

## **Revisiting the international coal phase-out movement: Beyond the pro- or anti- coal dichotomy<sup>1</sup>**

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### **Summary**

Based on the recognition of the mounting international pressure for the “shift away from coal,” especially in Europe, there are growing voices in Japan calling for the country to review the role of coal-fired power generation plants and related policies on investment, lending, and public assistance. However, there are also views that the specific meaning and impacts of “international pressure on coal” have not been scrutinized fully.

Against this backdrop, this paper conducted a review of the: 1) conceptual background and the development of international discussions on the shift away from coal; 2) major countries’ basic stance on coal; and 3) details of statements on coal-related divestments by government-affiliated and private-sector financial institutions, as a way to explore the significance of “international pressure against coal”.

Underpinned by growing momentum for the measures against climate change and the development of discussions focusing on the risks of coal-related businesses in the transition to a low-carbon society, there emerging countries, not limited to Europe, that are championing the shift away from coal. However, the appeal and influence of this movement is limited, in the light that their coal demand are typically negligible while major coal consuming countries do not necessarily follow the movement. Given the growing energy demand in Asian countries, the United States and Australia have indicated their support for the use of high-grade coal and deployment of technologies for improving efficiency of coal-fired power generation plants, while mitigating environmental burden associated with coal use.

In the financial sector, there have been a number of statements made reviewing their coal-related investment and lending policies. However, the details of these statements vary, and it is premature to grasp these statements as an “withdrawal from coal businesses” unconditionally. It should be noted that those policy statements often envisage realistic approach by indicating enabling conditions for the development of high-grade coal and efficiency improvements in existing coal-fired power generation

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<sup>1</sup> This paper contains the subsequent trends and author’s opinions based on the Japan Oil, Gas and Metals National Corporation (JOGMEC) contract research report called “Trends of Environmental Issues including Global Warming and Impact Assessment on the Coal Business” (FY2017 Overseas Coal Development Assistance Program Overseas Coal Development Advancement Research) from March 2018.

plants in developing countries, while calling for acceleration in investment in renewable energy at the same time.

In considering the direction of coal in domestic as well as international policy arena, it is important for Japan to respond based on the actual meaning and impacts of “international pressure” for the shift away from coal, keeping in mind the importance of countries where coal production and consumption have significant weights will further increase.

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## **Revisiting the international coal phase-out movement: Beyond the pro- or anti- coal dichotomy<sup>2</sup>**

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### **Introduction**

As seen with discussions on its Basic Energy Plan, coal-fired power generation is expected to play a role within Japan's energy mix. At the same time, Japan has also shown the strategy that positions support for the higher efficiency of coal-fired power generation plants overseas as part of the measures against global climate change. In contrast, given the recognition of the growing international pressure on the "shift away from coal" mainly in Europe calling for the rapid phasing-out of coal production and use, there are growing voices in Japan calling for the country to review its policies on construction plans for coal-fired power generation plants and on coal-related investment, lending, and public assistance. In this situation, the future perspective of coal is plagued with uncertainty both inside and outside Japan, but the specific meaning and impacts of "international pressure against coal" have yet to be scrutinized fully.

Taking into account this background, this paper attempts to shed a light on the "international pressure" on coal (in particular thermal coal used as fuel for power generation). First, this paper looks back on the conceptual background and international discussions, which have put focus on risks associated with coal-related finance. Next, major countries' basic stance on coal are examined. Finally, the paper looks into the details of statements on coal-related policies review or divestments by government-affiliated and private-sector financial institutions, then specifies the characteristics of these statements.

## **1. Background of International Discussions on Coal-related Finance**

### **1.1 Conceptual Background**

Initiatives in considering social responsibilities and environmental impacts as risks and reflecting them in finance have been observed for some time. For example, the United Nations Environment Programme (UNEP) launched the Finance Initiative (UNEP FI) in 1992, and since then, UNEP has worked with financial institutions and government officials, aiming to promote investments with considerations for environmental, social and governance (ESG) aspects and build a financial system adapted to these investments<sup>3</sup>. In 2003, the International Finance Corporation (IFC), a member of the World Bank Group

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<sup>3</sup> UNEP FI website

responsible for investments in the private sector of developing countries, established a set of environmental and social principles for lending to large-scale projects, such as natural resources and infrastructure, jointly with major private-sector financial institutions (currently known as the Equator Principles; in 2013, the third version was released<sup>4</sup>). These efforts have the motivations to raise the ethical value of economic activities including the financial sector, to address risks related to ESG and enhance the safety of finance, and also to use it as new business opportunities.

In recent years, the movement to encourage finance considerate of climate change has become more active (climate finance), which has led to movements to review finance related to coal and fossil fuels and in some cases to divest. The conceptual backbone is laid in the carbon budget approach that assumes a ceiling on carbon emissions based on the “2 degrees Celsius target”<sup>5</sup> agreed upon at the United Nations Framework Convention on Climate Change (UNFCCC). For example, according to documents of the Intergovernmental Panel on Climate Change (IPCC), the total future carbon budget is 2,900 GtCO<sub>2</sub> (cumulative), while cumulative emissions from 1870 to 2011 totaled 1,900 GtCO<sub>2</sub>. Therefore, the IPCC estimates that the remaining carbon budget is 1,000 GtCO<sub>2</sub><sup>6</sup>. Along with the strengthening of climate change measures with such carbon constraints in mind, demand for fossil fuels will decline and, at the same time, technologies for renewable energies and electricity storage will advance, resulting in most fossil fuel resources becoming "unburnable". New investments for fossil fuels will no longer be necessary, the asset value calculated based on the proven reserves of fossil fuels of mining companies is overestimated (“carbon bubble”), combined with the collapse of oil prices, investments and lending in fossil fuel related companies pose growing risks of lower returns on equity investments and also defaults<sup>7</sup>. Likewise, various estimates have been released on the scale of “stranded assets” in which existing and new investments in coal and fossil fuel related assets will not be recovered.

