

Mizuho Short Industry Focus

Key Issues for Energy Companies amid the Energy Transition: A Financial Perspective

【Abstract】

- ◆ The trend toward decarbonization is growing worldwide. In the European Union, efforts to become carbon neutral at the corporate level are progressing. The burden on companies to deal with decarbonization varies from industry to industry, but the burden on integrated oil and gas companies is particularly high. Major European oil firms, such as BP and Royal Dutch Shell (hereinafter referred to as "Shell"), are formulating new business strategies to deal with the difficult business environment. Their attempts to transform their business portfolios can be useful examples for other energy companies considering how to respond to the energy transition.
- ◆ When energy companies transform their business portfolios for decarbonization, a variety of key financial issues will emerge in two phases: the transformation phase and the post-transformation phase. During the transformation phase, when the companies are shifting from their existing business to low-carbon and decarbonized business, it is important to secure the necessary funds to invest in the new business expansion. Then, during the post-transformation phase, the focus will shift to optimizing the capital structure in response to changes in the expected rate of return on assets due to the business portfolio's transformation.
- ◆ For energy companies to respond to the energy transition, it would be a useful option for them to develop a medium- to long-term strategy in collaboration with financial institutions, taking into account the key financial issues mentioned above. In addition, it is important to consider the use of transition financing when considering the funding of each phase.

1. The Growing Worldwide Trend toward Decarbonization

The trend toward decarbonization is growing worldwide

In the year 2020, many countries around the world announced their decarbonization goals. In Japan, Prime Minister Yoshihide Suga announced the goal of achieving carbon neutrality by 2050 in a policy speech delivered in October. He emphasized the government's stance of positioning green initiatives to achieve carbon neutrality as a growth strategy. Suga said, "We need to change our mindset from one where global warming is a constraint on economic growth, to one where proactive measures to fight global warming will lead to changes in industrial structures and economic society, which in turn will lead to significant growth." In the US, President Joe Biden announced a pledge to achieve a net-zero emissions goal by 2050 and indicated that he would actively promote investment in the environment and infrastructure to achieve the goal. China, the world's largest emitter of greenhouse gases (GHG), announced at the UN General Assembly in September that President Xi Jinping aims to achieve carbon neutrality by 2060. The European Union (EU), which has long been the front-runner in decarbonization, is moving ahead to achieve climate-neutral status by 2050, as announced in December 2019. In December 2020, the EU raised its GHG reduction target for 2030 (a 40% reduction from

1990 levels) to 55%.

In line with the regional policy developments, European companies have announced their decarbonization aims

In line with these developments, European companies have announced various decarbonization aims. The burden on companies to respond to the decarbonization varies from industry to industry, but it is a particularly heavy burden for oil and gas companies that have developed multiple businesses related to fossil fuels. In response to the difficult issue of how to adapt to this challenging environment, BP and Shell announced their latest strategies in October 2020 and February 2021, respectively. This paper focuses on the mid- to long-term financial strategy issues that energy companies will face in the future as they respond to the energy transition, referring to the business strategies of the aforementioned two companies for illustrative purposes.

2. European Integrated Oil & Gas companies' Decarbonization Strategies

European Integrated Oil & Gas companies are publishing challenging aims

Comparing the GHG emissions reduction targets of the five major US and European integrated oil and gas companies, the European companies Total, BP, and Shell stand out for their high targets, compared to the US-based ExxonMobil and Chevron (see Figure 1). Looking at the targets of each company, Total, BP, and Shell all plan to reduce their Scope 1 and 2 GHG emissions¹ to net zero by 2050, but the reduction targets of GHG emissions classified as Scope 3² by 2050 vary. Total has set a goal of achieving net zero across all its production and energy products used by its customers in Europe and a 60% or more reduction in the average carbon intensity of energy products used worldwide by Total customers by 2050, compared to 2015. Meanwhile, BP has set a goal of achieving net zero CO₂ emissions from its oil and gas production and a 50% cut in the carbon intensity of its products. Shell revised its target upward in its new strategy announced in February 2021. In it, the firm aims to reduce the carbon intensity of the energy products it sells by 100% by 2050 compared to 2016, in line with changes in the needs of society.

In this chapter, we discuss in detail the new business strategies of BP, whose moves from the announcement of the net-zero target in February 2020 to the announcement of a new business strategy in September 2020 attracted much attention, and Shell, which has set the highest GHG emission reduction target in recent years.

