

## ESG Briefing 2023 Q&A

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### Questioner 1

Q. Could you share with us the results of FY2021 and the outlook for FY2022 concerning environment investment including the adoption of renewable energy? Additionally, could you lay out your thinking of how the additional cost for implementing measures, such as climate change countermeasures, will lead to the medium- to long-term enhancement of corporate value by showing us specific examples?

A. We are working on this issue with an actual environment investment of about 1.8 billion yen for FY2021 and an environment investment budget of slightly over 5.0 billion yen for FY2022. The impact on costs varies depending on the country, region and project. Since energy price have surged at the moment, renewable energy is lower in cost in some cases. As a period for recouping investments related to the adoption of renewable energy, for instance, we assume about 10 years in the case of the renewable energy system of Kanazu Murata Manufacturing. Although an initial investment is required, we believe that promoting onsite (within our premises) renewable energy will not be so much of a cost burden as you might think. On the other hand, the offsite (outside of our premises) procurement of electricity derived from renewable energy is also required to support plants that consume huge amounts of electricity. Therefore, the initial investment for this purpose will be relatively large. Although we need to take risks, we believe that it is highly worthwhile to engage in this project.

Q. How are you going to connect your renewable energy and energy-saving systems and know-how to economic value?

A. We aim to evolve a system that our plant has developed into a showcase, demonstrate its workings to customers, and have the customers adopt our system. Each system operating within our company has been adopted at different times, and we think that we need three or so years' worth of data of running each system before we can fully verify their performance. For example, we have already operated an AI energy-saving system at our Nagaokakyo Headquarters for nearly three years, and we have collected a lot of data, so we think the possibility of its commercialization will come into sight at a relatively early stage.

## **Questioner 2**

Q. Please tell us more about the hydrogen utilization initiatives described on page 25 of the briefing materials.

A. The Yasu Division, which has the R&D function of our company, has adopted a hydrogen-related facility, such as water electrolysis equipment, in an attempt to seek a way to utilize hydrogen. In our plants, there are a number of production processes that require hydrogen such as firing ceramic. We have started considering using hydrogen with its low environmental footprint. We are at the stage of starting to examine what kind of economic effects we can expect from them.

Q. Could you let us know the initiative for reducing environmental impact as a component manufacturer at the time of the manufacturing and use of end-products?

A. For example, we use tape and reel packing for selling multi-layer ceramic capacitors (MLCCs). In this regard, we are making an effort to significantly reduce waste by replacing that packing with bulk cassettes in the future. However, we need to proceed with the adoption plan with customers to which we deliver our products. Therefore, we have not made enough progress up to the present. We are currently working to circulate resources such as PET film recycling.

## **Questioner 3**

Q. Will the procurement and securing of renewable energy in anticipation of future demand produce advantages when customers decide to adopt your products and allocate procurement share? Also, please let us know if you have an actual example that has already led to a concrete achievement, if any.

A. There are some customers who have set targets for 2025, so we expect a certain effect to show up around 2025. However, it does not mean that the promotion of renewable energy has become a strong selling point at this moment. Having said that, especially, customers in Europe and the United States are highly conscious of the environment. As we fall under Scope 3 on the customer side, we have received requests related to reducing environmental impact. Whether it is a must or a desire depends on customers, but we believe that such a trend can gain momentum when we look at this from the timeline from 2025 to 2030.

Q. What specific risks do you foresee can occur in the process of advancing the adoption of renewable energy?

A. Initial investments for offsite solar or wind power generation can be large. Additionally, renewable energy may be lower in cost in some cases, as mentioned at the beginning of this meeting, because the unit price of electricity must be fixed to some extent at a price slightly higher than the usual cost of electricity at the time of concluding a contract. However, the uncertainty of future price fluctuations can be a risk. Nonetheless, if the situation where energy costs remain high continues, we do not think there will be a significant increase in burden in the future.

#### **Questioner 4**

Q. What are the strengths of the power supply modules high-power products listed on page 14 of the briefing material and how can they help improve data center energy efficiency?

A. Our strengths lie in the originality that our circuit has; the existence of a product lineup in the TITANIUM grade, which is the highest rank in the certification program of 80 PLUS for the energy-saving features of electrical appliances; and high energy conversion efficiency. With data centers having progressed well in decentralizing power sources, their total energy consumption has become massive. Our recognition is that there is an ongoing move to change to a direct-current centralized power source or attach storage batteries to control electricity consumption with high efficiency. When we look at each case, the effect is to reduce the electricity consumption of a system by just 10% to 20%. However, every little bit adds up to a huge impact.

Q. I think that initiatives concerning people and society have the aspect of committing to solving social issues for the purpose of fulfilling corporate responsibility or obtaining economic benefits. Which point does your company find important?

