SUMITOMO METAL MINING

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IR-Day 2024 Briefing for Medium-Term Targets and Roadmap to Achieve Carbon Neutrality (Q&A)

[Questioner 1]

Q) Initiatives toward carbon neutrality will probably push up production costs in general. Although the price of non-ferrous metals is determined by the London Metal Exchange (LME), do you think it is possible to pass on the cost increase to price, for example, by adding a premium to the sales price?

A) If we renew facilities and purchase expensive fuel to reduce greenhouse gas (GHG) emissions, production costs will increase. It is natural for us to consider ramping up the sales price using the mass balance method or by adding a premium to make up for the costs of GHG emission reduction. We may also want to consider the option of asking end users to bear a certain burden of the cost increase.

With regard to the question, “Can we make profits when the prices are determined by LME?,” we would like to remind you that the situation is the same with other copper and nickel producers. However, the electricity emission factor that can be used in the calculation varies by the region they operate in and the amount of GHG emission differs by the production processes used, so we need to make efforts in those aspects. The focus of such efforts is technology development, after all.

Q) I suppose emissions from mines in which SMM participates as a minority shareholder are categorized as Scope 3. Are you planning to engage the majority partners in your efforts to reduce GHG emissions?

A) With regard to the question of how we are engaging other partners in mining projects categorized under Scope 3 Category 1: the answer is, for example, at a copper mine in Chile, an initiative has already been launched to replace all electricity used at the mine with renewable energy such as hydropower. We believe that, even if we are a minority partner, it is our due responsibility to engage our partners to drive reduction efforts. We think it is also an option to choose projects that adopt production processes and energy sources with less environmental impact, when acquiring an interest in mining projects in the future.

Q) At this point, I have not heard any news that a fundamental technology solution has been developed to contribute to GHG reduction. Is there any progress on that front? For example, production processes that will lead to the reduction in the use of neutralizing agents.

A) I think changing power sources is the biggest focus that has been worked on for now. Initiatives to use magnesium ore as a neutralizer that does not generate GHG have already begun.

[Questioner 2]

Q) The slide on “Switching procured electricity to renewable electricity” on page 18 did not include much explanation on the facilities in Niihama District of Japan and the two production sites in the Philippines. Is it difficult to introduce the use of renewable energy into these sites?

A) The electricity used in Niihama District is supplied by Sumitomo Joint Electric Power Co., Ltd. This power company started operating, in fiscal 2023, an LNG thermal power station, which is expected to help reduce overall GHG emissions. The two sites in the Philippines do not depend on external power supply, but supply their energy needs through in-house power generation. Part of the coal used in those power generation facilities is planned to be replaced with woody biomass to reduce GHG emissions.

Q) I do not quite understand how difficult it is to achieve the “Development of innovative smelting processes toward carbon neutrality” described on page 20. Can you tell us what bottlenecks are preventing the development?

A) First, please understand that the smelting technologies used today have continuously been improved and refined over 100 to 200 years to enable operation with the lowest possible cost. For example, the main technology for smelting oxide ores is reduction using coal. This is quite difficult to replace with other technologies, as that would require a breakthrough innovative enough to overwhelm the technological development of the past 100 years. Steel manufacturers are currently working on the development of hydrogen reduction methods. By reference to such technologies, we have started examining, focusing on whether such methods could be applied to smelting of non-ferrous metals. Changes in the production process will obviously necessitate changes to facilities. Some smelting facilities have a useful life of nearly a century. It should be noted that replacing those facilities with new ones would take just as much time. Though it may take time, we will steadily promote such technology development toward the goal of achieving carbon neutrality by 2050.

[Questioner 3]

Q) To which customers do you plan to supply green metal described in the “SMM green metal concept using mass balance method” on page 23? Tell us, to the extent possible,

about the selling price and prospects on future developments.

A) We cannot disclose the specific names of our customers and the price as it will be determined going forward at this point. We believe more customers and prospects will become interested as we obtain certification as green metals.

Q) Nickel products, including battery materials for electric vehicles, emit a lot of GHG in their production. I think that many customers may be interested in the GHG emission levels of the materials they use, but will it really be an advantage in selling products if the GHG emissions are low in SMM's nickel production?

A) We use hydrometallurgical refining process for refining nickel in Japan. This process emits less GHG than the pyrometallurgical smelting process our competitors use in Indonesia, for example. On the other hand, we need to further enhance our competitive edge when compared to smelting processes using renewable energy as they do in Europe.

Q) Do you actually feel that the customers in the nickel market are growing more interested in GHG emissions?

A) Yes, we do.

[Questioner 4]

Q) I think you introduced internal carbon pricing (ICP) ahead of your competitors. You explained that the aim was to boost investment by raising the unit price. Have you disclosed the investment budget for that purpose? What scale of investment do you intend to make by the raise in carbon pricing this time?

A) We cannot disclose the amount of investment we made using ICP. But to give an example, we are planning an investment of around 1.9 billion yen for LNG conversion of Niihama District, including the heat supply system at the Toyo Smelter & Refinery and the boiler system at the Niihama Nickel Refinery.

Q) I would like to confirm the consistency between this carbon neutrality initiative and its goals and the business and growth strategies that you have been pursuing. For example, SMM has been considering investment to increase nickel production, and I suppose it still is. If that investment takes place, the increase in nickel production will surely lead to increase in the absolute amount of GHG emission. How do you plan to ensure consistency between your growth strategy and emission reduction strategy? If you have come up with any changes on this point, please explain. If possible, I would like to hear not only about nickel production but also about other business areas including copper mining and battery materials.

A) It is true that increase in production leads to increase in GHG emissions, but SMM has

the social responsibility to supply copper and nickel. Moreover, we believe that non-ferrous metal like copper and nickel will contribute to electrification and thus carbon neutrality. We are not thinking about reducing the supply of these materials.

