



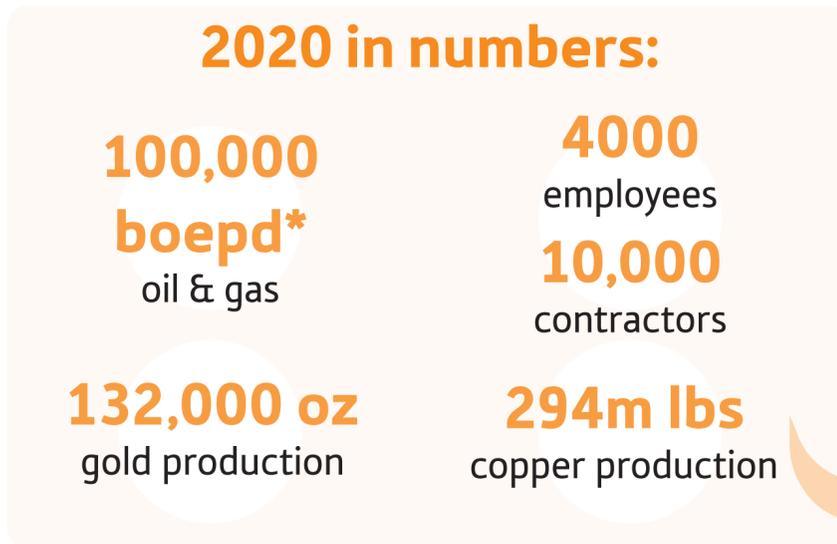
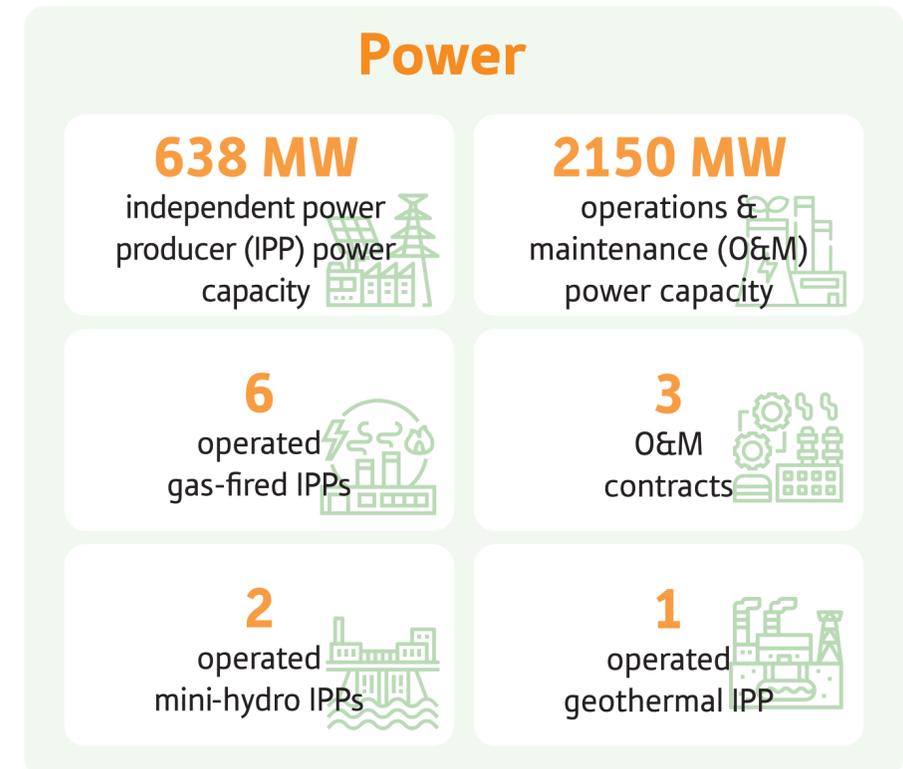
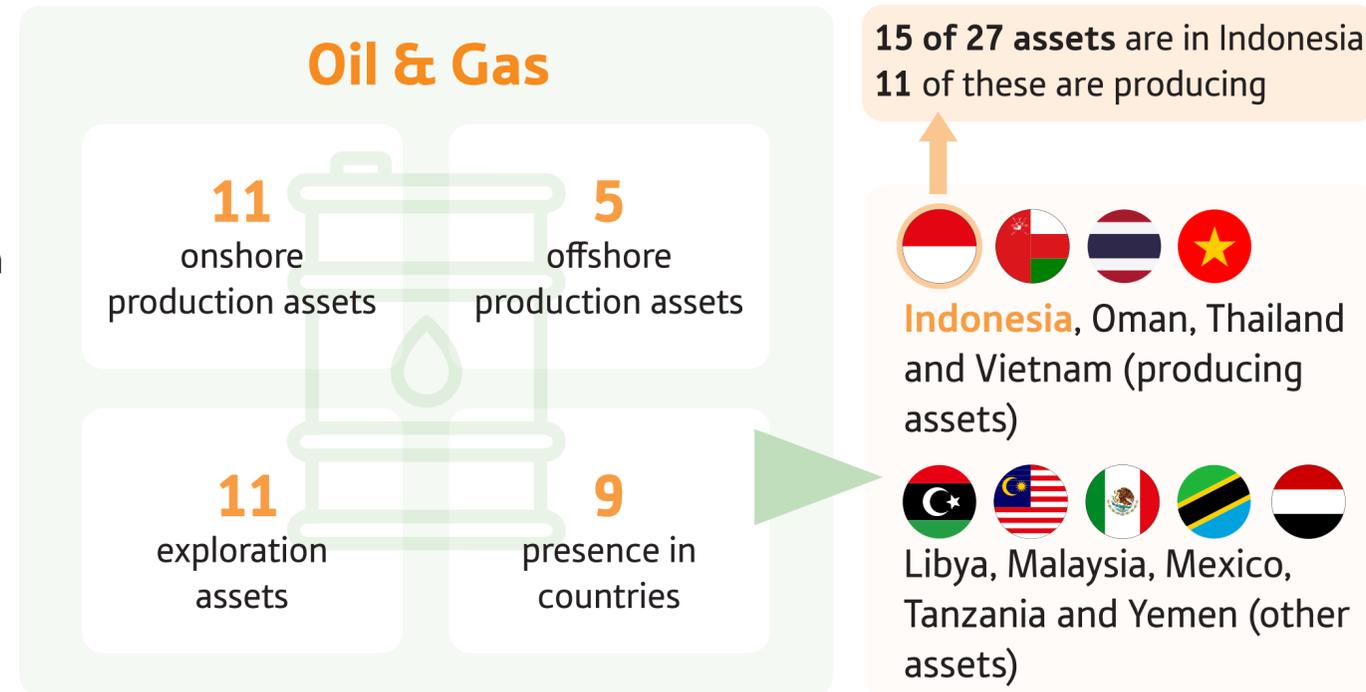
Geothermal power plant

ESG and Energy Transition

Medco Energi Internasional (MedcoEnergi)

Energy and natural resources company focused on three key business segments: oil and gas, clean power generation and copper mining

MedcoEnergi is listed on the Indonesia Stock Exchange (IDX)



