts.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

The increased severity and frequency of extreme tropical storms and wildfires have the potential financial impact to the company's direct operations, such as delayed schedule in drilling or project execution and disruption to operational activities. We are currently assessing the potential financial impact.

Cost of response to risk

0

Description of response and explanation of cost calculation

We are currently assessing the potential financial impact.

Comment

We are currently assessing the potential financial impact.

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Market	Changing customer behavior
--------	----------------------------

Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

In the shift towards a low-carbon future, investors, customers and key stakeholders are increasingly choosing a low-carbon alternative to fuel. As a result, oil & gas would play a much smaller role in supplying the energy demand after 2030. Furthermore, with the increasing global interest towards the deployment of renewable and low-carbon technologies, customers will eventually have a greater pool of renewable energy (RE) choices to supply their demand. This trend could impact our oil & gas business, particularly if RE will be heavily subsidized and/or the cost of RE will significantly decrease.

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

We are currently assessing the potential financial impact.

Cost of response to risk

0

Description of response and explanation of cost calculation

We are currently assessing the potential financial impact.

Comment

We are currently assessing the potential financial impact.

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Emerging regulation	Mandates on and regulation of existing products and services
---------------------	--

Primary potential financial impact

Increased capital expenditures

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

With stringent regulations and mandates on greenhouse gas (GHG) emissions, we would need to increase our investments in utilizing the best available technologies (BAT) as well as practices in our operations to minimize the GHG emissions. We recognise that Indonesia is still exploring the technological feasibility and infrastructure for its deployment, and therefore, this could potentially lead to high capital expenditures especially when it concerns utilizing technologies such as Carbon Capture, Utilization and Storage (CCUS).

Furthermore, renewable energy (RE) within the region is still a nascent industry, especially when compared to regions like North America and Europe. For instance, Indonesia is one of the countries facing the most challenging environment for sourcing renewables due to factors such as regulatory uncertainty, market entry barriers such as subsidies for fossil fuels and low renewable manufacturing capacity. MedcoEnergi could potentially face financial feasibility challenges in expanding its RE deployment due to the limited choices in the country.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

MedcoEnergi recognizes that both our oil and gas and power business will be heavily impacted by emerging regulations, particularly those pertaining to stringent regulations regarding GHG emissions. In 2021, we conducted a climate-related transition risks assessment where we mapped 2040 scenario indicators against IEA STEPS and IEA SDS scenarios. The following presents indicators related to emerging regulations that have the potential to impact our business:

- Carbon pricing – By 2040, IEA STEPS foresee that the carbon price would be as high as 20-25 USD/t for the ASEAN region. IEA SDS calculates an even greater value for the region in 2040 at 125 USD/t;
- Low demand for oil due to mandates and regulations for existing products and services – by 2040, IEA STEPS calculates that oil demand would be 7.1 Mb/day whereas IEA SDS foresees 4.5 Mb/day.
- CCUS/CCS – IEA scenarios foresee large scale global development and deployment of CCUS/CCS technology to support hard-to-abate sectors which will drive energy and power companies to integrate the technology. IEA STEPS foresee a 41 times increase of its usage whereas IEA SDS sees a 140 time increase by 2040.

Based on the indicators listed above, for our oil and gas business, emerging regulations on existing products fall under the "Minor" impact category by 2030 and the "Moderate" impact category by 2040. On the other hand, the impact for our power business differs where the risk falls under the "Moderate" impact category by 2030 and "Major" impact category by 2040.

Cost of response to risk

0

Description of response and explanation of cost calculation

We are currently assessing the potential financial impact.

Comment

We are currently assessing the potential financial impact.

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Other, please specify (Use of lower-emission sources of energy)

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

In the shift towards a low-carbon future, countries are increasingly making ambitious commitments in increasing their renewable energy generation in the national energy mix. These commitments aim to support their GHG emissions reduction targets in their Nationally Determined Contribution (NDCs). For instance, Indonesia has pledged to generate 23% of renewable energy in its national energy mix by 2030. MedcoEnergi recognizes this as an opportunity to expand our renewable energy portfolio. We are continuously evaluating opportunities to generate renewable energy that we can then use to reduce costs as well as emissions to our assets.

With Indonesia's ambitious renewable energy target, the demand for renewables will inevitably increase, paving the way for its mature infrastructure and accessibility to the general population. For instance, the Indonesian renewable energy market is expected to record a compound annual growth rate (CAGR) of 21.44% during 2022-2027, with an expected installed capacity of 34.71 GW by 2027, a significant increase from 10.82 GW in 2021. We also foresee that more and more companies will aim to source their power from renewable sources due to the country's targets.

In our Medco Power Indonesia (MPI) subsidiary, we are increasing our investment in renewable energy sources. Our renewable installed capacity will be 26% by 2025 and 30% by 2030.

Source: <https://www.mordorintelligence.com/industry-reports/indonesia-renewable-energy-market>

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

3000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Our Sumbawa PV Project is Indonesia's largest ground-mounted utility-scale solar PV, developed by Medco Power Indonesia (MPI) and Amman Mineral Nusa Tenggara (AMNT). Once operational, our team calculated, based on underlying assumptions that the diesel replacement is expected to reduce AMNT's operational electricity costs. The project will also provide a CO2 reduction of nearly 40,000 tonnes per annum (tpa) in AMNT's operation.

The financial impact figure was based on the estimated revenue per year for our MPI subsidiary.

Cost to realize opportunity

5200000

Strategy to realize opportunity and explanation of cost calculation

The cost to realize the opportunity is the actual investment in 2021 for Sumbawa PV Project.

Several of our other renewable energy projects include:

- 2 x 25 MWp Bali PV Project, where its development will increase our total renewable energy mix to 13% in 2024;
- A potential pilot Bulan Island Solar Power Project located on Bulan Island in Riau Islands Province. The Project would be developed in consortium between Medco Power Indonesia, Pacific Power Pte Ltd, and Gallant Venture Ltd. and would have the potential to provide the equivalent of 100 MW of non-intermittent electricity with estimated investment of USD 200,000,000; and
- 30 MW Ijen Geothermal, where we we have secured a Power Purchase Agreement (PPA) with the State-owned Electricity Company (Perusahaan Listrik Negara/PLN) for 110 MWe, with estimated investment of USD 150,000,000.

Comment**Identifier**

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

We recognize that, within the region, natural gas will become a transition fuel towards a low-carbon future. This is because stakeholders (investors and customers alike) are increasingly moving away from oil & gas and opting for lower emissions fuels to supply the energy demand. Thus, putting natural gas is at the forefront as the next best alternative to oil & gas and coal. MedcoEnergi recognizes this opportunity and integrates it to the Company's business strategy. We aim to expand our natural gas portfolio to help meet the region's energy demand as well as to help drive the shift towards a low-carbon future.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

900000000

Potential financial impact figure – maximum (currency)

1100000000

Explanation of financial impact figure

The potential financial impact is estimated to be per year from expanding our gas portfolio. Low carbon energy demand and electrification trends is one the key climate attributes that we evaluated in our climate-related transition risks assessment. We foresee that the trend will result in the greater demand in natural gas to meet the growing regional energy demand. This ultimately presents an opportunity for our oil & gas business to expand our natural gas portfolio. This is a positive impact to increasing revenues.

