

Scoring Decarbonization Progress

How companies across
four industries are
reducing emissions

Energy sector report



SUPPORTED BY



Energy

- A business model centered on fossil fuels faces long-term risks in a world transitioning towards net-zero emissions. To support business resiliency, oil and gas companies need to scale their low-carbon offerings and diversify their product portfolios.
- Power and utilities firms need to ramp up deployment of renewable energy; energy storage; and carbon capture, storage and utilization if they are to meet their operational decarbonization targets.

The energy sector accounts for an outsized share of global emissions, and faces particular public pressure to decarbonize. As such, it has made significant progress in its decarbonization journey as a sector, while still facing structural challenges in reducing emissions from its key product offerings.

Oil & Gas

Arguably under the most scrutiny from regulators, investors, and the public to reduce their outsized global carbon footprint, most oil and gas firms are setting out corporate commitments and governance strategies to decarbonize their operations.ⁱ

About 70% of the total global anthropogenic greenhouse gas emissions are attributed to the energy sector.¹ Of these energy-related emissions, 55% originate from the oil and gas industry's direct operations and the use of fossil fuels and their derivatives.^{ii,2} Given their outsized contribution to global emissions, these particular energy companies have been on the frontlines of regulatory, shareholder, and public pressure to decarbonize.³ Indeed, the Oil & Gas sub-sector in the benchmark ranks the highest on *Corporate governance and commitment*,ⁱⁱⁱ with the majority of constituent firms setting out their Scope 1 and 2 net-zero targets and developing governance measures to senior executives accountable for

i. In the Decarbonization Progress Benchmark, the Oil & Gas sub-sector consists of the five largest oil and gas exploration and production, oil and gas integrated, oil and gas midstream, and oil and gas equipment and services businesses by market capitalization in each of the four regions: North America, Latin America, Asia, and Europe. Based on Economist Impact's analysis of various online financial databases (April 2023)

ii. We refer to the "Oil & Gas" sub-sector specifically as defined in our scoring methodology, but note that included companies may refer to themselves as "integrated energy" companies or similar. We refer to these companies generally as "oil and gas" firms or industry.

acting on these. In particular, 75% of oil and gas firms in our benchmark have committed to achieving net-zero scope 1 and 2 emissions by 2050 or sooner. And 65% firms have tied short-term and/or long-term compensation incentives^{iv} of senior management to decarbonization targets.

Strong performance among the oil and gas firms analyzed in implementing operational reduction measures across all regions might suggest that firms across the sub-sector are tracking to their net-zero targets. However, the sub-sector's slow uptake of renewable energy, and its limited investment in deployment of innovative decarbonizing solutions, indicate that the reality of net-zero operations is still far off.

Cognizant of the associated cost savings,⁴ 95% of the oil and gas firms evaluated are implementing scope 1 reduction measures that lead to more efficient use of material, energy, and water in operations. The sub-sector also appears to be tackling methane emissions—another key source of operational emissions—with 80% of the firms reporting action on reducing methane leaks, flaring, and venting.⁵ Indeed, the oil and gas industry has a track record of using innovation to respond to business-critical challenges.⁶ Building on this momentum, the sub-sector leads in investing in research and development (R&D) of decarbonizing operational innovation.^v As a result, there are scalable technologies, in addition to ample capital, to address direct emissions.⁷ But the deployment of innovative solutions—such as carbon capture, utilization, and storage (CCUS), clean electrification of

energy-intensive operations, and the integration of digital solutions to drive production efficiencies—remain low, with almost none of the evaluated firms implementing these across the majority of their operational sites. In addition, the Oil & Gas sub-sector ranks last on *Reducing Scope 2 emissions*, reflecting a slow uptake of purchased renewable energy for operations.^{vi}

The Oil & Gas sub-sector is yet to meaningfully address its largest pool of emissions—those which derive from the use of fossil fuels and its derivatives.

Value chain (Scope 3) emissions constitute about 88.4% of the sub-sector's total carbon footprint.⁸ Yet almost two-thirds of the oil & gas firms that Economist Impact assessed have made only partial commitments to achieving scope 3 net-zero emissions, or none at all. To set out effective net-zero commitments, firms first need to understand the scale of those emissions - but 70% of firms assessed are yet to take full stock across the value chain. Limited information sharing across supply chains, a lack of uniform reporting standards, and the costs of data collection make the task of tracking value-chain emissions complex. In addition, oil and gas companies are reluctant to measure and publish comprehensive emissions data that can significantly increase their reported carbon footprints.⁹ Amidst generally weak performance in setting out Scope 3 commitments, some regions still perform worse than others. European firms lead the sub-sector, with those in Asia and Latin America lagging significantly behind.^{vii}

iii. Italicised scored categories refer to particular domains and sub-domains as referenced in our scorecard methodology.

iv. Short-term incentives: These can be underlying annual bonus payments. Long-term incentives: These are typically paid out as stock-based compensation. <https://journals.sagepub.com/doi/10.1177/00081256221077470>

v. The Oil & Gas sub-sector scores 80/100 on Indicator 2.5.1: Investment in developing decarbonizing innovation

vi. The benchmark records a low score of 7.4 for Indicator 2.4: Reducing Scope 2 emissions partly because several firms do not report purchased and/or self-generated renewables in their energy mix clearly

vii. On Indicator 1.2.2: Scope 3 commitment, European oil & gas firms score an average of 48/100.