Although these discussions and estimates are meaningful to invite quantitative considerations in carbon constraints, the concept of carbon budget that forms the basis of discussions is in a stage where various estimates have been presented by various institutions (Figure 1), and it does not represent an emissions cap agreed upon internationally. In addition, the Paris Agreement (adopted in December 2015), which will become the international framework for future measures against climate change, is grounded in the basic spirit of carrying out measures based on targets submitted by each country based on their individual situations (not only reduction as an absolute value, but also includes a mix of improvement in emissions intensity and qualitative action plans, etc.). While it requires each country to take actions to achieve the

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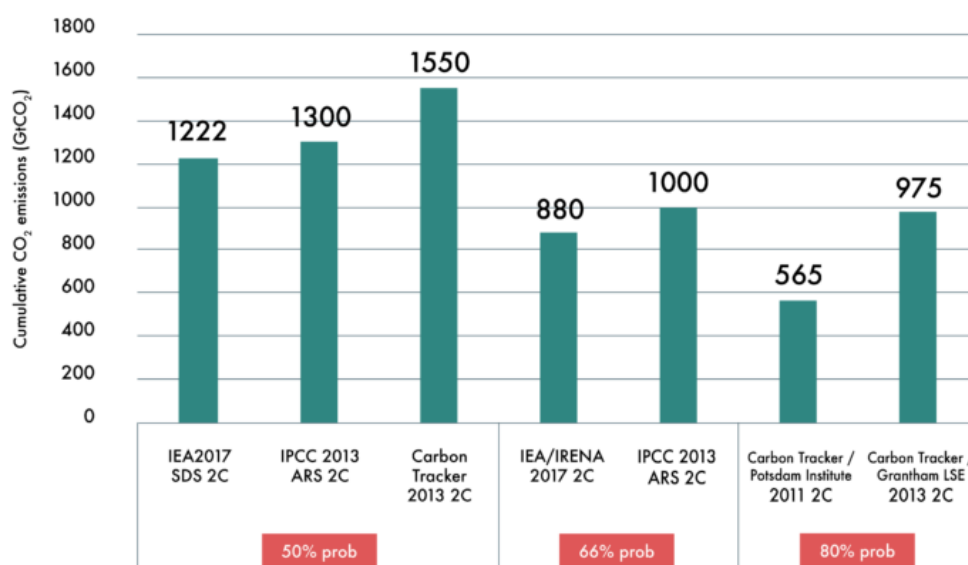
<sup>4</sup> Equator Principles III, released in June 2013, require the implementation of assessments for projects considered to pose major risks to society and the environment, establishment and operation of environmental and social management systems by recipients of loans, and engagement with stakeholders, etc.

<sup>5</sup> An agreement was reached at COP19 (2010; Cancun) to keep temperature increases at less than 2 degrees Celsius compared to before the Industrial Revolution.

<sup>6</sup> IPCC Fifth Assessment Report, 2014

<sup>7</sup> Divestment and Stranded Assets in the Low-carbon Transition, Background paper for the 32nd Round Table on Sustainable Development, 28 October 2015, OECD, Richard Baron and David Fischer

2 degrees Celsius target, there are no prospects for forming quantitative consensus on country-specific targets for emissions reductions. Meanwhile, Article 6 of the Paris Agreement stipulates a framework where emissions reductions realized outside of a country to be quantified as an emissions reduction for the investing country<sup>8</sup>. As the technologies and financial assistance for improvement of efficiency of power plants and environmental measures in developing countries are considered one part of measures against climate change, Japan has been indicating its intentions to support the efficiency improvement of overseas coal-fired power generation plants as part of its measures against climate change.



The SDS carbon budget is a Carbon Tracker estimate based on Figure 3.12 on the 2017 WEO

Note: Values in red boxes indicate probability of achieving the 2 degrees Celsius target

Source: Excerpt from the Carbon Tracker Initiative website

**Figure 1: Examples of Carbon Budget Estimates based on the 2 degrees Celsius Target**

## 1.2 Development in International Discussions

As for government level movements for the shift away from coal, former U.S. President Barack Obama (January 2009 to January 2017) has stepped up in strengthening measures against climate change in the United States which had been showing passive attitude towards measures against climate change. With this shift of the policy, the momentum against coal has gained its force especially in Europe.

In June 2013, the United States released the Climate Action Plan, which presents measures aimed at reducing greenhouse gas emissions domestically. It also laid out the principles in terminating the public finance for the construction of coal-fired power generation plants overseas executed through the Ex-Im Bank and other sources, calling on other countries to follow suit. Furthermore, in September 2016, the United States stated its intention to participate in the Paris Agreement.

<sup>8</sup> Based on this, the Government of Japan is working on the promotion of the Joint Crediting Mechanism (JCM). Rules are now being created at the United Nations for the international application of this framework.

Given this trend, the Organization for Economic Co-operation and Development (OECD) began reviewing rules on arrangement of public export credit (November 2013)<sup>9</sup>, and at the same time, a similar trend spread among the World Bank Group and international public lending institutions such as government-affiliated financial institutions in the EU.

The UK., a global leader in the financial industry, which actively promotes measures against climate change, spearheaded this movement through initiatives both inside and outside the country. At the G20 Finance Ministers and Central Bank Governors meeting, the Climate Finance Study Group (CFSG)<sup>10</sup> on climate finance was established. In April 2015, CFSG requested that the Financial Stability Board (FSB)<sup>11</sup> examine approaches to identifying and considering climate change related risks in finance among finance officials from the public and private sectors<sup>12</sup>. The Chair of FSB is served by Mark Carney, Governor of Bank of England. The Prudential Regulatory Authority (PRA), one of the regulatory bodies of the Bank of England, released a report in September 2015 called “The impact of climate change on the UK insurance sector.”<sup>13</sup> This report cited climate change related risks to finance as: 1) Physical risks: risks which arise from weather-related events, such as floods and storms; 2) Liability risks: risks that could arise for insurance firms from parties who have suffered loss and damage from climate change, and then seek to recover losses from others who they believe may have been responsible; and 3) Transition risks: the risks that bring financial influences on investment portfolio, which could arise for insurance firms from policies and regulations towards the transition to a lower-carbon economy. The report indicated that in the future these impacts will increase in significance.

In the speech delivered by Governor Carney upon announcement of the above report, it is seen that transition risks received attention the most. Carney mentioned the estimate that fossil fuels that can be used in the future based on the carbon budget, would be only one-fifth to one-third of the world’s proven reserves, indicating his view that fossil fuel related companies will suffer massive losses and investors will be exposed to the risk of stranded assets. Given that the natural resource and mining industries currently account for 19% of the FTSE100, the insurance industry's exposure to the risk of transition to

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<sup>9</sup> An agreement on new rules concerning coal-fired thermal power reached in November 2015. The agreement bans assistance for sub-critical (Sub-C) and super critical (SC) large-scale facilities (500MW and larger), while for Sub-C and SC facilities, the number of developing countries<sup>9</sup> that satisfy conditions and are eligible for assistance have been narrowed down, and assistance is only permitted for Sub-C small-scale facilities (under 300MW) and SC small- to medium-sized facilities (up to 500MW). As for high efficiency ultra super critical (USC) coal-fired thermal power plants, financing is permitted as before, but plans call for another review of rules in 2019.

<sup>10</sup> Established in 2012. Initially activities focused on promoting the flow of funds for measures against climate change, but later climate change related risks as seen from a financial standpoint became the main theme. CFSG Annual Report 2012.