Cost to realize opportunity

1350000000

Strategy to realize opportunity and explanation of cost calculation

In 2022 to support Medco's goal to increase gas portfolio as the energy transition, Medco acquire ConocoPhillips Indonesia Assets, Corridor PSC, which has increased Medco's gas portfolio from ~60% to ~80%. The acquisition cost is US\$1.35bn.

Comment

C3.1

(C3.1) Does your organization’s strategy include a transition plan that aligns with a 1.5°C world?

Row 1

Transition plan

No, but our strategy has been influenced by climate-related risks and opportunities, and we are developing a transition plan within two years

Publicly available transition plan

<Not Applicable>

Mechanism by which feedback is collected from shareholders on your transition plan

<Not Applicable>

Description of feedback mechanism

<Not Applicable>

Frequency of feedback collection

<Not Applicable>

Attach any relevant documents which detail your transition plan (optional)

<Not Applicable>

Explain why your organization does not have a transition plan that aligns with a 1.5°C world and any plans to develop one in the future

During this reporting period, MedcoEnergi initiated a qualitative climate-related physical and transition risks assessment at the corporate-level, covering selected key assets in Indonesia, Thailand and Oman. The findings of this assessment was utilized to develop the Company’s Climate Change Strategy, which we publicly issued in 2021, alongside our climate aspirations of achieving net zero emissions of Scope 1 and Scope 2 by 2050 and Scope 3 by 2060.

MedcoEnergi recognizes that integrating climate-related risks and opportunities into our business and operations is a continuous journey. Moving forward, we aim to improve the sophistication and granularity of our climate-related risk assessments and Climate Change Strategy, where transitioning towards a natural gas and renewable energy-focused company forms our key strategy. In doing so, we aim to align our business strategy with the shift towards a low-carbon future. Currently, MedcoEnergi is working on establishing verifiable and quantifiable key performance indicators (KPIs) in short-, medium- and long-term to improve the transparency and accountability of our climate journey. We will develop these targets based on the international sectoral good practice and the Nationally Determined Contribution (NDCs) of the countries where we operate. We also aim to conduct a quantitative climate-related physical and transition risks assessment to better understand the impact of climate change in MedcoEnergi’s business.

Explain why climate-related risks and opportunities have not influenced your strategy

<Not Applicable>

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

	Use of climate-related scenario analysis to inform strategy	Primary reason why your organization does not use climate-related scenario analysis to inform its strategy	Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future
Row 1	Yes, qualitative, but we plan to add quantitative in the next two years	<Not Applicable>	<Not Applicable>

C3.2a

(C3.2a) Provide details of your organization’s use of climate-related scenario analysis.

Climate-related scenario		Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios	IEA STEPS (previously IEA NPS)	Company-wide	<Not Applicable>	For our transition scenario analysis, we conducted the assessment based on two International Energy Agency (IEA) scenarios: IEA STEPS and IEA SDS. The IEA Stated Policies Scenario (or “STEPS”), a pathway that takes into account announced climate-related policies (such as the current Paris Agreement and Nationally Determined Contributions), but does not forcefully pursue decarbonisation. The IEA Sustainable Development Scenario (or “SDS”), a pathway towards reducing global CO2 emissions and achieving other, non-climate-related, sustainable development goals.
Transition scenarios	IEA SDS	Company-wide	<Not Applicable>	For our transition scenario analysis, we conducted the assessment based on two International Energy Agency (IEA) scenarios: IEA STEPS and IEA SDS. The IEA Stated Policies Scenario (or “STEPS”), a pathway that takes into account announced climate-related policies (such as the current Paris Agreement and Nationally Determined Contributions), but does not forcefully pursue decarbonisation. The IEA Sustainable Development Scenario (or “SDS”), a pathway towards reducing global CO2 emissions and achieving other, non-climate-related, sustainable development goals.
Physical climate scenarios	RCP 4.5	Company-wide	<Not Applicable>	In 2021, MedcoEnergi conducted a qualitative climate-related transition and physical risk assessment. The assessment considered the guidelines set out by the Task Force on Climate-related Financial Disclosures (TCFD) to understand how climate change can potentially impact our business and operations. Scope of MedcoEnergi’s scenario analysis includes 19 on-shore material assets; 15 in Indonesia, 2 in Oman and 2 in Thailand. For the physical climate scenario, we conducted climate change projections using two Representative Concentration Pathway (RCP) scenarios: RCP 4.5 and RCP 8.5. RCP 4.5 represents the “Middle Path” of the global climate change projection. It corresponds to a 1.8 degrees Celsius rise by the end of the century due to moderate efforts to reduce emissions. This pathway is used to represent the current global climactic trajectory. On the other hand, RCP 8.5 represents “Business as Usual”, it corresponds to a 3.7 degrees Celsius rise by the end of the century due to low or no effort to reduce emissions.
Physical climate scenarios	RCP 8.5	Company-wide	<Not Applicable>	In 2021, MedcoEnergi conducted a qualitative climate-related transition and physical risk assessment. The assessment considered the guidelines set out by the Task Force on Climate-related Financial Disclosures (TCFD) to understand how climate change can potentially impact our business and operations. Scope of MedcoEnergi’s scenario analysis includes 19 on-shore material assets; 15 in Indonesia, 2 in Oman and 2 in Thailand. For the physical climate scenario, we conducted climate change projections using two Representative Concentration Pathway (RCP) scenarios: RCP 4.5 and RCP 8.5. RCP 4.5 represents the “Middle Path” of the global climate change projection. It corresponds to a 1.8 degrees Celsius rise by the end of the century due to moderate efforts to reduce emissions. This pathway is used to represent the current global climactic trajectory. On the other hand, RCP 8.5 represents “Business as Usual”, it corresponds to a 3.7 degrees Celsius rise by the end of the century due to low or no effort to reduce emissions.

C3.2b

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

Row 1

Focal questions

How would acute and chronic climate-related physical risks affect our Company’s business and operations?
How would climate-related transition risk affect our Company’s business portfolio?

Results of the climate-related scenario analysis with respect to the focal questions

Key impacts of acute and physical risks:

Our climate-related physical assessment encompasses 19 onshore material assets; 15 in Indonesia, 2 in Oman and 2 in Thailand. Based on our qualitative assessment, our key findings concluded that:

- Our Oman assets and hydropower plants in Indonesia indicate a high hazard towards water scarcity across all climate scenarios;
- All our asset locations indicate a high flood hazard (inland floods) under all climate change scenarios, except for our Muscat office where the inland flood hazard is evaluated to be a medium;
- All our asset locations indicate a high extreme heat hazard under all climate change scenarios, expect for our Jakarta office building and hydropower plants in Indonesia and our warehouse in Thailand, where the hazard is categorised as medium; and
- Our hydropower plant assets in Indonesia indicate a high cyclone/wind hazard under the RCP 8.5 scenario.

Overall, the increased frequency and severity of acute physical risks events (such as floods and cyclones) have the potential to damage MedcoEnergi’s asset infrastructure, compromise the safety of our employees, and increase costs related to asset damage and insurance. Furthermore, chronic physical risks, such as water scarcity and extreme heat, may impact our operations, our equipment, and the safety and efficiency of our workforce. They may also affect our reputation in the long term if the Company’s adaptive measures are insufficient to mitigate their impacts.