【Figure 1】 GHG emissions reduction targets of US and European integrated oil and gas companies

	GHG emission reduction target
Total (2020/5)	<ul style="list-style-type: none"> • Net Zero across Total's worldwide operation by 2050 or sooner (scope 1+2). • Net Zero across all its production and energy products used by its customers in Europe by 2050 or sooner (scope 1+2+3). • 60% or more reduction in the average carbon intensity of energy products used worldwide by Total customers by 2050 (less than 27.5g CO₂/MJ) – with intermediate steps of 15% by 2030 and 35% by 2040 (scope 1+2+3).
BP (2020/2)	<ul style="list-style-type: none"> • Net zero across BP's operations on an absolute basis by 2050 or sooner. • Net zero on carbon in BP's oil and gas production on an absolute basis by 2050 or sooner. • 50% cut in the carbon intensity of products BP sells by 2050 or sooner.
Shell (2021/2)	<ul style="list-style-type: none"> • We aim to reduce the carbon intensity of the energy products we sell by 100% by 2050 compared to 2016, in step with society. • We have set short-term carbon intensity targets each year for the following three-year periods: by 2-3% by 2021, by 3-4% by 2022, by 6-8% by 2023. • We also have medium- and long-term carbon intensity targets: by 20% by 2030, by 45% by 2035, by 100% by 2050.
Chevron (2021/3)	<ul style="list-style-type: none"> • Targets 35% carbon intensity reduction by 2028 (24kg CO₂e / boe for oil and gas GHG intensity; a combined 35% reduction from 2016)
ExxonMobil (2021/3)	<ul style="list-style-type: none"> • Sets 2025 greenhouse gas emission reduction plan: intensity of upstream emissions to drop by 15-20%.

Source: Compiled by Mizuho Bank Industry Research Department from companies IR information

¹ Scope 1 emissions are direct GHG emissions that occur from sources that are controlled or owned by an organization. Scope 2 emissions are indirect GHG emissions associated with the purchase of electricity, steam, heat, or cooling.

² Scope 3 emissions are the result of activities from assets not owned or controlled by the reporting organization, but that the organization indirectly impacts in its value chain. Scope 3 emissions include all sources not within an organization's scope 1 and 2 boundary.

(1)BP: A New Business Strategy for Achieving the Net-Zero Target

BP announced 10 aims, among them reducing GHG emissions from its business activities to net zero by 2050

When Bernard Looney was named CEO of BP in February 2020, the company announced 10 aims, among them reducing GHG emissions from its business activities to net zero by 2050 (see Figure 2). In September 2020, during its Investor's Week event, the company announced the details of its new business strategy to achieve this goal, along with its step-by-step reform plans. In June 2020, the company announced a downward revision of its long-term oil and gas price outlook and an upward revision of its carbon price outlook (see Figure 3), as well as the possibility of impairments or write-downs of up to \$17.5 billion. Among the changes in the price outlook, the significant increase in the 2030 carbon price forecast, to \$100/ton, was particularly noteworthy. This is the same level as the 2030 carbon price assumption for developed countries presented by the International Energy Agency in the Sustainable Development Scenario³ of the World Economic Outlook 2019.

【Figure 2】 BP's 10 aims for net zero by 2050

Five aims to get BP to net zero	1	Net zero across BP's operations on an absolute basis by 2050 or sooner
	2	Net zero on carbon in BP's oil and gas production on an absolute basis by 2050 or sooner
	3	50% cut in the carbon intensity of products BP sells by 2050 or sooner
	4	Install methane measurement at all BP's major oil and gas processing sites by 2023 and reduce methane intensity of operations by 50%
	5	Increase the proportion of investment into non-oil and gas businesses over time
Five aims to help the world get to net zero	6	More active advocacy for policies that support net zero, including carbon pricing
	7	Further incentivise BP's workforce to deliver aims and mobilise them to advocate for net zero
	8	Set new expectations for relationships with trade associations
	9	Aim to be recognised as a leader for transparency of reporting, including supporting the recommendations of the TCFD
	10	Launch a new team to help countries, cities and large companies decarbonize

Source: Compiled by Mizuho Bank Industry Research Department from company's IR information

【Figure 3】 BP's new long-term price assumption for oil, gas and carbon

2019 Annual Report	Upper Case	Central Case	Lower Case	June 2020	New assumption
Brent price over the next 20 years (\$/bbl)	90	70	50	2021-50 Brent price (\$/bbl)	55
Henry Hub price over the next 20 years (\$/mmBtu)	5.0	4.0	2.0	2021-50 Henry Hub price (\$/mmBtu)	2.9
	Lower Case	Central Case	Upper Case		
Carbon Price over the next 20 year (\$/tonne)	0	40	80	Carbon Price in 2030 (\$/tonne)	100

Note: Prices in 2019 annual report are at constant 2015 price. New price assumptions are at constant 2020 prices.