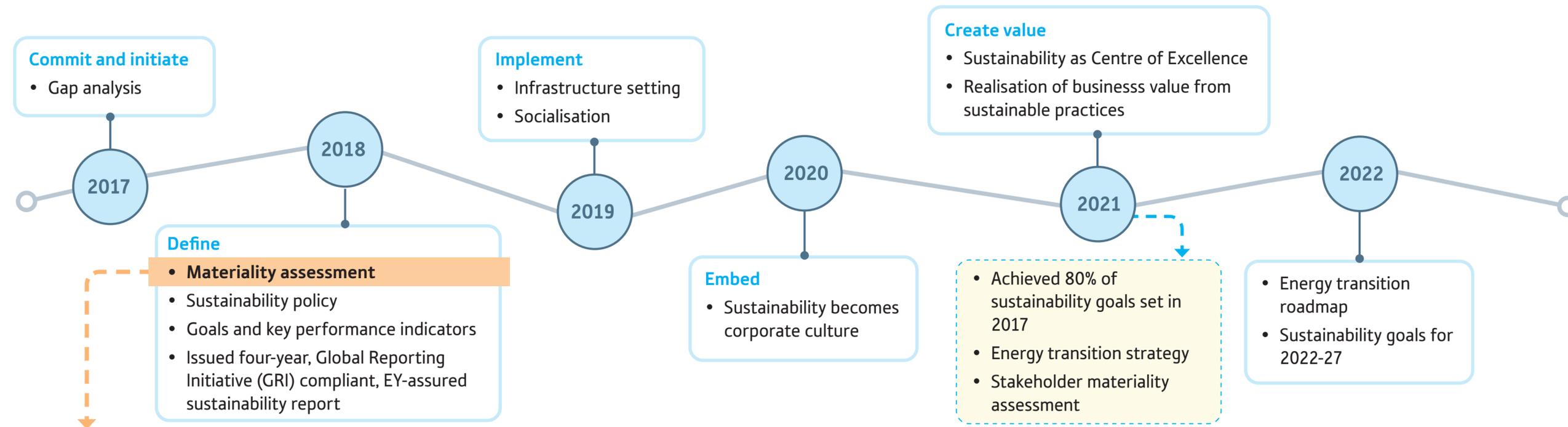
*barrels of oil equivalents per day

- Current production 60% gas
- Proven and probable (2P) resources 53% gas
- Power generation ~33% from renewables
- Strategic alliance with Kansai Electric Power to expand gas and liquefied natural gas (LNG) power-generation projects in Indonesia

Copper mining is key for affordable energy transition
Renewable energy assets require 3-15 times more copper per unit of installed capacity than conventional power generation

MedcoEnergi's ESG and sustainability strategy continues to evolve

MedcoEnergi's ESG and sustainability journey in focus



Risk-based assessment to gauge priorities and perceptions on the importance of each material issue among internal and external stakeholders. Used to establish first materiality assessment matrix

Priority ESG and Sustainability issues since 2018 include:

Local communities	Labour practices	Business ethics and fair business practices
Political and regulatory environment	Transparency	Human rights

The company was recognised for ESG-related achievements in Indonesia, 2020

<p>Environment</p> <p>Gold PROPER rating from the Ministry of Environment and Forestry (KLHK) awarded to Joint Operating Body Pertamina–Medco E&P Tomori Sulawesi and to Perusahaan Listrik Negara Tanjung Jati B, where Medco Power provides O&M services</p>	<p>Corporate governance</p> <ul style="list-style-type: none"> • First place for supply chain management key performance indicator from Special Task Force for Upstream Oil and Gas Business Activities (SKK Migas) • Operational Excellence Achievement in the 10,000-50,000 boepd category from SKK Migas
<p>Community empowerment</p> <p>Charter of appreciation from Musi Rawas' head of regency for participation in regency's development</p>	<p>Health and safety</p> <p>Zero Accident Award from the governor of the Riau Islands Province for achievement of accident-free work hours</p>

Under the broad heading of sustainability, MedcoEnergi evaluates ESG across three pillars:

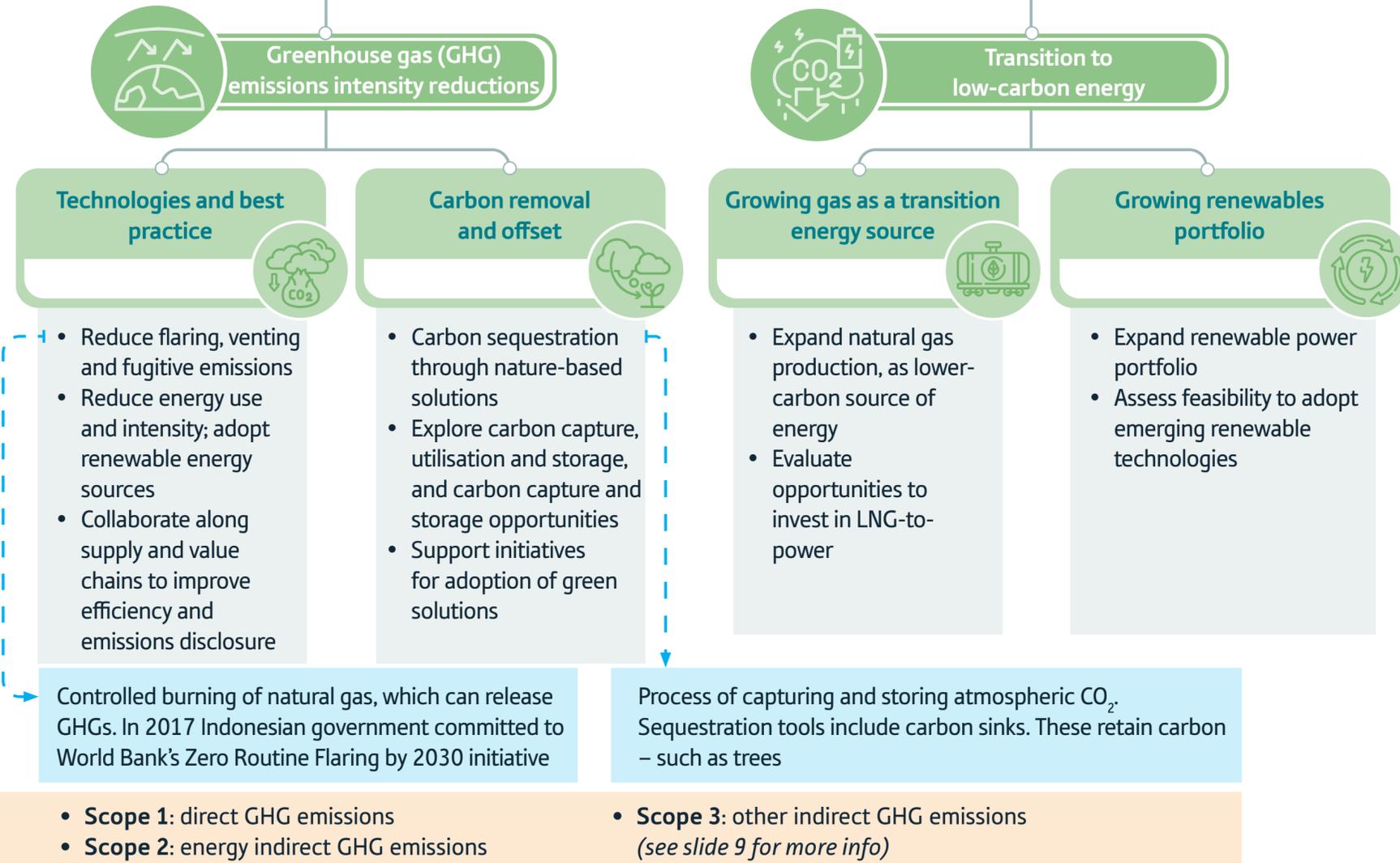
- Leadership of and by employees
- Environment and social development
- Local community empowerment