Key impacts of transition risks:

For our transition risks assessment, we utilized key market, technology and regulatory trends at the regional-level based on the selected IEA scenarios and its subsequent impact to our oil and gas and power business at the corporate-level. We concluded that, with the increasingly stringent regulations and mandates on GHG emissions, this could potentially increase compliance costs for high-emission operations such as exploration and production of MedcoEnergi’s oil and gas, and gas-based power plants. Additionally, with the growing trend towards a low carbon economy transition, stakeholder pressures to improve our climate journey and manage our environmental footprint are increasingly impacting our business and operations. Reputation-related issues could result in declining stakeholder trust and our access to investors. This could impact the Company’s valuation, earnings, and funding.

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	<p>MedcoEnergi aims to be an energy and natural resources company that sees the global transition to a low carbon economy as an opportunity for the business. We aim to grow our business to support energy transition whilst simultaneously helping countries within the region to meet their increasing domestic demand for energy. Within our Climate Change Strategy, growing natural gas as a transition energy source and expanding our renewable portfolio are key focus areas that will help the Company transition to low carbon energy. Our Strategy aims to support our climate aspiration of achieving net zero for Scope 1 and Scope 2 emissions by 2050 and Scope 3 emissions by 2060. Key initiatives and action plans covered in the Strategy covers MedcoEnergi's short, medium and long-term time horizons.</p> <p>In 2018, we sold our coal mining company and have transitioned our oil and gas-producing portfolio to be ~60% gas in 2018 to become ~80% gas in current portfolio.</p> <p>In our Medco Power Indonesia (MPI) subsidiary, we are increasing our investment in renewable energy sources. Our renewable installed capacity will be 26% by 2025 and 30% by 2030.</p> <p>Our commitment on this expansion have presented a potential opportunity for the Company to develop a solar power import project, in consortium with two partner organizations, located on Bulan Island in Riau Islands Province. The project will potentially extend our service to provide 100 MW of non-intermittent electricity to Singapore.</p>
Supply chain and/or value chain	Evaluation in progress	<p>In working towards a low-carbon future, there is a growing expectation to key players within the energy and natural resources landscape to involve, engage and manage their supply chains. Therefore, our climate commitment includes a net zero climate aspiration for Scope 3 emissions by 2060. This commitment ensures that our Climate Change Strategy has a holistic approach.</p> <p>At MedcoEnergi, we conduct an annual campaign and communication event attended by various participants and companies throughout our value chain called Vendor Day. This year, we announced our Climate Change Strategy to our value chain and introduced key initiatives that we intend to develop and implement under the Strategy. Moving forward, we intend to communicate to our stakeholders and supply chain on climate-related risks and opportunities relevant to the business.</p> <p>In 2021, we conducted a preliminary assessment of our Scope 3 emissions based on the 15 categories outlined by the GHG Protocol's Corporate Value Chain (Scope 3) Standard. The assessment highlights our initial efforts to identify our Scope 3 emissions and to evaluate potential opportunities for supply chain management. Based on our assessment, we concluded four significant categories for our oil & gas assets and three for our power business. We are currently assessing opportunities to develop and implement climate-related requirements when engaging with our supply chains. Moving forward, we will also focus on improving the sophistication and disclosure of our Scope 3 emissions, which we aim to report in addition to Scope 1 and Scope 2 in our sustainability report in the future. This strategy encompasses our short, medium and long-term time horizons.</p>
Investment in R&D	No	For a company of our size and limited resources, we will be an adopter of proven technologies.
Operations	Yes	<p>Based on our climate risk assessment, across all three time horizons, we foresee that there will be increasingly stringent regulations and mandates for GHG emissions being introduced. Furthermore, the increasing frequency and severity of climate-related risks, as a result of anthropogenic emissions, requires us as an energy and natural resources company to take action in minimizing our environmental footprint.</p> <p>To account for these findings, in 2021, we announced our climate aspirations of achieving net zero emissions of Scope 1 and Scope 2 by 2050 and Scope 3 by 2060. We have also developed and publicly issued our Climate Change Strategy as a guiding principle for our business strategy where reducing emissions intensity is one of the key focus areas, encompassing our strategy for short, medium and long-term.</p> <p>At MedcoEnergi, we continuously monitor and evaluate GHG emissions in our oil & gas and power business units and have deployed various initiatives aimed at reducing emissions for our current and future assets and acquisitions. For example, in our South Natuna Sea Block B asset, we continued to optimise and digitise our compressor, turbine control, and operating conditions to reduce energy consumption and improve efficiency. We have introduced these measures since acquiring this asset in 2016. As a result, by 2021, we have successfully reduced the assets' GHG emissions by 31% since 2018.</p> <p>We also implemented emission reduction and energy efficiency initiatives in other assets such as piloting the use of solar PVs at our Matak Base, and substituting the gas engine generator (GEG) for energy supplied from PLN at our Grati Onshore Processing Facility. Based on our calculations on the Grati Onshore Processing Facility, we calculated that we are reducing GHG emissions by 9,419 tCO2e/year from 2020 to 2021 as a result of the GEG substitution.</p> <p>Currently, we are in the process of developing a short and medium-term GHG emissions reduction targets that would support the achievement of our climate aspirations. This target would be in line with the Nationally Determined Contributions (NDCs) of our countries of operations.</p>

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Capital expenditures Acquisitions and divestments Assets	<p>MedcoEnergi acknowledges that there is a growing demand for clean energy as we move towards a low carbon future. Across the countries of our operations, increasing the renewable energy (RE) portion within the national primary energy mix is a common target. For instance, Indonesia has an ambitious RE target of 23% by 2025 and 31% by 2050 in its energy supply mix. This national target aligns with MedcoEnergi's commitment in expanding its RE portfolio as part of the Company's Climate Change Strategy, encompassing our priority focus across all three time horizons, from short to long-term.</p> <p>Amidst the growing trend towards a low carbon future, securing affordable and sustainable energy and natural resources presents itself as a critical issue. This is particularly prevalent in Southeast Asia where there is a growing domestic demand for the rapid deployment and utilization of RE. With this in mind, MedcoEnergi, as an acquisitive company, aims to balance its mission in expanding the Company's RE portfolio to provide clean energy whilst simultaneously continue to capitalize on natural gas as a transition fuel as our short to long-term business strategy. We believe that the latter is a necessary step towards decarbonization to support regional economic growth and the increasing domestic demand for energy. Natural gas is acknowledged as a lower emission source of energy, compared to coal and oil and therefore, expanding our natural gas business is one of core strategies in our Climate Change Strategy.</p> <p>As a case study, our initiative to expand our natural gas portfolio has impacted our financial planning, particularly on our acquisitions and divestments. Recently, we acquired ConocoPhillips Indonesia Assets, Corridor PSC, which resulted in an increase Medco's gas portfolio from ~60% to ~80%. The acquisition aims to equip MedcoEnergi with the resources to meet national and regional energy demand.</p>

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

No target

C4.1c

(C4.1c) Explain why you did not have an emissions target, and forecast how your emissions will change over the next five years.