Our target for nickel production set forth in the long-term vision is annual production of 150 thousand tons. Although GHG emissions will increase as we approach this target, we hope to offset this increase partially by expanding circular economy practices such as recycling of batteries, which is something we are already doing. In addition, we hope to avoid the increase of emissions as much as we can through the development of novel smelting processes as shown in the presentation and through adoption of CO_2 absorption technologies.

As for copper, we are about to reach the long-term vision target of annual production of 300 thousand tons in terms of interest in copper mines. However, we need to continue to develop new mines as mine resources will deplete. We also think that we need to further expand the ratio of secondary raw materials in an effort to promote circular economy.

Q) I understand that you raised the carbon pricing for the fuel conversion project of Niihama District. Can you give us a rough idea of the overall budget including the costs of the fuel conversion project?

A) In our 2021 3-Year Business Plan, we have committed capital investments of 5 billion yen for reducing GHG emissions over a 3-year period. Our thoughts about whether to expand these investments going forward will be reflected in our next 3-year business plan, but I think we will continue investments of this scale.

[Questioner 5]

Q) Of the 5-billion-yen capital investments for reducing GHG emissions as set forth in the 2021 3-Year Business Plan, you mentioned earlier that around 1.9 billion yen was used for the Niihama District. Does that mean that you won't need to spend so much money to achieve the new 2030 target of 38% reduction from 2015 levels?

A) We are planning to maximize the use of currently available technologies to achieve the 2030 reduction target. From this point of view, I don't think we can make massive investments to drastically transform the production process by 2030, even if we want to. Meanwhile, we will continue with the ongoing efforts of fuel conversion to LNG and of increasing the introduction of in-house power generation facilities using solar and other renewable energy sources. We are still in the process of examining necessary investments toward the 2030 target, but I think we will need to continue investing at a

similar scale as the 2021 3-Year Business Plan.

Q) I would like to ask about the new low-carbon nickel smelting process as described in the "Development of innovative smelting processes toward carbon neutrality" on page 20. Are other competitors, for example, trying to develop similar processes globally? Tell us about the business environment surrounding this issue.

A) The majority of nickel distributed in Japan is supplied by SMM, so there is not much to discuss about domestic competitors. Meanwhile, we do have competitors out of Japan and Chinese competitors are the most growing. With their abundance of capital, they are sure to become strong competitors once they embark on the development of innovative processes, so we want to expedite our development efforts ahead of them.

Q) With regard to steel, I believe demand for CO_2-free steel and other eco-friendly steel is growing day by day. You said that you actually feel growing customer interest in reducing emissions in the nickel market. What is the anticipated timeline of the growth of the low-carbon nickel market? For instance, how big do you think the market will be in 2030? How do you see the market?

A) One of the largest users of low-carbon nickel is probably the cathode material market. We believe demand for low-carbon nickel will rise going forward, as battery manufacturers and automobile OEMs will seek to expand the use of low-carbon nickel.

Q) To summarize your explanation, you are saying that European competitors are aiming to reduce CO_2 emission in an environment with a different power mix from Japan, for example, with an abundant supply of renewable energy such as hydropower; and Chinese competitors may start developing new smelting processes if they have the funding to do so. In short, does that mean that the move toward the development of new low-carbon nickel smelting processes is still not very active on a global basis?

A) I think various companies are in the research phase of studying possibilities for low-carbon processes, but as far as we know, SMM is taking the lead in research on such hydrogen reduction of nickel ore.

[Questioner 6]

Q) Why is there a difference between the 2030 reduction targets for Japan (50% or more) and out of Japan (24% or more) on page 11?

A) The average reduction rate is 38%, but as you pointed out, there is a difference between the target rates for Japan and out of Japan. We had in mind Japan's intended nationally determined contributions (INDCs) and social reduction target of roughly 45%. We somehow wanted to set a target above that and judged that we would be able to achieve

a 50% reduction by leveraging existing technologies to the best possible extent. On the other hand, emissions from the coal used at nickel smelting plants in the Philippines and lime and other neutralizing agents account for much of the GHG emissions from operations out of Japan. We therefore need to take on difficult challenges such as fuel conversion from coal to alternative fuels and devising processes that do not use as little lime as possible in order to reduce GHG emissions from the operations. That is why the reduction targets are lower than in Japan.

[Questioner 7]

Q) It says on page 17 that the Philippine Coral Bay Nickel Corporation (CBNC) and the Taganito HPAL Nickel Corporation (THPAL) started woody biomass co-firing tests from fiscal 2023. What is the current ratio of biomass to coal in the co-firing test? In addition to that, if you have set a target ratio for 2030, for example, can you share it with us?

A) Currently, several percent of the coal have been replaced by woody biomass. We are now testing within the scope that will not affect the process. The ratio of biomass will be gradually increased to see how far we can get. At this point, we cannot give you a specific target for the ratio of biomass to be mixed.

Q) I understand the green metal initiative on page 23 is a plan to supply green copper using the mass balance method. However, I have heard skeptical voices about the mass balance method itself from other corners of the industry. You are probably building networks within the steel industry, but have you been doing anything to spread the SMM green copper initiative to other players in the industry?

A) We too are aware of the skepticism surrounding the validity of the mass balance method. While responding to the needs of customers' demand for low-carbon metals, we will continue to verify the validity of this approach over the long term through dialogue not only within the company but with society.

Q) Does that mean that there are no other players in the industry who are planning to introduce the mass balance method, and that you currently have no intentions to cooperate with other companies to spread the use of the method?

A) Although we cannot give a specific name, there are other companies working to introduce the method. However, there are currently no concrete plans for cooperating with such companies.

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