The company will commit to net zero for scope-1 and scope-2 emissions by 2050

MedcoEnergi is on track to achieve its long-term commitment of net zero for scope-3 emissions by 2060



Managing transition risks



Managing physical climate risks

Climate adaptation

Assess quantitative financial impact of climate-related physical risks

Implement systems for regular monitoring of climate hazards and their impacts

Physical risk and biodiversity assessments on new investments

Climate design

Integrate climate risk assessment into future engineering designs

Enablers

- Board commitment and oversight
- Integration into business plans and performance management
- Staff engagement and capacity-building



- Improve Emission Data Management System
- Improve scope-3 collection and calculation in alignment with protocols and standards

- Continue third-party verification of emissions disclosures
- Strengthen disclosures in line with Task Force on Climate-related Financial Disclosures (TCFD), and improve scoring for Carbon Disclosure Project and ESG (see slide 8)

- Engage with regulators and investors to monitor emerging regulations and trends
- Collaborate with stakeholders to drive the low-carbon economy

E

ENVIRONMENT

- 07 Emission reduction
- 08 Biodiversity
- 09 Global frameworks

S

SOCIAL

- 11 Education in focus
- 12 Empowering communities

G

GOVERNANCE

- 14 Code of conduct
- 15 Governance benchmarking
- 16 Responsible owner-operator

ENVIRONMENT



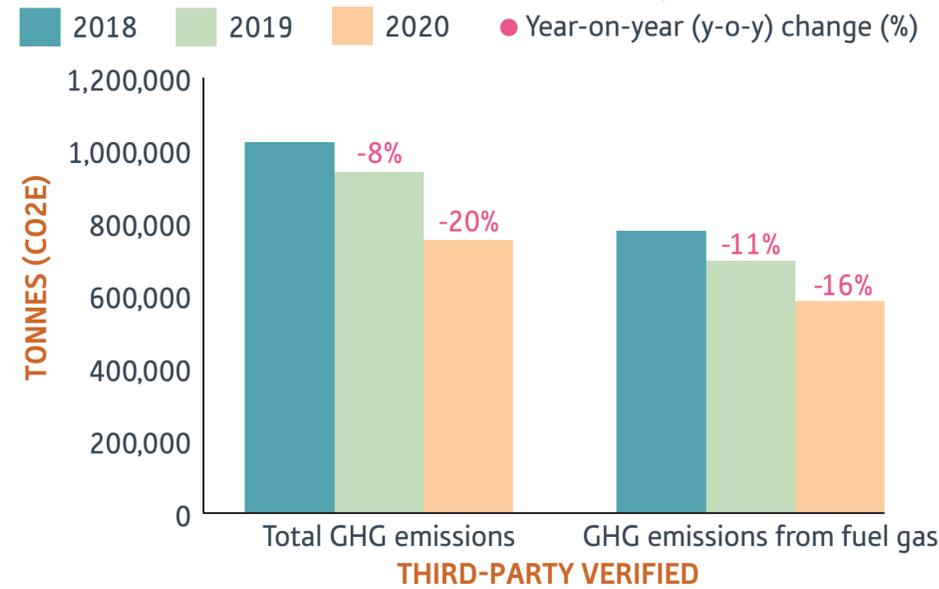
CASE STUDY: MedcoEnergi has reduced GHG emissions from South Natuna Sea Block B

After the 2017 acquisition of the South Natuna Sea Block B (SNSB), MedcoEnergi took action to calculate and reduce GHG emissions

SNSB facilities

<p>1 floating production storage and offloading vessel</p>	<p>1 floating storage and offloading vessel</p>	<p>1 moveable gas-production unit</p>
<p>1 gas lift platform</p>	<p>1 drilling production platform</p>	<p>1 logistics and air transport base at Matak</p>
<p>2 central processing platforms</p>	<p>Several wellhead platforms</p>	<p>Numerous subsea wells</p>

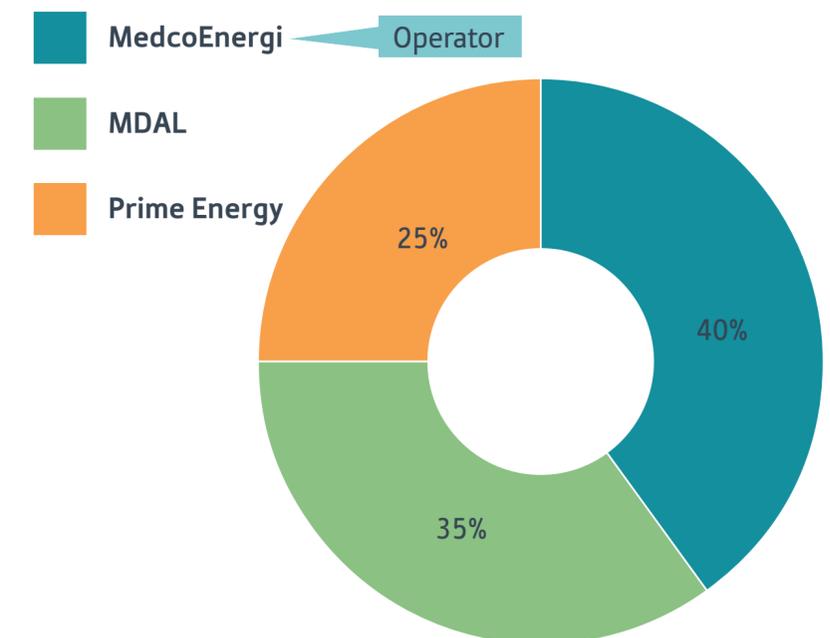
SNSB reduced total GHG emissions by 20%, 2019-20