	Primary reason	Five-year forecast	Please explain
Row 1	We are planning to introduce a target in the next two years	Being developed	In 2021, we focused on building a strong foundation to our climate journey. We did so by developing our holistic Climate Change Strategy and establishing our net zero climate aspirations for Scope 1, 2 and 3. In developing this Strategy, we conducted qualitative climate-related risks assessments, engagements with key subject matter experts and business functions, and developed a high-level action plan for its implementation. This approach was deemed critical to ensure that we have a clear strategic direction on MedcoEnergi's business moving forward. In the short-term time horizon, we intend to add a quantitative component to the elements within our Climate Change Strategy, and this includes working on an emissions reduction target, including determining the base year for the Company.

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

No other climate-related targets

C-OG4.2d

(C-OG4.2d) Indicate which targets reported in C4.1a/b incorporate methane emissions, or if you do not have a methane-specific emissions reduction target for your oil and gas activities, please explain why not and forecast how your methane emissions will change over the next five years.

We are still in progress in identifying methane emission reduction opportunities.

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	23	
To be implemented*	8	157586
Implementation commenced*	0	0
Implemented*	5	62267
Not to be implemented	11	

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Energy efficiency in production processes	Electrification
---	-----------------

Estimated annual CO2e savings (metric tonnes CO2e)

9419

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

267557

Investment required (unit currency – as specified in C0.4)

592739

Payback period

1-3 years

Estimated lifetime of the initiative

Please select

Comment

Switching power source to purchased electricity at Grati Onshore Processing Facility

Initiative category & Initiative type

Energy efficiency in production processes	Other, please specify (Flare Reduction)
---	---

Estimated annual CO2e savings (metric tonnes CO2e)

3775

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

Investment required (unit currency – as specified in C0.4)

0

Payback period

Please select

Estimated lifetime of the initiative

Please select

Comment

North Belut Flare Reduction

Initiative category & Initiative type

Energy efficiency in production processes	Process optimization
---	----------------------

Estimated annual CO2e savings (metric tonnes CO2e)

35344

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

Investment required (unit currency – as specified in C0.4)

0

Payback period

Please select

Estimated lifetime of the initiative

Please select

Comment

Belanak FPSO Dual GTG Running

Initiative category & Initiative type

Energy efficiency in production processes	Process optimization
---	----------------------

Estimated annual CO2e savings (metric tonnes CO2e)

13706

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

Investment required (unit currency – as specified in C0.4)

690000

Payback period

Please select

Estimated lifetime of the initiative

Please select

Comment

Kerisi Export Gas Compressor-B Jumper Line to Injection (Gas Injection Compressor Bypass)

Initiative category & Initiative type

Transportation	Company fleet vehicle efficiency
----------------	----------------------------------

Estimated annual CO2e savings (metric tonnes CO2e)

23

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

Investment required (unit currency – as specified in C0.4)

0

Payback period

Please select

Estimated lifetime of the initiative

Please select

Comment

Passenger car optimization at Lematang

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Compliance with regulatory requirements/standards	Compliance with Host Government regulatory requirements
Dedicated budget for energy efficiency	Driven by our Operational Excellence framework in operating efficiency and cost management
Marginal abatement cost curve	Prioritization based on the results of MACC
Dedicated budget for other emissions reduction activities	In alignment with HSE Policy & Sustainability Policy

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation

Group of products or services

Taxonomy used to classify product(s) or service(s) as low-carbon

Other, please specify (Electronic Vehicle)

Type of product(s) or service(s)

Other	Other, please specify
-------	-----------------------

Description of product(s) or service(s)

Electronic Vehicle

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

No

Methodology used to calculate avoided emissions

<Not Applicable>

Life cycle stage(s) covered for the low-carbon product(s) or services(s)

<Not Applicable>

Functional unit used

<Not Applicable>

Reference product/service or baseline scenario used

<Not Applicable>

Life cycle stage(s) covered for the reference product/service or baseline scenario

<Not Applicable>

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

<Not Applicable>

Explain your calculation of avoided emissions, including any assumptions

<Not Applicable>

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

Level of aggregation

Product or service

Taxonomy used to classify product(s) or service(s) as low-carbon

Low-Carbon Investment (LCI) Registry Taxonomy

Type of product(s) or service(s)

Other	Other, please specify (Mini Hydro Power)
-------	--

Description of product(s) or service(s)

Our subsidiary, PT Medco Hidro Indonesia, is operating two mini hydropower plants in Cianjur, West Java, Cibalapulang, and Pusaka Parahiangan, with a total output of 18 MW.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

No

Methodology used to calculate avoided emissions

<Not Applicable>

Life cycle stage(s) covered for the low-carbon product(s) or services(s)

<Not Applicable>

Functional unit used

<Not Applicable>

Reference product/service or baseline scenario used

<Not Applicable>

Life cycle stage(s) covered for the reference product/service or baseline scenario

<Not Applicable>

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

<Not Applicable>

Explain your calculation of avoided emissions, including any assumptions

<Not Applicable>

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

C-OG4.6

(C-OG4.6) Describe your organization's efforts to reduce methane emissions from your activities.

For our electricity generation businesses, 99% of greenhouse gas (GHG) emissions come from feedstock combustion (gas-fired). Note that in properly tuned boilers, nearly all of the fuel carbon (99.9 percent) in natural gas is converted to CO₂ during the combustion process, according to the U.S. Environmental Protection Agency (U.S. EPA), Therefore, methane emission is not a key parameter for our electricity generation businesses. This can also be observed from our emissions breakdown by GHG type. Methane only account for around 0.045% of our total emissions in tCO₂e for the electricity generation businesses in 2019. Nonetheless, since methane has the global warming potential 25 times of CO₂, we set our objectives to reduce methane emission by 25% in 2025 and 37% in 2020.

C-OG4.7

(C-OG4.7) Does your organization conduct leak detection and repair (LDAR) or use other methods to find and fix fugitive methane emissions from oil and gas production activities?

Yes

C-OG4.7a

(C-OG4.7a) Describe the protocol through which methane leak detection and repair or other leak detection methods, are conducted for oil and gas production activities, including predominant frequency of inspections, estimates of assets covered, and methodologies employed.

Every three to six months, several of our oil and gas onshore and offshore assets conduct inspection to equipment that potentially emits small amount of fugitive emission, e.g. flange and valve stem, using Infra-red thermal imaging (FLIR) camera. Based on the inspection, the causes of the leak were loosened flange and packing gland. Leakage was immediately corrected based on Company standard, including replacing packing or gasket, and tightening the flange or gland. The outcome of our efforts can be observed from the fact that we have successfully reduced fugitive emissions in 2021 by 10.3% from the 2019 level.

C-OG4.8

(C-OG4.8) If flaring is relevant to your oil and gas production activities, describe your organization's efforts to reduce flaring, including any flaring reduction targets.

We have an initial identification of flaring reduction activities, such as process simulation to reduce gas purging, and identify gas purging point at our Block A asset; Pilot Flaring Optimization at our Rimau asset; etc. We have also installed very low pressure compressors (VLPC) in several onshore assets to utilize the associated gas as energy (city gas and electricity) source for community, that otherwise would be flared.

