



# BDO GLOBAL ENERGY TRANSITION REPORT

Global MINING / O&G Industry Report

*Industry insights are based on survey responses from the BDO Energy Transition Diagnostic Tool*



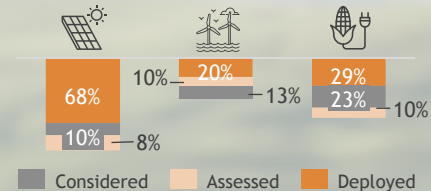
# HOW ARE COMPANIES APPROACHING THE TRANSITION?

Energy is a concern for all companies.

Every industry across the globe will be under pressure to review and rethink their energy and carbon footprint. As government and industry pressures mount around climate change and meeting the Paris Agreement, demonstrating a robust and transparent approach to energy management and climate risk will become a norm.

The BDO Energy Transition Diagnostic framework helps raise awareness around the important pillars necessary in transitioning to low carbon.

- ▶ Mining/O&G are by necessity **energy-intensive**
- ▶ Pressure from stakeholders is growing globally as the focus on **sustainable business practices** is becoming a priority
- ▶ **Solar, biofuels & wind** are the alternative energy solutions that were reported as '**mostly deployed**' from those surveyed, however **small-scale hydroelectric & hydrogen** were being considered the most out of all alternative energy



- ▶ Moreover, **integrating systems and solutions for energy efficiency monitoring and targeting** is being increasingly adopted to manage energy consumption and GHG emissions.



# THE TRANSITION TO A LOW CARBON FUTURE

Pressure on companies to reduce their carbon emissions is seeing alternative energy solutions becoming vital to a company's strategy.

Energy management and sustainability are fast becoming Boardroom and business critical issues. Reporting on carbon, GHG emissions and climate-related risks are becoming increasingly mandatory. Pressures from investors, capital markets and consumers around climate related risks are **requiring organisations to rethink their operations**. Transparency around an organisations impact on the ecological and social environment is becoming a growing concern, especially among companies in the energy intensive sectors. Many key industry leaders have already taken a **step forward in their journey to low carbon, but we have a long way to go in order to meet the Paris Agreement**.

Climate-related risks are materializing today, and governments and regulatory bodies are now scrambling to play catch up, making up for years of inaction. This will likely see the transition hit some industries and organisations faster and harder than others.

The shift away from fossil fuels to alternative energy is an important step in reducing emissions quickly. As estimated by industry experts, **renewables can cut energy-related CO2 emissions by about 70%**. In addition, the International Renewable Energy Agency predicts that **renewables and energy efficiencies have the potential to boost global GDP by 2.5% to 5% with the increased emissions mitigation**.

The transition speed is currently being spurred on by massive drops in the cost of renewable energy, namely solar and wind, a surge in clean energy policies and investments, a rising number of countries targeting Net-Zero and in part by the global pandemic.



**67%** report that their organisation is **required to disclose the energy usage and carbon emissions**<sup>1</sup>



**66%** report that a driver to utilizing alternative energy is compliance and regulatory mandates

Source: International Renewable Energy Agency

Note: (1) Statistics based on survey responses gathered from three industries, Mining/O&G, Utilities and Construction. See data on last page.

# DID YOU KNOW THAT?

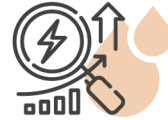
Based on the survey, Mining/O&G industry leaders responded with...



**81%** report that the initial high capital costs is the biggest barrier to transitioning to renewables.



**35%** report that **customer pressure on climate change** is driving their decisions to adopt clean energy.



**27%** confirm that they have **NO** specific KPIs around tracking emissions or climate related risks.



**67%** confirm to have **voluntary adopted sustainability accreditations or initiatives**



**71%** report the main driver for utilizing alternative energy is because of **regulatory mandates**.



**65%** 'strongly believe' a strong commitment to sustainability can **raise investor interest**.



**29%** report that use of renewable energy results is 'very significant cost savings'.



**33%** confirm that climate change or sustainability **responsibility sits with C-level/Board**.

# ENERGY TRANSITION DIAGNOSTIC - FRAMEWORK



## AWARENESS & DEPLOYMENT

What level of awareness and deployment is your organisation in adopting renewable energy.



## ENERGY EFFICIENCY

What energy efficiency solutions & activities have been adopted and/or evaluated in efforts to gain efficiencies and reduce carbon emissions.



## CHALLENGES & OPPORTUNITIES

What are the main challenges and opportunities around adopting renewable energy.



## STRATEGY & COMMITMENT

How does your organization rank against the industry in creating targets and commitments to reducing its carbon footprint.



## MONITORING & REPORTING

How do you manage and monitor the success of the energy transition initiatives

Cleaner solutions for powering machinery and operations should be part of a company's strategic plan for lowering carbon emissions.