West Natuna Transportation System (WNTS) gas pipeline

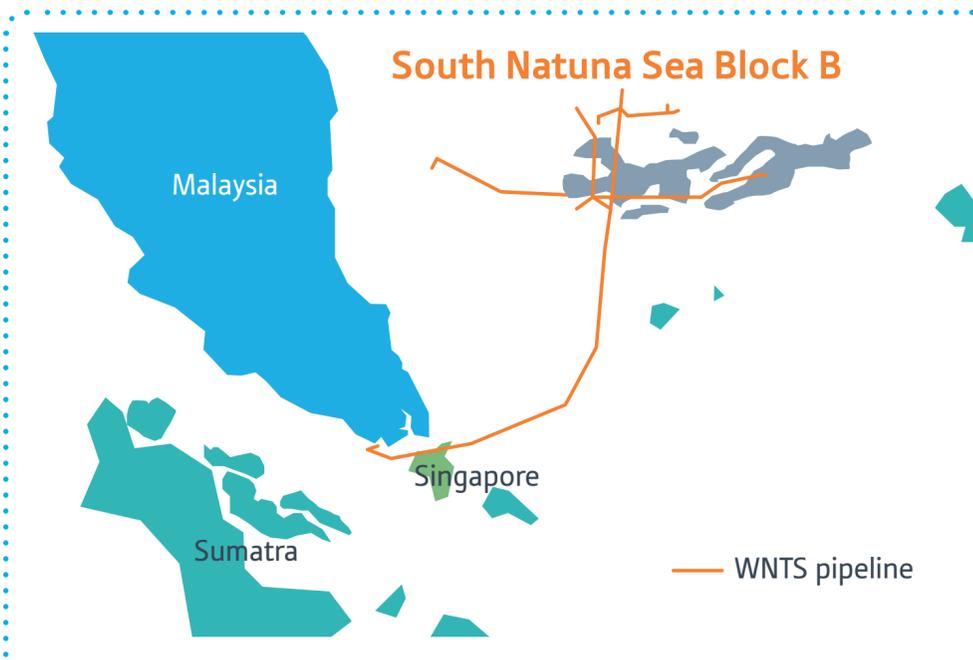
Location	Natuna Sea, from Indonesia to Singapore
Ownership	West Natuna Gas Producer consortium
Current capacity	3.4bn cu meters per year
Length	650 km

Partners in South Natuna Sea Block B



Operational efficiency

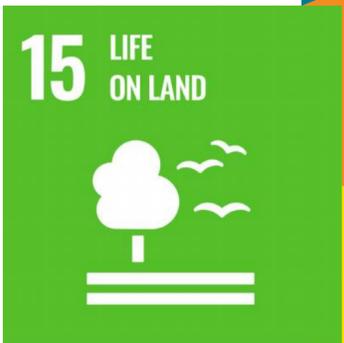
MedcoEnergi operates the SNSB and the WNTS 28" gas pipeline, both in Indonesia, and has taken steps to reduce its carbon footprint in these assets. Actions to boost energy efficiency and reduce GHG emissions have included optimising and digitising compressor and turbine control, as well as operating conditions, in SNSB. This enabled the flexible and demand-based management of gas operations: SNSB's total GHG emissions were one-fifth lower in 2020 than in 2019. Meanwhile, MedcoEnergi is installing renewable energy for SNSB's Matak Base and new development wellhead platforms; conducts regular energy audits and GHG analyses; and benchmarks emissions reductions against industry peers.



CASE STUDY: MedcoEnergi's conservation programmes support climate goals while protecting biodiversity

Alignment with UN's Sustainable Development Goal (SDG) 15:

The UN's 17 global SDGs for 2030 aim to end poverty, protect the planet, and enable peace and prosperity



15.1
Ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements by 2020

15.2
Promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally by 2020

15.3
Ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development by 2030

15.4
Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and protect and prevent the extinction of threatened species by 2020

Around **37,400** species are threatened with extinction globally, according to International Union for Conservation of Nature (IUCN) Red List of Threatened Species

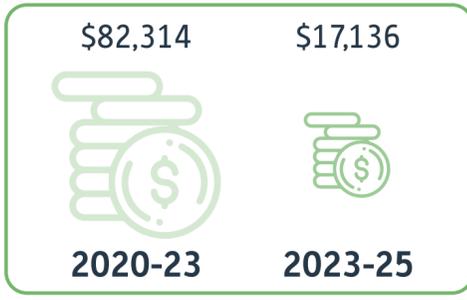
Medco Ratch Power Riau (MRPR) Biodiversity Programme



- Sunda pangolin → Critically endangered species, according to IUCN Red List
- Kerinci Seblat National Park → UNESCO World Heritage site



- MRPR is developing a 275-MW combined-cycle, gas-fired power plant in Pekanbaru city, expected to start commercial operation in late 2021
- During the environmental social impact assessment, indirect evidence suggested the presence of Sunda pangolin. Stakeholders agreed to offset by supporting biodiversity remediation efforts of the species' habitat elsewhere
- MedcoEnergi and partners worked to enhance biodiversity conservation in Kemunyang Village Forest, Merangin Regency, Jambi Province. Kemunyang Village Forest area is the buffer zone of Kerinci Seblat National Park.



Campaigns in Thailand



Environmental awareness	Reduce, reuse and recycle (3R)
Aligned with World Environment Day 2020 Aimed at enhancing biodiversity conservation	Best practices to implement 3R in lifestyles Sharing ideas on biodiversity and climate conservation



Total area planted by MedcoEnergi, 2018-20

172.75 ha

- Forests, together with oceans, are among the world's most important carbon sinks
- Among initiatives to facilitate carbon sequestration through nature-based solutions

Monitoring emerging ESG and climate-change regulations, MedcoEnergi pursues high-transparency standards

MedcoEnergi's sustainability reporting has been aligned with international guidance for 15 years

2006 Sustainability Report: aligned with Oil and Gas Industry Guidance on Voluntary Sustainability Reporting (2005) from the International Petroleum Industry Environmental Conservation Association (IPIECA) and American Petroleum Institute. Majority of indicators consistent with GRI Guidelines and Indonesian Sustainability Reporting Association guidance

2008 Sustainability Report: incorporated a GRI and IPIECA Index



TCFD was established by G20 finance ministers and central bank governors in 2015.

Aims:

- offer climate-related financial information to help financial markets price climate-related risks and opportunities
- promote informed investment, credit and insurance underwriting decisions
- help stakeholders understand concentration of carbon-related assets in financial sector and financial system's exposure to climate-related risks
- provide investors, lenders and insurers with a view of future company performance as natural environment changes, regulations evolve, new technologies emerge and customer behaviour shifts

In May 2021 MedcoEnergi joined the Carbon Disclosure Project (CDP)



The CDP now operates global environmental disclosure system aligned with TCFD across three separate disclosure areas: climate change, water security and forests

The following month G7 finance ministers and central bank governors agreed to mandate TCFD-aligned, climate-related financial reporting



First global standards for sustainability reporting, GRI Standards, were introduced in 2016. These included GRI 305: Emissions 2016, which:

- addresses air emissions, with reporting requirements based on GHG Protocol
- GHG Protocol, developed by World Resources Institute and World Business Council on Sustainable Development, divides GHG emissions into three scopes
- GHG emissions standard published by the International Organisation for Standardisation (ISO), ISO 14064, classifies these scopes into:
 - scope 1: direct GHG emissions
 - scope 2: energy indirect GHG emissions
 - scope 3: other indirect GHG emissions
- GRI 305 includes GHG scopes 1-3, emissions intensity and emissions reduction



In 2020 MedcoEnergi incorporated, into scope-1 emissions methodology for oil and gas:

- GHG Protocol for Corporate Accounting and Reporting Standard 2004
- ISO 14064-1:2006
- Intergovernmental Panel on Climate Change Guidelines for National GHG Inventories 2006

Company began reporting scope-2 emissions for oil and gas, and power

Regulated carbon trading could help Indonesia maximise sequestration through natural sinks

- One credit is typically equivalent to reducing, removing or avoiding one tonne of CO₂
- At end-2020 the UN-initiated Taskforce on Scaling Voluntary Carbon Markets released a draft blueprint for large-scale transparent carbon credit trading
- Indonesia aims to enact proposed Presidential Regulation on Instruments of Carbon Economic Value for NDC (Carbon Economic Value Bill) by end-2021. Aims:
 - regulate the carbon trade
 - provide performance-based payments for reduced GHG emissions
 - impose a levy on carbon emissions, proposed at Rp30 per tonne as of October 2021

\$35trn

Value of world's largest companies by market capitalisation

\$4trn

Assets will be at risk from climate change by 2030

31 gigatonnes

GHG emissions produced per year

\$5.5trn

Estimated market for low-carbon goods and services

1.5°C

Threshold for dangerous global warming

SOCIAL

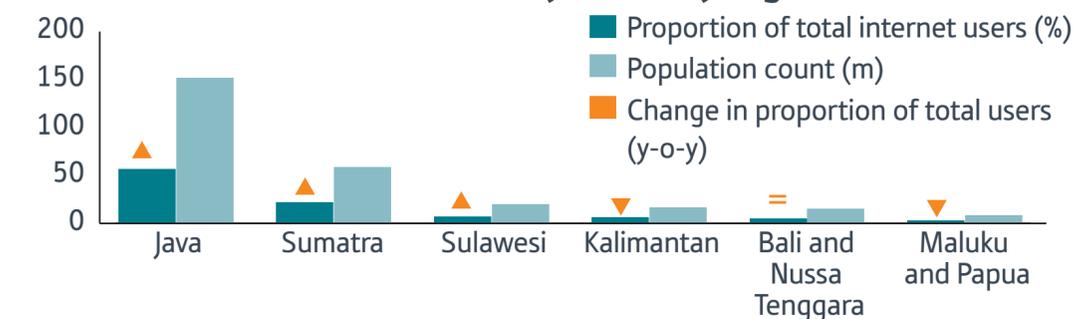


CASE STUDY: Long-standing programmes aim to improve education quality and remote access

Secure internet access in Indonesia has increased substantially, 2010-20



Indonesia's internet connectivity varies by region, Q2 2020



Remote challenge

The implementation of remote learning during the pandemic posed unexpected challenges for all stakeholders. Some remote areas of Indonesia faced notable challenges in reaching learners online due to insufficient ICT infrastructure and electrification, and limited access to digital tools. As part of long-term initiatives to improve education quality, MedcoEnergi focused on supporting communities with limited access to the internet and digital devices. The company also offered capacity building for teachers, students and parents.

MedcoEnergi took steps to support learning continuity and student attainment during the Covid-19 pandemic



Devices donation campaign: distribution of **1200** mobile devices for students and teachers to enable remote learning



Installation of WiFi hot-spots to provide internet access in areas without necessary infrastructure



Teacher and parents remote education skills programmes:

Virtual sessions with 36 teachers from seven public and elementary schools in Tarakan and 115 teachers from 22 schools in Sumatra

- To build teacher capacity in preparation of remote-learning modules and online counselling
- Promotion of fun and creative learning to engage students for optimal outcomes
- Online tutoring to prepare students for university admission through remote learning
- Training to help parents support their children to adapt to remote learning

MedcoEnergi has operated long-term educational support initiatives since 2003

Multi-year education plans for teacher-parent capacity building and provision of education materials



- Elementary and high school students: each student receives scholarship funding until completion of their respective formal education level
- University students in areas of study related to the company's core business activities: scholarship grant covers university tuition costs and living expenses for one year

- ↳ Education programmes conducted in communities surrounding the company's operational areas
- ↳ Company's long-term programmes have been welcomed by education offices of local government, as well as teachers and communities
- ↳ Over 2003-20 period **Rp1.3bn** granted to some 410 students throughout the archipelago

Other educational programmes



- ▶ Provision of funds for diverse activities:
 - construction and repair of school buildings
 - donations for the purchase of textbooks and library books, classroom furniture and sports equipment
 - sponsorship of courses, training programmes and events for teachers and students
- ▶ Mother and child educational development programme to boost literacy in Luwuk, Central Sulawesi

MedcoEnergi seeks to empower communities for the long term, with measured social impact

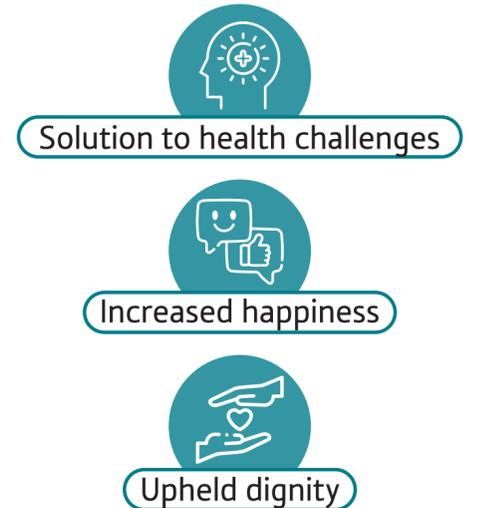
Focus areas of MedcoEnergi's Community Development Policy



High social value of being open-defecation free (ODF)

MedcoEnergi launched a toilet construction project in 2019 to contribute to Indonesia's efforts to end open defecation. Open defecation, or the practice of defecating outside, has received international attention from the UN: there is one child fatality every 2.5 minutes globally from diseases related to open defecation. Health threats include cholera, intestinal worm infection and diarrhoea, since the practice predisposes water and food to faecal contamination. Research suggests the practice also has a considerable impact on women: threats include maternal anemia, which directly causes adverse pregnancy outcomes and can result in long-term damage to psychosocial well-being. In Indonesia an estimated 25m people do not have access to toilets. One in four Indonesian children under the age of five suffers from diarrhea – the leading cause of child mortality in the country. Approximately \$6.3bn is lost in Indonesia per year due to health- and water-related issues – the equivalent of 2.3% of national GDP. The Indonesian government has been developing ODF villages to address this issue by for over a decade.