<sup>11</sup> Set up in 2009 with the Financial Stability Forum established in 1999 as its predecessor. Representatives from the central banks, financial supervisory regulators, and ministry of finance of 25 countries and regions, along with principal standards bodies, the International Monetary Fund (IMF), World Bank, Bank of International Settlements (BIS), and OECD participate (as of the end of 2016). Bank of Japan website.

<sup>12</sup> To G20 Finance Ministers and Central Bank Governors, FSB, 5 October 2015.

<sup>13</sup> The impact of climate change on the UK insurance sector: A Climate Change Adaptation Report by the Prudential Regulation Authority, September 2015

a low-carbon society is high<sup>14</sup>.

Backed by these discussions, FSB took up the issue of the aforementioned risks to the stability of the financial sector for the G20 meeting held in October 2015, and it proposed to create the standards on carbon disclosure with a view to facilitate investors and financial companies to understand the risks to asset values caused by climate change and the transition to a low-carbon society. The Task Force on Climate-related Financial Disclosures (TCFD) established as a result commenced work and released guidance in June 2017 to urge disclosures of information regarding carbon risks that a company has. TCFD is a voluntary initiative led by the private sector, and since there is no compulsory nature to the contents and items for disclosure, at the current point in time it remains to be seen as to how the private sector will respond and how investors will utilize such information in practice.

## **2. Stance of Major Countries**

Below is a summary of the response and basic stance of major countries with regards to coal from 1) the domestic policy orientation in the use of coal and 2) external policies such as development assistance and infrastructure exports. As for 2), Figure 2 summarizes the existence of investment and lending restrictions introduced individually by each country in addition to the OECD export credit guidelines (see 1.2 above).

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<sup>14</sup> FT, September 30, 2015

**Figure 2: Policies of Major Countries on Coal Related Public Financing**

	Restrictions of government assistance institutions, development banks, etc.	Restrictions of public export credit agencies
<b>OECD countries (including U.S. under the former administration) with policies on restrictions in addition to OECD export credit guidelines</b>		
U.S. (Obama administration) • Scandinavian countries*	<ul style="list-style-type: none"> <li>No public financing for new construction of coal-fired thermal power plants, except for rare cases.</li> </ul> <p>Joint statement (September 2013)</p>	<ul style="list-style-type: none"> <li>Same as at left</li> </ul> <p>Same as at left</p>
France	<ul style="list-style-type: none"> <li>French Development Agency (AFD): Coal-fired thermal power plants in developing countries is no longer eligible for bilateral development loans from France.</li> </ul> <p>Legislated in July 2014</p>	<ul style="list-style-type: none"> <li>Compagnie Française d'Assurance pour le Commerce Extérieur (Coface): Coal-fired thermal power plants in developing countries that are without CCS/CO<sub>2</sub> storage facilities are no longer eligible for export credits.</li> </ul> <p>Statement by Environment Minister in 2015</p>
Netherlands	<ul style="list-style-type: none"> <li>Netherlands Development Finance Company (FMO): thermal coal mines, coal-fired thermal power plants, and related infrastructures are not eligible for new financing (however, no legal force).</li> </ul> <p>FMO financing guideline (undated)</p>	<ul style="list-style-type: none"> <li>Atradius DSB: No clear policies on eliminating coal.</li> </ul> <p>Oil Change International (2017)</p>
Germany	<ul style="list-style-type: none"> <li>Kreditanstalt für Wiederaufbau (KfW): New construction of coal-fired thermal power plants is not eligible for development assistance (qualitative standards are set for modernizing existing facilities).</li> </ul> <p>KfW financing guideline (March 2015)</p>	<ul style="list-style-type: none"> <li>KfW-IPEX: new constructions with a power generating efficiency of 44% (LHV basis) or higher, and modernization of existing facilities with improvements to address climate change.</li> </ul> <p>Same as at left</p>
UK	<ul style="list-style-type: none"> <li>Foreign and Commonwealth Office (FCO): Coal-fired thermal power plants are excluded, except for rare cases in the poorest countries.</li> </ul> <p>Statement from Department of Energy and Climate Change (2013)</p>	<ul style="list-style-type: none"> <li>UK Export Finance (UKEF): Export credit is provided based on international standards including that of the World Bank.</li> </ul> <p>British government statement (2013)</p>
Canada	<ul style="list-style-type: none"> <li>Canada Development Investment Corporation (CDEV): no announcement of revisions to guidance.</li> </ul> <p>As of February 19, 2018</p>	<ul style="list-style-type: none"> <li>Export Development Canada (EDC): Designated countries of the Equator Principles (33 OECD countries except Mexico and Turkey) are not eligible except when coal-fired thermal power plants with CCS.</li> </ul> <p>EDC Website</p>
<b>OECD countries** without policies on restrictions in addition to OECD export credit guidelines</b>		
Australia, Japan, Switzerland, South Korea, New Zealand		
U.S. (under Trump administration)	<ul style="list-style-type: none"> <li>Cooperating in all energy fields in order to build a rigorous energy system that promotes world economic and social development.</li> </ul> <p>USAID website</p>	<ul style="list-style-type: none"> <li>Supports access to and use of clean and efficient fossil fuels from foreign countries.</li> </ul> <p>US Treasury Guidance (November 2017)</p>
<b>OECD countries that are not part of OECD export credit guidelines</b>		
Iceland, Chile, Israel		
<b>G20 countries** without any policies on restrictions (excluding the above OECD countries)</b>		
Russia, India, Indonesia, South Africa, Argentina, Mexico, Turkey, Saudi Arabia		
<b>Non-OECD countries with their own policies</b>		
China	<ul style="list-style-type: none"> <li>U.S.-China Joint Statement concerning climate change: insists on strengthening regulations on financing of projects with high carbon emissions, but no mentions of specific limits on carbon.</li> </ul> <p>IFC document (undated), U.S.-China Joint Statement (2015, 2016)</p>	<ul style="list-style-type: none"> <li>N/A</li> </ul> <p>N/A</p>
Brazil	<ul style="list-style-type: none"> <li>Banco Nacional de Desenvolvimento Economico e Social (BNDES): no longer finances coal-fired or oil-fired thermal power plants that emit large amounts of environmental pollutants.</li> </ul> <p>BNDES Press release (October 2016)</p>	<ul style="list-style-type: none"> <li>N/A</li> </ul> <p>N/A</p>



\*Denmark, Sweden, Finland, Norway, Iceland

\*\*Countries without a confirmed policy on restrictions as of March 31, 2018

Note: ● Restrictions on coal mining and/or coal-fired power generation, ○no clear restrictions identified, ▲possibility in finance for raising efficiency of thermal power if in developing countries, Δpossibility in finance for high efficiency thermal power

Source: Made by the author based on the government websites and press releases of each country and institutions.

