

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

At the 3rd working group meeting, working group members discussed the key findings and implications of the analysis based on the two energy outlook cases, BAU and APS

5.1.1. Key Findings

Based on the projected changes in socio-economic factors, energy consumption, and carbon dioxide emissions in the BAU case and the APS case, Working Group members identified seven key findings. These are outlined below:

1. Rapidly increasing demand for energy, particularly fossil fuels, is exerting pressure on regional energy security and the environment.
2. Countries have a range of individual goals such as economic development, poverty alleviation, energy security, greenhouse issues and sustainable development.
3. Advanced energy efficient and low emissions technologies need to be developed, adopted and widely deployed if countries are to simultaneously meet economic and social development and environmental goals.
4. However, there are a variety of country specific barriers to technology development, adoption and widespread deployment.
5. The implementation of currently proposed policies as simulated in the APS case addressed some of these issues. However, it is not sufficient to address the 3E's (economic growth, energy security and environmental protection) to the desired

level.

6. The APS case was based on current EEC goals and action plans and does not take into account future options for further actions. Additional measures could achieve further energy savings and reductions in CO₂ emissions.
7. Concrete action is required to facilitate inter-regional collaboration on technology development and transfer and policy implementation within the EAS countries and between the EAS countries and the rest of the world.

5.1.2. Policy Implications

Following the extraction of the key findings, working group members also identified more than 20 policy implications and aggregated them into six major categories. The identified policy recommendations are based on a shared desire to improve energy efficiency, reduce growth in energy consumption relative to business as usual, enhance energy security, and reduce growth in greenhouse gas emissions while simultaneously achieving other policy objectives such as economic and social development and alleviating poverty. The policy recommendations of the Working Group are listed below. It should be noted, however, that appropriate policies will differ between countries based on differences in country circumstances, policy objectives, and market structures.

1. Implement more aggressive policies on energy efficiency, low emission fuels, and energy security.
2. Enhance the development and uptake of advanced energy technologies across all sectors.
3. Mitigate carbon dioxide emissions by using advanced energy technologies and

demand side measures.

4. Enhance regional cooperation on technology development and transfer and policy design.
5. To overcome a range of market and economic barriers to technology development and uptake, the provision of financial, economic and technical support may be needed in some countries.
6. Capacity building is needed in energy measurement and monitoring.

5.2. Recommendations

The analysis in this report indicates that there is significant potential for countries in the EAS region to reduce growth in energy consumption and carbon dioxide emissions by implementing policies across all sectors of the economy that encourage improvements in energy efficiency and conservation and increase the use of lower emission technologies and fuels.

It is clear that many EAS countries already have a variety of policies aimed at achieving energy saving goals. However, it is recommended that detailed action plans should also be developed which outline in a broad sense how these energy savings will be achieved.

A range of policy options are available which could drive improvements in energy efficiency or the enhanced uptake of low emissions technologies. These policies include: communication campaigns, performance and emission standards, renewable energy targets, enhanced research and development funding, and explicit emission pricing instruments such as taxes and emissions trading. The choice of policies used in individual countries will depend on a range of country specific factors and other competing policy objectives.

A range of more energy efficient and lower emission technologies were identified for EAS countries. In particular, the use of more energy efficient vehicles and demand management strategies in the transportation, residential, and commercial sectors were key to achieving potential energy savings. Improvement in the efficiency of thermal electricity generation was also identified as being key to achieving energy savings. International collaboration on technology development and transfer was identified as an opportunity for achieving future gains.

This study indicates that if all of the currently proposed energy saving and lower emission fuel policies were implemented in EAS countries, total primary energy demand could be reduced by about 20 per cent in 2030, relative to the business as usual case. Carbon dioxide emissions from energy consumption are also projected to be reduced by about 29 per cent below business as usual levels at 2030. Enhanced energy efficiency and an increase in the share of lower emission and renewable fuels in the energy mix may also have other benefits such as increasing energy supply diversity and enhancing energy security.

Although the projected level of energy savings and reductions in CO₂ emissions could be considered significant, it is not enough to mitigate all of the challenges posed by climate change. More aggressive energy saving goals, advanced technologies to reduce CO₂ emissions directly, such as carbon capture and storage technologies, and enhanced uptake of lower emission fuels are recommended.

It was noted that additional upfront costs may be associated with implementing more energy efficient technologies and increasing the share of renewable energy sources. However, financial and economic analysis was outside the scope of this study. It should be assessed in the near future.

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