The average score for firms Asia and Latin America is 0 and 8 respectively.

This is consistent with the relative stringency of national net-zero targets in each region (see Figure 1). In the EU, where net-zero emissions are enshrined in law, firms experience more regulatory pressure to decarbonize than those in Asia and Latin America. In those regions, most oil and gas firms evaluated are domiciled in countries where net-zero targets may be included in policy documents submitted to the United Nations Framework Convention on Climate Change (UNFCCC), but where they are not enshrined in national law, such as Brazil,¹⁰ Argentina,¹¹ China¹² and Thailand.¹³

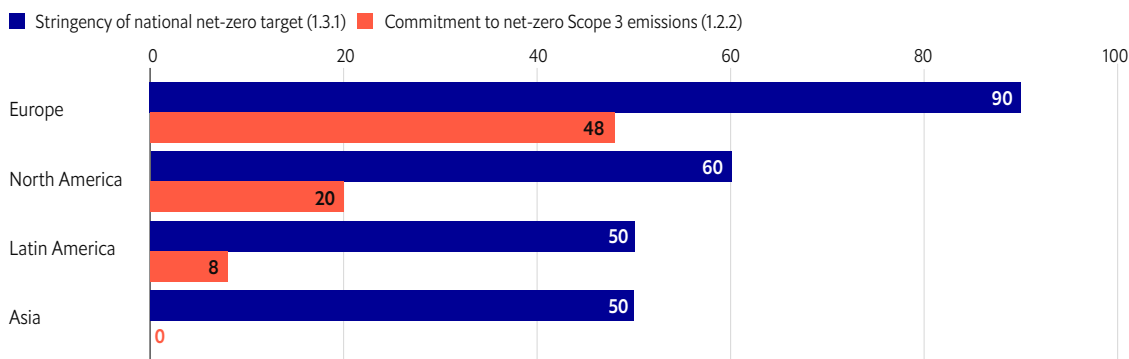
Whether or not there is strong regulatory pressure, a business model which derives the majority of its profits from fossil fuel sales is at risk in a world where the demand for oil and gas is projected to drop by 75% and 55% respectively in 2050 compared with 2020 levels.¹⁴ Cognizant of this exposure, the Oil & Gas sub-sector performs strongly in *Investing in decarbonization innovation*.^{viii} Some of the regional top scorers

on this indicator are beginning to diversify their product portfolio through R&D investment for decarbonized alternatives. These include blue hydrogen,¹⁵ green hydrogen,¹⁶ renewable diesel, aviation biokerosene,¹⁷ and electricity from renewable sources.¹⁸ However, the Oil & Gas sub-sector lags in scaling and commercializing these decarbonized product offerings.^{ix}

Firms are stuck between long-term imperatives to decarbonize and near-term profits. Record earnings in 2022 reflected strong returns on investment in fossil fuels,¹⁹ giving the industry little incentive to reallocate capital towards decarbonized alternatives. The lack of a supportive policy environment for decarbonized alternatives is also a factor. Camila Ramos, Managing Director at CELA - Clean Energy Latin America, points out that currently most countries in Latin America do not have regulatory frameworks to make energy storage and green hydrogen projects competitive and viable. This makes it very difficult for companies to position

Figure 1: Robust national policies on net zero foster commitments to value-chain emissions reductions

A higher score on 1.3.1 indicates that national net-zero targets are enforced more stringently, for example through a law versus a policy document (Score/100)



Source: Economist Impact's Decarbonization Progress Benchmark (2023)

viii. The Oil & Gas sub-sector scores 60/100 on Indicator 3.5.1: Investing in development of decarbonized product offerings.

ix. The Oil & Gas sub-sector scores 22.5/100 on Indicator 3.3.2: Scaling up decarbonized product offerings.

themselves for these new technologies and make investments. “Low-emissions sources of energy” constitute less than 5% of the industry’s total upstream investment, and most firms are still inclined to protect their core fossil fuel business.²⁰ At that rate, achieving net-zero value chain emissions by 2050 will be especially difficult.

Next steps for decarbonizing the oil and gas industry

- **Invest in deployment of innovative decarbonization solutions across all operations sites.** Carbon capture, utilization and storage; clean electrification of energy-intensive operations; and integration of digital solutions to drive production efficiencies can offer near-term decarbonization wins for the industry. According to the International Energy Agency’s (IEA) estimate, the application of these solutions, in addition to tackling methane emissions and eliminating all non-emergency flaring, would increase the average cost of production “by less than \$2 per barrel of oil equivalent” and drive a 50% reduction in Scope 1 and 2 emissions intensity of oil and gas operations between 2022 and 2030.²¹
- **Diversify product portfolio.** Laggards in the sub-sector can benefit from technology and knowledge transfers from regional leaders and allocate capital to blue hydrogen²², green hydrogen²³, renewable diesel and aviation biokerosene²⁴, and installing wind and photovoltaic generation capacity.²⁵ Firms must go beyond research— they need to build and scale low-carbon product offerings and gradually phase out their most carbon-intensive ones to realize the full decarbonizing potential of their R&D investments.