## 2.1 Trends of Countries Promoting Coal Phase-Out (UK, Europe and Canada) and Germany

The UK has been committed to the shift away from coal, and the government announced a policy to phase-out its coal-fired power generation plants in 2005. France and the Netherlands have also announced policies to abolish coal-fired power generation plants in their countries at an early stage<sup>15</sup>. In October 2017, the Dutch government confirmed its intention to decommission all the five coal-fired power generation plants in the country (three of which were built in 2015 using the latest technology) by 2030, and it would purchase emissions credits under the EU's emissions trading system in order to support the price level<sup>16</sup>. In addition, the UK, France and Northern European countries have announced policies that would exclude coal mining and coal-fired power generation projects from the scope of their bilateral financing for development assistance and export credits to developing countries (Figure 2).

In Canada, under the conservative administration over a decade, policy emphasis had been put on resource development, but the new government<sup>17</sup> has indicated its policy orientation to reinforce climate change measures<sup>18</sup>, and in November 2016, it announced a policy to abolish coal-fired power generation plants by 2030. Currently, coal-fired power generation accounts for about 10% of Canada's generation mix, and major provinces are leading the coal phase-out: Alberta, which is a major thermal coal producing province and has many coal-fired power generation plants announced a policy to abolish coal-fired power generation by 2030, while Ontario has already succeeded in phasing out in 2014 based on its policy announcement in 2003 (at the time coal accounted for about 25% of the province's generation mix)<sup>19</sup>. As for external policies, Export Development Canada announced a policy to restrict export credit provision to coal-fired power generation plants not equipped with carbon capture and storage (CCS) facilities in developed economies.

Furthermore, at a side event of COP23 (November 2017), the above-mentioned countries launched

<sup>15</sup> For policy trends of European countries, see Yoko Ito, "Reshaping of Policy on Coal-fired Thermal Power in the EU," *Energy Economics*, The Institute of Energy Economics, Japan, Vol. 43, No. 1, pp.31-52 (March 2017) and Yoko Ito, "Policy Background and Situation of Coal Exit in the EU," *Energy Economics*, The Institute of Energy Economics, Japan, Vol. 43, No. 4, pp.78-89 (December 2017).

<sup>16</sup> Mark Rutte, leader of a center-right party, was appointed as Prime Minister after the general election held in March 2017. Taking into account past government policies, the announcement was made once again as part of the four-party coalition agreement in October 2017.

<sup>17</sup> Justin Trudeau, leader of the center-left Liberal Party, was appointed as Prime Minister after the general election held in October 2015.

<sup>18</sup> Pan-Canadian Framework on Clean Growth and Climate Change, Government of Canada, 2016.

<sup>19</sup> <http://www.cbc.ca/news/business/canadian-coal-by-the-numbers-1.3408568>

"Powering Past Coal Alliance", an international initiative to shift away from coal (spearheaded by the governments of the UK. and Canada). This initiative mainly involves a commitment to restrict investment and lending to coal-fired power generation plants without CCS facilities in an effort to accelerate the abolishment of coal-fired power generation.

This alliance is a voluntary initiative that attempts to align worldwide efforts in climate change measures outside of the framework of COP, under which negotiations tends to be difficult or prolonged. At the same time, there may be strategic motivations such as restraining the possible disparity in international competitiveness by preventing free-ride in climate change measures and reducing the gap in energy cost and/or discouraging the export business in fields where these countries do not have the strengths.

However, the total capacity of coal-fired power generation in alliance countries<sup>20</sup> currently stands at just 3.4% of the world's total<sup>21</sup>, and given that major coal consuming countries are not involved, their appeal and influence can be limited.

As for Germany, it has been difficult to reach consensus on coal-fired power generation phase-out. The outcome of coalition negotiations in response to the results of the federal election of September 2017 (the political alliance of the Christian Democratic Union led by Prime Minister Merkel and Christian Social Union [CDU/CSU] maintained the most seats), resulted in the formation of a coalition government between the CDU/CSU and the Social Democratic Party (SPD). As part of the coalition agreement, a committee aiming at the coal phase-out was established<sup>22</sup>. As for external policy, according to revision of the lending guidelines of the KfW Group, a German government-owned development bank (March 2015)<sup>23</sup>, loans for the construction of new coal-fired power generation plants have been removed from the scope of loans for developing countries, while for export credit, generation efficiency of above 44% is required for new construction of coal-fired power generation plants (LHV basis). Meanwhile, as for existing facilities, qualitative conditions have been set for both development assistance and export credit<sup>24</sup>, thus leaving a room for assistance.

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<sup>20</sup> Participating countries are: U.K., France, the Netherlands, Italy, and Switzerland in Europe; Denmark, Finland, and Sweden in northern Europe; Canada, some Canadian provinces (Alberta, Ontario, British Columbia and Quebec), the City of Vancouver, and some States in the U.S. such as the California and Washington in North America; some developing countries in Africa and Island States.

<sup>21</sup> Miki Yanagi, "Overview of the Powering Past Coal Alliance and Policy Trends of Participating Countries," (February 2018), The Institute of Energy Economics Japan (values based on coal-fired thermal power generating capacity of the 20 main countries and three U.S. states participating in the 24-country alliance [as of December 2017] excluding island countries).

<sup>22</sup> CleanEnergyWire, February 8, 2018

<sup>23</sup> KfW Group guidelines on the financing of coal-fired power plants, 17 March 2015

<sup>24</sup> According to a document of the Federal Ministry for Economic Affairs and Energy (December 2014), German companies are leading the world in low emission power generation technologies, and Germany can contribute to the energy conversion in various foreign countries through these technologies. With regards to the provision of export credit, however, German companies find it difficult to raise competitiveness unless bundling with financing from KfW-IPEX when participating in international bids for the construction of coal-fired thermal power plants. Federal Ministry for Economic Affairs and Energy

## 2.2 Countries Indicating Supportive Attitude for Coal (United States and Australia)

In the United States, as mentioned earlier (1.2), the former President Obama announced a policy to reinforce regulations on coal both at home and abroad. However, the “America First Energy Plan” that was the election promise of President Trump, suggested a promotion of coal exports and clean coal technologies, and following the inauguration of the new administration, a policy shift has been instituted (Figure 3). In domestic measures, the Climate Action Plan including Clean Power Plan<sup>25</sup> was withdrawn. In the foreign policy, the policy to exclude coal-fired power generation from public financing was withdrawn, and in November 2017 the United States Department of Treasury released guidance accordingly<sup>26</sup>. Additionally, the infrastructure investment plan announced in February 2018 proposed the streamlining of environmental assessments concerning large-scale infrastructure construction.

As described above, a series of policy measures were introduced for “coal revival,” but within the United States, the price competitiveness of natural gas against coal will be dominant over the long term, backed by increased production of shale gas, the effect of leverage on coal production is seen as limited. As for infrastructure construction, too, even if the above proposal were to be realized, it is deemed unlikely that coal export capacity will expand, due to the strong local opposition against the coal related infrastructure construction. However, as the US showed its support for overseas assistance related to coal, global movement to restrict coal-related public investment and lending might be slowed down (3.3 below).