A. Particularly, there are more and more cases in which we will have to work a little differently from our usual way of thinking when embarking on the 3-layer business. Accordingly, we think that the key is how to operate an autonomous decentralized organization management and promote diversity. In order to create a state in which a larger number of and fresher opinions come out, we need to work hard to nurture each and every employee, instead of casting all of them in the same mold. In order to enable employees from different backgrounds, such as countries and cultures, to understand Murata philosophy, we will conduct philosophy education globally, and by working with enhancement of engagement and diversity targets in mind, we can have such efforts contribute to business such as productivity improvement.

Q. Do you have any ideas about how to promote various ways of working in promoting layer 3 businesses?

A. At this time, we intend to move forward with the current initiatives and develop a working environment that allows employees to have heart-to-heart discussions by incorporating new perspectives and opinions.

#### **Questioner 5**

Q. Is there any production process that needs a drastic improvement from a medium to long term perspective when you push forward with energy-saving in manufacturing sites?

A. Out of our production processes, big electricity users are air-conditioning in clean rooms and the firing process of MLCCs. In clean rooms, we will control air-conditioning so as to lower electricity consumption. On the other hand, in the firing process, we are advancing research and development aimed at significantly shortening the firing time while making efforts to increase the amount that can be fired at a time. Good results have gradually shown up from these efforts, and we will continue to advance them to reduce electricity consumption little by little each year.

Q. Will you need to deploy more resources to create social value in the environmental field in the future? Also, what are your thoughts on strengthening cooperation with suppliers?

A. We believe that changes taking place in the environmental domain will lead to significant business opportunities, and we are deploying a certain amount of internal resources even now. As I explained today, we want to sell solutions such as our energy management systems to external customers. To this end, we will need information that can be gained from implementing them in society. First of all, we will roll out our systems internally and evolve them into showcases, whereby we will create a situation in which we can communicate with customers using specific data. We find that we are at the stage of transitioning from creating business to implementing systems in society. We expect the resources necessary for scaling up will increase down the road.

Q. Is it correct to understand that the current efforts in the environmental field are at the stage of aiming for a continuous cycle of social and economic values through bottom-up efforts, rather than through top-down measures such as large M&As?

A. Yes, that's right at this point.

## **Questioner 6**

Q. Regarding your initiative to respond to requests in customers' environmental domains, could you let us know a self-evaluation of your current status compared with those of other companies?

A. We think that we have been engaged in environmental issues more speedily compared with the standard of the electronics industry. However, even in the framework of RE100, for example, requested content has changed little by little, so it is necessary to first understand the new content then respond to it. We can expect that our European and American customers, in particular, will request us to respond to environmental issues earlier than the general public does. Accordingly, we are taking anticipatory measures so that we can avoid being forced to take belated actions.

Q. Please tell us if there are any initiatives that need to be accelerated in response to environmental issues.

A. I believe we need to keep an eye on world trends and trends. For example, new environmental regulations are being considered for PFAS (Per- and PolyFluoroAlkyl Substances), and we believe that we need to keep a close eye on future developments.

## **Questioner 7**

Q. Are you planning to participate in the GX League sponsored by the METI?

A. We are not participating at this time. Since the GX League is a voluntary participation framework premised on the voluntary goals of companies, the Japan Climate Leaders Partnership (JCLP), of which our company is a member, has proposed the establishment of a more effective framework (such as making participation mandatory for companies with high emissions).

Q. On page 31 of the briefing materials, initiatives aimed at leveraging diversity in human resources are described. Please tell us how you will deal with the future labor shortage in Japan.

A. As for personnel costs, I think they will increase both in Japan and abroad, but I think the most important point among them is how to recruit good people. In addition to significantly expanding the number of Mid-career hired, our company is also increasing opportunities for new graduates to meet employees in a variety of ways, including internships. In addition, we will continue to consider how to recruit the right people for our layer 3 business in our company.

## Questioner 8

Q. How are you going to proceed with 3-layer portfolio management while there are ESG issues at the same time? Also, could you share with us how outside directors are contributing in the course of internal discussions?

A. As we have been highly dependent on the layer 1 business (components) for a long time, we are aware that a significant challenge is to raise the contribution of the layer 2 business (devices and modules) to earnings in an attempt to strike a balance in the portfolio. By layer, the issue of the layer 1 is how to enhance capital efficiency since this business requires a large amount of capital. The issue of the layer 2 is how to speed up the regeneration of business since there are not a few unprofitable businesses and products with little profit. We have a number of opportunities to discuss these issues with outside directors. We are fortunate to have directors with various kinds of knowledge and experience, so that we can obtain remarks on a broad range of fields. We sometimes receive harsh opinions and other times encouraging ones from outside directors. For the layer 3, in particular, we have received very useful opinions, including advice on business expansion, and based on these, we will seek to optimize our portfolio.

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