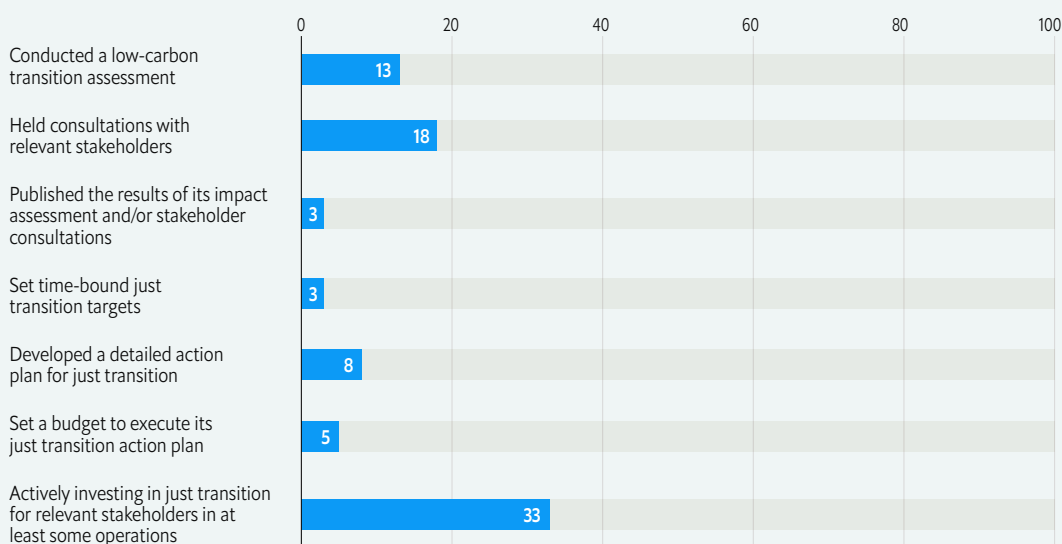


The energy sector and a just transition

The low-carbon transition of the global economy will eliminate certain jobs without direct replacement.²⁶ According to the IEA Net Zero Scenario, short-term employment losses will be particularly acute in the energy sector, where about 5 million positions in fossil fuel production would be lost.²⁷ While these job losses will be offset by the creation of 14 million roles in the renewable energy sector, it is important to ensure that workers— particularly those employed in fossil fuel production and thermal energy generation—are equipped to access the employment opportunities created by renewable energy expansion. Moreover, the social, environmental, and economic transition risks posed to local communities that surround thermal energy operational sites nearing divestment/decommissioning should also be taken into account.²⁸

As firms in the energy sector decarbonize their business models, they also need to be prepared to manage the impact of transition on all relevant stakeholders including direct workers, unions, local communities, vulnerable groups, and value chain partners. While Oil & Gas and Power & Utilities are among the top-performing sub-sectors on the *Just Transition pillar in the benchmark*, they are not doing enough to ensure an equitable energy transition for all.^x Most firms are yet to even assess the implications of their low-carbon transition for their stakeholders, let alone acting to mitigate these risks (see Figure 2).

Figure 2: The energy sector can do much more to enable a just low-carbon transition
% share of firms in the Oil & Gas and Power & Utilities sub-sectors taking the following just transition measures



Source: Economist Impact's Decarbonization Progress Benchmark (2023)

x. The Power & Utilities sub-sector ranks 1st and the Oil & Gas sub-sector ranks 3rd on Pillar 4: Just Transition.

The energy sector can do more. Many firms are already conducting due diligence assessments, which inform their environmental and social management plans. They can go further and integrate the low-carbon transition risks confronting their stakeholders into these pre-existing assessment frameworks. They can also conduct stakeholder consultations to further understand and map out just transition risks.

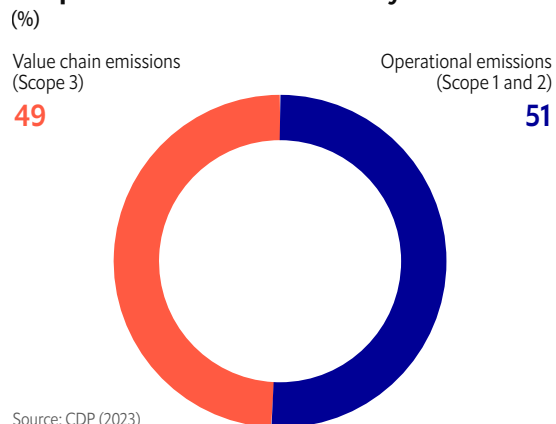
Some outliers in the energy sector are already conducting impact assessments and actively investing in a just transition. Among oil and gas giants, Brazil's Petrobras is engaging with a variety of stakeholders to develop a decommissioning methodology that accounts for environmental, social, technical, operational and economic risks.²⁹ At Imperial Oil's Strathcona refinery in Canada, employees are receiving training to operate a new renewable diesel unit.³⁰ In the power and utilities segment, Enel is integrating just transition considerations as it transforms its coal-fired power plant in Andorra, Teruel (Spain) to a renewable energy generation facility. The firm is hiring new employees from the existing coal plant and developing training programs targeted at local communities to create new work opportunities. To ensure adequate access to energy for local communities, Enel also plans to take measures that "promote energy efficiency and sustainability of consumption in towns surrounding the power plant".³¹

Power and Utilities

Despite ranking first overall on the benchmark, the Power & Utilities sub-sector^{xi} is not decarbonizing operations at the speed and scale needed to achieve net-zero emissions by 2050.