Source: Compiled by Mizuho Bank Industry Research Department from company's IR information

³ Sustainable Development Scenario is fully aligned with the Paris Agreement to hold the rise in global average temperature to "well below 2 °C ... and pursuing efforts to limit [it] to 1.5 °C".

BP announced a shift in its business strategy direction from being an international oil company to an integrated energy company

Following the June 2020 revision of the long-term oil and gas price outlook, during September 2020's BP Week events, the firm announced a shift in its business strategy direction from being an international oil company to an integrated energy company. The new business strategy states that the company's corporate purpose is "reimagining energy for people and our planet," and that it will focus on three main business areas: low carbon electricity and energy, convenience and mobility, and resilient and focused hydrocarbons. One of the most striking aspects of the strategy is the positioning of the hydrocarbons business, including upstream development, as BP aims to build a selective hydrocarbons portfolio while improving safety and efficiency and reducing GHG emissions. As part of its efforts to build a resilient portfolio, BP has set a payback period of 10 years for oil and refinery projects and 15 years for gas projects, clearly indicating its policy of concentrating management resources on projects that will enable it to recover its investment quickly, even as the demand for fossil fuels gradually declines in the future. The company will apply the aforementioned assumed carbon price to calculate the payback period, and it is likely that the firm will review its portfolio for projects other than high-quality, high-efficiency projects that can generate profits even if the environment changes rapidly. At the same time, the low-carbon power supply and energy business, in addition to the convenience and mobility business, will be the subject of greater focus in the future. In particular, for its low-carbon power and energy business, BP has set a high target of 50 GW for development in the renewable energy sector by 2030. According to BP, the actual development, as of 2019, was 2.5 GW, and the ambitious goal is to expand the scale of development 20-fold in about 10 years. In September 2020, BP announced a strategic alliance with Equinor for the US offshore wind market and an investment of approximately \$1.1 billion in its US offshore wind portfolio. In February 2021, the company announced its entry into the UK offshore wind market in collaboration with EnBW of Germany.

(2) Shell: February 2021 Business Strategy

In February 2021, Shell announced a new business strategy

In February 2021, Shell announced a new business strategy, Powering Progress, and revealed its ambitious target of establishing an energy business with net zero GHG emissions in Scopes 1, 2, and 3 by 2050. Shell also announced that it will focus on three main pillars: growth, which includes marketing, renewable energy, and its energy solutions businesses; the transition, which includes liquefied natural gas (LNG) and petrochemicals; and the upstream, which includes upstream development. Shell had previously announced a strategy of dividing its business segments into three categories: core upstream themes, leading transition themes, and emerging power themes. This new business strategy reexamines the roles of the existing business segments while building a strategy and setting goals to achieve net zero by 2050. In terms of the direction of each business segment and the allocation of investments, the company has positioned the upstream segment as important for generating profits for shareholders and accelerating business transformation investment, while being more selective about new investment. In the transition segment, the company announced that it will make selective investments to further expand its LNG business, in which it has established a leading position, and to reduce operating costs. On the capital allocation plan, the company plans to maintain its investment in the transition segment at an almost unchanged level. In the growth pillar, the company is targeting the expansion of its customer base and electricity sales volume in the renewable energy and energy solutions businesses, and it has indicated its intention to aggressively expand investment.

(3) The Assessment of Financial Market

Long-term institutional investors are paying close attention to the long-term impact of the decarbonization

Long-term institutional investors are paying close attention to the growing trend of decarbonization among energy companies. In particular, there are concerns that new policies, regulations, and taxation systems introduced by governments wishing to promote GHG reductions will increase the costs for existing businesses. Further, given the risk of shrinking demand for oil and gas due to the shift to renewable energy, a reduction in the return on capital due to these large-scale investments, and the risk of increasing capital costs due to the growing trend of divestment are concerning. Specific valuations and how they are incorporated into investment decisions will vary depending on the time horizon of each investor's investment decision and the long-term scenario assumed. However, the timing and certainty of the impact on corporate cash flows, growth potential, and financial strength, as well as the magnitude of the impact when it becomes apparent, are likely to be points of discussion when making investment decisions.