Although our amount of emissions from flaring slightly increased in 2021 from the previous year, it has actually reduced by 29% from the 2019 level. We are studying how to translate the zero routine flaring target into annual key performance indicators to enhance our monitoring and tracking of target performance. We are also continuing to identify flaring reduction opportunities for more assets (target performance).

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?

No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?

No

Name of organization(s) acquired, divested from, or merged with

<Not Applicable>

Details of structural change(s), including completion dates

<Not Applicable>

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	No	<Not Applicable>

C5.2

(C5.2) Provide your base year and base year emissions.

Scope 1

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

We have not set our base year yet since we are preparing our low carbon energy transition plan.

Scope 2 (location-based)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

We have not set our base year yet since we are preparing our low carbon energy transition plan.

Scope 2 (market-based)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 1: Purchased goods and services

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 2: Capital goods

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 4: Upstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 5: Waste generated in operations

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 6: Business travel

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 7: Employee commuting

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 8: Upstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 9: Downstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 10: Processing of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 11: Use of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 12: End of life treatment of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 14: Franchises

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 15: Investments

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

American Petroleum Institute Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry, 2009

IPCC Guidelines for National Greenhouse Gas Inventories, 2006

ISO 14064-1

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

2279303

Start date

January 1 2021

End date

December 31 2021

Comment

The gross global Scope 1 emissions include emissions from our oil & gas operations (1,421,495 tCO2e) and power operations (857,808 tCO2e).

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)

2184980

Start date

January 1 2020

End date

December 31 2020

Comment

The gross global Scope 1 emissions include emissions from our oil & gas operations (1,405,608 tCO2e) and power operations (779,373 tCO2e).

Past year 2

Gross global Scope 1 emissions (metric tons CO2e)

2610348

Start date

January 1 2019

End date

December 31 2019

Comment

The gross global Scope 1 emissions include emissions from our oil & gas operations (1,691,760 tCO2e) and power operations (918,588 tCO2e).

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We have no operations where we are able to access electricity supplier emission factors or residual emissions factors and are unable to report a Scope 2, market-based figure

Comment

Our scope 2 emission source is from the purchase of electricity directly and entirely from the national grid, therefore there is no supplier-specific emission factor to report a scope 2 market-based figure. No residual emissions factor is available in Asia either.

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

Scope 2, location-based

17187

Scope 2, market-based (if applicable)

<Not Applicable>

Start date

January 1 2021

End date

December 31 2021

Comment

The gross global Scope 2 emissions include emissions from our oil & gas operations (16,369 tCO2e) and power operations (819 tCO2e).

Past year 1

Scope 2, location-based

11329

Scope 2, market-based (if applicable)

<Not Applicable>

Start date

January 1 2020

End date

December 31 2020

Comment

The gross global Scope 2 emissions include emissions from our oil & gas operations (11,272 tCO2e) and power operations (57 tCO2e).

Past year 2

Scope 2, location-based

505

Scope 2, market-based (if applicable)

<Not Applicable>

Start date

January 1 2019

End date

December 31 2019

Comment

The gross global Scope 2 emissions include emissions from our oil & gas operations (455 tCO2e) and power operations (50 tCO2e).

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Evaluating the applicability of the scope 3 criteria.

Capital goods

Evaluation status

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Evaluating the applicability of the scope 3 criteria.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Evaluating the applicability of the scope 3 criteria.

Upstream transportation and distribution

Evaluation status

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Evaluating the applicability of the scope 3 criteria.

Waste generated in operations

Evaluation status

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Evaluating the applicability of the scope 3 criteria.

Business travel**Evaluation status**

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Evaluating the applicability of the scope 3 criteria.

Employee commuting**Evaluation status**

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Evaluating the applicability of the scope 3 criteria.

Upstream leased assets**Evaluation status**

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Evaluating the applicability of the scope 3 criteria.

Downstream transportation and distribution**Evaluation status**

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Evaluating the applicability of the scope 3 criteria.

Processing of sold products**Evaluation status**

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Evaluating the applicability of the scope 3 criteria.

Use of sold products

Evaluation status

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Evaluating the applicability of the scope 3 criteria.

End of life treatment of sold products

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

As an upstream energy company, we have no influence on the end of life treatment of sold products.

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

We do not have downstream leased assets.

Franchises

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

No franchises activity.

Investments

Evaluation status

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Evaluating the applicability of the scope 3 criteria.

Other (upstream)

Evaluation status

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Other (downstream)

Evaluation status

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

C6.5a

(C6.5a) Disclose or restate your Scope 3 emissions data for previous years.

Past year 1

Start date

January 1 2020

End date

December 31 2020

Scope 3: Purchased goods and services (metric tons CO2e)

0

Scope 3: Capital goods (metric tons CO2e)

0

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

0

Scope 3: Upstream transportation and distribution (metric tons CO2e)

0

Scope 3: Waste generated in operations (metric tons CO2e)

0

Scope 3: Business travel (metric tons CO2e)

0

Scope 3: Employee commuting (metric tons CO2e)

0

Scope 3: Upstream leased assets (metric tons CO2e)

0

Scope 3: Downstream transportation and distribution (metric tons CO2e)

0

Scope 3: Processing of sold products (metric tons CO2e)

0

Scope 3: Use of sold products (metric tons CO2e)

0

Scope 3: End of life treatment of sold products (metric tons CO2e)

0

Scope 3: Downstream leased assets (metric tons CO2e)

0

Scope 3: Franchises (metric tons CO2e)

0

Scope 3: Investments (metric tons CO2e)

0

Scope 3: Other (upstream) (metric tons CO2e)

0

Scope 3: Other (downstream) (metric tons CO2e)

0

Comment

We are reviewing Scope 3 data collection methodology and assurance process.

Past year 2

Start date

January 1 2019

End date

December 31 2019

Scope 3: Purchased goods and services (metric tons CO2e)

0

Scope 3: Capital goods (metric tons CO2e)

0

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

0

Scope 3: Upstream transportation and distribution (metric tons CO2e)

0

Scope 3: Waste generated in operations (metric tons CO2e)

0

Scope 3: Business travel (metric tons CO2e)

0

Scope 3: Employee commuting (metric tons CO2e)

0

Scope 3: Upstream leased assets (metric tons CO2e)

0

Scope 3: Downstream transportation and distribution (metric tons CO2e)

0

Scope 3: Processing of sold products (metric tons CO2e)

0

Scope 3: Use of sold products (metric tons CO2e)

0

Scope 3: End of life treatment of sold products (metric tons CO2e)

0

Scope 3: Downstream leased assets (metric tons CO2e)

0

Scope 3: Franchises (metric tons CO2e)

0

Scope 3: Investments (metric tons CO2e)

0

Scope 3: Other (upstream) (metric tons CO2e)

0

Scope 3: Other (downstream) (metric tons CO2e)

0

Comment

We are reviewing Scope 3 data collection methodology and assurance process.

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

Yes

C6.7a

(C6.7a) Provide the emissions from biogenic carbon relevant to your organization in metric tons CO2.

	CO2 emissions from biogenic carbon (metric tons CO2)	Comment
Row 1	1577.95	Emission sources: from biodiesel fuel.