Across the sub-sectors in our study, Power & Utilities has the largest Scope 1 and 2 footprint as a share of its total emissions,³² making up 51% of its total emissions compared with 1%-24% for other sub-sectors (see Figure 3).^{xii} This indicates that the sub-sector can make significant progress on its decarbonization trajectory by managing its direct emissions, which are easier to identify, measure, and track than value chain emissions. To address their operational emissions, all but four firms in the sub-sector are improving the resource efficiency of their operations (including material, energy and water savings). 90% of firms in the sub-sector are expanding their renewable generation capacity and 65% are phasing out coal-fired power generation (see Figure 4).

Figure 3: Firm operations are responsible for more than half of the total emissions of the power and utilities industry

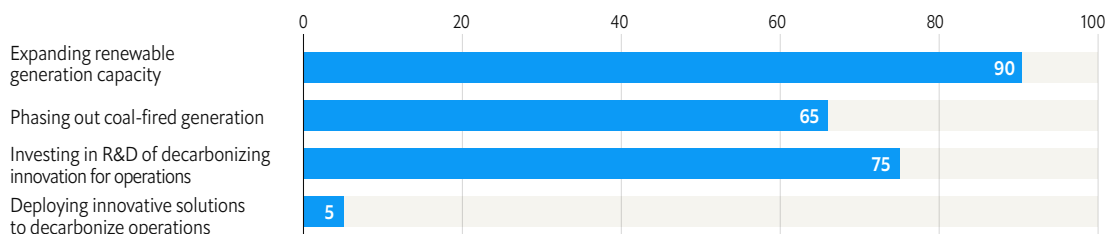


xi. In the Decarbonization Progress Benchmark, the Power and Utilities sub-sector consists of the five largest electric and/or gas utility businesses, power transmission and distribution companies, and renewable energy companies by market capitalization in each of the four regions: North America, Latin America, Asia, and Europe. Based on Economist Impact's analysis of various online financial databases (April 2023)

xii. CDP & Economist Impact's calculations based on firms' reported emissions.

Figure 4: Firms need to ramp up deployment of innovative solutions to meet their operational decarbonization targets

% share of firms in the sub-sector



Source: Economist Impact's Decarbonization Progress Benchmark (2023)

However, this transition is not progressing at the pace needed to achieve net zero emissions by 2050. In 2022, as a result of energy security concerns, high gas prices and extreme weather events, coal-fired generation rose by 2% (putting it at about 36% of global generation capacity).³³ To stay on track with the IEA's Net Zero Scenario, coal-fired generation should fall by 55% and make up only 12% of global generation by 2030.³⁴ Regional scores for *Operational Transformation* showed that firms in Latin America and Asia, where the “trilemma” of balancing energy security, sustainability and affordability is more acute, lag behind their European and North American counterparts.^{35,xiii}

Investment to deploy innovative solutions for operational decarbonization is lagging.

Innovation is a key lever in driving the operational decarbonization of power companies and utilities. For example, advanced fuels—such as low-carbon hydrogen and ammonia—and CCUS are needed to support a smooth transition to renewables while ensuring reliable and affordable access to energy.³⁶ Furthermore, grid-scale storage will provide critical support and flexibility as generation shifts towards more intermittent renewables.³⁷ Accordingly, three-quarters of Power & Utilities firms in our study are actively funding internal and/or external R&D for operational innovations such as steam electrolysis for H₂ generation, energy storage technologies, and CCUS.³⁸ However, all but one are yet to invest in widespread deployment of these and other (often commercially available) solutions (see Figure 4).

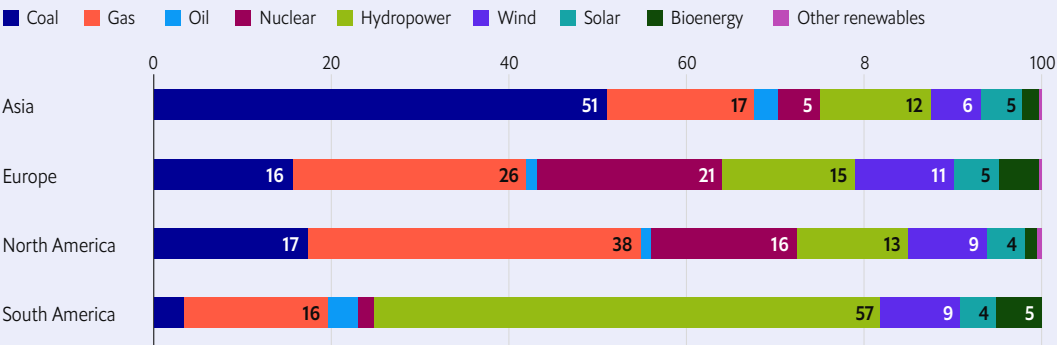
xiii. Regional average scores on Operational Transformation (Pillar 2): Europe (78/100), North America (71/100), Latin America (58/100), and Asia (54/100)