Rating agencies are considering the negative impact of the environmental risk

The impact of decarbonization on energy companies is also becoming apparent in issuer ratings by external rating agencies, which make assessments based on relatively short time horizons (three to five years at most). In its sectoral environmental risk heat map report released in December 2020, Moody's rated the integrated oil and gas sector as high risk. In January 2021, S&P changed the industry risk rating for the oil and gas sector from moderate to slightly high. This change was rationalized by a decline in the sector's average return on invested capital over the past decade, the growing market share of renewable energy, and the likelihood that future access to financial markets will be more difficult due to increased needs of ESG-oriented investors. S&P's industry risk assessment, which is a component of its issuer rating process, is based on criteria that have led to the downgrading of several investment-grade companies in the oil and gas exploration and production industry to "credit watch" status and downward revisions of their rating outlooks.

Long-term business plans can mitigate financial market concerns about the uncertainty surrounding energy companies

As the trend toward decarbonization accelerates and the uncertainty of the future business environment increases, the long-term strategies announced by companies are becoming increasingly important for investors. In investment action guidelines released in February 2021, BlackRock, one of the world's largest investment management firms, urged companies to publish strategies and long-term plans that are aligned with the 2°C goal. In interviews with Japanese institutional investors conducted by the author between January and March 2021, several investors commented that they place importance on long-term business plans when making investment decisions for companies that will be significantly affected by decarbonization, in hopes of understanding the management awareness and stances on decarbonization issues. In this context of financial market expectations for energy companies, the publication of BP's and Shell's long-term strategies can be seen as an effort to mitigate financial market concerns about the uncertainty surrounding energy companies by clarifying the course of action related to what they think and what they intend to do.

At the same time, in the short term, uncertainty about the companies' ability to generate cash flow during the energy transition process will increase, which will make it difficult to bring about a notable difference in their share price trends. External rating agencies similarly view BP and Shell's business transitions as positive for long-term credit, while more detailed assessments indicate that they are focused on the ability of the companies to establish profitable low-carbon businesses and maintain a strong financial foundation.

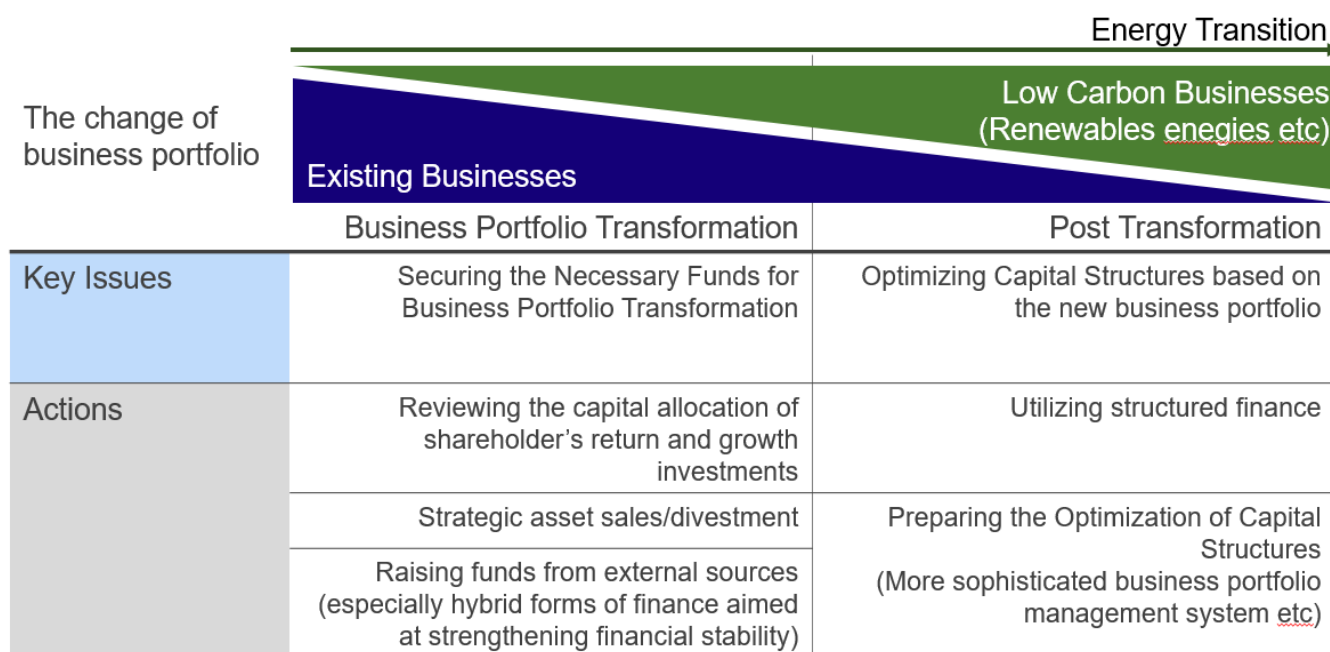
In order for financial markets to evaluate and factor firms' long-term strategy directly and positively into valuations and external ratings, firms need to show their successful track records and their financial management efforts must be solid and in line with their financial policies.

