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Question Time for KEPCO's Board

Overseas Investments Add Risk and Unstable Returns to KEPCO's Stressed Financial Outlook

Executive Summary

The COVID-19 pandemic has been an exercise in crisis management for many state-owned power companies. Most tradition-bound state-backed power companies, which are proxies for national economies, have been battered by sharp declines in demand and inflexible baseload dynamics, making it hard for them to cut costs. Globally, there have been few outright winners in the COVID-19 downturn, but the standouts are typically in markets where innovative operators have captured market share thanks to low variable cost renewables.

Korea Electric Power Company (KEPCO) has been bruised by these global trends. The stock is down 22.8% year-to-date, underperforming the KOSPI index by a whopping 12.4 percentage points. This is a poor showing, even though it's well understood that KEPCO is in the midst of a long-awaited transition to cleaner energy. Nonetheless, the company's medium-term financial challenges cannot be ignored.

Many power companies and management teams are facing exactly this kind of pain. It's a situation that calls for strategic clarity and more market engagement to avoid missteps. The company lost KRW 1.2 trillion (USD 1.0 billion) in 2018 and KRW 2.3 trillion (USD 1.9 billion) in 2019, and it appears that KEPCO is still encouraging local analysts to view 2020 as a turnaround year, based on hopes that the company can benefit from lower fuel costs and a windfall tariff increase.

KEPCO's clean energy transition will require real leadership from policymakers, top management, and the company's board.

With risks to the Korean economy still on the rise, it would be naïve for analysts or investors to place firm bets on KEPCO's chances for a politically sensitive tariff hike. What's certain, however, is that KEPCO's clean energy transition strategy will require real leadership from three key groups: top management, the company's board, and policymakers. This will be particularly true if the promised pivot to new renewables, energy efficiency and further commitments to gas materializes.

Introduction

Global investors have an important part to play in setting the right market expectations as KEPCO repositions. Over the past year, global investors have watched KEPCO's top management and its board struggle to reconcile trade-offs between the urgent need to transition away from high-cost and high-carbon generating technologies and to find viable strategies to fund that transition.

Now that Korea has successfully managed the first phase of the COVID-19 crisis, investors will be looking for signs that KEPCO can chart a steady transition course and build momentum to meet significant debt repayments due in 2021 and 2022. That means it's time for KEPCO's directors to demonstrate what they have learned about the future of the power sector. As KEPCO retunes its strategy, the market will be looking carefully at how the company makes decisions about disruptive new technology, investment and capital expenditure.

Investors will be looking for signs that KEPCO can chart a steady transition course.

One crucial governance question for KEPCO's board is whether management or other stakeholders should continue to be permitted to undermine the company's clean energy strategy with investment decisions that add to the company's carbon budget and risk damaging KEPCO's image in energy growth markets. The company has already embraced the optics of clean energy, but its investment decisions are strangely out of sync with this message and still reflect the company's legacy fossil fuel habits. It also raises questions about whether Korea's Ministry of Trade, Industry and Energy (MOTIE), with its focus on fossil fuels suppliers and technology, may be influencing KEPCO's overseas investment decisions.

This is a hot button issue for global investors that KEPCO has so far ignored. Unfortunately for shareholders, this is not a problem that can be wished away. KEPCO now faces a conspicuous conflict that was brought out into the open in February when APG, a leading global pension fund, stated that it was divesting based on KEPCO's continued investment in overseas fossil-fuel power projects. "The global financial market is turning its back from the coal-fired power sector… The KEPCO chief executive and board members should understand that each of them must be held accountable for their decisions," APG said in comments to the Financial Times.[1]

[1] Financial Times. Global investors warn South Korea's KEPCO over carbon emissions. 23 February 2020.

BlackRock, the world's largest asset manager, has now followed APG's lead, with KEPCO confirming on Thursday May 28 that BlackRock had written to the board seeking fuller disclosure of KEPCO's interests in coal-fired power plants outside Korea.

KEPCO's confirmation of the letter followed a pledge from BlackRock CEO Larry Fink in January 2020 that the firm would make environmental sustainability a core goal of its investment decisions.

KEPCO's board now has an opportunity to use the recent National Assembly elections and global investor engagement to accelerate comprehensive improvements in KEPCO's investment due-diligence and ESG processes. We have identified two strategic questions for KEPCO's leadership. A board oversight process that encourages thoughtful answers to such questions could increase KEPCO's chances of aligning with domestic and global stakeholders to create a more robust foundation for long-term performance.

Why is KEPCO Adding to its Carbon Footprint by Investing in Coal Fired IPPs in Emerging Markets While Accelerating its Commitment to a Clean Energy Transition at Home?