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(BMW) document, December 2014.

<sup>25</sup> Established a target to lower domestic CO<sub>2</sub> emissions from power plants 32% compared to 2005 by 2030 and stipulated CO<sub>2</sub> emissions intensity standards for coal-fired thermal power plants and gas-fired thermal power plants (promulgated in August 2015). Implementation was requested of each state government, but some states sued the national government over legal interpretations concerning the authority of the EPA.

<sup>26</sup> Treasury Guidance for U.S. Positions on Multilateral Development Banks Engaging on Energy Projects and Policies (Executive Order 13783 Final Report) states the policy on public sector financing of energy as follows: 1) Promote universal access to sustainable, clean energy that is highly economical and reliable; 2) Promote access and use of cleaner and more efficient fossil fuels in other countries, and promote the spread of renewable energy and other clean energy sources; 3) Support the development of world energy markets that are robust, efficient, competitive and integrated.

**Figure 3: Main Movements concerning Climate Change and Coal Related Policies in the United States**

Obama Administration (January 2009 – January 2017)		Trump Administration (January 2017 to present)	
June 2013	Climate Action Plan • Consideration on climate change related impacts on areas consuming coal exports upon environmental assessments for coal transport / export infrastructure for rail and seaport handling, etc.	March 2017 (Same as above)	Withdrawn <sup>27</sup> • Withdrawn
	• Stoppage of lending for the construction of coal-fired power generation plants overseas, etc.	(Same as above)	• Withdrawn → Released Department of Treasury guidance on support policies
(March 2015)	• Instruction for considering climate impacts during environmental assessments <sup>28</sup>	(Same as above)	• Withdrawn
(Promulgated August 2015)	• Stipulation of CO <sub>2</sub> emissions standards for new and existing power plants	(Same as above)	• Gave EPA instructions for review procedures (freeze, revise or abolish)
(Same as above)	• CO <sub>2</sub> emissions levels of existing power plants (CPP)	October 2017 <sup>29</sup>	• The EPA announced that it would propose a revised bill in 2018, with the idea of limiting thermal efficiency improvements of power plants
(Announced January 2016)	• Review of freeze on bids for coal development blocks and review of royalties		• Gave instructions to the Department of Interior to remove review
September 2016	Policy to participate in Paris Agreement	June 2017 <sup>30</sup>	Policy to withdraw from Paris Agreement
		September 2017 <sup>31</sup>	The Department of Energy proposed to FERC the establishment of regulations reflecting the value of base load energy (coal-fired and atomic energy) in wholesale electricity prices → rejected by FERC in January 2018
		February 2018	Budget message for fiscal 2019: no mention of technologies for the use of coal

Note: FERC is an acronym for Federal Energy Regulatory Commission

Source: Summarized based on JOGMEC FY2017

<sup>27</sup> The White House, Executive Order No.13783 - Promoting Energy Independence and Economic Growth, March 28, 2017

<sup>28</sup> Council on Environmental Quality Guidance

<sup>29</sup> The U.S. EPA, Repeal of Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, The Federal Register Vol. 82, No. 198, October 16, 2017.

<sup>30</sup> The White House Office of the Press Secretary, “Statement by President Trump on the Paris Climate Accord,” June 01, 2017.

<sup>31</sup> U.S. Department of Energy, Notice of Proposed Rulemaking- Grid Resiliency Pricing Rule, September 28, 2017.

In Australia, the federal government's policy is to support the production and exports of coal. In its domestic energy policy, new electricity policy was announced in July 2017 including the introduction of a National Energy Guarantee (NEG). With a view to secure stable supply of electricity, NEG is designed to urge each state to secure back-up power sources by requiring electricity companies to provide a certain portion of electricity supply from power sources capable of delivering stable supplies, thus providing a role for coal fired power generation<sup>32</sup>.

Externally, the Department of Foreign Affairs and Trade, responsible for official development assistance (ODA), released its Foreign Policy White Paper in November 2017<sup>33</sup>, which describes the importance of coal for the global economy and, particularly, the role of high-grade coal from Australia that fulfills large-scale energy demand in Asia, suggesting the country's support for high-efficient coal-fired power generation plants through development assistance<sup>34</sup>.

However, in local states that are major producers of coal, there have been cases where environmental approval applications have been rejected by the state government. With the combined pressure of regional environmental issues and global climate change issues, there are aspects in which the investment environment related to coal mine development has grown more challenging. There are some regions where investments in expansion of existing mines have been welcomed from the viewpoint of job creation and other economical reasons, but development in the undeveloped area (greenfield), in particular, will face greater difficulty in the approval process. In consequence, it is pointed out that there is a possibility of tightening supply and increasing production cost<sup>35</sup>.

## 2.3 Other Countries

China released joint statements with the United States (under the Obama administration) on measures against climate change in September 2015 and March 2016. The United States (Obama administration) indicated a policy to restrict lending to coal-fired power generation as stated above (1.2), while China has not presented any specific lending restrictions, despite having mentioned in the statement that it would tighten regulations to rigorously control public financing of projects with high carbon emissions<sup>36</sup>.

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<sup>32</sup> ABC News, October 17, 2017

<sup>33</sup> Foreign Policy White Paper 2017, DFAT. This was the foreign policy white paper compiled with the cooperation of other departments and ministries with approval from all cabinet members released for the first time in 14 years. Therefore, it is considered to be a document that states the stance of the Federal Government with regards to external policy on coal. (Interviews in Australia conducted between January 15 and 19, 2018 at the Federal Government).

<sup>34</sup> The Export Finance and Insurance Corporation (EFIC) under DFAT is equivalent to JBIC in Japan, and it is assumed EFIC is run following DFAT policies. In addition, the Australian Trade and Investment Commission (Austrade) under DFAT is equivalent to JETRO in Japan, and is mainly responsible for attracting companies to Australia, but it also carries out promotions of expanding exports to Asia by Australian coal-related small- and medium-sized enterprises. (Interviews in Australia conducted between January 15 and 19, 2018 at the Federal Government).

<sup>35</sup> Results of interviews conducted in Australia (January 15 -19, 2018)

<sup>36</sup> U.S.-China Joint Presidential Statement on Climate Change, September 25, 2015

In addition, the People's Bank of China (PBOC) has indicated a stance of working on climate finance, including formulating guidelines on the issuance of green bonds, but the current situation shows that projects on clean coal are included in the scope of green bonds<sup>37</sup>. The Asian Infrastructure Investment Bank (AIIB), launched by the initiative of the Government of China, announced an investment and lending strategy for the energy sector in June 2017, but the policy does not indicate that coal mine development or coal-fired power generation is subject to restrictions (3. below).