3. Key Issues for Energy Companies amid the Energy Transition: A Financial Perspective

A firm's financial strategy is one of the fundamental elements for successfully implementing an energy transition.

A firm's financial strategy is one of the fundamental elements for successfully implementing an energy transition. The key issues to be addressed in this strategy differ depending on the stage of a firm's portfolio transformation (see Figure 4). First, during the business portfolio transformation period, when companies are shifting from an existing business model to a low-carbon and decarbonized one, securing the necessary funds to invest in new business areas should be an important issue. However, during the post-transformation phase, when the portfolio transformation has progressed and the company is aiming to maximize corporate value based on its new portfolio, the focus should shift to optimizing the capital structure in response to changes in the expected return due to the portfolio's transformation.

【Figure 4】 Key Issues for Energy Companies amid the Energy Transition



Source: Compiled by Mizuho Bank Industry Research Department

(1) Issues Related to Business Portfolio Transformation: Securing the Necessary Funds for Business Portfolio Transformation

How to secure funds that can be used for new investment in addition to the cash flow generated from the core business should be critical issues

The new business strategies of BP and Shell show how integrated oil and gas companies can respond to the energy transition process. They re-evaluate their existing fossil fuel-related businesses in terms of profitability and future potential and then aim to transform their business portfolios to expand into low-carbon and decarbonized businesses. In general, to change these portfolios and establish new core business areas, new investments beyond the normal investment amount are required, so the issue becomes how to secure funds that can be used for new investment in addition to the cash flow generated from the core business. There are three specific measures to consider: (1) reviewing the capital allocation of shareholder returns and growth investments, (2) strategic asset sales/divestment, and (3) raising funds from external sources (especially hybrid forms of finance aimed at strengthening financial stability).

The review of capital allocation mainly refers to the reassessment of priorities when allocating cash flows earned from the core business and the reallocation of funds to growth investments for the future. However, there is a concern that increasing the amount of funds allocated for investment might not have enough shareholder support. Hence, the company will need to present a growth story through the transformation of its business portfolio and demonstrate its stance on shareholder returns after the transformation.

Strategic asset sales are a method of generating funds for new investments while simultaneously transforming the business portfolio by selling existing businesses and promoting new investments. This is an effective way of investing in portfolio transformation while reducing financial impacts, but in selecting assets for sale, it is necessary to accurately understand the future value of the company's assets and to set sales criteria that are in line with the direction of the business strategy.

Raising funds from external sources is a normal way for firms to secure funds for investment during periods of growth, but it is still necessary to pay attention to the investors' perspective. As discussed above, in the cases of BP and Shell, uncertainty about the firms' future cash flow-generation capacity should be expected during any period marked by business portfolio transformation. Due to concerns about creditworthiness, it is important for the firms to maintain financial strength when raising funds from external sources, and capital raising, such as a hybrid debt, is likely to be one of the options.