Based on a review of KEPCO's overseas "growth engine" strategy, it appears that KEPCO's domestic and international strategies now conflict in ways that could further elevate financial risks for the company. KEPCO's experience with energy transition at home highlights the risks of making the wrong bets on outdated 'baseload power' choices. This risk is even higher in the energy growth markets of Southeast Asia and Africa because power markets are repricing technology options around the world at an accelerating pace. Nonetheless, KEPCO's recent investment decisions are focused on large-scale legacy coal, nuclear, and gas technologies that come with fixed payment power purchase agreements (PPAs). At the same time, KEPCO has only just begun to test the global competitiveness of its digital grid services or to add some small renewables investments to the portfolio. The inherent contradiction in this investment strategy is evident in KEPCO's own data and the following statement:

"KEPCO is currently implementing 43 projects including thermal power, nuclear power, new & renewable energy, transmission & distribution, resources, etc., in 27 countries around the world (as of June 2019). We will continue to work hard to become a global eco-friendly energy provider not only by constructing and operating existing thermal power & nuclear power plants but also by expanding low-carbon & high efficiency thermal power generation and new & renewable projects and to secure global leadership by discovering convergence, new business models and winning contracts on constructing new nuclear power plants in the medium & long term."

KEPCO's own disclosure documents are notable for the lack of strategic awareness of the economic and policy consequences of making new investments in outdated carbon-heavy technologies. Based on IEEFA's analysis, 51% of KEPCO's planned and operating overseas project mix is coal. KEPCO's focus on coal and gas investments makes it clear the company has yet to address the risks to IPP investors in emerging and transition markets that are commonly identified by investors familiar with the methodology used by the increasingly globally accepted Task Force on Climate-related Financial Disclosures (TCFD)—an analytical tool that KEPCO's CEO has stated that the company has only just begun to study.[2]

KEPCO's disclosure documents are notable for the lack of strategic awareness.

Table 1: KEPCO's Combined Overseas Project Mix (Planned and in Operation)

	Total Capacity (MW)	% Total	KEPCO Capacity (MW)	% Total
Coal	14,645	50.8%	4,871	51.2%
Oil, Gas, Diesel	6,781	23.5%	2,711	28.5%
Total Thermal	*21,426*	*74.3%*	*7,582*	*79.7%*
Nuclear	5,600	19.4%	1,008	10.6%
PV	704	2.4%	310	3.3%
Wind	1,106	3.8%	615	6.5%
Total RE	*1,810*	*6.3%*	*925*	*9.7%*
Total Overseas	28,836		9,515	

Source: KEPCO Investor Presentation April 2020. Data from year end 2019.

This apparent lack of strategic coherence is evident in the company's many tone-deaf disclosures concerning overseas projects in the development pipeline. For example, KEPCO was selected as the top-ranked bidder to build and operate a sub-scale gas-fired project in Guam in June 2019. This was described as a win for KEPCO in the US market, at a time when the RE100+, Climate Action 100+, SASB, TCFD are moving global investors in the opposite direction. In addition, this over-statement is notable in the way that one claimed justification for the project was the fact that Hyundai Engineering would be awarded a KRW 200 bn contract from the deal.

[2] 1Q 2020 Letter from KEPCO CEO to Investors Concerning ESG Matters.

Table 2: KEPCO's Overseas Projects

Generation Projects in Operation				Total Capacity (MW)	KEPCO Capacity (MW)	Period
Philippines	Ilijan	BOT	Combined-cycle plant	1,200	612	Jun-02 ~ Jun-22
Philippines	Cebu	BOO	Coal-fired plant	200	120	Jun-11 ~ Jun-36
Philippines	SPC(Naga)	M&A	Coal-fired/Diesel plant	280	111	Feb-06 ~
Philippines	Calatagan	M&A/Boo	Photovoltaic power	50	19	Dec-18~
China	Wind Project	BOO	Wind power plant	1,017	526	Dec-06 ~ Jun-26
China	Shanxi	BOO	Coal-fired plant	9,135	3,106	Apr-07 ~ Apr-57
China	Liaoning	BOO	Photovoltaic power	7	3	-
Jordan	Al Qatrana	BOO	Gas-fired plant	373	298	Jan-11 ~ Jan-36
Jordan	Amman	BOO	Diesel-fired plant	573	344	Aug-14 ~ Aug-39
Saudi Arabia	Rabigh	BOO	Oil-fired plant	1,204	482	Apr-13 ~ Apr-33
Mexico	Norte 2	BOO	Gas-fired plant	433	242	Dec-13 ~ Dec-38
USA	Colorado	M&Q/BOO	Photovoltaic power	30	15	Apr-17 ~ Mar-31
USA	California	M&Q/BOO	Photovoltaic power	235	118	Mar-18 ~ Aug-52
UAE	Shuweihat S3	BOO	Gas-fired plant	1,600	314	Jul-14 ~ Jul-39
UAE	Barakah Nuclear	EPC/O&M	Nuclear power plant	5,600	1,008	Dec-09 ~ May-77
Japan	Chitose	BOO	Photovoltaic power	28	22	Jul-17 ~ Jul-42
Jordan	Fujeij	BOO	Wind power plant	89	89	-
Vietnam	Nghi Son	BOT	Coal-fired plant	1,200	600	Jul-22 ~ Jul-47
				23,254	**8,029**	
Generation Projects in Development						
South Africa	Thabametsi	BOO	Coal-fired plant	630	154	On-Going
USA	Guam	BOO	Photovoltaic power	60	42	
USA	Guam	BOO	Gas-fired plant	198	119	
Indonesia	Java 9&10	BOT	Coal-fired plant	2,000	300	
Mexico	294 Solar	BOO	Photovoltaic power	294	91	
Malaysia	Pulau Indah	BOO	Gas-fired plant	1,200	300	
Vietnam	Vung Ang 2	BOT	Coal-fired plant	1,200	480	
				5,582	**1,486**	
T&D	25 Projects covering T&D and smart grid consulting in Dominica					

Source: KEPCO Investor Presentation April 2020. Data from year end 2019.