Positive impact of toilet construction projects



Social return-on-investment (SROI) ratio

MEASURES
social impact outcomes

QUANTIFIES
social, environmental and economic value of programmes

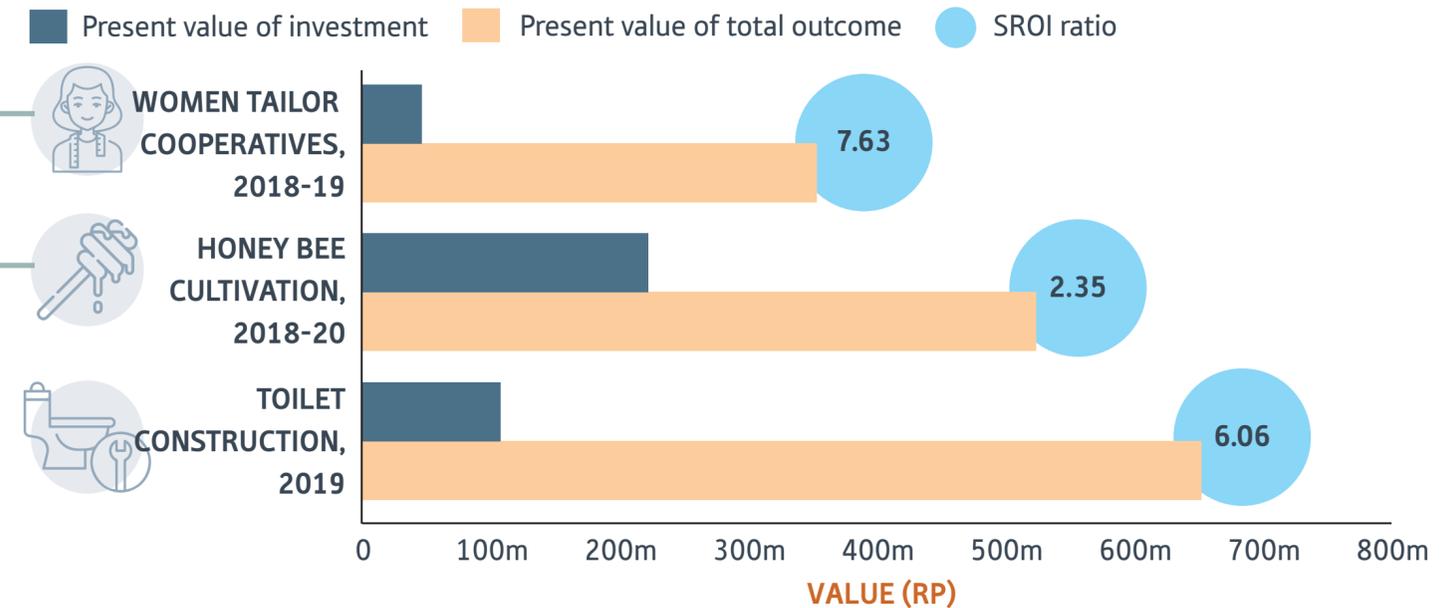
INFORMS
future decisions on programme design, budgeting and scale

Methodology based on the guidelines of Social Value UK and Social Value International – a professional body and global network, respectively, for social value and impact management. SROI represents the value of an investment in a project today, relative to the value of the outcomes of that project within a specified period of time.

Highest SROI ratio because sewing together as a group raised happiness, upheld dignity by increasing self-reliance and provided additional income for households

For every Rp1 invested, the benefit over three years is Rp2.35

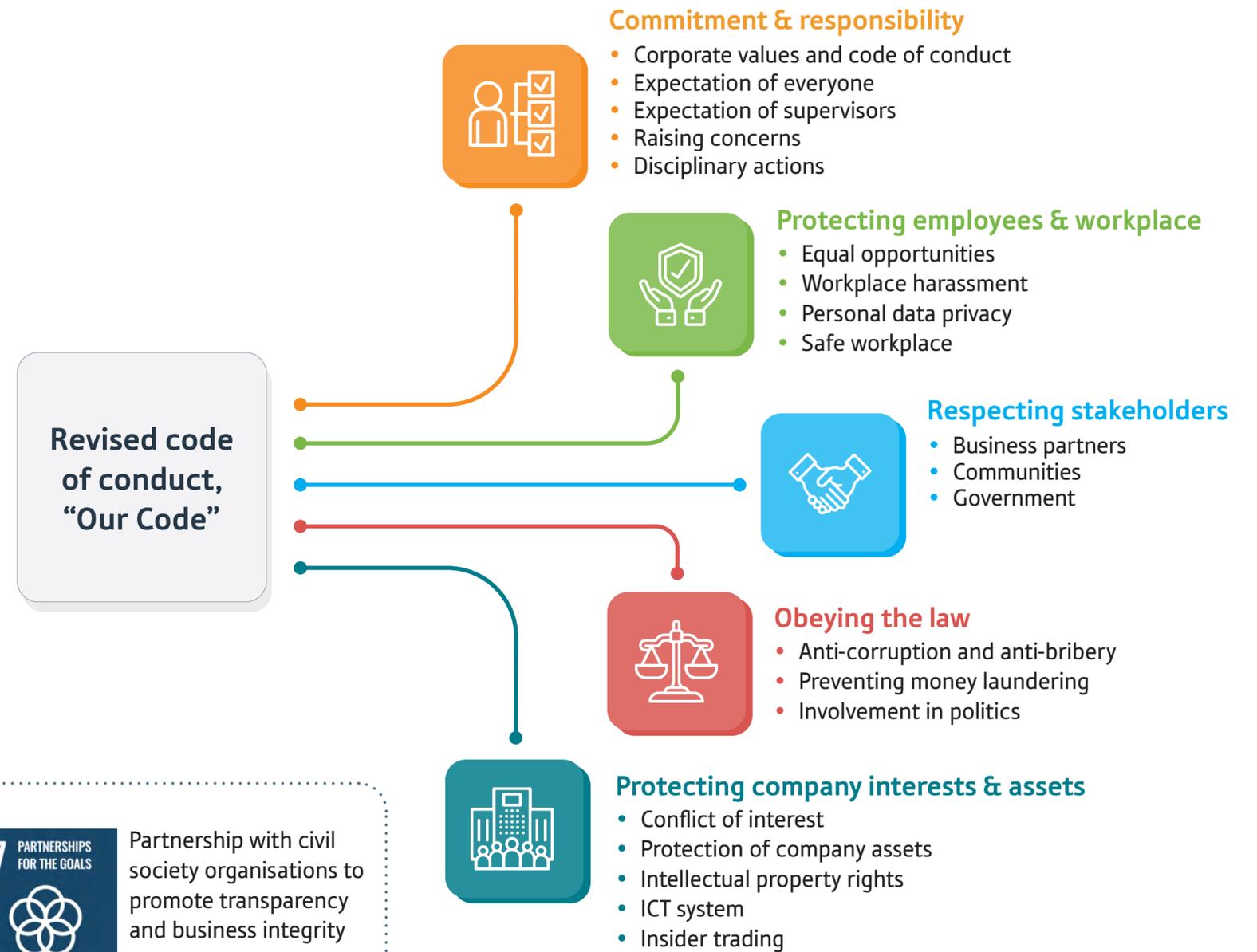
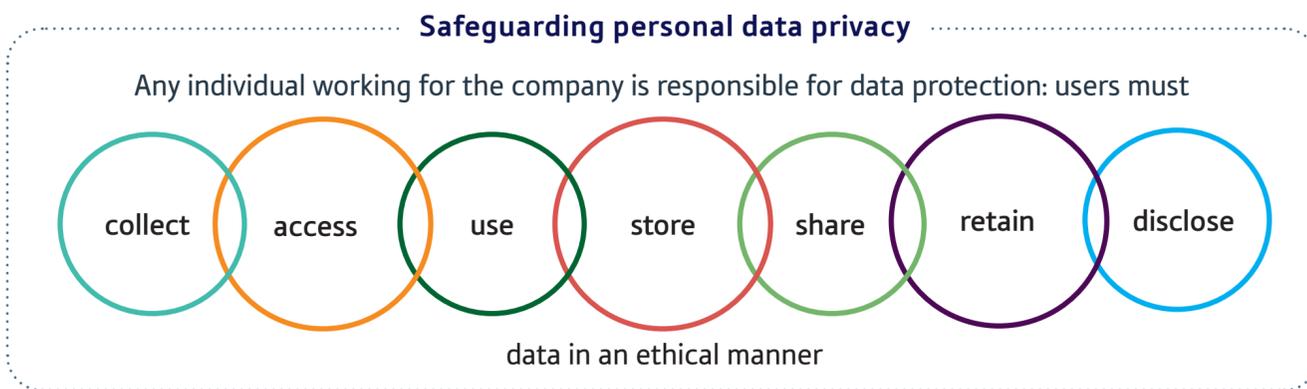
SROI calculation for MedcoEnergi projects



