

Comments on the Draft OESG Scientific Report for the Effectiveness Evaluation of the Minamata Convention, Published on April 10, 2026

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Comments		
Line 136, 1440, and 1608	The current phrasing suggesting higher atmospheric mercury concentrations in East Asia may overinterpret spatial patterns derived from heterogeneous datasets. The available monitoring data includes a mix of site types, such as urban, rural, and background locations, and differences in site characteristics may influence observed concentration levels. Evidence from Japan illustrates this point. Background monitoring at remote sites in Japan shows relatively stable atmospheric mercury concentrations of around 1.6 ng/m³, which are lower than values typically observed at urban-influenced monitoring sites. This demonstrates the importance of distinguishing monitoring site types when interpreting spatial patterns. In light of this, the current dataset may not provide sufficiently robust evidence to support generalized conclusions on regional contrasts, including the statement that atmospheric mercury concentrations are higher in East Asia. The following proposed revision aims to avoid overinterpretation of mixed datasets, ensure consistency with the analysis conducted, and highlight the need for improved, harmonized, and comparable monitoring data to support future effectiveness evaluations under the Minamata Convention.	
Line	Text in Scientific Report	Comment
136	For active air sampling of TGM, most of the levels of mercury fall within the northern or southern hemispheric averages except for East Asia where levels are higher.	This text should be revised as follows: <i>“For active air sampling of TGM, most of the levels of mercury fall within the averages of obtained data in northern or southern hemisphere.”</i>
1440	For active air samples for TGM, most of the levels of mercury in the ambient air fall within the	This text should be revised as follows:

	northern or southern hemispheric averages except for East Asia that is higher on average.	<i>"For active air samples for TGM, most of the levels of mercury in the ambient air fall within the averages of obtained data in northern or southern hemisphere. While some datasets suggest relatively higher atmospheric mercury concentrations in East Asia, caution is warranted in interpreting these patterns, as the available data includes a mix of different monitoring site types. For example, in Japan, background monitoring sites show relatively stable concentrations of around 1.6 ng/m³, which are lower than urban-influenced observations, indicating that site characteristics can substantially affect observed values. In order to draw robust conclusions on regional contrasts, it is considered necessary to have more detailed information on the characteristics of the monitoring sites. "</i>
1608	For the TGM concentration levels shown in Figure Air 2, mercury levels are higher in the East Asian region than other regions ranging from 1 to >2.5 ng m ⁻³ averaged concentration.	As noted in the comment above, since it cannot be definitively concluded that the data from monitoring sites always represents the spatial trends of the entire region, this description is misinterpretation of general pattern of the entire region. This description should be deleted.
Comments		
Line 291 and 4495	Among the data from national representative HBM programs submitted for the effectiveness evaluation, Japan and South Korea had the higher values among the countries provided; it is reasonable to interpret and understand that this is likely attributable to seafood consumption. On the other hand, unfortunately, the amount of national monitoring data available for reference is very limited, the magnitude of the differences observed in this analysis between countries with high and low seafood consumption cannot be directly applied to the relationship between global seafood consumption and mercury concentrations in the general population. Therefore, careful consideration is required when referring to numerical differences, such as concentration ratios. Furthermore, mercury concentration levels in humans also depend significantly on factors other than the actual mercury concentration in fish, such as seafood consumption levels and differences in the types of fish consumed. These factors are expected to fluctuate over time due to influences such as changes in dietary habits and fluctuations in seafood prices resulting from variations in catch volumes. It is believed that some of these factors fall outside the scope of the Minamata	

	Convention. Therefore, when conducting numerical analyses of mercury concentrations, it is preferable to explicitly state that current mercury concentration levels and their changes over time may be influenced by related factors such as seafood consumption trends and the composition of fish species, and to take care to ensure that no biased understanding arises when interpreting the results. Additionally, submitted data from Japan was obtained in a pilot phase of the Japanese HBM. The HBM finally starts in FY2025 and will provide comparable information on the status and trends of general mercury exposure in Japan in future. Furthermore, when presenting information related to human biomonitoring, particular care must be taken in the wording to avoid unnecessary public concern. Descriptions should also consider the implications of concentration differences for health risks, as well as the risk–benefit balance associated with seafood consumption, which represents both a source of mercury exposure and an important source of beneficial nutrients such as omega-3 polyunsaturated fatty acids.	
Line	Text in Scientific Report	Comment
291	Among the nationally representative HBM programs, countries with higher consumption of seafood (Japan, South Korea) reported to have higher exposure in adults - Japan approximately 6 times higher and the Republic of South Korea about 3 times higher than reported in national programs in North America and Europe.	It should be revised as follows: <i>“Among the nationally representative HBM programs, countries with higher consumption of seafood reported to have higher exposure in adults.”</i>
4495	The Japanese national program was conducted for the first time in 2021-23 and shows markedly higher Hg exposure levels than other national data (Fig. 8). The nationally representative Japanese median is consistent with levels observed in fish-consuming populations identified in the literature, when restricted to adults (Median Hg in blood = 5.6 µg/L), and likely reflects exposure primarily through seafood consumption.	This text should be revised as follows: <i>“Blood mercury concentrations in the Japanese population were markedly higher than those reported in nationally representative surveys from other countries (Figure 8), with a median concentration of 5.6 µg/L. This concentration is consistent with levels observed in populations with high seafood consumption, indicating that the relatively elevated mercury exposure in Japan is likely driven primarily by seafood intake.</i> <i>However, these data were obtained in a pilot phase of the Japanese HBM. The HBM finally starts in FY2025 and will provide comparable information on the status and trends of general mercury exposure in Japan in future.”</i>

Line	Text in Scientific Report	Comment
2170	Lower values at Arctic sites, generally considered remote from major anthropogenic source regions, may be expected; however, the lower values (for mussels in particular) at East Asian sites in Japan and northern China are notable, and possibly related to the different species monitored. Representing a region based on data from a very few sites is a general concern for almost all environmental monitoring data evaluated for the effectiveness evaluation, with implications also for work aiming to integrate results for different environmental matrices.	It is advised to rewrite the section on mercury in bivalves. East Asian mussel, <i>Mytilus galloprovincialis</i> , is the same species as one of those in Europe (see Table 1) (in fact, it is reported that <i>M. galloprovincialis</i> invaded Japan from Europe around 1930's and has been spreading in Japan). The three <i>Mytilus</i> species, i.e., <i>M. galloprovincialis</i> , <i>M. trossulus</i> and <i>M. edulis</i> , are biologically quite similar species and hybridize each other in natural environment. <i>Crassostrea</i> and <i>Ostrea</i> , on the other hand, are oysters and may have different accumulation potential from mussels (in fact, oysters are known as hyperaccumulators of copper and zinc). It seems better to divide Table 1 into three (mussels, oysters, and <i>Dreissena</i> (freshwater species)), or to discriminate the three groups in Table 1 by changing font style or color, for example, and discuss possible regional / locational differences in mussels and oysters separately.