KEPCO's goal to "continue to work hard to jointly explore overseas markets and enhance the global competitiveness of overall energy industries"[3] highlights an obvious problem that investors will recognize with government-controlled companies. As a major buyer of equipment and engineering services from Korean companies, KEPCO faces a natural conflict of interest with equipment suppliers when it bases its investment strategy on unquantified benefits to these same Korean companies.

Investors and stakeholders who have observed KEPCO's late-stage entry into controversial projects such as Vung Ang 2 in Vietnam, Jawa 9 & 10 in Indonesia, and Nghi Son 2 in Vietnam will recognize this scenario. It naturally raises questions about whether KEPCO's ability to execute a strategic investment program that is

[3] Clean Energy Smart KEPCO 2019, p. 42.

financially justifiable because there is a pattern suggesting that the company is often recruited as a minority shareholder late in the development cycle.

Concern over this conflict of interest between Korean government and industry insiders and outside equity stakeholders is confirmed by the soft language that was used by the CEO in a recent letter to investors:[4]

> *"Our internal guideline stipulates the following 5 requirements to be fulfilled in order to pursue a greenfield coal power plant project.*
>
> A. *Coal plant as a realistic option as part of target country's energy policy*
>
> B. *Applies latest low carbon tech, e.g., Ultra Super Critical (USC) & complies with international environment standard*
>
> C. *Export financing is available based on OECD guideline*
>
> D. *Joint business development with Korean companies and financial service Industry*
>
> E. *Gain local acceptance via socially responsible investments to protect environment."*

What is left unacknowledged in this checklist is the reality that returns to IPP investors are increasingly at risk as finance drains away from carbon emissions intensive coal investments in particular.[5] This financial risk has been aggravated by changes in the post-COVID-19 IPP market in Southeast Asia. Power sector planners in Indonesia, Vietnam, and the Philippines are all cutting demand forecasts, rebasing new capacity needs, and re-assessing the mix of spending on generation versus the grid.

Returns to IPP investors are increasingly at risk.

As a result, any significant investment premised on due diligence done as recently as last month is unlikely to offer a reliable picture of the market realities that will shape project economics over the coming four to five decades. Due to rapidly changing demand dynamics and the growing need for flexible systems solutions, offtake assumptions for baseload will be at risk due to long construction periods and over-optimistic assumptions about extended plant operating lives. Moreover, if these countries re-base existing PPAs in crowded grids such as Java-Bali in central Indonesia, or tilt in the direction of more grid spend, flexibility rather than fixed capacity may become the key planning metric for regulators and successful power sector investors seeking sustainable returns.

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[4] 1Q2020 Letter from KEPCO CEO to Investors on ESG Matters.

[5] IEEFA. PLN in Crisis--Is it Time for IPPs to Share the Pain? April 2020.

Given the powerful shifts taking place in regional power markets, sophisticated infrastructure investors will recognize the risks associated with KEPCO's focus on team play with Korean equipment suppliers. It raises the risk that KEPCO, with its large balance sheet, will be drafted to provide a credit anchor for the subsidized Korean government capital needed to bolster the position of equipment suppliers such as Hyundai or the financially distressed Doosan Heavy Industries—a company that is already being bailed out by the Korean Government due to errors of financial and market judgement.[6]

It's precisely this type of risk that raises questions about KEPCO's international project decision-making and MOTIE's role in KEPCO. Often the management teams that guide these deal processes inside large companies develop habits that blind them to inflection points in markets. Doing international power deals often involves a mix of professionals including senior bankers, power company officials, trade officials, and local country experts—many of whom win generous bonuses and promotions on completion of deals. Unfortunately, as with investment bankers, this can make them susceptible to short-term groupthink and less willing to deliver information about new risks that may disrupt investment fundamentals over coming decades. Afterall, they are not held accountable when promised returns fail to materialize. It's KEPCO and its many shareholders who pay the price.

KEPCO'S Overseas Investment Portfolio Raises Financial Risk

KEPCO's overseas investment portfolio carries significant risk, raising questions about how carefully KEPCO assesses claims made about financial returns. KEPCO's 2019 write-off of its investment in the controversial Bylong coal project proposal in Australia highlights the relevance of this concern. In KEPCO's third-quarter 2019 financial results, the company disclosed a write-off of KRW 616.8 bn (USD 505.6m) (AUD762.6m) of its investment in its Bylong coal project in Australia after it failed to win planning approval in late September 2019.