In Brazil, National Bank for Economic and Social Development (BNDES) announced a new lending policy for the power generation sector in October 2016, which indicates it will no longer lend to coal and oil-fired power plants with high emissions of environmental pollutants, but the upper limits of SO<sub>x</sub> and NO<sub>x</sub> for coal-fired power generation are significantly looser when compared to Japan and European countries<sup>38</sup>.

### 3. Financial Institution Statements on Reviews of Investment and Lending Policies

#### 3.1 Types of Statements and Examples

Coupled with government level movements to date discussed above, government-affiliated and private-sector financial institutions have announced policies promoting low carbon society and the shift away from coal in their investment and lending portfolio. Actions assumed in these statements (hereinafter, divestment statements) are reviews of lending standards and/or divestment of equity and bonds of coal-related companies, as a form of risk management for their investments and lending. On these statements, some media, local as well as international, report as if the flow of withdrawal from investment and lending to coal is decisive, however, the actual details of statements are diverse, and there are many cases where the main message of these statements is not articulated in the context of coal-related divestment. Figure 4 presents types and examples sorted according to the rigorousness of investment and lending restrictions based on the details of divestment statements of each financial institution (government-affiliated development banks, private-sector banks, institutional investors, and insurance companies, etc.). Note that these categories and sorting are for illustrative purpose only, and if to examine more specifically the impacts of divestment statements, there are a variety of elements to be considered that are not the scope of this paper (3.2).

#### Figure 4: Types and Examples of Divestment Statements

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<sup>37</sup> Roadmap for China: Green Bond Guidelines for the Next Stage of Market Growth, 2016, Climate Bonds Initiative, IISD, Foreign & Commonwealth Office (UK)

<sup>38</sup> In a press release from October 2016, the headline read extinguish support for coal and coal-fired thermal power, but the lending standards for the power sector published on the bank's website contain emissions standards of environmental pollutants from thermal power. For coal-fired thermal power, these standards are 400mg/NM<sup>3</sup> and PM50mg/NM<sup>3</sup> for both SO<sub>x</sub> and NO<sub>x</sub>.

Category	Example	Country	Summary
<b>1. Thermal coal mines and/or coal-fired thermal power nearly entirely excluded from the scope of investment and lending</b>			
	▲ Rockefeller Brothers Fund (2017)	USA	Fossil-fuel related divestment implemented, while the percentage of coal and tar sands was reduced to <b>less than 1%</b> of the total portfolio by the end of 2014.
	● Steyler Ethik Bank*(2015)	Germany	Up until now coal-fired power generation has been excluded from investment targets, and this was expanded to coal mines.
<b>2. Effectively excluded from the scope of investment and lending although conditions apply</b>			
<b>a) Excluding rare and exceptional circumstances</b>	● EBRD (2013)	UK	"rare and exceptional circumstances"
<b>b) Practically CCS facilities are required</b>	■ EIB (2013)	Luxembourg	<b>550g/kWh CO<sub>2</sub> emission standard</b> adopted
<b>3. Standards in place and room still left for investment and lending</b>			
<b>a) New development (greenfield) • new construction not allowed</b>	● Deutsche Bank (2017)	Germany	<b>New coal mine development</b> of thermal coal and <b>new construction</b> of coal-fired thermal power plants are excluded from future lending. Existing exposure to these projects will be gradually reduced.
	▲ HSBC (2016)	UK	New coal mine development of thermal coal are excluded from future lending and investment targets.
	▲ National Australia Bank (2017)	Australia	New coal mine development of thermal coal are excluded from future lending and investment targets.
<b>b) Companies over a certain percentage of income from coal are excluded</b>	■ Swiss Re (2017)	Switzerland	Stopping investment and lending to companies with <b>30% or more of their income ratio</b> comprising coal mines/thermal coal production or <b>30% of more of power generated</b> from coal-fired thermal power plants.
	● Allianz Group (2015)	Germany	Companies with <b>30% of more in sales or energy production</b> from coal are excluded from investment and lending. Companies at a <b>percentage of 50% or lower that have strategies to reduce this figure to 30% or below</b> will be reviewed on an individual basis.
	● Kommunal Landspensjonskasse (KLP) (2014, 2015, 2017)	Norway	Excludes companies with <b>30% or more of their income ratio comprising coal mines and oil sands</b> from investment targets.
	● CalPERS/CalSTRS (2015)	USA	Prohibits investment and lending to <b>companies with 50% or more of their income ratio comprising coal mines and coal-fired thermal power plants.</b>

Category	Example	Country	Summary
<b>3. Standards in place and room still left for investment and lending</b>			
<b>c) Improvement of efficiency in developing countries is subject to consideration</b>	● World Bank Group (2013, 2017)	USA	With the exception of <b>rare cases</b> , <b>new construction</b> of coal-fired thermal power plants is excluded, while <b>existing facilities with improvements in efficiency will be reviewed*</b>
	■ AIB (2017)	China	Loans for coal are subject to review in cases of replacement of lower efficiency facilities, and power system reliability
	■ HSBC (2011)	UK	For new construction of coal-fired thermal power plants of <b>500MW</b> or above, those with over <b>550 gCO<sub>2</sub>/kWh</b> in developed countries, or <b>850 gCO<sub>2</sub>/kWh</b> in developing countries are excluded from investment and lending.
<b>d) Established standards on the heat capacity and generating efficiency of coal</b>	▲ Westpac (2017)	Australia	Lending restricted to high grade coal with heat capacity of 5,700 kcal/kg or above. Thermal coal company is defined as a business with an income ratio of 30% or higher from thermal coal.
	■ ANZ (2015)	Australia	The emission standard is set at <b>0.8kg CO<sub>2</sub>/MWh</b> for new construction of coal-fired thermal power plants utilizing advanced technology and high grade coal. (USC and gasification power generation are eligible for loans)
<b>4. Mainly qualitative statements and others</b>			
<b>a) Strengthening of due diligence</b>	▲ Bank of America (2015)	USA	Reduced credit exposure toward coal mine companies and the coal divisions of mining companies. Stepping up due diligences towards coal mine companies to which currently providing investment and lending.
<b>b) Strengthening of ESG and renewable energy investments</b>	● Wells Fargo (-)	USA	Lending standards, climate change policy related documents, press releases, etc., each focusing mainly on the expansion of investment in renewable energy.
<b>c) Excluding companies involved mainly in coal business from specific funds</b>	● Nordea Bank AB*** (2015)	Sweden	Companies with a <b>profit of 75% from coal products</b> are excluded from the bank's ESG funds.

\* Although not a philanthropic organization, it clearly prioritizes purposes other than commercial interests.

\*\* The World Bank applies the same policy to thermal coal mines as coal-fired power generation plants.