Next steps for decarbonizing the power and utilities industry

- **R&D investment in operational innovation for decarbonization is necessary but not sufficient. Investment in large-scale deployment of innovative solutions is key.** The sub-sector needs to close the gap between investment in R&D for innovation and

deployment of available solutions such as operational digitization, low-carbon fuels, CCUS, and energy storage. In regions where fossil fuel assets are at risk of being stranded, such as Asia, CCUS in particular can support a more gradual retirement of fossil fuels (see Figure 5).³⁹

Figure 5: Per capita electricity generation by source, 2022 (%)



Source: Ember's Yearly Electricity Data; Ember's European Electricity Review; Energy Institute Statistical Review of World Energy; Our World in Data (2022)



- **To progress along their low-carbon trajectory, firms in the power and utilities industry need to shift their generation mix towards renewables. To support this transition, action is required from both firms and regulators. In particular:**

- » Laggards need to diversify business models from thermal generation to increasing the mix of renewables in generation, expanding energy storage, and developing co-generation capacity to prepare for a more decentralized energy market.⁴⁰
- » To navigate the challenge of intermittency as renewables are scaled, Professor Michael Lenox, Taylor Murphy Professor in Business Administration at the University of Virginia's Darden School of Business, identifies the need for significant investment in building out smart grid infrastructure that can effectively manage loads and store energy across a distributed electricity system. Accordingly,

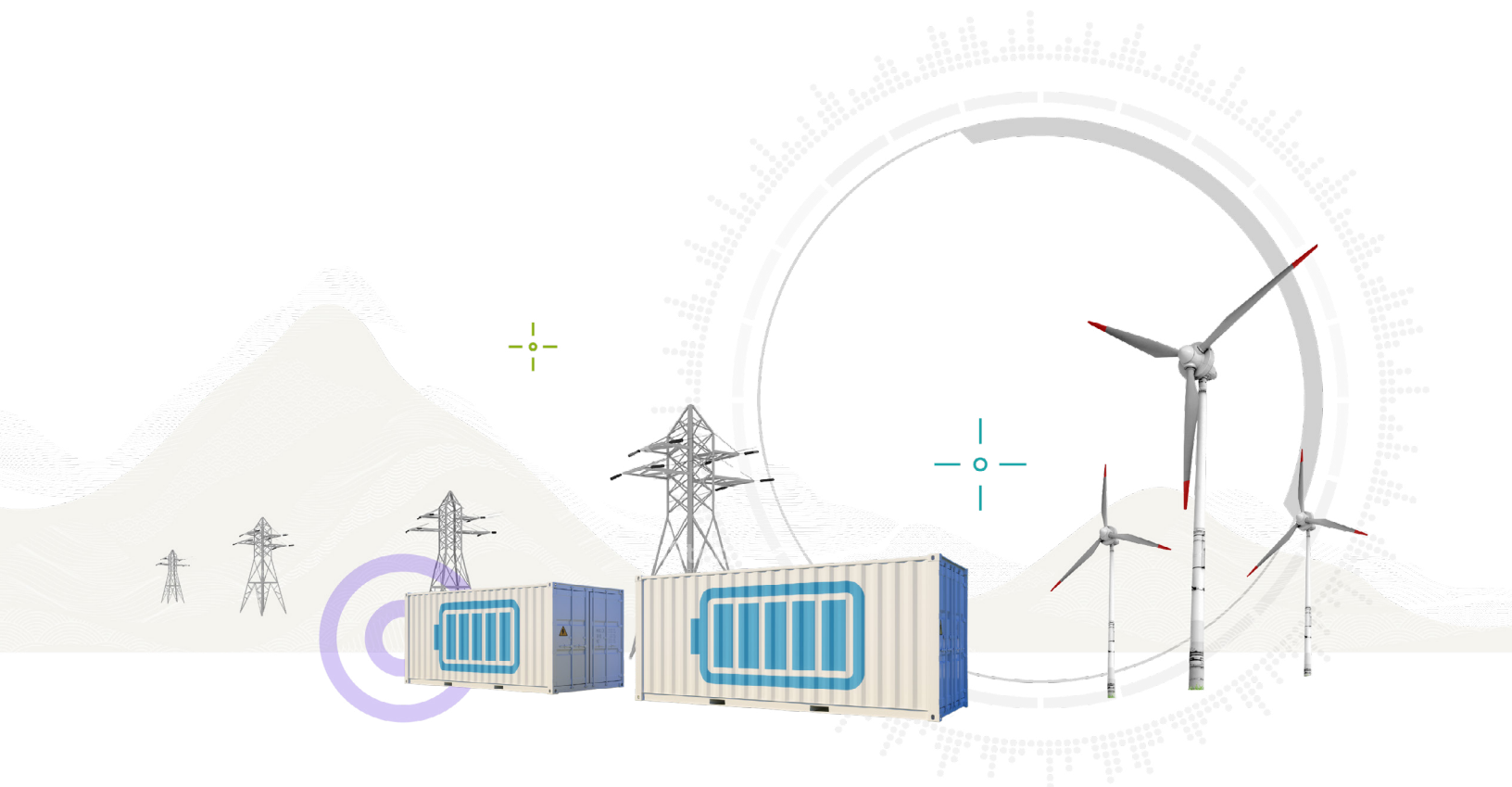
power and utilities firms need to collaborate with value chain partners across the grid (generators, transmission operators, distributors, and utility companies) to safely integrate distributed energy resources, scale energy storage solutions and proactively address the emerging shortage of skilled workers, including installation technicians and engineers.⁴¹