The migration to alternative energies will always be, in part, a commercial decision. An understanding of the potential commercial benefits of addressing Climate Change is crucial.

Recognition of the commercial rewards and challenges of using alternative energy and other mitigating technologies will drive corporate change.

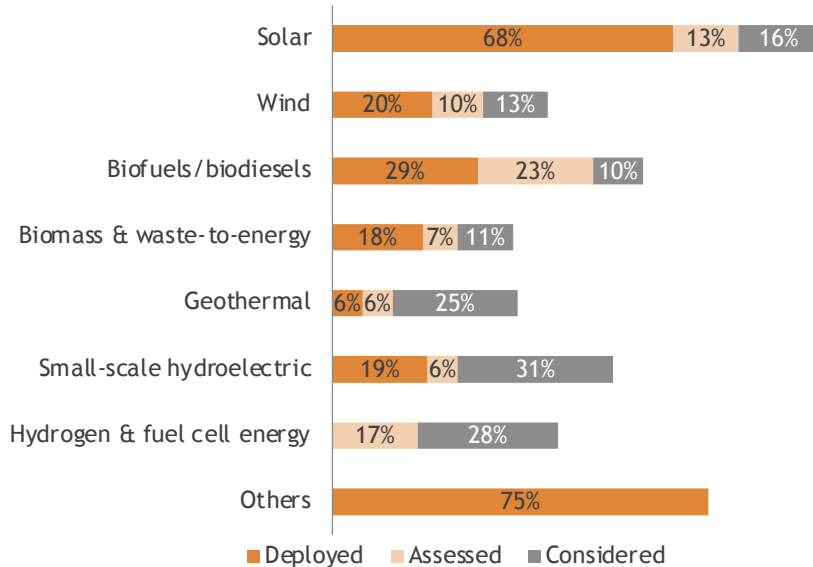
Climate change should be a strategic governance issue, one routinely on the Board agenda and included in portfolio reviews, investment decisions and risk management oversight.

“What gets measured, gets managed.” The path to sustainability requires a serious effort to understanding the current situation and starting an accurate monitoring of carbon emissions.

# AWARENESS & DEPLOYMENT

## The Mining /O&G industry turns to solar

Alternative energies in a company's own operations or facilities across the Mining/O&G industry



### Top 3 Alternative energy types deployed in the Mining/O&G industry<sup>1</sup>



**Solar:** Solar prices continue to fall, easily transportable and now viewed as competitive to the traditional diesel generators often used in powering the operations.



**Biofuels / biodiesels:** often serves to reduce emissions; using biofuels brings benefits such as exemption from taxes, subsidies, lower price for the fuel, higher safety management



**Wind:** Floating wind and wave power are being experimented with to supply clean power to offshore oil and gas facilities

Future trends: Mining/O&G may be first movers on hydrogen as prices & accessibility to the technology becomes achievable. Solar + storage / micro-grids will continue to be considered for remote mining locations and field based renewable installations for O&G.

# ENERGY EFFICIENCY

Mining /O&G are actively exploring energy-saving solutions



**55%** strongly agree that targeting and monitoring are actively used to identify energy savings



**87%** of companies within the Mining/O&G industry regularly undertake site energy surveys



**48%** confirm that using energy efficiency technologies result in significant operational costs savings

## Energy-saving solutions explored by companies across the Mining/O&G industry

### Top 5<sup>1</sup>

Energy-efficient lighting systems

**52%**

Partly Exploited

Co-generation  
(use of wasted heat from electricity generation)

**23%**

Under evaluation

Smart meters

**23%**

Mostly exploited

**13%**

Under evaluation

Optimised system / plant / equipment maintenance

**77%**

Exploited

**16%**

Under evaluation

Heat Pumps

**6%**

Fully exploited

**26%**

Under evaluation

- ▶ The main advantages of **energy-efficient lighting systems** are reduced energy demand and a solid-state lighting systems, which have proven to be among the most efficient and ecological lighting technologies with ever-decreasing costs and a longer lifetime
- ▶ **Effective Insulation** is one of the most efficient ways to save energy.
- ▶ **Heat recovery system** has a remarkable ability of saving a vast amount of energy and subsequently can be perceived as an alternative method to minimise expenses connected with mine air heating systems



Future trends: Mining /O&G companies are continuing to focus on cost reductions, which can be found in energy management and boosting efficiencies via technology innovation.

# OPPORTUNITIES & CHALLENGES

## Switching to renewables will become increasingly business critical

Those industry leaders that manage to adopt and transition to renewables will be recognized and rewarded by their investors, employees and community. Increasingly the social licence to operate will become non-negotiable as climate-related risks and externalities begin to be priced into a company's operation.

