Abatement Cost Curves for Japan, PRC, ROK and Mongolia

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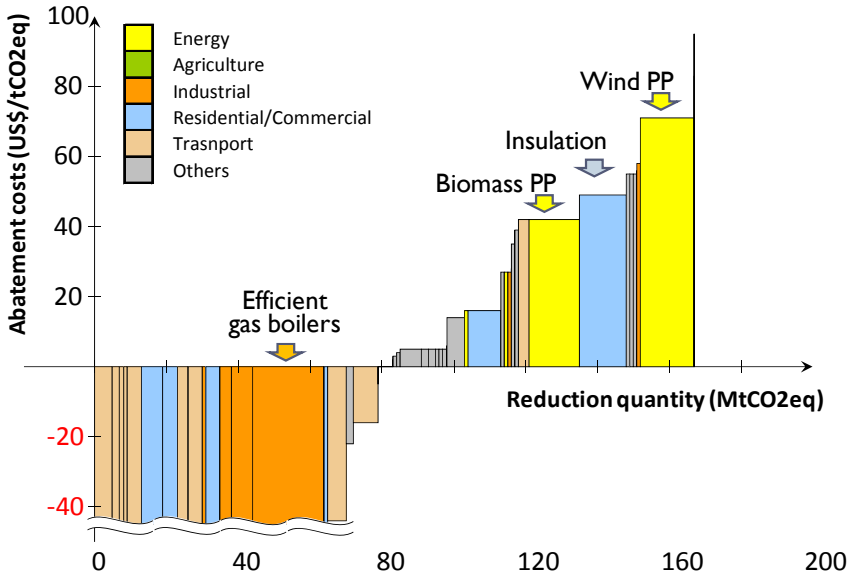
Estimation of emission and mitigation, and abatement cost curves

This study estimated emissions and reduction potential and developed abatement cost curves for four countries in northeast Asia (Japan, South Korea, China and Mongolia) by AIM/Enduse[MAC]. As an example, the result of estimation of the abatement cost curves in 2020 under $100 US for Japan is shown as follows. These results are preliminary findings for the ADB study.



Findings and policy implications

Some policy implications are come from the results of estimation. For example, technologies with an abatement cost of more than US$ 0 but less than US$ 100 were generally the same for all countries in the transportation sector, but differences in technologies were observed in the energy transformation, and commercial and residential sectors. It was thought that technologies in this category would not be disseminated naturally without some type of measures to support introduction, and so vigorous policy steps such as the introduction of a carbon tax or environmental tax and regulatory steps such as the introduction of energy efficiency standards and so on were thought to be extremely important.

The introduction of countermeasure technologies and changes in the structure of energy consumption were considered, particularly in the case of China. It was found that coal consumption in China would increase tremendously in the event that no technologies to mitigate climate change were introduced. Conversely, in the event that measures are taken, it was found that the increase from the base year could be held to a small amount when viewed on an energy consumption basis. Based on these results, countermeasures for emission reduction are thought to be an important policy from the standpoint of energy security as well.