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.034

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

1437863.94

Metric denominator

barrel of oil equivalent (BOE)

Metric denominator: Unit total

42484159.03

Scope 2 figure used

Location-based

% change from previous year

6

Direction of change

Increased

Reason for change

Operational variability and other temporary activities, such as well intervention.

Intensity figure

0.54

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

858626.33

Metric denominator

megawatt hour generated (MWh)

Metric denominator: Unit total

1597219.47

Scope 2 figure used

Location-based

% change from previous year

1

Direction of change

Increased

Reason for change

Variability in electricity demand following the gradual relaxation of COVID-19 restrictions by the government

C-OG6.12

(C-OG6.12) Provide the intensity figures for Scope 1 emissions (metric tons CO2e) per unit of hydrocarbon category.

Unit of hydrocarbon category (denominator)

Other, please specify (barrel of oil equivalent (BOE))

Metric tons CO2e from hydrocarbon category per unit specified

1421495

% change from previous year

1

Direction of change

Increased

Reason for change

Operational variability and other temporary activities, such as well intervention.

Comment

No additional comment

C-OG6.13

(C-OG6.13) Report your methane emissions as percentages of natural gas and hydrocarbon production or throughput.

Oil and gas business division

Upstream

Estimated total methane emitted expressed as % of natural gas production or throughput at given division

0.17

Estimated total methane emitted expressed as % of total hydrocarbon production or throughput at given division

0.1

Comment

Scope 1 Methane emissions : 6443.59 ton CH4

Total Natural Gas Production : 3,798,798 TOE

Total Hydrocarbon Production : 6,209,381 TOE

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	2113248.96	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	161473.02	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	2233.42	IPCC Fourth Assessment Report (AR4 - 100 year)

C-OG7.1b

(C-OG7.1b) Break down your total gross global Scope 1 emissions from oil and gas value chain production activities by greenhouse gas type.

Emissions category

Combustion (excluding flaring)

Flaring

Venting

Fugitives

Value chain

Upstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

1256281.06

Gross Scope 1 methane emissions (metric tons CH4)

6443.59

Total gross Scope 1 emissions (metric tons CO2e)

1421495.33

Comment

Total gross Scope 1 emissions number includes N2O 1,776.6 metric tons CO2e and HFC 2,347.7 metric tons CO2e.

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
Indonesia	2218514.36
Malaysia	0
Oman	2715.47
Singapore	0
Thailand	58073.29

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By activity

C7.3c

(C7.3c) Break down your total gross global Scope 1 emissions by business activity.

Activity	Scope 1 emissions (metric tons CO2e)
Stationary Combustion	1893648.24
Mobile Combustion	19770.65
Flare	153074.31
Dehydration Unit	2165.63
Fugitive Emissions	65415.04
Vent	81891.61
Thermal Oxidizer & Incinerator	0.95
Sulfur Recovery Unit	63336.68

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	1421495.32	<Not Applicable>	E&P
Oil and gas production activities (midstream)	0	<Not Applicable>	no midstream activity
Oil and gas production activities (downstream)	0	<Not Applicable>	no downstream activity
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Indonesia	5134.88	
Thailand	97.16	
Oman	11943.56	
Singapore	0.7	
Malaysia	10.85	

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By activity

C7.6c

(C7.6c) Break down your total gross global Scope 2 emissions by business activity.

Activity	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Purchase electricity	17187	

C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	16368.62		E&P only
Oil and gas production activities (midstream)	0		no midstream activity
Oil and gas production activities (downstream)	0		no downstream activity
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Increased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption		<Not Applicable >		
Other emissions reduction activities	62267	Decreased	3	The emission reduction activities consist of: 1. Switching power source to purchased electricity at Grati Onshore Processing Facility 9,419 tCO2e. 2. North Belut Flare Reduction, 3,775 tCO2e. 3. Belanak FPSO Dual GTG Running, 35,344 tCO2e. 4. Kerisi EGC B Jumper Line to Injection (GIC Bypass), 13,706 tCO2e. 5. Passenger car optimization at Lematang, 23 tCO2e. TOTAL: 62,267 tCO2e.
Divestment		<Not Applicable >		
Acquisitions		<Not Applicable >		
Mergers		<Not Applicable >		
Change in output	100181	Increased	5	The change in output = $\frac{[2021 \text{ Gross Scope 1 emissions (C6.1) + Gross Scope 2 emissions (C6.3)] - [2020 \text{ Gross Scope 1 emissions (C6.1) + Gross Scope 2 emissions (C6.3)]}{[2020 \text{ Gross Scope 1 emissions (C6.1) + Gross Scope 2 emissions (C6.3)]} \times 100$ This increase of our GHG emission was due to operational variability and other temporary activities, such as well intervention.
Change in methodology		<Not Applicable >		
Change in boundary		<Not Applicable >		
Change in physical operating conditions		<Not Applicable >		
Unidentified		<Not Applicable >		
Other		<Not Applicable >		

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	No

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	3407	9348690	9352097
Consumption of purchased or acquired electricity	<Not Applicable>			43659
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total energy consumption	<Not Applicable>			7801634

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	No
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Sustainable biomass

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

We categorized our energy consumption from renewable and non-renewable sources. We did not segregate the sources based on the biomass type.

Other biomass

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

We categorized our energy consumption from renewable and non-renewable sources. We did not segregate the sources based on the biomass type.

Other renewable fuels (e.g. renewable hydrogen)

Heating value

LHV

Total fuel MWh consumed by the organization

3407

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Total fuel consumption from renewable sources for both E&P and Power (MPI)

- Biodiesel B20 (e.g. Biosolar B20 and PTT Hyforce)

- Biodiesel (B30)

- Gasohol (E20)

- Solar energy

Coal

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

We do not use coal for our energy consumption.

Oil

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

We categorized our energy consumption from renewable and non-renewable sources. We did not segregate the sources based on the fuel (oil/gas) type.

Gas**Heating value**

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

We categorized our energy consumption from renewable and non-renewable sources. We did not segregate the sources based on the fuel (oil/gas) type.

Other non-renewable fuels (e.g. non-renewable hydrogen)**Heating value**

LHV

Total fuel MWh consumed by the organization

9348690

MWh fuel consumed for self-generation of electricity**MWh fuel consumed for self-generation of heat****MWh fuel consumed for self-generation of steam**

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Total fuel consumption from non-renewable sources for both E&P and Power (MPI)

- Gasoline

- CNG

- Natural gas

- Diesel

- Condensate

- Aviation gasoline

- Jet fuel (kerosene)

- Crude oil

- Fuel oil"

Total fuel**Heating value**

LHV

Total fuel MWh consumed by the organization

9352097

MWh fuel consumed for self-generation of electricity**MWh fuel consumed for self-generation of heat****MWh fuel consumed for self-generation of steam**

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Total fuel consumption from non-renewable and renewable sources for both E&P and Power (MPI)

C8.2g

(C8.2g) Provide a breakdown of your non-fuel energy consumption by country.