This investment, which dates to 2010, is a useful example of the price that shareholders and other stakeholders pay for badly conceived 'national interest' overseas investments that collide with the new realities of the technology-driven energy disruption. KEPCO's Bylong write-off accounted for 27.3% of KEPCO's 2019 net profit loss. Despite the write-off, in 2020 KEPCO continues to sink good money after bad in court appeals against government decisions in Australia for a project that is unbankable and unviable in this new energy market environment.

With results like that, investors have good reason to question whether rushing into high-risk markets is the best use of scarce capital during a period when KEPCO has been reporting losses and was forced to cancel dividends. To explore the question of how investors will react to KEPCO's overseas investments, it useful to review the financial profile of KEPCO's international portfolio and to identify risks that may emerge in 2020. KEPCO's international investment disclosures are scattered across

[6] IEEFA. Doosan Heavy -- Time for a Forensic Audit. September 2019.

the company's financial reports, making it difficult for investors and other stakeholders to get a full picture of the company's foreign investment track record.

Table 3: KEPCO's Investment Portfolio: Subsidiaries, Associates, and Joint Ventures

KRW Billions	2019 Revenue	2019 Profit (loss)	2019 Total Assets	2019 Total Liabilities	2019 Equity	ROA (%)	ROE (%)
Consolidated Subsidiaries							
Total Korea	**36,547.7**	**450.6**	**120,033.5**	**69,175.6**	**50,857.9**	**0.38%**	**0.89%**
Total Korea Gencos	33,224.0	287.9	114,317.0	67,030.4	47,286.6	0.25%	0.61%
Total Korea Minor Subs	3,323.6	162.7	5,716.5	2,145.3	3,571.3	2.85%	4.56%
Total International	**355.7**	**-456.0**	**5,514.2**	**2,526.7**	**2,987.4**	**-8.27%**	**-15.26%**
Total International ex Bylong	355.7	160.9	5,468.5	2,171.4	3,297.1	2.94%	4.88%
Total	**36,903.4**	**-5.4**	**125,547.7**	**71,702.4**	**53,845.3**	**0.00%**	**0.00%**
			2019 Acquisition Cost	2019 Book Value	% Change		
Associates							
Larger Korean Associates			**978.1**	**2,673.5**	**173.3%**		
Korea Gas Corporation			94.5	1,694.0	1692.6%		
Larger International Associates			**1,234.3**	**1,436.5**	**16.4%**		
PT Bayan Resources			615.9	445.1	-27.7%		
Others			**327.5**	**141.9**	**-56.7%**		
Total			**2,540.0**	**4,251.8**	**67.4%**		
Total Dividends as % Value (2018 divs)			**3.1%**	**1.8%**			
Total Dividends as % Value (2019 divs)			**5.4%**	**3.2%**			
Larger International Dividends as % of Value (2018 divs)			**4.8%**	**4.0%**			
Larger International Dividends as % of Value (2019 divs)			**7.8%**	**6.7%**			
Joint Ventures							
Larger Korean JVs			**98.9**	**57.7**	**-41.7%**		
Larger International JVs			**1,039.9**	**1,300.4**	**25.1%**		
Others			**336.9**	**304.9**	**-9.5%**		
Total			**1,475.7**	**1,663.0**	**12.7%**		
Total Dividends as % Value (2018 divs)			**6.1%**	**5.3%**			
Total Dividends as % Value (2019 divs)			**5.4%**	**4.8%**			
Larger International Dividends as % of Value (2018 divs)			**9.3%**	**7.4%**			
Larger International Dividends as % of Value (2019 divs)			**6.7%**	**5.3%**			

Source: KEPCO 2019 Consolidated Results.

KEPCO's overseas operations, whether consolidated subsidiaries, associates, or joint ventures do not currently make a meaningful contribution to the company's financial performance, despite tying up capital and exposing the company to operational, tax, and foreign exchange risk. Using balance sheet data to provide a rough measure of KEPCO's overseas activities, the combined portfolio would currently appear to be worth KRW 7.8 trillion (USD 6.4bn) based on asset and book value data from yearend 2019.

Has the overseas portfolio delivered strategically significant risk-adjusted returns? Not obviously. Results from 2019 reflect the Bylong write-off, but our review suggests that returns have been uneven and fall well short of the 10-20% IRR threshold that power sector investors in emerging markets have often targeted. Using the dividends received from KEPCO's larger foreign associates and joint ventures, it appears that the dividend yield based on full-year 2019 dividends on current book value was only 6.7% for associates and 5.3% for joint ventures. Dividends from these investments are anything but stable, however, as the figures in

2018 were 4.0% and 7.4% for larger international associates and joint ventures, respectively.

Just as important, even if KEPCO were to strike a string of winning foreign deals, the returns by almost any traditional financial metric would not be regarded as material to the outlook of the company due to the scale of KEPCO's core domestic power business with an asset base valued at KRW 114.3 tn (USD 93.7 bn)—or 15 times the value of the overseas investment portfolio. It is precisely this disconnect between the potential of the company's core operations and its error-prone international investments that raises questions about KEPCO's foreign investment strategy. While each transaction may be approved on the basis of exciting potential returns, the company's recent track record suggests that the risk-adjusted returns are simply insignificant to the company's financial future.