\*\*\* Largest asset management company in Northern Europe.

Note: Rigorousness and categorization are for illustrative purpose only ● coal mines and coal-fired power generation plants, ▲ coal mines, ■ coal-fired power generation plants, ★ coal mines, coal-fired power generation plants, related infrastructure: country names indicate location of headquarters; ESG stands for Environment, Social and Governance; parentheses indicate year of announcement, (-) not specified in original text

Source: Made by the author based on website and press releases from each institution.

Below, examples and features according to each category are described (examples of which include organizations not listed in Figure 4):

- (1) Thermal coal mines and/or coal-fired power generation almost entirely excluded from the scope of investment and lending

In this category, specific charity-oriented organizations and funds (e.g. Rockefeller Brothers



Fund [United States]) and certain banks that place emphasis on religious creed (e.g. Alternative Bank Schweiz [Switzerland], Steyler Ethik Bank [Germany]). In these ethical investments, fossil fuel related projects have conventionally been excluded from the scope of their investment and lending.

(2) Conditional, but excluded from the scope of investment and lending in principle

European multilateral development banks have announced policies that exclude coal-fired power generation from their lending target, with a few minor exceptional cases. The European Investment Bank (EIB)<sup>39</sup> has set the CO<sub>2</sub> emissions standard at less than 550g/kWh, and effectively it excludes coal-fired power generation plants without CCS facilities from their scope.

(3) Standards in place and conditions applied to coal related finance

There are cases that major commercial banks and insurance companies adopting restrictions on financing coal mine development and construction of coal-fired power plants in the growing trend of tightening of climate change measures. In many cases certain criteria and conditions are established<sup>40</sup>, and some institutions are tightening their standard and conditions year by year. The Norway Pension Fund (KLP) initially placed the ratio of coal related revenue for companies it invests in at 50% (2014), but in an announcement in December 2017 it narrowed this threshold to 30% in the total for coal and oil sands.

In addition to these, there are cases where coal related finance is possible as long as standards are met. In some cases, new coal mine development and/or new coal-fired power generation plant construction is excluded from the scope (e.g. Deutsche Bank (Germany), HSBC (UK), NAB (Australia)). In particular, there are cases coal related finance can be considered in developing countries provided that generation efficiency and emissions intensity are improved. For example, the World Bank excludes new construction of coal-fired power generation plants except for certain rare cases (the same concept applies to thermal coal mines), but as for existing facilities it sets conditions regarding improvements in generation efficiency<sup>41</sup>. Similarly, AIIB announced a policy in June 2017 in which it states "Carbon efficient oil- and coal-fired power plants would be considered if they replace existing less efficient capacity or are essential to the reliability and integrity of the system, or if no viable or affordable alternative exists in specific

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<sup>39</sup> EIB cooperates with various institutions in the EU to carry out activities mainly in countries preparing to join the EU and in Eastern Europe and Southern Europe. It has also conducted operations in Africa, Caribbean/Pacific Ocean countries, Asia, and Latin America, where it supports development by the local private sector and projects for socioeconomic infrastructure and measures against climate change. EIB website.

<sup>40</sup> In 3, this paper categorized financial institutions indicating some form of conditions as investment and lending standards, excluding EBRD and EIB, but there are major differences between the nuance and direction of restrictive policies, and 3. includes cases considered to be closer to 2.

<sup>41</sup> Towards A Sustainable Energy Future for All: Directions for the World Bank Group's Energy Sector (July 2013) and press release (December 2017)

cases. The Bank will pay attention to the particular needs of its less developed members." <sup>42</sup>  
(2.3 above)

There are also cases where specific criteria such as the calorific value of coal, the efficiency of coal-fired power generation, CO<sub>2</sub> emission intensity, etc. are set, and those that meet the criteria are considered as investment and loan subjects.

In Australia, a major coal producing country, major domestic banks' stance towards investment and lending to coal related projects is receiving attention. So far, Westpac and Australia and New Zealand Banking Group (ANZ) have indicated a policy of supporting development of high grade coal and new construction of high efficiency coal-fired power generation plants that utilize high-grade coal. According to Westpac's Climate Change Action Plan 2020 released in April 2017<sup>43</sup>, lending for thermal coal projects is restricted to high-grade coal with a heat capacity of 5,700 kcal/kg or higher, while lending to new<sup>44</sup> thermal coal mines or projects (including existing borrowers) must use high grade coal with a heat capacity of 6,300 kcal/kg or higher<sup>45</sup>. The thermal coal imported by Japan has a standard heat capacity of around 6,300 kcal/kg. The ANZ Climate Change Statement<sup>46</sup> released by ANZ in October 2015 requires lending to new coal-fired power generation plants to have a CO<sub>2</sub> emissions level of 0.8 t CO<sub>2</sub>/MWh, with room left for USC or gasification power generation.

#### (4) Mainly qualitative statements and others

Among the cases where it was reported as withdrawal from the coal business, there are some instances actual statements do not define lending policy to coal-related businesses. For example, Bank of America's Coal Policy released in May 2015 stated that changes in the coal business environment are not only due to environmental policy factors, but also declining economic rationale in the face of falling gas prices. Although it states that credit exposure will be reduced for coal mine companies and the coal divisions of mining companies, no specific set of standards or policy with regards to coal-fired power generation plants are laid out, and it simply states that the bank will step up due diligence on coal mine companies to which it currently invests in or lends to<sup>47</sup>.

In addition, there are also cases where the statement does not provide specifics about coal-

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<sup>42</sup> Energy Sector Strategy: Sustainable Energy for Asia (15 June 2017), AIIB

<sup>43</sup> Westpac, Climate Change Action Plan 2020 (April 28, 2017)

<sup>44</sup> However, limited to coal producing basins already developed

<sup>45</sup> Quantity of heat is gross as received

<sup>46</sup> <http://www.anz.com/about-us/corporate-sustainability/governance-risk/climate-change/> date from: <http://www.afr.com/news/policy/climate/no-lifelines-for-old-coal-clunkers-anz-shifts-carbon-emissions-policy-20151005-gk1e5b>

<sup>47</sup> A number of U.S. financial institutions including Bank of America have stated that they would reduce exposure to coal extraction businesses in the Appalachian Mountains using the Mountain Top Removal (MTR) method.

related investment and lending, but simply states that ESG and/or renewable energy related finance would be strengthened.

As examined above, the details of divestment statements of financial institutions are diverse, and they are short to support argument that financial institutions are shifting towards a full-fledged exit from coal-related finance. Rather, it is observed that there is an aspect that encourages businesses to take realistic actions by urging 1) to reallocate investment in fields other than coal for new energy development and introduction (Figure 4, 3.a), 2) to reduce the share of coal-related finance by increasing investment in renewable energy (Figure 4, 3.b), and 3) to shift to high grade coal and higher efficiency coal-fired power generation plants (Figure 4, 3.c and 3.d).

