EXECUTIVE SUMMARY

Responding to the Cebu Declaration of the leaders of the East Asia Summit (EAS) countries, Japan proposed to undertake a study of the energy savings and CO2 emission reduction potential in the EAS region. The study would provide insight to national energy ministers for establishing goals and action plans to improve energy efficiency in their respective countries. The first study was undertaken in 2007 by the Working Group (WG) for Analysis of Energy Saving Potential in East Asia. Subsequently this WG had reconvened in 2008 and 2009 and the study was updated to incorporate more recent information and estimation procedures such as energy saving target and action plans reported at EMM2 and EMM3. This is the report of that study in 2009.

The study examined two key scenarios over the time period 2005 to 2030, a Business-As-Usual (BAU) scenario reflecting each country's current goals and action plans, and an Alternative Policy Scenario (APS), including additional goals and action plans currently under consideration in each country. The focus of the study is on analysing the additional energy savings that might be achieved through the goals and action plans of individual countries, above and beyond BAU. The additional savings may be measured as the difference between the BAU and APS scenarios.

Each scenario was modelled for each country by the members using their national model or by the Institute for Energy Economics, Japan (IEEJ) model that was used in the preparation of IEEJ's Asia/World Energy Outlook. The Working Group composed of experts from each EAS country. Some of the members developed their national energy outlook and remaining members supplied projections of key socio-economic variables, as well as energy saving plans to IEEJ for developing their energy outlook. These input variables suggest that rapid growth in population, GDP, vehicle ownership, and access to electricity will create a huge 'headwind' that will tend to work against efforts to limit energy consumption and CO2 emissions in the EAS region. However, it is important to note that increased consumption of energy services is fundamental for achieving social and economic development.

Modelling results show that EAS region final energy consumption in the BAU case is projected to increase from 1,952 Mtoe in 2005 to 5,314 Mtoe in 2030, an increase of 4.1 percent per year. In the APS case, final energy consumption is projected to rise to 4,424 Mtoe in 2030, 18 percent less than in the BAU case. CO2 emissions in the BAU case are projected

to increase from 2,551 Mt-C in 2005 to 7,281 Mt-C in 2030, implying an annual growth rate of 4.3 percent. In the APS case, CO2 emissions are projected to be 5,256 Mt-C in 2030, 28 percent lower than in the BAU case.

While the emission reductions under the APS are significant, CO2 emissions in the APS case in 2030 will still be above 2005 levels and far above 1990 levels. The scientific evidence suggests these reductions will not be adequate to prevent severe climate change impacts.

Yet further additional policy development will be needed even to achieve savings at the level of the APS case. While all of the EAS countries are actively developing and implementing Energy Efficiency and Conservation (EEC) goals and action plans, progress so far varies widely. Some countries are quite advanced in their efforts, while others are just getting started. A number of EAS countries have established EEC goals, but as yet lack concrete action plans for achieving them. It is recommended that capacity building programs be established to assist member countries to develop and particularly implement energy saving goals and action plans and policies.

In order to implement in depth analysis on energy saving potential, seven new research projects has started under this working group. These projects cover energy saving potential in the industry and road transportation sector. In addition, these projects also cover power generation sector and energy efficiency and conservation design. The outcomes of these projects indicated that saving potential existed in the several manufacturing sub-sector of EAS countries particularly the cement and iron and steel and road transport sector through the parking lot survey. It was recommended that CDM should be applicable to clean coal technologies and nuclear power generation and that data collection will be crucial particularly in setting up the energy saving targets and action plans. Considering the beneficial outcome of these projects for the working group and its contribution in the energy saving potential of the EAS region, the expansion and addition of research studies for these satellite projects are recommended.

It is recommended that EAS country leaders work individually and cooperatively to assure implementation of their EEC goals through development of concrete action plans and facilitate exploration of further EEC policy and technology options in each country.