Country/area

Indonesia

Consumption of electricity (MWh)

0

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

0

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description

Energy usage

Metric value

18.5

Metric numerator

Million Gigajoule

Metric denominator (intensity metric only)

GJ/TOE HC product

% change from previous year

1.6

Direction of change

Increased

Please explain

Year 2020 is considered an anomaly due to impacts of the COVID-19 pandemic where a reduction of energy demand was observed due to social limitations.

C-OG9.2a

(C-OG9.2a) Disclose your net liquid and gas hydrocarbon production (total of subsidiaries and equity-accounted entities).

	In-year net production	Comment
Crude oil and condensate, million barrels	12555	Production is calculated on Net Working Interest, taking into account percentage of MedcoEnergi's ownership on each assets.
Natural gas liquids, million barrels		N/A
Oil sands, million barrels (includes bitumen and synthetic crude)		N/A
Natural gas, billion cubic feet	117	Production is calculated on Net Working Interest, taking into account percentage of MedcoEnergi's ownership on each assets.

C-OG9.2b

(C-OG9.2b) Explain which listing requirements or other methodologies you use to report reserves data. If your organization cannot provide data due to legal restrictions on reporting reserves figures in certain countries, please explain this.

As a listed company in Indonesia Stock Exchange (IDX), MedcoEnergi is required to report reserves as part of our Supplementary Financial Statements published on a quarterly basis.

C-OG9.2c

(C-OG9.2c) Disclose your estimated total net reserves and resource base (million boe), including the total associated with subsidiaries and equity-accounted entities.

	Estimated total net proved + probable reserves (2P) (million BOE)	Estimated total net proved + probable + possible reserves (3P) (million BOE)	Estimated net total resource base (million BOE)	Comment
Row 1	389		1361	Reserves are calculated on Net Working Interest, taking into account percentage of MedcoEnergy's ownership on each assets. Our Company Reserves disclosure is up to 2P and Contingent Resources.

C-OG9.2d

(C-OG9.2d) Provide an indicative percentage split for 2P, 3P reserves, and total resource base by hydrocarbon categories.

	Net proved + probable reserves (2P) (%)	Net proved + probable + possible reserves (3P) (%)	Net total resource base (%)	Comment
Crude oil/ condensate/ natural gas liquids	38		18	Per our definition, net total resource base includes the total for reserves, contingent resources. We have not disclosed prospective resources in the past. Therefore, this number includes total reserves and contingent resources.
Natural gas	62		82	Per our definition, net total resource base includes the total for reserves, contingent resources. We have not disclosed prospective resources in the past. Therefore, this number includes total reserves and contingent resources.
Oil sands (includes bitumen and synthetic crude)				N/A

C-OG9.2e

(C-OG9.2e) Provide an indicative percentage split for production, 1P, 2P, 3P reserves, and total resource base by development types.

Development type

Onshore

In-year net production (%)

57

Net proved reserves (1P) (%)

86

Net proved + probable reserves (2P) (%)

81

Net proved + probable + possible reserves (3P) (%)

Net total resource base (%)

55

Comment

Development type

Shallow-water

In-year net production (%)

43

Net proved reserves (1P) (%)

14

Net proved + probable reserves (2P) (%)

19

Net proved + probable + possible reserves (3P) (%)

Net total resource base (%)

7

Comment

Development type

Deepwater

In-year net production (%)

0

Net proved reserves (1P) (%)

0

Net proved + probable reserves (2P) (%)

0

Net proved + probable + possible reserves (3P) (%)

Net total resource base (%)

38

Comment

C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

	Investment in low-carbon R&D	Comment
Row 1	No	We currently have no investment in low-carbon R&D.

C-OG9.7

(C-OG9.7) Disclose the breakeven price (US\$/BOE) required for cash neutrality during the reporting year, i.e. where cash flow from operations covers CAPEX and dividends paid/ share buybacks.

18

We have used a more representative calculation based on our opex cash cost of US\$10.0/BOE and 5 year avg. F&D cost of US\$7.8/BOE for 2021.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	No emissions data provided

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

Medco Energi Internasional Tbk_Ind_31 Dec 2021 Limited Assu. for SR-English-Released.pdf

Page/ section reference

Assurance Letter attached, page 14-15.

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

100

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

Page/ section reference

Assurance Letter attached, page 15-17.

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

100

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C8. Energy	Energy consumption	ISAE3000	The limited assurance applies for indicators in GRI 302 Energy: GRI 302-1: Energy Consumption within the organization. GRI 302-3: Energy Intensity. Assurance Letter attached page 10-13.

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

No, but we anticipate being regulated in the next three years

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

Carbon pricing has been considered by the Government of Indonesia for several years. In October 2021, the Government of Indonesia introduced its long-anticipated carbon tax through Law No. 7 of 2021, as the Harmonisation of Tax Regulations (*Harmonisasi Peraturan Perpajakan/HPP*) Bill was signed by the President (the HPP Law). In the meantime, the President Regulation No. 98 of 2021 on the 'Implementation of Carbon Economic Value to Achieve Nationally Determined Contribution Targets and Control over Greenhouse Gas Emissions in Relation to National Development' (Regulation No. 98) was issued. Although the carbon tax will only be applied to the coal-fired power sector at the initial stage, full implementation of a carbon trading mechanism and the expansion of carbon taxation are expected to be carried out in stages from 2025 onwards.

As part of our strategy for complying with the systems, we have a Sustainability Policy that includes our commitments to reduce emissions and has started our journey towards alignment with TCFD recommendations since 2018.

- We calculated and reported Scope 1 for all assets starting 2018.
- In 2019-2020, we standardized our methodology and emission calculations and we are reporting Scope 1 and Scope 2 in 2020 Sustainability Report.
- In 2021, we are identifying opportunities for GHG emission reduction and energy efficiency, initiate strategy formulation and engage CDP to disclose our climate-related data.
- We reported our emissions to relevant government agencies on an annual basis and also disclosed them in our Sustainability Report.
- We implement Environmental Management System in alignment with ISO 14001 to manage our environmental risks and impacts, including the emissions.
- We are developing compliance strategy for the upcoming climate change related regulation.

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

No

C11.3

(C11.3) Does your organization use an internal price on carbon?

No, but we anticipate doing so in the next two years

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Engagement & incentivization (changing supplier behavior)

Details of engagement

Run an engagement campaign to educate suppliers about climate change

% of suppliers by number

80

% total procurement spend (direct and indirect)

80

% of supplier-related Scope 3 emissions as reported in C6.5

0

Rationale for the coverage of your engagement

We believe that awareness raising is crucial to the success of our engagement strategy, given that sustainability and climate change have not been sufficiently recognized and understood by businesses in the countries we operate. Therefore, we invite all suppliers to the session, except suppliers from international assets, which account for approximately 80% of our active vendors and 80% of total procurement spent.

Impact of engagement, including measures of success

We are working to assess our engagement with supply chain partners. We are also looking to use the supplier engagement as an opportunity.

We will measure the impact of engagement including measure of success.

Comment

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?

Yes, suppliers have to meet climate-related requirements, but they are not included in our supplier contracts

C12.2a

(C12.2a) Provide details of the climate-related requirements that suppliers have to meet as part of your organization's purchasing process and the compliance mechanisms in place.