KEPCO's risk-adjusted returns are simply insignificant to the company's financial future.

Overall, this is a portfolio that appears to lack coherence, raising questions about whether KEPCO's international project teams possess the strategic discipline needed to manage the geo-political and financial crosscurrents common in energy markets. Indeed, it is hard to find a unifying theme to explain why the company would simultaneously be committing capital to coal-fired IPPs in Southeast Asia, baseload nuclear deals in the Middle East, and small renewables in the United States when all these markets are being transformed by utility-scale renewables.

Investing in Coal Producers Magnifies KEPCO's Carbon Risks

Given KEPCO's poor track record on coal investments, it's instructive to consider the strategic rationale for KEPCO's investment in Indonesia's PT Bayan Resources. This investment in the listed shares of PT Bayan was made in 2010, possibly by the team that was also responsible for the Bylong investment.

Based on disclosures in KEPCO's 2019 year-end financials, KEPCO's acquisition cost for its 20% stake in PT Bayan was KRW 615.9 bn (USD 504.8m), but its book value at the end of 2019 was 27.7% lower at KRW 445.1 bn (USD 364.9m). Like most Indonesian coal companies, PT Bayan faces a challenging 2020 as COVID-19 and slower global growth chips away at what had been a moderate growth scenario for Southeast Asia. Although PT Bayan has a low-cost structure, it is beginning to face headwinds with investors as the Indian and South East Asian power markets pivot away from over-reliance on imported fossil fuels. KEPCO's bets on Indonesian coal producers do not suggest great insight into the financial or strategic value of these assets.

Risks to PT Bayan's coal-growth scenario were highlighted by Moody's in a January ratings update. Moody's walked a careful line, giving PT Bayan a non-investment grade Ba3 rating that reflects its "strong profitability" but was also careful to note that the company faces "elevated environmental risks associated with the coal mining industry…"[7] Like the other leading credit rating agencies, Moody's is racing to address heightened investor concern about previously unacknowledged ESG risks that have made securities from the coal sector increasingly un-investible.

KEPCO's bets on Indonesian coal producers do not suggest great insight into the financial or strategic value of these assets.

Ironically, PT Bayan, has also been hurt by exactly the type of weather-related risks that can be linked to climate change. Moody's notes that: "Bayan will also remain exposed to weather-related risks, and in particular to the risk of dry weather that can lead to low water levels in the Kedang Kepala River and Belayan River, which are currently the company's principal waterways for the transport of coal to trans-shipment points from its Tabang mine."

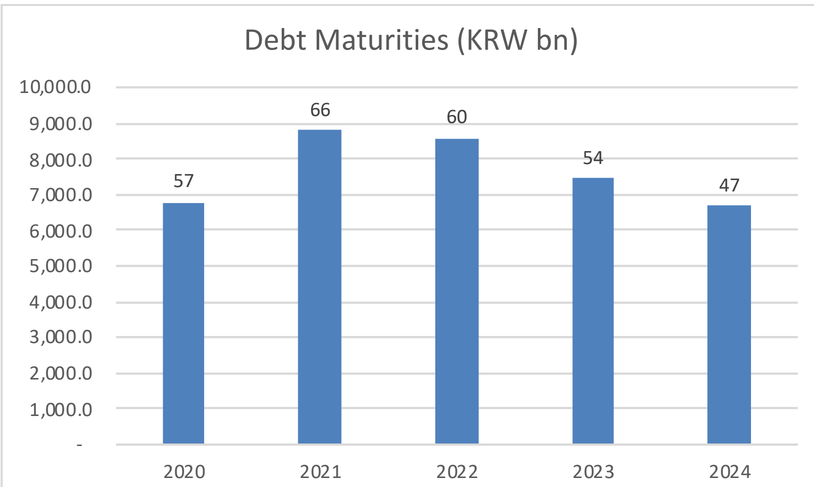
More worryingly, it appears that some of KEPCO's investment decision-making may be influenced by a desire to support PT Bayan. In the company's March 2019 company profile[8], PT Bayan provides a list of major customers that includes PT Cirebon—an early coal-fired IPP in Indonesia where KEPCO holds a 27.5% stake. Of note, Vung Ang 2 and Nghi Son are listed by PT Bayan as "major" customers even though both projects have contracted volumes but are not yet purchasing coal. Moreover, only Nghi Son 2 has reached financial close.

This is precisely the type of investment oversight problem that KEPCO's board should be alert to. The investment in PT Bayan has not benefited KEPCO financially, and global investors will naturally ask how this financial interest may be colouring management's ability to analyse the future of regional energy markets. Moreover, questions should be asked about KEPCO's governance of the PT Bayan investment. KEPCO's 20% stake entitles the company to a board seat that is currently filled by a recently appointed and relatively junior Korea South-East Power Co. (KOSEP) coal procurement manager.[9] This is ironic given that Moody's speculates that governance risk related to PT Bayan's 54% owner, Dato' Low Tuck Kwong, is partially offset by "the presence of other large shareholders including Korea Electric Power Corporation (KEPCO, Aa2 stable) which owns a 20% stake…"

[7] Moody's Ba3 rating for PT Bayan Resources senior unsecured notes.
[8] PT Bayan Resources Company Profile, March 2019.
[9] PT Bayan Tbk Board of Directors.

