Original article

The response of anthropogenic mercury release in China to the Minamata Convention on Mercury: a hypothetical expectation

Habuer^{a,*}, Takeshi Fujiwara^a, Masaki Takaoka^b

^a Graduate School of Environmental and Life Science, Okayama University, 3-1-1 Tsushima Naka Kita-Ku, Okayama 700-8530, Japan

^b Graduate School of Engineering, Kyoto University, C-1-3 Nishikyo-ku, Kyoto 615-8540, Japan

*Corresponding author. Graduate School of Environmental and Life Science, Okayama University, 3-1-1 Tsushima Naka Kita-Ku, Okayama 700-8530, Japan. Tel 81-(0)86-251-8845, Fax 81-(0)86-251-8845.

E-mail address: habuer@okayama-u.ac.jp (Habuer)

Figures



Note: $I_{Hg,c,t}$: the mercury input by subcategory *C* in the year *t*; *C*: different subsource; $Excess_{Hg,t}$: the surplus mercury for the year *t*; $OS_{c,j,t}$: output scenario, which number *j* by subcategory *C* for the year *t*; $iDF_{c,j\rightarrow i}$: initial distribution factor in output scenario *j* by subcategory *C* to different sinks *i*; $rDF_{c,j\rightarrow i}$: re-distribution factor in output scenario *j* by subcategory *C* to different sinks *i*; $rDF_{c,j\rightarrow i}$: re-distribution factor in output scenario *j* by subcategory *C* to different sinks *i*; waste_{Hg,c,t}: general or sector specific

treatment/disposal Hg containing waste by subcategory C in the year t.



I: Input; E: Output; MSW: Municipal solid waste; HW: Hazardous waste

Fig.2. Anthropogenic mercury inputs and outputs in 2016



I: Input; E: Output; MSW: Municipal solid waste; HW: Hazardous waste

Fig.3. Anthropogenic mercury inputs and outputs in 2019



Fig.4. Changes in total (a) input and (b) output over the period 2016–2019



Fig.5. Mercury flows under scenario of (a) BAU and (b) ACR in China in 2019



Fig.6. Anthropogenic mercury releases to the natural environment over the period 2016–2019





Fig. 7. Changes in the flows to (a) the natural environment and (b) the social environment under two scenarios



Fig.8. Tornado chart showing the uncertainty range for each input variable