- » Regulators need to foster a shift towards clean energy by providing a diverse range of procurement options— such as energy attribute certificates, power purchase agreements, and green power products or tariffs—that suit consumers' differing needs.⁴² In regions facing the energy trilemma, redirecting government spending towards investment subsidies (for example those supporting households in installing renewable capacity) can offer reliable access to affordable and clean energy for vulnerable groups.⁴³

Leader Case Study: Enel

Enel, an Italian electricity and gas distributor, is one of the strongest performers among all firms in the energy sector Economist Impact assessed. It is the only firm in the Power & Utilities sub-sector to implement all key operational emission reduction measures on the benchmark. Enel aims to exit coal-fired generation by 2027 and generate 100% of its sold electricity from renewables by 2040.⁴⁴ As of 2021, renewables make up close to half of the total generation mix, with coal-fired electricity accounting for 6.2%.⁴⁵ At its generation sites, Enel has integrated energy-efficiency measures and recovers waste water in coal-fired plants to manage water withdrawals. To address compensatory emissions from transmission and distribution losses, the firm is gradually switching out single-phase electric lines, constructing new electric lines to lighten the load on pre-existing ones, and integrating low-loss transformers.⁴⁶

Enel is also ahead of the curve when it comes to investing in R&D for decarbonization innovation in operations. In the past year, it has collaborated on the development of ultra-low-cost, long-duration energy storage batteries, piloted agrovoltaics,^{xiv} supported the scaling of green hydrogen solutions (NextHy Booster program), and set up an AI and robotics laboratory to explore new avenues of operational digitization.⁴⁷ However, Enel is yet to unlock the full decarbonizing potential of these innovations. Similar to industry peers, the firm is yet to deploy these and other available innovations across the majority of its operational sites.



xiv. The simultaneous use of land surface for both solar photovoltaic power generation and agriculture is known as agro-voltaics.

Oil & Gas Sub-Sector

In order to assess the progress that different sectors of the economy are making on decarbonization, Economist Impact's Decarbonization Progress Benchmark evaluated a total of 160 of the largest publicly listed firms across four sectors of the economy (40 in each): Energy, Financial Services Industry, Retail, and Manufacturing. One of the two underlying sub-sectors of Energy is Oil & Gas. It consists of the five largest oil and gas exploration and production, oil and gas integrated, oil and gas midstream, and oil and gas equipment and services businesses by market capitalization in each of the four regions under study: North America, Latin America, Asia, and Europe.

Overall score

37.3 /100

Overall ranking

4 /8

Overall Oil & Gas Sub-Sector rankings for level 1 indicators

	LOW	HIGH
1. Corporate governance and commitment	• • • • • • • •	1
2. Operational Transformation	• • • • • • • •	1
3. Value Chain Transformation	• • • • • • • •	5
4. Social Sustainability and Just Transition	• • • • • • • •	3

Oil & Gas Sub-Sector emissions split (%)*

Operational emissions (Scopes 1 and 2) Value chain emissions (Scope 3)

11.6

88.4

Sector summary

#	Level	Indicator	Score /100	Overall ranking /8
1	1	Corporate governance and commitment	41.6	• • • • • • • • 1
1.1	2	Corporate governance	59.3	• • • • • • • • 1
1.2	2	Commitment to decarbonization	21.2	• • • • • • • • 3
1.3	2	Policy outlook and influence	66.3	• • • • • • • • 1
2	1	Operational Transformation	73.1	• • • • • • • • 1
2.1	2	Measurement and tracking	92.5	• • • • • • • • 1
2.2	2	Action plan for operational transformation	52.5	• • • • • • • • 6
2.3	2	Operational transformation: reducing scope 1 emissions	90.0	• • • • • • • • 2
2.4	2	Operational transformation: reducing scope 2 emissions	7.4	• • • • • • • • 7
2.5	2	Decarbonization innovation in key operations	57.5	• • • • • • • • 2
3	1	Value Chain Transformation	35.1	• • • • • • • • 5
3.1	2	Measurement and tracking	57.5	• • • • • • • • 3
3.2	2	Action plan for value chain transformation	30.0	• • • • • • • • 4
3.3	2	Phasing out carbon-intensive product offerings	15.4	• • • • • • • • 2
3.4	2	Driving decarbonization across value chain partners		• • • • • • • •
3.5	2	Investing in decarbonization innovation	60.0	• • • • • • • • 4
4	1	Social Sustainability and Just Transition	16.0	• • • • • • • • 3
4.1	2	Impact assessment, targets and planning	2.5	• • • • • • • • 4
4.2	2	Implementation strategy	12.5	• • • • • • • • 3
4.3	2	Policy outlook and proactive collaboration with the government on just-transition issues	40.0	• • • • • • • • 1