BP and Shell have each secured funds by various means

BP and Shell have each secured funds by various means. BP's new financial strategy called for "capital allocation based on clear prioritization," "a strong balance sheet that enables the company to obtain a high investment grade rating," and "investments based on clear and rigorous criteria" in its Resilient Financial Frame. The company's priorities for capital allocation are: first, ordinary dividend payments to investors; second, funds to strengthen the company's financial base (reducing its net debt to \$35 billion); third, investment in growth businesses (low-carbon power and energy, convenience mobility); fourth, investment in hydrocarbons; and fifth, after reducing net debt to \$35 billion, returning at least 60% of surplus funds to shareholders through share buybacks. Given that the company reduced its dividend from 10.5 cents per share to 5.25 cents per share in 2Q 2020, the priorities above aimed to review the base dividend level, generate funds to strengthen the company's financial base and allow for investment in business transformation, and a commitment to additional returns to investors in the future to maintain the company's reputation in the financial markets. Additionally, as mentioned previously, the company plans to sell approximately \$25 billion in strategic assets between 2020 and 2013, including its petrochemical business. In June 2020, it issued approximately \$12 billion in subordinated debt.

Shell announced a capital allocation plan and the strategic sale of assets

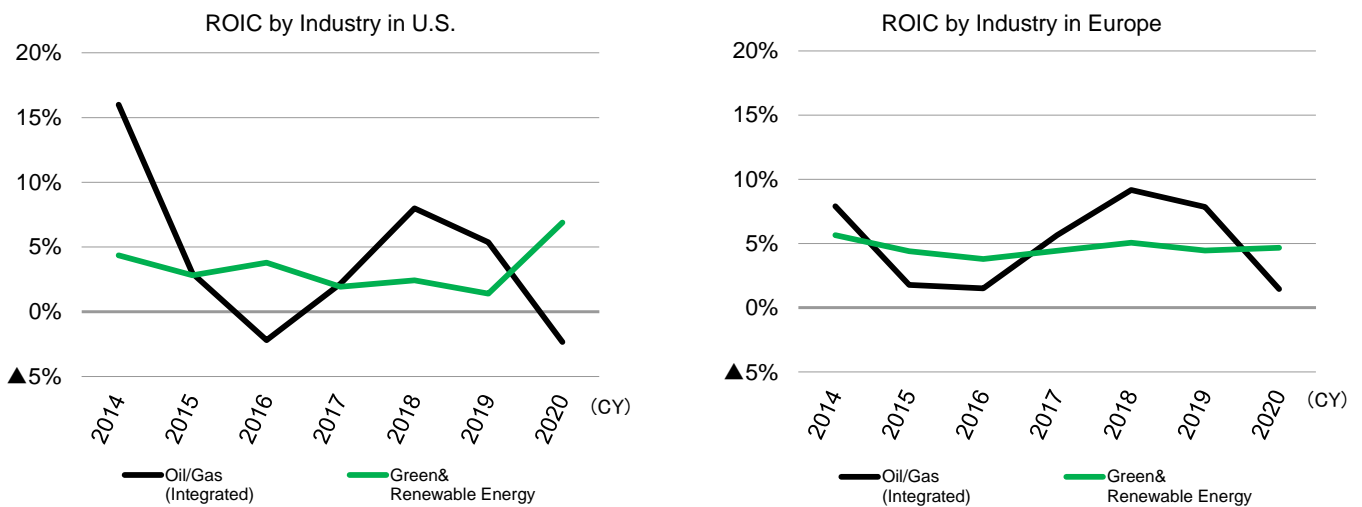
Shell announced a detailed capital allocation plan alongside its new business strategy. Its first priority is to make necessary capital investments in the short term and to pay dividends, including 4% annual dividend growth; the second is to maintain an AA-level external credit rating (by reducing net debt to \$65 billion); the third is to invest additional funds to return 20–30% of cash flow from operations to shareholders; and the fourth is to invest in additional growth to execute its new business strategy. Although there is a difference between Shell and BP in terms of the level of dividend payouts, the companies share an emphasis on strengthening their financial base and generating funds for investments to transform their businesses. In addition, Shell has announced that it will sell an average of about \$4 billion per year in strategic sales of assets.