The language of Moody's PT Bayan credit rating should serve as a wake-up call for KEPCO's management and directors. The credit rating agencies are not yet bringing ESG considerations into their formal rating framework, but they take a cautious approach to assumptions about the growing inability of coal producers to access credit in the future. Just as Moody's is seeking to enhance its analysis of carbon risk issues, KEPCO will need to upgrade its strategic risk approach to climate change if it hopes to enjoy the support of a high-quality international investor base.

Figure 1: KEPCO Debt Maturity Schedule and Issues Outstanding



Source: Reuters.

If KEPCO's management intends to live up to live up to its commitment to "lowering coal exposure in the long-term" as the CEO's letter suggests, it would be smart for top management and the board to review BlackRock's stewardship documents, which were significantly modernised in January 2020. They offer a clear warning for power and energy companies struggling to prioritize energy transition, stating that "… our engagements focus on a company's strategic plan for addressing climate risk in its business and how management and the board are planning for and devoting the necessary resources to manage those risks and take advantage of opportunities presented by the energy transition."[10]

What Can KEPCO Do to Improve Governance Structures to Oversee the Company's Sustainability Strategy?

The contradictions between KEPCO's long-term clean energy strategy and current investment activities may indicate a gap in the company's management and board processes that should worry stakeholders. This is a criticism that KEPCO's CEO acknowledged in the recent investor letter, noting that significant "efforts were

[10] BlackRock. BlackRock Investment Stewardship's approach to engagement on climate risk. January 2020.

made to reflect energy shift policy on the composition of BOD members…" What KEPCO's CEO may not have grasped, however, is that adding board members with some understanding of environmental issues is only a start. If this policy shift is to be more than a token gesture, KEPCO's directors must accept the fact that they are accountable to stakeholders on ESG issues.

Clearly the current board should be aware that stakeholders have good reasons for questioning the effectiveness of incumbent directors' efforts to improve their oversight. For example, the same board voted in 2018 to approve a mixed bag of investments in the controversial Nghi Son 2 coal-fired IPP in Vietnam and the 50 MW Calatagan Philippine solar project, and a foreign exchange guarantee for a loan for the company's failed Bylong coal project investment in Australia.

The question then is whether the board's processes provide the right information for directors to make an informed decision and whether the board has the mix of skills needed to assess projects objectively from a business and climate finance risk perspective. This matters, because pending projects such as Vung Ang 2 in Vietnam and Jawa 9 &10 are well known to Asian power sector experts. These projects have not only been the focus of global attention, resulting in the withdrawal of major banks, but active investors also have ready access to research on controversies that raise questions about the suitability of any investment in these projects.

KEPCO's CEO acknowledged in his recent letter that the board had been in a transition period in recent years as directors adapted to public demand for clean energy and better governance. In response, the board has been restored to 15 members and non-standing (outside non-executive) directors now outnumber insiders. Nonetheless, the board continues to face challenges in creating the continuity and level of governance needed to navigate politically sensitive market developments.

Perhaps the biggest structural weakness for KEPCO's top management and board has been the generally short tenure of directors. It's notable at a time of dramatic market restructuring, that the key standing directors, who are responsible for overseeing all key operational areas, have an average of only 2.5 years of service on the board —a tenure that many governance experts would regard as being far too short permit them to gain any mastery of strategic issues outside their areas of expertise. A similarly short term of service is evident for the independent, non-standing directors. By comparison, the average term for independent directors at a peer company such as CLP Holdings is 8.2 years, and the group includes seasoned directors with experience in countries where CLP has long-term investments.[11]

[11] CLP Holdings Board of Directors.

Table 4: KEPCO Board Composition

	# of Standing Directors	# of Non-Standing Directors	Total	Academics/ Other	Trade/Foreign Ministry	Politicians	Lawyers & Prosecutors	Engineers	Renewable Energy Experience
2019	7	8	15	6	1		1	3	1
2018	7	8	15	6	1		1	3	1
2017	5	8	13	6	1		1	3	1
2016	6	8	14	4	1	2	1	2	1
2015	7	7	14	3	1	2	1	2	1
2014	7	8	15	4	1	2	1	2	1
2013	7	8	15	3		4	1	2	
2012	7	7	14	4	1	2		2	
2011	7	7	14	3	2	2			
2010	7	7	14	5	1	1			
	% of Total	**% of Total**		**% of Non-Standing**	**% of Non-Standing**	**% of Non-Standing**	**% of Non-Standing**	**% of Non-Standing**	**% of Non-Standing**
2019	46.7%	53.3%		75.0%	12.5%		12.5%	37.5%	12.5%
2018	46.7%	53.3%		75.0%	12.5%		12.5%	37.5%	12.5%
2017	38.5%	61.5%		75.0%	12.5%		12.5%	37.5%	12.5%
2016	42.9%	57.1%		50.0%	12.5%	25.0%	12.5%	25.0%	12.5%
2015	50.0%	50.0%		42.9%	14.3%	28.6%	14.3%	28.6%	14.3%
2014	46.7%	53.3%		50.0%	12.5%	25.0%	12.5%	25.0%	12.5%
2013	46.7%	53.3%		37.5%	0.0%	50.0%	12.5%	25.0%	0.0%
2012	50.0%	50.0%		57.1%	14.3%	28.6%		28.6%	0.0%
2011	50.0%	50.0%		42.9%	28.6%	28.6%		0.0%	0.0%
2010	50.0%	50.0%		71.4%	14.3%	14.3%		0.0%	0.0%
Average Number of Years of Service	2.5	2.6							
Audit Committee Years of Service	3.3	2.8							

