



International Chamber of Commerce

The world business organization

Policy statement

Energy efficiency: a world business perspective

Prepared by the Commission on Environment & Energy

Key messages

Energy efficiency is a fundamental element in progress towards a sustainable energy future. As global energy demand continues to grow to meet the needs and aspirations of people across the globe, actions to increase energy efficiency will be essential. This paper sets out international business views on the importance of energy efficiency, based on business's extensive experience and innovation in this area. As suppliers and consumers of energy all over the world, ICC members strongly support and pursue economic approaches to energy efficiency. Energy efficiency makes sense to business in a wide range of sectors for compelling reasons. Efficient energy use:

- reduces costs (energy is an essential input to production, distribution and marketing of products and services);
- reduces emissions and other environmental impacts;
- extends the availability of large but non-renewable resources; and
- makes energy more affordable to consumers, not only by reducing use, but also by reducing the overall need for investments in energy supply. This is particularly important in developing countries where affordability to modern energy services is critical for development.
- improves competitiveness and improves overall productivity.

Major progress has been made across the globe to improve energy intensity, but more is anticipated, and more still can be done. For example, the European Union has launched a major policy initiative on energy efficiency, within which it identifies the potential to reduce energy use by 20% through cost-effective demand- and supply-side measures. The G8 has identified energy efficiency as a key area for action that can deliver reduced greenhouse gas emissions while improving competitiveness, health and employment.

In developing countries, investments today in more efficient technologies would accelerate energy efficiency improvement in the next several decades. This will be especially important as even with efficiency gains, improved access to affordable energy will require strong growth in absolute energy requirements. Many developing countries have also implemented major efficiency drives.

Energy efficiency is not a panacea, but combined with an increased diversification of energy sources and technological advancements, it can make a significant impact in squaring the circle between an increased demand for the services energy provides and environmental protection. Appropriate efforts to improve energy efficiency will improve the efficiency of economies, enhance employment, and bring environmental benefits.

For these reasons, markets can and do already provide strong drivers to promote energy efficiency. Capturing economic incentives for efficiency improvements requires transparent energy pricing, information on opportunities to improve efficiency, ongoing investment in research and development to create future options for improvements. In these areas, governments have an important role to play.

Cost-effective, tried and tested energy efficiency measures that save money and improve quality of life are available today. A number of both multi-sector and sector-specific measures could greatly impact society's drive towards improved energy efficiency. Some of these will stimulate action, while others drive action through regulatory control – all should work in concert to improve and scale up attempts to achieve an energy sustainable future. In ICC's view, certain key principles should provide a basis for international cooperative action and enabling frameworks for energy efficiency:

- utilizing market forces,
- promoting open trade and investment, avoiding trade-restrictive measures,
- fostering research, development and deployment of energy efficient technologies,
- emphasizing international cooperation,
- encouraging mutual recognition of voluntary energy labels and standards,
- integrating efficiency with climate change, security, access and other aspects of energy policy, and
- developing and utilizing rigorous and reliable metrics, and life-cycle oriented approaches.

The indispensable role of energy efficiency

Society needs to keep all energy options open to satisfy growing demand. The 20th century saw the dominance of a limited range of energy sources, primarily carbon-based fuels, hydro and nuclear power. Because of their advantageous cost, performance, availability and the existence of efficient supply chains in delivery and use, fossil fuels will remain a dominant energy source for many decades, along with nuclear and hydro. At the same time, wind and solar power,

biomass energy and other renewable energy sources are likely to grow significantly in importance. Meeting energy needs in the 21st century will require further diversification of energy sources along with attention to efficiency both in production and use of all energy resources. Challenges remain, which energy efficiency can help address. Ambitious programmes in technology research and development and energy efficiency, for example, through co-generation and other approaches that maximize energy use across entire systems, will be essential to continue making gains towards a more efficient lower carbon economy.

Energy for sustainable development – seeking synergies

Since the industrial revolution, the world has seen a continual growth in the demand for energy. Two major areas are generally recognised as a concern: greenhouse gas emissions and local and regional air pollution. In both cases, energy efficiency can play a major role in reducing these impacts. The challenge in responding to climate change issues is to reconcile growing energy demand with efforts to reduce greenhouse gas emissions (GHG) while maintaining economic growth and meeting societal aspirations. Increases in economic growth are almost always associated with an increase in GHG emissions. However, people need the services that energy provides (e.g. clean water, heat, light and mobility) and not the energy itself. By focusing attention on ways and means to improve energy efficiency economically, there is potential to reconcile increased economic growth and greenhouse gas emissions reductions. For example in the European Union, where buildings account for more than 40% of all CO₂ emissions, a range of measures such as switching to energy efficient light bulbs, appliances and boilers or improving insulation, could significantly reduce energy use and the resulting CO₂ emissions.

Similarly, by making sure that new buildings and infrastructure take energy efficiency into consideration will ensure that developments such as increased demand for air conditioned environments can be met with fewer increases in greenhouse gas emissions. However, reduction of greenhouse gas emissions and efficiency are not always synonymous. For example, while it lowers emissions, carbon capture and storage in electricity production actually uses additional energy and degrades efficiency.

The second environmental impact is a more local concern; air pollution. The burning of fossil fuels remains an important contributor to local and regional air pollution, although advanced technologies have significantly improved the situation. For example, emissions from personal vehicles contributing to local and regional air pollution have been reduced by 98% using modern autos and reformulated fuels. If society can reduce the demand for energy economically and yet achieve the same or greater output, the economy can grow whilst safeguarding the environment and human health.

