



Energy Efficiency Guide for Industry in Asia

United Nations Environment Programme
Division of Technology, Industry and Economics

FOREWORD

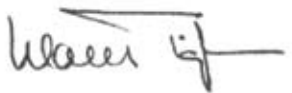
With its unprecedented rate of industrial growth, Asia is the main contributor to a growing global energy demand. By consequence, the region is also bearing the brunt of resulting negative economic, social and environmental impacts such as increased air and water pollution, waste disposal, floods, and climate change.

Governments across the region are formulating new policies to reduce the trend of increased energy consumption and the associated greenhouse gas emissions. They are introducing legislation to promote renewable energy use, and adopting measures to increase investments in energy efficient technologies.

But despite these worthy efforts, it is imperative that industry take concrete action now to prepare for a likely future of higher energy prices and emissions restrictions.

To help Asian industry improve energy efficiency, UNEP developed this Energy Efficiency Guide for Industry in Asia. The Guide includes a methodology to improve energy efficiency, case studies of more than 40 Asian companies in five industry sectors, technical information for different energy equipment, training materials, a contact and information database, and various other tools and information.

The Guide is the primary output of the Greenhouse Gas Emission Reduction from Industry in Asia and the Pacific (GERIAP) project supporting Asian businesses to address climate change by becoming more energy efficient, and thereby reducing greenhouse gas emissions and costs. We encourage business leaders, policy makers, financiers and other stakeholders working with industry to use this Guide to take this effort forward.



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The GERIAP National Focal Points for implementing the project in nine Asian countries:

Bangladesh – Institute of management Consultants Bangladesh (IMCB)
China – State Environmental Protection Administration (SEPA)
India – Indian National Cleaner Production Center (NCPC)
Indonesia – Ministry of Environment (MoE) and the Agency for the Assessment and Application of Technology (BPPT)
Mongolia – Ministry of Nature and Environment (MNE)
Philippines – Industrial Technology Development Institute (ITDI)
Sri Lanka – Small & Medium Enterprise Developers (SMED)
Thailand – Thailand Institute of Scientific and Technological Research (TISTR)
Vietnam – Vietnam Cleaner Production Center (VNCPC).

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Introduction to the Guide

Welcome to the Energy Efficiency Guide for Industry in Asia

This Guide has been developed for Asian companies who want to improve energy efficiency through Cleaner Production and for stakeholders who want to help them. It consists of a hard copy summary and a detailed CD-ROM version. The Guide is also available on: www.energyefficiencyasia.org.

This is the hard copy Guide summarizing what is included on the CD-ROM and website and indicates what parts have been translated into Bahasa Indonesia, Chinese, Sinhala, Thai and Vietnamese. The hard copy Guide is also available in these languages.

The Guide consists of five parts:



Where do you start?

Find out how to best use this Guide if you are a company manager, production staff, customer, supplier, government agency, financial institution, or other external organization who could facilitate energy efficiency in industry.

Part 1 is included in full in this hard copy Guide



How to become energy efficient?

A 6-step methodology to help Asian companies improve energy efficiency, reduce costs and reduce greenhouse gas emissions, based on the Cleaner Production methodology and *real practice* experience in more than 40 Asian companies.

Part 2 is included in full in this hard copy Guide



Industry sectors

Process information, energy efficiency options and company case studies for more than 40 companies in five industrial sectors: cement, chemicals, ceramics, iron & steel and pulp & paper.

This hard copy Guide gives a summary of what is included on the CD-ROM and website



Energy equipment

Technical information, energy efficiency options, case studies, and training materials for different energy equipments used by industry, such as boilers, fans and motors, and information on monitoring equipments.

This hard copy Guide gives a summary of what is included on the CD-ROM and website



Tools

Training materials, option checklists, worksheets, case studies, contact and information database and many more tools and resources to help companies improve energy efficiency. Here you can also find translated materials in Bahasa Indonesia, Chinese, Sinhala, Thai and Vietnamese

This hard copy Guide gives a summary of what is included on the CD-ROM and website

The Guide was developed as part of the GERIAP project, which is explained next.

The GERIAP project

Climate change is a serious risk facing industry in Asia and the Pacific. Every company will directly or indirectly be impacted by the Kyoto Protocol, rising fuel prices, energy shortages, extreme weather events and government energy policies.

There is one thing all companies can do to be prepared: improve energy efficiency now!

Greenhouse Gas Emission Reduction from Industry in Asia and the Pacific (GERIAP) is a three-year project assisting Asian companies to become more energy and cost efficient through Cleaner Production (CP). CP is a strategy that prevents wastes and emissions and can assist companies to improve energy efficiency, reduce greenhouse gas (GHG) emissions and reduce costs.

More than 40 companies from the cement, chemicals, ceramics, iron & steel and pulp & paper sectors participate in the project in nine Asian countries: Bangladesh, China, India, Indonesia, Mongolia, Philippines, Sri Lanka, Thailand and Vietnam.

The project components included:

- Capacity building: National Focal Points (NFPs) and participating companies received training on how to apply CP to identify energy efficiency options for main energy uses in industry
- Demonstration of CP and energy efficiency: CP assessments to find ways to improve energy efficiency were carried out at the participating companies. Options that were technically feasible, financially attractive and reduced energy and GHG emissions were implemented, resulting in sector specific case studies.
- Survey of barriers to energy efficiency: Why do some companies improve energy efficiency and others not? A survey assessed the financial, technical, cultural and other factors affecting businesses, resulting in proposed solutions to overcome the most important regional and national barriers in Asia.

This Guide is the main output of the GERIAP project.

GERIAP project partners

The project is coordinated by the GERIAP Secretariat of the United Nations Environment Programme (UNEP), funded by the Swedish International Development Cooperation Agency (Sida), and implemented in the nine countries through National Focal Points (NFPs). NFPs are institutions or government agencies with CP and energy efficiency experience. Their role is to implement the three project components in the nine GERIAP countries and provide input into the Guide.

Each of the project partners is briefly described below.

United Nations Environment Programme (UNEP)



UNEP is the environmental arm of the United Nations. Its headquarters are in Nairobi and regional offices exist in each continent. UNEP's mission is "To provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations."

UNEP comprises a number of divisions, including the Division for Technology, Industry and Economics (DTIE). The GERIAP project is coordinated through the DTIE division within the UNEP Regional Office for Asia and the Pacific (ROAP) in Bangkok. This includes training of NFPs, facilitating the implementation of the three project components in nine countries, and developing the Guide and coordinating the Guide's launch.

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Swedish International Development Cooperation Agency (Sida)



Sida is the Swedish government agency for bilateral international development cooperation. Sida's overall goal is to raise the standard of living of poor people in the world. The Swedish Parliament has adopted the following six specific objectives to achieve this overall goal:

- Economic growth
- Economic and political independence
- Economic and social equality
- Democratic development in society
- The long-term sustainable use of natural resources and protection of the

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https://www.yunbaogao.cn/report/index/report?reportId=5_15504