Source: KEPCO Annual Reports and U.S. SEC filings.

The disconnect between average board tenure and the impact of decisions that the board must make should be seen through an investment lens. As part of KEPCO's CDP disclosures[12], the company states that for planning purposes, "long-term" is considered to be from 5 to 15 years, while virtually all the investment projects the board has been asked to approve are expected to generate returns for much longer than 15 years. Indeed, the average useful life of energy and power infrastructure assets is normally estimated to be 25-40+ years, plus

The board lacks capacity to provide consistent oversight on overseas investment decisions.

[12] CDP carbon disclosures.

construction periods of 5 years for thermal power and more than 10 years for nuclear.

A second surprising gap in KEPCO's board capacity is the absence of a committee to oversee the company's governance or sustainability obligations. It is increasingly common for power-company boards to build governance capacity for climate risk oversight in a board committee. KEPCO, however, has only two board committees: one for nominations and a second for audit. As a result, the board lacks the capacity to provide consistent oversight on overseas investment decisions, which would be expected to include a sophisticated discussion of any project's due-diligence documents, country-level policy issues, and global climate commitments.

At an operational level, this gap in climate risk management is troubling. According to CDP disclosures, "the responsibility in managing and supervising climate change issues lies with CTO (Executive Vice President & Chief Technology Officer, corresponding to COO in general) below the board level."

It cannot be confirmed from disclosed job titles whether any standing board member, other than the CEO, has direct responsibility for climate risk issues or whether the CTO plays a role in evaluating overseas project risks under KEPCO's Key Risk Index methodology.

This oversight breakdown is not a simple "ESG" matter. State-controlled enterprises such as KEPCO often face conflicts of interest because of government intervention, making it is difficult to establish accountability for ongoing governance failures. In KEPCO's case, the burden is now on its board to demonstrate that previous poor investment decision-making and weak climate risk management processes will be addressed with meaningful action rather than promises.

Board Governance Matters Because Global Investors Are Raising the Bar

Such issues have new urgency for global investors. BlackRock's high-profile announcement earlier this year that it would significantly increase its focus on climate governance and mainstream its ESG products came at a sensitive time for utilities such as KEPCO, engaged as they are in their own energy transition process. Investors, especially the big passive fund managers, are crucial stakeholders and they are now moving to set higher expectations that KEPCO's board and management team will need to understand.

First, KEPCO must consider how leading global investors, many of whom are signatories to Climate Action 100+, the Institutional Investors Group on Climate Change (IIGCC), and UN Principles for Responsible Investment (UN PRI) may evaluate the company's current climate strategy and energy transition plans. Regardless of reporting boundaries used for CDP and ESG reporting purposes, these investors will look at both KEPCO's domestic plans and its overseas investment portfolio. Second, KEPCO will need to address the consequences of falling behind regional and global peers as they mobilize capital for new opportunities in clean energy.

Table 5: KEPCO—Representative List of Institutional Shareholders

	Shareholding (Millions of Shares)	Shareholding %	Climate Action 100+	IIGCC	UN PRI
Orbis Investment Management Ltd.	10.78	1.7%			✓
Blackrock (N.A. + UK)	6.45	1.2%	✓	✓	✓
The Vanguard Group, Inc.	6.39	1.0%			✓
Samsung Asset Management Co., Ltd.	*4.80*	*0.7%*			
Eastspring Investments (Singapore) Limited	4.00	0.6%	✓		✓
Fidelity Management & Research Company	2.56	0.4%	✓		✓*
Mirae Asset Global Investments Co., Ltd.	*2.29*	*0.4%*			✓
Shinyoung Asset Management	*2.04*	*0.3%*			
Templeton Investment Counsel, L.L.C.	1.88	0.3%	✓	✓	✓
J.P. Morgan Asset Management (Hong Kong) Ltd.	1.51	0.2%	✓	✓	✓
INVESCO Asset Management	1.36	0.2%	✓	✓*	✓
Research Affiliates, LLC	1.29	0.2%			✓
KB Asset Management Co., Ltd.	*1.10*	*0.2%*			
Geode Capital Management, L.L.C.	1.07	0.2%			✓
Caisse de Depot et Placement du Quebec	1.02	0.2%	✓		✓

Source: Reuters.
Note: Data from fund filings between 30-09-2019 and 31-03-2020. Names in italics are Korean firms with international distribution. Signatories entities with an asterisk are Mirae Asset Global Investments (Hong Kong) Ltd and INVESCO (UK) Ltd, not the parent company.