(2) Post Business Portfolio Transformation Issues: Optimizing Capital Structures

Business portfolio changes alter the expected return from company assets

As a firm's business portfolio transformation progresses, its business side will become better prepared for the energy transition, while its financial side will experience issues different from those faced during the transformation period. This section discusses the changes in expected returns following changes in business portfolios and the need to optimize capital structures in response to these changes. Each business developed by an energy company has different risk-return characteristics, and changes in the business portfolio will, inevitably, change the expected returns on the company's assets. In particular, if an integrated oil and gas company plans to significantly expand its renewable energy business to develop its low-carbon and decarbonized businesses, it should be aware of the possibility that its business portfolio may become low-risk and low-return. According to industry-specific company data compiled by Aswath Damodaran of New York University's Stern School of Business, the average and standard deviation of the return on invested capital (ROIC) for renewable energy companies in Europe and the US are relatively low, compared to the average and the standard deviation of the ROIC for all integrated oil and gas companies (see Figure 5). Needless to say, when actually entering and expanding renewable energy projects, it is undisputed that not only industry average data, but also the risk and return characteristics of each project, are important. However, the difference of these risk-return characteristics is worth mentioning, considering that Shell set different hurdle rates for each business in its new business strategy's investment criteria, such as requiring an IRR rate of 18% for upstream development, but a rate for renewable and energy solutions of just over 10%.

[Figure 5] ROIC Comparison of Integrated Oil & Gas Industry and Green & Renewable Energy Industry in U.S. and Europe



U.S. Average and Standard deviation of ROIC by Industry								Average	Standard Deviation
	2014	2015	2016	2017	2018	2019	2020	2014-20	2014-20
Green & Renewable Energy	4.4%	2.8%	3.8%	1.9%	2.4%	1.4%	6.9%	3.4%	1.9%
Oil/Gas(Integrated)	16.0%	3.0%	-2.2%	2.2%	8.0%	5.4%	-2.3%	4.3%	6.4%

Europe Average and Standard deviation of ROIC by Industry								Average	Standard Deviation
	2014	2015	2016	2017	2018	2019	2020	2014-20	2014-20
Green & Renewable Energy	5.6%	4.4%	3.8%	4.4%	5.1%	4.4%	4.7%	4.6%	0.6%
Oil/Gas(Integrated)	7.9%	1.8%	1.5%	5.6%	9.2%	7.8%	1.5%	5.0%	3.4%

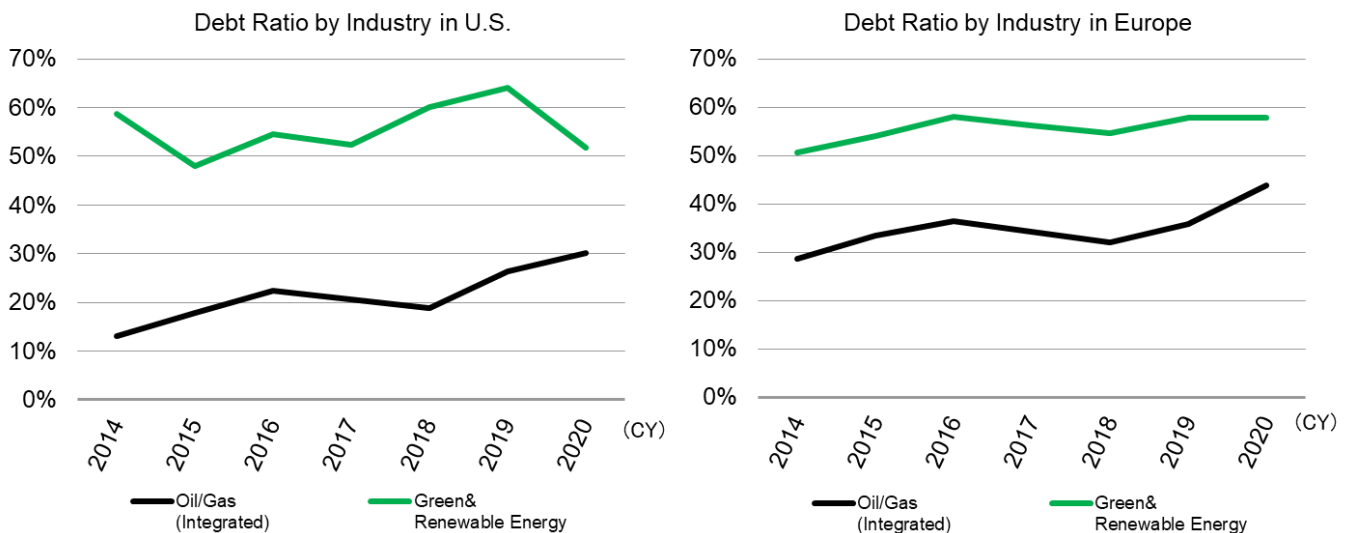
Source: Compiled by Mizuho Bank Industry Research Department from Damodaran Online