### What key industry leaders think

Strongly agree	Somewhat agree		
19%	55%		Improve staff recruitment due to Climate Change commitments
35%	42%		Reduce financial risk due to strong commitment to sustainability
65%	23%		Raise investor interest due to strong commitment to sustainability
Very significant	Significant		
29%	39%		Operational costs savings due to alternative energy use

Opportunities for companies that switch to renewables can include:

- ▶ **Reduced reliance on fossil fuels** that are vulnerable to global price fluctuations, ensuing carbon taxes
- ▶ **Reduction in CO2 emissions and costs** which also may help to satisfy environmental and social criteria of a given project
- ▶ **Improved investor engagement** - demonstrating good corporate social responsibility

### Top 5 Challenges<sup>1</sup>

High initial capital costs

81%

Lack of government subsidies

45%

Risk of business disruption

45%

Lack of in-house knowledge / capability in available technologies

42%

Overall technological complexity

39%

Challenges for companies that switch to renewables can include:

- ▶ **Switching** to renewables requires a complete rethink on operational processes which can be costly.
- ▶ Perceptions around the **complexity, reliability, costs and performance** is holding the adoption of renewables back for many companies



# STRATEGIES & COMMITMENT

## Mining/O&G companies still not meeting UN expectations



**33%** report to have C-level / Board of Directors level of managerial responsibility for sustainability

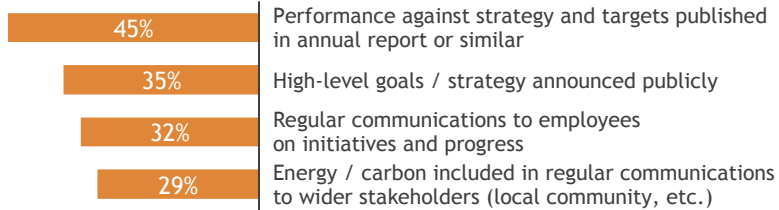


**60%** of companies report having Department Senior Manager's responsible for sustainability/climate change



**73%** confirm to have specific KPIs and targets related to climate change / CO2 emissions

### Approaches to announce corporate sustainability commitments<sup>1</sup>



### Sustainability monitoring

Site energy surveys are regularly undertaken

**87%**

Ongoing monitoring in place to measure targets

**74%**

Success of energy efficiency actions measured

**58%**

### Reporting

According to UN, the management of environmental and social aspects, and sustainability reporting of mining companies are currently not meeting the expectations of interested stakeholders:

- ▶ Miners are **collectively responsible for 22% of global industrial greenhouse gas emissions**, and pressure from customers, shareholders and regulators to lower this has been growing
- ▶ However, although not all companies are required to disclose their energy usage and carbon emissions, **67% of the companies surveyed have reported to voluntary adopt sustainability accreditations and initiatives**
- ▶ 87% have reported to gain assurance over the CO2 emissions and climate change reporting, but **only 29% hire a third party and 6% mention to have Independent ISAE 3000 assurance reporting**

So far, the mining/O&G industry has made little progress towards the SDGs<sup>2</sup>. The sector is struggling with its reputation making it hard to attract young talent. Many of the global mining/O&G companies are trying to shift their branding - O&G to 'Energy companies' and Mining to one that supports the energy transition - renewables & batteries.

Source: BDO Energy Transition Diagnostic Tool survey; Bloomberg; NEF report - [2020]

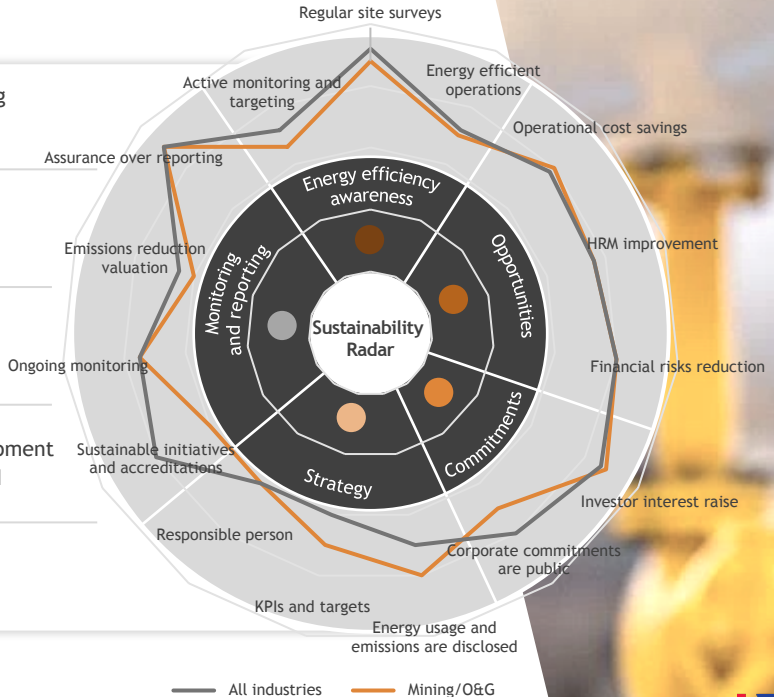
Note: (1) The graph shows to what extent organisations publicly announced its corporate commitment to mitigating climate change or reducing its carbon footprint; (2) Sustainable Development Goals adopted by the UN in 2015