* The split between Scope 1 & 2 and Scope 3 emissions presented here informs the relative weightage assigned to Pillar 2: Operational Transformation and Pillar 3: Value Chain Transformation on the benchmark for the Oil & Gas sub-sector. A larger share of Scope 3 emissions in total carbon footprint translates into a higher relative weight for Pillar 3: Value Chain Transformation in the overall benchmark score for a sub-sector. This approach ensures that scores for firms and sub-sectors broadly represent the magnitude of effort needed to address a particular pool of emission, and enables comparison of sub-sectors that may have extraordinarily diverse paths to decarbonization.

Regional data							
#	Level	Indicator	North America	Latin America	Europe	Asia	Global
1	1	Corporate governance and commitment	43.6	32.1	64.9	25.9	41.6
1.1	2	Corporate governance	61.0	54.0	73.0	49.0	59.3
1.2	2	Commitment to decarbonization	22.6	9.8	48.0	4.4	21.2
1.3	2	Policy outlook and influence	70.0	55.0	95.0	45.0	66.3
2	1	Operational Transformation	80.1	65.0	73.9	73.6	73.1
2.1	2	Measurement and tracking	100.0	80.0	100.0	90.0	92.5
2.2	2	Action plan for operational transformation	60.0	40.0	60.0	50.0	52.5
2.3	2	Operational transformation: reducing scope 1 emissions	93.3	86.7	86.7	93.3	90.0
2.4	2	Operational transformation: reducing scope 2 emissions	0.0	7.7	21.8	0.0	7.4
2.5	2	Decarbonization innovation in key operations	75.0	45.0	50.0	60.0	57.5
3	1	Value Chain Transformation	40.4	36.0	43.7	20.4	35.1
3.1	2	Measurement and tracking	60.0	60.0	80.0	30.0	57.5
3.2	2	Action plan for value chain transformation	40.0	30.0	40.0	10.0	30.0
3.3	2	Phasing out carbon-intensive product offerings	16.7	20.0	15.0	10.0	15.4
3.4	2	Driving decarbonization across value chain partners	NA	NA	NA	NA	NA
3.5	2	Investing in decarbonization innovation	60.0	50.0	70.0	60.0	60.0
4	1	Social Sustainability and Just Transition	14.0	14.0	24.0	12.0	16.0
4.1	2	Impact assessment, targets and planning	0.0	10.0	0.0	0.0	2.5
4.2	2	Implementation strategy	10.0	10.0	30.0	0.0	12.5
4.3	2	Policy outlook and proactive collaboration with the government on just-transition issues	40.0	30.0	30.0	60.0	40.0

Power & Utilities Sub-Sector

In order to assess the progress that different sectors of the economy are making on decarbonization, Economist Impact's Decarbonization Progress Benchmark evaluated a total of 160 of the largest publicly listed firms across four sectors of the economy (40 in each): Energy, Financial Services Industry, Retail, and Manufacturing. One of the two underlying sub-sectors of Energy is Power & Utilities. It consists of the five largest electric and/or gas utility businesses, power transmission and distribution companies, and renewable energy companies by market capitalization in each of the four regions under study: North America, Latin America, Asia, and Europe.

Overall score

45.0 /100

Overall ranking

1 /8

Overall Power & Utilities sub-sector rankings for level 1 indicators

	LOW	HIGH
1. Corporate governance and commitment	• • • • • • • •	2
2. Operational Transformation	• • • • • • • •	5
3. Value Chain Transformation	• • • • • • • •	7
4. Social Sustainability and Just Transition	• • • • • • • •	1

Power & Utilities sub-sector emissions split (%)*

Operational emissions (Scopes 1 and 2) Value chain emissions (Scope 3)