How significant was BlackRock's recent announcement? It's compelling because BlackRock's new climate-aware policy reflects the influence of the biggest asset owners and will influence its competitors in the asset management industry. KEPCO's board should understand that it is not only BlackRock that will be asking tougher questions of companies like KEPCO with its major carbon emissions footprint. It's hugely influential for managers of other large passive and active funds such as Vanguard, JP Morgan, Fidelity, and Eastspring Investments (part of Prudential plc) that are typically large KEPCO shareholders. Now that BlackRock has announced new ESG priorities,[13] companies are seeing a growing list of global financial institutions expanding their focus as well, with some likely to move well beyond BlackRock.[14]

As highlighted by comments from Dutch pension fund APG, KEPCO faces the risk of a sea change in how foreign investors evaluate KEPCO's climate strategy. In the past, KEPCO needed only to avoid being a laggard on climate policy. Asian peer companies, with a few notable exceptions, must do more to reduce their high carbon generating assets. Smart ones such as KEPCO have found a way to tick a core set of disclosure boxes, but even with positive ratings from the CDP, KEPCO would struggle to be regarded as having meaningful strategic awareness of either the large

[13] BlackRock, A Fundamental Reshaping of Finance, January 2020.
[14] IEEFA Asia: Asian financial institutions also beginning to exit coal financing, 29 April 2020.

number of troubled legacy assets it holds, or the many issues associated with energy transition.

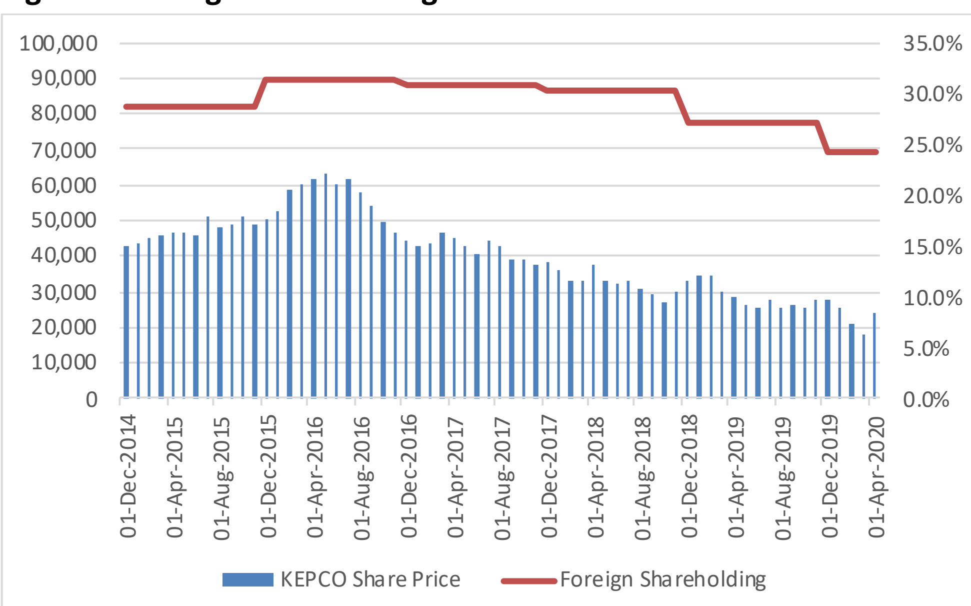
Table 6: KEPCO Shareholding by Group

	Shareholding	% of Total Shares Outstanding
Government--KDB and MOFIE	328,077,058	51.1%
National Pension Service	46,063,396	7.2%
Other South Korean Investors	14,885,640	2.3%
South Korea Investors--Total	389,026,094	60.6%
Foreign Investors	252,937,983	39.4%
Shares Outstanding	641,964,077	

Source: Reuters.

This poses a challenge for KEPCO due to its shareholding structure. Despite Korean government control, the company's share price is always sensitive to foreign investment sentiment because foreign investment institutions hold a large portion of the company's free float. Korea Development Bank and the Ministry of Finance together hold 51.1% and the National Pension Service holds another 7.2% of the outstanding shares as of the end of 2019. Based on Reuters data, foreign investors hold 39.4% of the remaining shares or 94.4% of the free float not controlled by the government, although KEPCO's data suggests that some of the shares in foreign hands may be held by Korean asset managers, possibly in offshore vehicles.

Figure 2: Foreign Shareholding vs. KEPCO Share Price Performance



Source: KEPCO and Reuters.

The chart above, based on KEPCO's foreign shareholding data, indicates that foreign shareholding levels set the tone for KEPCO's share price performance. The influence of domestic shareholders, who may be more influenced by the more enthusiastic coverage from domestic securities firms, does not appear to drive sustained share price moves. As a result, KEPCO's recent efforts to guide analysts at local securities firms to a more positive outlook on the stock is unlikely to be useful indicator of how the most influential foreign investors will react to KEPCO's fundamentals, ESG risks, or board performance.

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