Supporting international public and private cooperative action

The economic and environmental arguments are clear; the question is how to identify and implement these cost-effective energy savings through the right interaction of public and private sector roles, market forces and international cooperation. Many companies have established

energy management systems as an ongoing means to evaluate and continuously improve energy utilization and efficiency. Such systems build energy considerations into mainstream management decisions, making them an integral part of investment and operations.

Energy management systems typically create an ongoing platform for analysis of current conditions and opportunities, recommendations and planning for investment and operational changes leading to higher efficiency, project implementation and evaluation of results. They seek to identify opportunities, for example synergies for energy use across facilities, with the highest value and to share best practice across the organization. Where deployed, energy management systems have made significant improvements to efficiency and generated impressive financial returns.

Investment and other projects need to be evaluated on their individual merits, and national and regional differences should be considered. In particular, it is important take into account the lifetime of the existing systems and infrastructure. Economic gains are usually maximized by replacing less efficient capital stock at the end of its economic lifetime. Since circumstances depend on national and regional situations, each country -- and company -- has to consider the approach which best meets its aspirations and needs.

Policy options for action to promote energy efficiency

Below is a selective list of successful approaches to energy efficiency, many of which feature public-private sector cooperation.

Advanced technology development: The development and global implementation of new, cost-effective energy technologies in all sectors is an effective way to improve energy efficiency and reduce greenhouse gas emissions in the long-term. This approach is best facilitated by relying on voluntary initiatives and market-oriented measures, including government support for R&D and elimination of barriers that may inhibit product acceptance and use in the marketplace along with implementation of the necessary infrastructure.

Combined heat/cooling and power production: The potential of combined heat, cooling and electricity production in the same generation process is massive all over the world. Consequently, such combined processes should be considered as a low-carbon source of electricity, heat and cooling, irrespective of the fuel used in the generation process.

Technology transfer and cooperation: Significant opportunities exist to enhance the use of existing efficient technologies. Often, technology transfer and deployment are inhibited by lack of an appropriate enabling framework. More needs to be done to drive increased technology transfer of today's efficient technologies and to provide broader markets for innovative technologies in the future. The recent Asia-Pacific Partnership on Clean Development and Climate is one example.

Fiscal instruments: Several European countries have dramatically reduced taxation on energy efficient products for the renovation of buildings. In the United States, the Energy Policy Act of 2005 provides energy efficiency tax credits for new and existing housing, and commercial buildings. This Energy Policy Act also provides tax incentives for customers to purchase hybrid vehicles, thus helping new advanced vehicle propulsion technologies move more quickly into the marketplace

Energy services: Consumers want the services that energy provides (e.g. heat, light, comfort) and not the energy itself. Given this, several regions are experimenting with making energy providers into energy service providers. These moves are creating business opportunities for energy companies and others to both support energy efficiency improvements and their own bottom line.

Building codes and standards: National building codes that include energy efficiency considerations can be an effective tool to ensure the buildings are built to minimise energy use. In their conclusions at Gleneagles in 2005, the G8 called on the International Energy Agency to review existing building standards and codes. Such a review is particularly important in developing countries where economic growth is leading to extensive new construction. For example, Mexico alone is planning to build more than 20 million new homes by 2030 and therefore the standards of today will define the energy efficiency of the building stock for many years to come.

Voluntary commitments and partnerships: Voluntary agreements or initiatives offer flexible approaches to improving energy efficiency. In the US, the EPA Climate Leaders partnership encourages individual commercial and manufacturing companies to develop long-term, comprehensive greenhouse gas emissions reduction strategies. In Japan, industries developed voluntary action plans through the Keidanren Voluntary Action Plan and in South Africa members of the National Business Initiative signed an Energy Efficiency Accord with the Department of Minerals and Energy. In Finland, a voluntary agreement programme on improving energy efficiency and conservation, implemented between the Finnish Ministry of Trade and Industry and industrial and energy companies for more than 10 years has been very successful.

Consumer information: The US Energy Star Program and Europe's energy labelling programme have improved the energy efficiency of buildings and products, such as refrigerators and copier machines. In addition, commercial-driven advertisement and consumer tip campaigns, such as the US Energy Hog Campaign, have helped encourage children and parents to take charge of energy use in the home and to better understand the implications of energy saving technology. However much more needs to be done to raise the general awareness among the population at large of the benefits of improved energy efficiency.

Conclusions

ICC members are convinced that energy efficiency makes good business sense and is certainly a factor in enhancing competitiveness. Moreover, it is a critical part of the global evolution towards a more sustainable energy future. Existing market drivers already offer powerful incentives to improve energy efficiency. Technology solutions and policy frameworks exist today that can improve energy efficiency and technological innovation will continue to add solutions over time. Many firms have well-established energy management systems to capture benefits that have demonstrated impressive results.

Within each region, clear energy efficiency action plans are needed to identify the range of measures that will work with markets to improve information and lower barriers to deployment of economic solutions. To capitalise on the improvements that can be made through technology transfer, barriers need to be identified and removed as well as improving the national and international frameworks that support clean development.

Business supports energy efficiency and given the right fiscal and regulatory frameworks can do more to help governments achieve the triple objectives of growth, jobs and environmental improvement. ICC Members are prepared to share experience and describe the benefits of modern energy management systems in identifying, prioritizing and implementing energy efficiency.

:~::~:~::~:~::~:~::~:~::~:

About ICC

ICC is the world business organization, a representative body that speaks with authority on behalf of enterprises from all sectors in every part of the world. The fundamental mission of ICC is to promote an open international trade and investment system and the market economy, and to help business corporations meet the challenges and opportunities of globalization. Business leaders and experts drawn from ICC's global membership establish the business stance on broad issues of trade and investment policy as well as on vital technical subjects. ICC was founded in 1919. Today it groups thousands of member companies and associations from 130 countries.