If the capital structure remains unchanged despite a decline in the expected return of the business portfolio, there will be a mismatch between the new business' assets structure and the financing structure supporting it

The change in a firm's risk-return characteristics is not necessarily a problem; however, if the capital structure remains unchanged despite a decline in the expected return of the business portfolio, there will be a mismatch between the new business' assets structure and the financing structure that supports it, which raises the concern that the weighted average cost of capital (WACC) will be too high relative to the ROIC. To improve assets' low-return nature, there is some option at the individual projects level through structuring. However, a more drastic measure would be to optimize the capital structure. In particular, integrated oil and gas companies have generally operated their businesses with low leverage, to prepare for the risk of commodity price volatility in upstream development projects, so increasing leverage with the aim of lowering the WACC is an option. The aforementioned corporate data by industry shows that the debt ratio (total debt/(total debt + total equity)) of integrated oil and gas companies is lower than that of renewable energy companies in both the US and Europe (see Figure 6).

It will be some time before companies are actually ready to deal with the energy transition and address the post-transformation issues, and there are no precedents to refer to at this point; however, there are a number of issues that must be addressed in advance when considering the optimization of future capital structures. One is increasing the sophistication of business portfolio management. To control multiple businesses with different risk-return natures and optimize a funding structure for the business portfolio, firms must prepare a management system that can appropriately understand the risks and returns of each business's portfolio. Attention must also be paid to concerns from the financial market about creditworthiness, as an increase in leverage could lead to a deterioration in external ratings, so companies need to understand the changes in the nature of the risks and returns of the new business structure through dialogues with rating agencies and financial markets as they move through the portfolio transformation process.

【Figure 6】 Debt Ratio Comparison of Integrated Oil & Gas Industry and Green & Renewable Energy Industry in U.S. and Europe



Debt Ratio = Total Debt/(Total Debt + Total Equity)

Source: Compiled by Mizuho Bank Industry Research Department from Damodaran Online

4. Conclusion: The Importance of Planning Based on Medium- and Long-term Time Horizons and the Considerations of Transition Finance

To promote the transformation of business portfolios, it will be important for firms to formulate medium- to long-term plans that include responses to these important financial issues

This paper examines the medium- and long-term financial strategy issues that energy companies will face in the future as they respond to the energy transition, referring to the new business strategies of BP and Shell for illustrative purposes. The issues will differ depending on the stage of a firm's business portfolio transformation: securing funds for investment in new businesses during the transformation phase, or optimizing the capital structure in response to changes in the expected return on assets during the post-transformation phase. The options for securing funds for investment in new businesses should be a change of capital allocations, strategic asset sales, and external financing. To consider optimizing the capital structure in the future, it will be necessary for more sophisticated management of the business portfolio and to foster an understanding among rating agencies and financial markets of the changes in the risk-return characteristics. To promote the transformation of business portfolios, it will be important for firms to formulate medium- to long-term plans that include responses to these important financial issues. In particular, the idea of formulating plans together with financial institutions, taking into account future issues, should be a useful option.

Finally, when considering the financing for each phase of a project, it is important to look at sustainable financing, especially transition financing, which has been attracting attention recently. Transition finance is a framework that allows companies with a large GHG emissions reductions burden to obtain certification that they are making efforts to adapt to a low-carbon society by meeting certification requirements such as disclosing a long-term management plan that is consistent with the goals of the 2015 Paris Agreement. In Japan, the International Capital Market Association is currently establishing basic guidelines for a Japanese version of transition finance based on the Climate Transition Finance Handbook. In the future, it is expected that investors, as the providers of funds, will have a preference for this type of financing, as it will bring benefits in terms of both availability of funding and economic efficiency. As mentioned above, in order to meet these certification requirements, it will be necessary for firms to disclose elements such as their transition strategy and governance structures, environmental significance, scientific evidence, and transparency. In particular, in the area of transparency, investment and expenditure plans should be disclosed to the extent possible. Many of these points are linked to the aforementioned formulation of long-term strategies, and considering them at the same time will lead to the development of comprehensive financial strategies that take into account the possibility of benefiting from future funding.

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