51

49

Sector summary

#	Level	Indicator	Score /100	Overall ranking /8
1	1	Corporate governance and commitment	38.4	• • • • • • • 2 •
1.1	2	Corporate governance	45.3	• • • • • 4 • • • •
1.2	2	Commitment to decarbonization	26.1	• • • • • • • • 2 •
1.3	2	Policy outlook and influence	58.8	• • • • • • • • 2 •
2	1	Operational Transformation	65.3	• • • • • 5 • • • •
2.1	2	Measurement and tracking	82.5	• • • • • 5 • • • •
2.2	2	Action plan for operational transformation	33.3	8 • • • • • • • •
2.3	2	Operational transformation: reducing scope 1 emissions	71.3	• 7 • • • • • • •
2.4	2	Operational transformation: reducing scope 2 emissions		• • • • • • • •
2.5	2	Decarbonization innovation in key operations	58.8	• • • • • • • • 1
3	1	Value Chain Transformation	32.8	• 7 • • • • • • •
3.1	2	Measurement and tracking	44.7	• • • • • 4 • • • •
3.2	2	Action plan for value chain transformation	24.2	8 • • • • • • • •
3.3	2	Phasing out carbon-intensive product offerings	41.7	• • • • • • • • 1
3.4	2	Driving decarbonization across value chain partners	19.1	• 7 • • • • • • •
3.5	2	Investing in decarbonization innovation	77.3	• • • • • • • • 1
4	1	Social Sustainability and Just Transition	22.7	• • • • • • • • 1
4.1	2	Impact assessment, targets and planning	13.3	• • • • • • • • 1
4.2	2	Implementation strategy	22.5	• • • • • • • • 1
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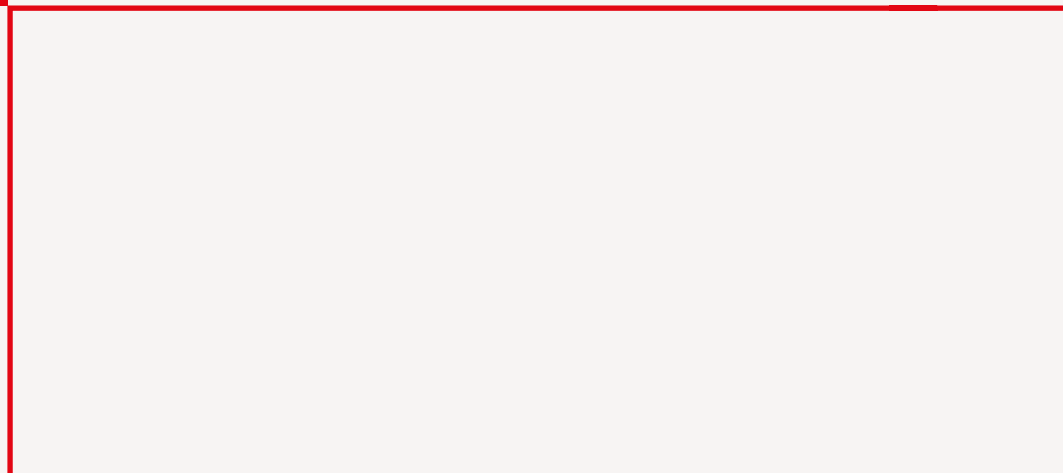
* The split between Scope 1 & 2 and Scope 3 emissions presented here informs the relative weightage assigned to Pillar 2: Operational Transformation and Pillar 3: Value Chain Transformation on the benchmark for the Power & Utilities sub-sector. A larger share of Scope 3 emissions in total carbon footprint translates into a higher relative weight for Pillar 3: Value Chain Transformation in the overall benchmark score for a sub-sector. This approach ensures that scores for firms and sub-sectors broadly represent the magnitude of effort needed to address a particular pool of emission, and enables comparison of sub-sectors that may have extraordinarily diverse paths to decarbonization.

Regional data							
#	Level	Indicator	North America	Latin America	Europe	Asia	Global
1	1	Corporate governance and commitment	44.6	14.8	77.5	16.5	38.4
1.1	2	Corporate governance	55.0	16.0	85.0	25.0	45.3
1.2	2	Commitment to decarbonization	26.3	4.1	64.0	10.0	26.1
1.3	2	Policy outlook and influence	75.0	40.0	100.0	20.0	58.8
2	1	Operational Transformation	70.8	58.3	78.0	54.3	65.3
2.1	2	Measurement and tracking	90.0	80.0	100.0	60.0	82.5
2.2	2	Action plan for operational transformation	40.0	20.0	40.0	33.3	33.3
2.3	2	Operational transformation: reducing scope 1 emissions	75.0	65.0	80.0	65.0	71.3
2.4	2	Operational transformation: reducing scope 2 emissions	NA	NA	NA	NA	NA
2.5	2	Decarbonization innovation in key operations	65.0	50.0	80.0	40.0	58.8
3	1	Value Chain Transformation	30.2	27.7	64.4	8.9	32.8
3.1	2	Measurement and tracking	40.0	40.0	90.0	20.0	44.7
3.2	2	Action plan for value chain transformation	20.0	0.0	90.0	10.0	24.2
3.3	2	Phasing out carbon-intensive product offerings	41.7	0.0	50.0	NA	41.7
3.4	2	Driving decarbonization across value chain partners	0.0	32.3	46.3	0.0	19.1
3.5	2	Investing in decarbonization innovation	90.0	100.0	60.0	NA	77.3
4	1	Social Sustainability and Just Transition	38.7	4.0	48.0	0.0	22.7
4.1	2	Impact assessment, targets and planning	23.3	0.0	30.0	0.0	13.3
4.2	2	Implementation strategy	40.0	0.0	50.0	0.0	22.5
4.3	2	Policy outlook and proactive collaboration with the government on just-transition issues	50.0	20.0	60.0	0.0	32.5

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