GOVERNANCE



MedcoEnergi's revised code of conduct is aligned with international best practices



CASE STUDY: MedcoEnergi is benchmarking governance in Indonesia against global standards

MedcoEnergi remains committed to identifying, evaluating and improving governance risks

Fraud risk assessment workshops since 2015 to identify fraud risks, required controls and mitigation actions

Multi-channel whistleblowing, including via external agency

Collaboration for anti-corruption: chair of Indonesia Petroleum Association Ethics & Compliance

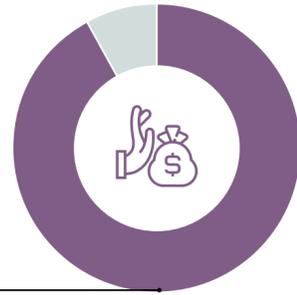
Regular employee training for best practices in hosting of government officials

Benchmarking against industry peers and global standards

Anti-bribery and corruption vendor audits

Government corruption perceived to be higher in Indonesia than anywhere else in the region, 2020*

Percentage of people who think corruption in government is a big problem: **92%**



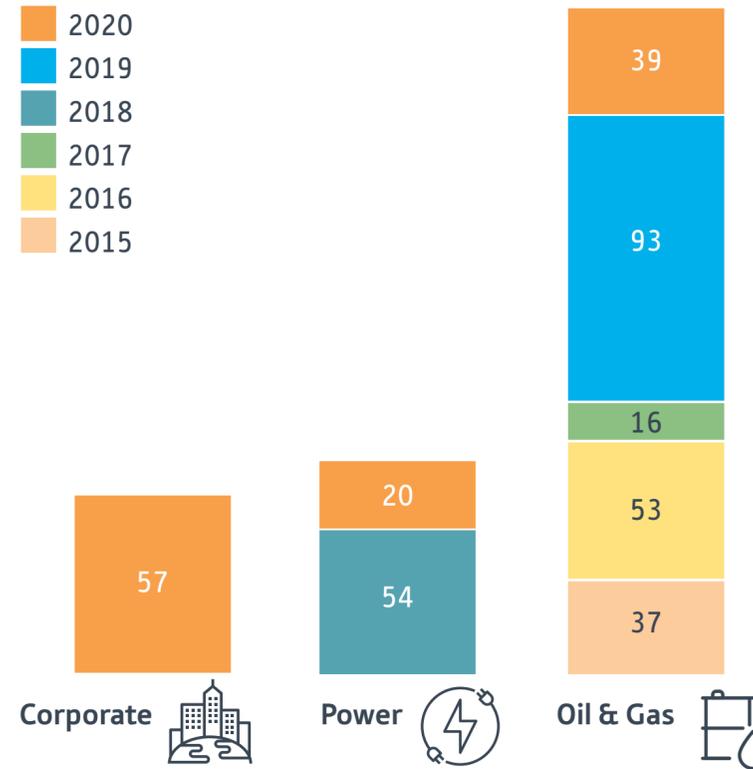
*Transparency International's Global Corruption Barometer. Survey conducted across 17 countries in Asia. 20,000 responses collected during June-September 2020

21 audits in 2020 after risk assessment of supply chain contracts

Risk assessment based on:
 >> business risks, including shipping, security, formalities, inspection, certification and licensing

>> and specific background of contractors, including reputation for corruption and presence of personnel with political affiliation

Fraud risk assessment workshop participants (number by business area), 2015-20



Value of external assessment

- External, third-party organisations offer independent data, as well as benchmarking
- ESG ratings agencies help identify and evaluate financially relevant ESG-related risks
- Examples include Morgan Stanley Capital International (MSCI) and Sustainalytics

MSCI ESG RATINGS



CCC B BB BBB A AA AAA

In 2020 MedcoEnergi maintained its rating of "BB" (on a scale of "AAA-CCC") in the MSCI ESG-rating assessment

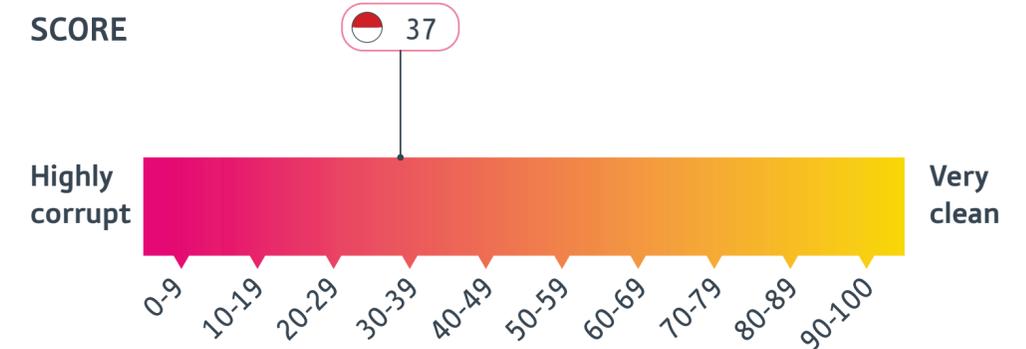


49.9 2019 → 46.9 2020

ESG risk rating:
 52nd global oil and gas producers industry
 37th oil and gas exploration and production sub-industry

Indonesia is ranked 102 out of 180 markets in the Corruption Perceptions Index, 2020

SCORE



Good corporate governance helps position MedcoEnergi as a responsible owner-operator

Oil and gas can still play a role in unlocking Indonesia's socioeconomic potential

- Oil and, particularly, gas remain an important part of the energy mix in emerging markets with growing energy demands
- Indonesia's electricity demand had been projected to triple over the 2010-30 period, driven by robust economic growth, urbanisation and industrialisation
- Access to affordable, reliable energy will be key for inclusive socio-economic development beyond urban centres
- Indonesia's Electricity Power Supply Business Plan (RUPTL) 2019-28 reports that five out of six provinces on Sulawesi, as well as East and West Nusa Tenggara, East Kalimantan, West Sumatra and Yogyakarta provinces, will experience growing electricity demand

