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## Identifying the gap in fluorocarbons treatment from waste electrical and electronic equipment (WEEE) in Southeast Asia

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This study focuses on fluorocarbons (FCs: CFC/HCFC/HFC) emitted from waste electrical and electronic equipment (WEEE) in Southeast Asia. The main measures for FCs under the Montreal protocol as Ozone Depletion Substance (ODS) are restricting the consumption of FCs and converting CFC and HCFC into HFC with zero ODS. However, there is much FCs which still have big environmental impact in operating equipment and HFCs which are not controlled under the protocol has major global warming potential (GWP). The consumption of FCs in Asia has rapidly increased. For example, the demand for air conditioners (AC) in Asia reached 58 million units in 2014. Thus the amount of FCs contained in AC is estimated to be more than 50 thousand tons. The amount could be approximately 100 billion tons-CO<sub>2</sub> equivalent. Moreover, there are major differences between countries in regards to regulations for controlling the negative effects of FCs from WEEE. For the appropriate management of FCs, effective WEEE treatment system in which FCs are managed in environmentally sound manner as same as hazardous substance is necessary. According to our survey of FCs treatment, capacity in Southeast Asia is estimated less than 5% of annual consumption and the officially reported amount of destruction of FCs are less than 10t per year. Because of high climate impact, the process of recovery and destruction of FCs should be introduced as early as possible when WEEE treatment systems are going to be introduced with all possible means. For this, international cooperation and relevant technology are essential.

### Biography

Atsushi Santo is a Researcher of DOWA ECO-SYSTEM Co., Ltd., a waste management and recycling company in Japan. He has much practical experience at many site-related to waste incineration, metal recovery and so on. And now, he is doing a policy research of the evaluation on WEEE recycling system as a visiting researcher of Institute for Global Environmental Strategies (IGES). Moreover, he is on Doctoral program of Tohoku University.

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