Although the cases above represents only a part of the movement, the variety of financial institutions' statements implies actual impacts and meaning of divestment needs to be examined in a detailed and a multifaceted manner including the observations made above.

### **3.2 Difficulties in Grasping the Impacts of Divestment**

When examining the actual impacts of coal-related divestment more specifically, it is necessary to conduct a detailed scrutiny from a wide range of aspects, including the following, in light of practical finance operations. On the other hand, however, even when those are taken into account, it is considered problematic to quantitatively measure and continually trace information with regards to the divestment or extent of restrictions. Thus, it must be noted that the impacts of divestment statements will be difficult to grasp completely<sup>48</sup>:

1. Degree of influence: Difference in scale of financial institution or fund that are divesting or limiting their finance. Distinction between institutions that do not conventionally invest or lend to the coal sector and institutions/cases that are actually withdrawing funds, and treatment of investment trusts (mutual funds and comingled investment funds, etc.).
2. Scope of restrictions: Distinction between project finance and corporate finance, as well as between direct finance and indirect finance, etc. There are many cases where criteria are unclear, including cases where a sector as a whole is excluded. In practice case-by-case credit screening is believed to be the norm.
3. Transient vs Long-term: Distinction between cases where investors divest as one-off action and cases where renewed criteria are applied on permanent basis. As for the latter, whether it is accompanied with long-term commitment is another point of concern (e.g. specific term limits and/or targets to lower the emissions intensity of investment and lending portfolio). So

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<sup>48</sup> The NGO called Fossil Free, which advocates divestment from fossil fuels, calculated that the cumulative number of the values of organizations that have made a divestment statement with regards to coal and tar sands is approximately six trillion US dollars. (<https://gofossilfree.org/divestment-commitments-classifications/>). The Asahi Shimbun estimates that assets under management of the cities and companies that have stated their divestment is 6 trillion US dollars (<https://www.asahi.com/articles/DA3S13360495.html>).

far, divestment movement concentrated in line with the downward trend in coal prices. Attention is also needed to the change in response to recovery of coal prices in future.

### **3.3 Future Developments**

In the future, it is expected that the review of the OECD rules on public export credit arrangements will be carried out again in 2019<sup>49</sup>. In the same year, the G20 Summit will be held in Japan (Osaka) and energy and environmental ministers meeting (Ministerial Meeting on Energy Transitions and Global Environment for Sustainable Growth) as one of the ministerial meetings is planned Japan serving as the G20 presidency. This raises the possibility that discussions on the shift away from coal show new progress at these international meetings set to take place next year. As discussed above, a careful evaluation of the impacts and significance of coal divestment carefully and respond accordingly.

When reviewing OECD rules, it is requested to grasp the impact of the current rules, including the status of investment and lending of countries that are not bound by these rules.

Likewise, although not covered in this paper, investigation is required on various other trends and indirect impacts in the financial sector related to divestment (such as the impacts on stock price and ratings, stricter interest rates and lending conditions corresponding to the ratings, phasing-out of insurance coverage on coal mine or coal-fired power generation projects by insurance companies, and initiatives by TCFD for disclosure (discussed above)). Additionally, the financial institutions that have released divestment statements to date have mainly been in Europe and North America, but, taking into account that demand for coal in the future will concentrate in Asian countries, it is assumed that the role of non-Western financial institutions, including those in China, will grow, which requires understanding of the actual situation.

## **4. Closing**

This paper conducted a review of the: 1) conceptual background and the development of international discussions on the shift away from coal; 2) major countries' basic stance on coal; and 3) details of statements on coal-related divestments by government-affiliated and private-sector financial institutions, as a way to explore the significance of "international pressure against coal".

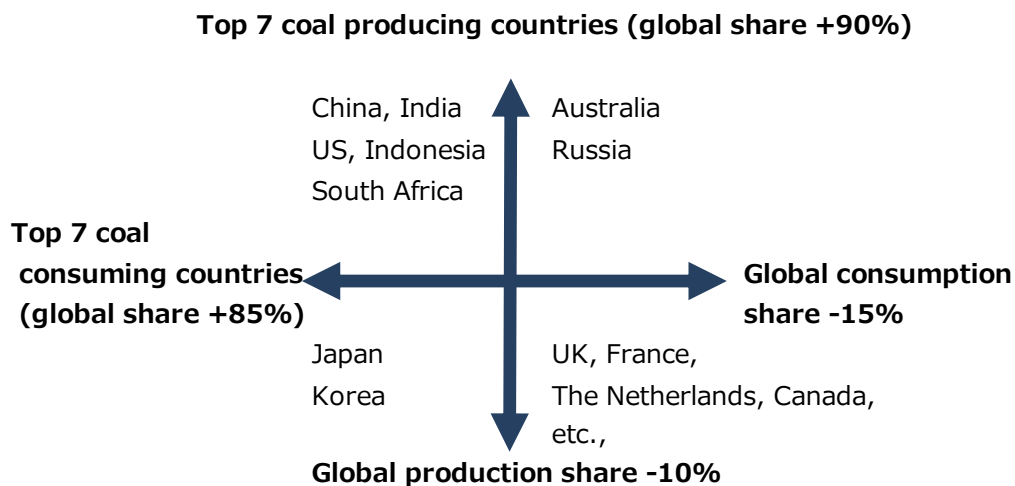
There emerging countries, not limited to Europe, that are championing the shift away from coal. However, the appeal and influence of this movement is limited, in the light that their coal demand are typically negligible while major coal consuming countries do not necessarily follow the movement. Given the growing energy demand in Asian countries, the United States and Australia have indicated their support for the use of high-grade coal and deployment of technologies for improving efficiency of coal-fired power generation plants, while mitigating environmental burden associated with coal use.

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<sup>49</sup> OECD press release (November 18, 2015)

In the financial sector, there have been a number of statements made reviewing their coal-related investment and lending policies. However, the details of these statements vary, and it is premature to grasp these statements as an “withdrawal from coal businesses” unconditionally. It should be noted that those policy statements often envisage realistic approach by indicating enabling conditions for the development of high-grade coal and efficiency improvements in existing coal-fired power generation plants in developing countries, while calling for acceleration in investment in renewable energy at the same time.

It is expected that there will be growing requests within the international community for Japan to once again clarify its stance on coal in terms of future energy policy, measures against climate change, and public lending and overseas assistance. In responding these, it is important for Japan to respond based on the actual meaning and impacts of “international pressure” for the shift away from coal, keeping in mind the importance of countries where coal production and consumption have significant weights will further increase. (see Figure 6).



Source: Prepared based on IEA Coal Information 2017.

**Figure 6: Grouping of Major Countries Based on the Amount of Thermal Coal Production and Consumption**

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