Climate-related requirement

Complying with regulatory requirements

Description of this climate related requirement

% suppliers by procurement spend that have to comply with this climate-related requirement

% suppliers by procurement spend in compliance with this climate-related requirement

Mechanisms for monitoring compliance with this climate-related requirement

Please select

Response to supplier non-compliance with this climate-related requirement

Please select

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

Direct or indirect engagement that could influence policy, law, or regulation that may impact the climate

Yes, we engage directly with policy makers
Yes, we engage indirectly through trade associations

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

Yes

Attach commitment or position statement(s)

MedcoEnergi's climate aspirations and Climate Change Strategy:
https://www.medcoenergi.com/files/Sustainability_Reports/MedcoEnergi%20Climate%20Change%20Strategy_ENG.pdf

Describe the process(es) your organization has in place to ensure that your engagement activities are consistent with your overall climate change strategy

- We have Sustainability Policy and HSE Policy that includes our commitments to reduce emissions and have started our journey towards alignment with TCFD recommendations since 2018
- We calculated and reported Scope 1 for all assets starting 2018.
- In 2019-2020, we standardized our methodology and emission calculations and we are reporting Scope 1 and Scope 2 in 2020 Sustainability Report.
- In 2021, we are identifying opportunities for GHG emission reduction and energy efficiency, initiate strategy formulation and engage CDP to disclose our climate-related data.
- We reported our emissions to relevant government agencies on an annual basis and also disclosed them in our Sustainability Report.
- We implement Environmental Management System in alignment with ISO 14001 to manage our environmental risks and impacts, including the emissions.
- We have included climate change assessment in project review and sanction as part of sustainability assessment.
- We are strengthening the organization's sustainability culture by conducting sustainability campaigns and capacity building, including climate change.
- We are developing compliance strategy for the upcoming climate change related regulations.

Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

C12.3a

(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?

Focus of policy, law, or regulation that may impact the climate

Carbon tax

Specify the policy, law, or regulation on which your organization is engaging with policy makers

The Indonesian government is preparing to launch a cap-and tax scheme, and we are closely following up with the progress.

Policy, law, or regulation geographic coverage

National

Country/region the policy, law, or regulation applies to

Indonesia

Your organization's position on the policy, law, or regulation

Neutral

Description of engagement with policy makers

Monitor the progress of the development of regulation and provide input/feedback through business and/or sector association.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

<Not Applicable>

Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Focus of policy, law, or regulation that may impact the climate

Minimum energy efficiency requirements

Specify the policy, law, or regulation on which your organization is engaging with policy makers

The Regulation of the Minister of Energy and Mineral Resources No. 14/2021 on Application of Minimum Energy Performance Standards to Energy Consuming Equipment

Policy, law, or regulation geographic coverage

National

Country/region the policy, law, or regulation applies to

Indonesia

Your organization's position on the policy, law, or regulation

Neutral

Description of engagement with policy makers

We have started to replace our energy consuming equipment with the one that complies with the national energy performance standards

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

<Not Applicable>

Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Focus of policy, law, or regulation that may impact the climate

Low-carbon, non-renewable energy generation

Specify the policy, law, or regulation on which your organization is engaging with policy makers

The Indonesian government's new Electricity Business Plan (RUPTL) 2021-30, which sets out Indonesia's future power capacity and network development plans over the next 10 years.

Policy, law, or regulation geographic coverage

National

Country/region the policy, law, or regulation applies to

Indonesia

Your organization's position on the policy, law, or regulation

Neutral

Description of engagement with policy makers

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

<Not Applicable>

Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Focus of policy, law, or regulation that may impact the climate

Other, please specify (Flaring Management)

Specify the policy, law, or regulation on which your organization is engaging with policy makers

Zero routine flaring by 2030, which is a world bank initiative that the Indonesian government has endorsed.

Policy, law, or regulation geographic coverage

Global

Country/region the policy, law, or regulation applies to

<Not Applicable>

Your organization's position on the policy, law, or regulation

Support with minor exceptions

Description of engagement with policy makers

Medco has been pursuing opportunities to enhance flaring management and reduce emissions from routine flaring

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.3b

(C12.3b) Provide details of the trade associations your organization engages with which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association

Other, please specify (KADIN (Indonesian Trade Association))

Is your organization's position on climate change consistent with theirs?

Consistent

Has your organization influenced, or is your organization attempting to influence their position?

We publicly promote their current position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

Support our Government of Indonesia in climate change actions.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

Describe the aim of your organization's funding

<Not Applicable>

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In voluntary communications

Status

Complete

Attach the document

Sustainability Presentation_Vendor Day 2021 final.pdf

Page/Section reference

All slides are related.

Content elements

Strategy
Emissions figures

Comment

Presentation in the Vendor's Day.

Publication

In voluntary sustainability report

Status

Complete

Attach the document

MedcoEnergi SR 2021 Ingris Website-1.pdf

Page/Section reference

Chapter #7 Paving the Ground for Net Zero, page 68-84.

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Other metrics

Comment

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	Yes, both board-level oversight and executive management-level responsibility	<p>Protecting our environment in the areas where we operate is one of our key priorities, as stated in our Health, Safety and Environment (HSE) policy. In fostering a strong HSE culture and drive sustainable growth, our HSE policy explicitly requires our employees and contractors to manage domestic & hazardous waste, air emissions and the utilization of energy and resources in order to minimize the impact on the environment and to protect its ecosystem and biodiversity. In the implementation of this policy, our Board of Directors (BoD) and executive management has the oversight and responsibility in ensuring its implementation in MedcoEnergi's business.</p> <p>Our commitment to safeguarding the environment is outlined in our Sustainability Policy. We acknowledge the importance of supporting biodiversity conservation and we have implemented various conservation initiatives across our operations. Our main activities focus on replanting trees, going beyond regulatory requirements, and conserving endangered species. An overall summary of our replanting activities and the investment can be found in MedcoEnergi 2021 Sustainability Report http://www.medcoenergi.com/en/subpagelist/view/36</p>	<Not Applicable>

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments and publicly endorsed initiatives related to biodiversity	Other, please specify (Commitment in minimizing any impact to the environment and protect ecosystem and biodiversity)	SDG

C15.3

(C15.3) Does your organization assess the impact of its value chain on biodiversity?

	Does your organization assess the impact of its value chain on biodiversity?	Portfolio
Row 1	Yes, we assess impacts on biodiversity in both our upstream and downstream value chain	<Not Applicable>

C15.4

(C15.4) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity-related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Land/water protection Land/water management Education & awareness Law & policy Livelihood, economic & other incentives

C15.5

(C15.5) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	Yes, we use indicators	Other, please specify (We continuously monitor our biodiversity-related initiatives and performance against the UN Sustainable Development Goals (SDGs).)

C15.6

(C15.6) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In voluntary sustainability report or other voluntary communications	Content of biodiversity-related policies or commitments Impacts on biodiversity	MedcoEnergi's Health, Safety and Environment (HSE) Policy: https://www.medcoenergi.com/files/2021/2021%20MedcoEnergi%20HSE%20Policy%20Signed.pdf MedcoEnergi Sustainability Report: https://www.medcoenergi.com/en/subpagelist/view/36

C16. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

N/A

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Chief Executive Officer	Chief Executive Officer (CEO)

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please confirm below

I have read and accept the applicable Terms