# WHAT DOES THIS MEAN FOR YOUR BUSINESS?

The BDO Energy Transition Diagnostics Tool aims to raise awareness around the key pillars and approach to a company's transition to low carbon. This sustainability radar illustrates where the Mining/O&G industry ranks in relation to ALL industry respondents.

## Key components of the energy transition approach<sup>1</sup>

<b>Energy efficiency awareness</b>	<ul style="list-style-type: none"> <li>▶ The awareness and deployment of alternative energies including energy saving solutions</li> <li>▶ Monitoring and metering the effectiveness of the solutions</li> </ul>
<b>Opportunities</b>	<ul style="list-style-type: none"> <li>▶ Capturing the benefits of alternative energy &amp; various solutions including new business models</li> <li>▶ Potential cost savings and operational improvements that could be gained</li> </ul>
<b>Commitments</b>	<ul style="list-style-type: none"> <li>▶ Commitments and ambitions relating to reducing carbon, in addition to addressing regulatory &amp; stakeholders concerns</li> </ul>
<b>Strategy</b>	<ul style="list-style-type: none"> <li>▶ Managing decisions regarding the company's sustainable development</li> <li>▶ The ways to carry out the commitments and requirements faced</li> </ul>
<b>Monitoring and reporting</b>	<ul style="list-style-type: none"> <li>▶ Key approaches to managing and monitoring and gaining assurance over GHG emissions and energy management / use</li> </ul>



# SUSTAINABILITY RADAR

## Mining/O&G industry - Key dimensions descriptions

	Dimension	Description
Energy efficiency awareness	Active monitoring and targeting	Agree that monitoring and targeting is actively used to identify energy savings
	Regular site surveys	Agree that site energy surveys are regularly undertaken
	Energy efficient operations	The use of energy efficiency technologies and practices result in significant operational costs savings
	Operational cost savings	The use of alternative energy result in significant operational costs savings
Opportunities	HRM improvement	Agree that robust Climate Change commitment improve staff recruitment, retention and morale
	Financial risks reduction	Agree that a strong commitment to sustainability can reduce financial risk
	Investor interest raise	Agree that a strong commitment to sustainability can raise investor interest
Commitments	Corporate commitments are public	Confirmed that the company publicly announced is corporate commitment
	Energy usage and emissions are disclosed	Confirmed that the organisation is required to disclose the energy usage and carbon emissions
	KPIs and targets	Confirmed to have some specific KPIs/targets related
Strategy	Responsible person	Confirmed to have a responsible person in the company
	Sustainable initiatives and accreditations	Confirmed to voluntary adopted some sustainability accreditations or initiatives
	Ongoing monitoring	Confirmed to have the ongoing monitoring in place
Monitoring and reporting	Emissions reduction valuation	Confirmed that success of energy efficiency actions measured in terms of CO2 emissions reduction
	Assurance over reporting	Confirmed that assurance over the CO2 emissions/climate change reporting is gained

# CONTACT

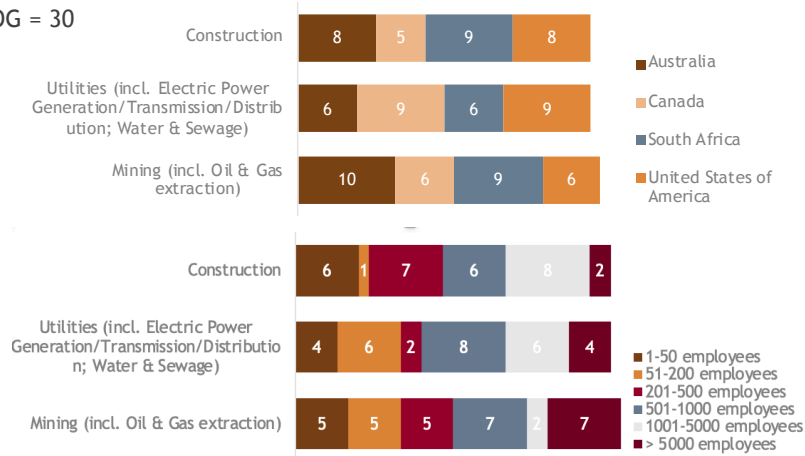
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## DATA

N=91  
Mining/OG = 30





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