MedcoEnergi is planning for the responsible purchase of new oil and gas assets

- Portfolio rebalancing by major oil companies is creating opportunities for regional players to acquire these assets
- The sale, rather than closure, of these assets does not necessarily have a net positive impact on the environment: these assets continue to operate and require responsible stewardship
- The companies holding hydrocarbons assets in the future will be those with the transparency, governance and practices consistent with stakeholder values and expectations
- While still committed to the energy transition, net zero and managing climate risks, MedcoEnergi plans to purchase some of these assets, operate them in accordance with social and governance pillars, and reduce overall emissions

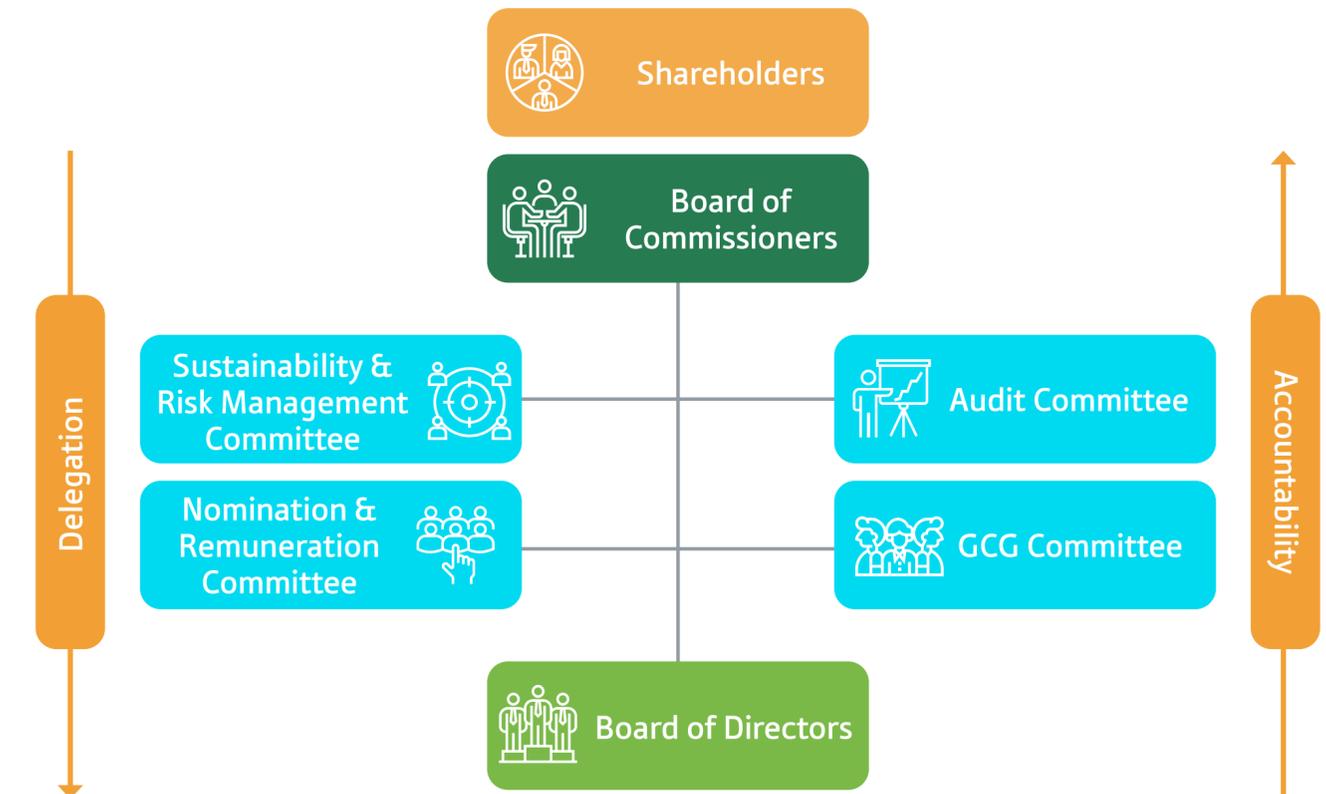
MedcoEnergi's acquisition criteria is designed to promote responsible governance

Acquisitions can add value through enhanced scale, control and organisational competence

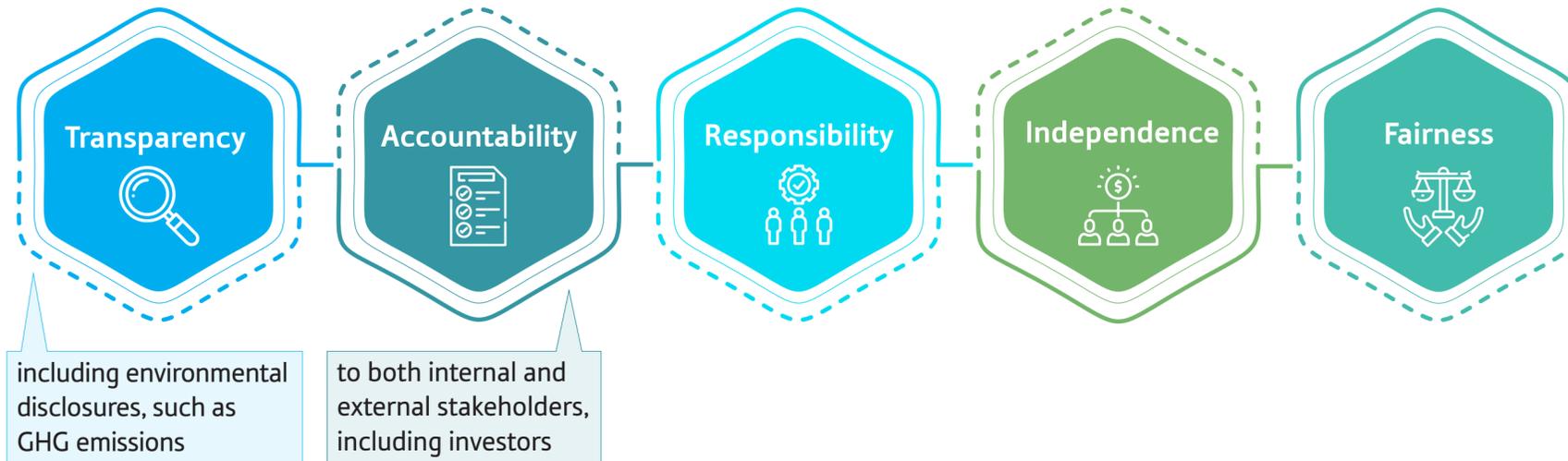
MedcoEnergi acquisitions are screened to ensure:

- improved credit status and profitability
- manageability of risks, with assessment including knowledge of the asset, organisation's capabilities, sub-surface conditions and markets
- growth potential and upside
- consistency with company's energy transition strategy

GCG principles are systematised in the company's corporate governance structure



MedcoEnergi promotes GCG principles



ESG INTELLIGENCE