



International Cooperation on Energy Efficiency: Working together for a Low-carbon Economy

28 May 2008
Palais des Nations, Geneva

Conference Report



André Mernier and Takekazu Kawamura

Each year, the Annual Policy Conference of the Energy Charter brings together leading policy makers, analysts and business leaders to address pressing international policy issues facing the energy sector. On 28 May 2008, in the Palais des Nations in Geneva, more than 150 industry, government and NGO delegates from around the world gathered to discuss how international cooperation could be enhanced to deliver more and faster energy efficiency.

This conference, organised in close cooperation with the International Energy Agency and the United Nations Economic Commission for Europe, was the first step in a dialogue between governments, industry and other stakeholders to

accelerate progress with energy efficiency as the core of an effective response to climate change. It was also a strengthening of the cooperation between international organisations acting on energy efficiency.

This report summarises the key discussions and agreements from the Conference. It provides a basis for an ongoing dialogue to deliver practical approaches to improved international cooperation on energy efficiency, thereby benefiting the global environment and national economies.

The Conference programme is provided at the end of this report. Copies of individual presentations are freely available on the Energy Charter website: www.encharter.org/index.php?id=energy_efficiency_cooperation. This report summarises major topics of discussion at the conference without attributing views to specific authors.



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THE CHALLENGE FOR ENERGY EFFICIENCY

Energy efficiency is the lowest cost form of greenhouse gas abatement, and also contributes to productivity, competitiveness, energy security and increasing living standards. Yet, despite more than 30 years of international experience in analysing and implementing energy efficiency policies, the rate of implementation of energy efficiency policy lags. Significant cost-effective energy efficiency gains remain unrealised in all countries. At the same time, the world is committed to develop a post-Kyoto framework on climate change response by the end of 2009.



Brice Lalonde

With a growing consensus on the need to act decisively on global climate change, it is imperative that this “implementation gap” be addressed. Mr Brice Lalonde referred to IEA work indicating that about 50% of the global abatement task should come from energy efficiency. The UNFCCC estimates that, to return global emissions to current levels by 2030, **additional annual** end-use energy efficiency investments of around \$149 billion will be required.*

The magnitude of the task, together with the increasingly interconnected global energy system,

* UNFCCC (2007), *Investment and Financial Flows to Address Climate Change*. The abatement scenarios at the core of this study are based on: IEA (2006), *Energy Technology Perspectives – Scenarios & Strategies to 2050*.

indicates a need for global commitment and cooperation. Energy security has moved from being a question of energy independence to one of mutual interdependence within competitive global markets. Energy efficiency concerns the production and use of energy with the most efficient global technologies. And the major new challenge to the energy sector – climate change – is an issue that can only be addressed through global action. In this context, it is worth considering how global international cooperation on energy efficiency could be improved by more concerted international effort to deliver more significant and rapid action.

Participants from Australia, China, the European Union, India, Japan, and Russia described actions those countries are taking to improve energy efficiency, as well as remaining challenges. Representatives of large industrial companies, automobile manufacturers, electricity generation equipment providers, gas suppliers, and household appliance manufacturers also talked about the steps they have taken to improve energy efficiency, and how industry and governments can work together to progress even faster.



Takekazu Kawamura and Vitaly Matsarski

These presentations and discussion around them showed clearly that there has been major progress on energy efficiency. Indeed, for many countries energy efficiency has contributed more



Marek Belka

to meeting energy service needs in the last 30 years than gas, oil or coal. There is now wide understanding among governments and industry of the importance of energy efficiency. The range of policies and measures in place is impressive and is delivering results.

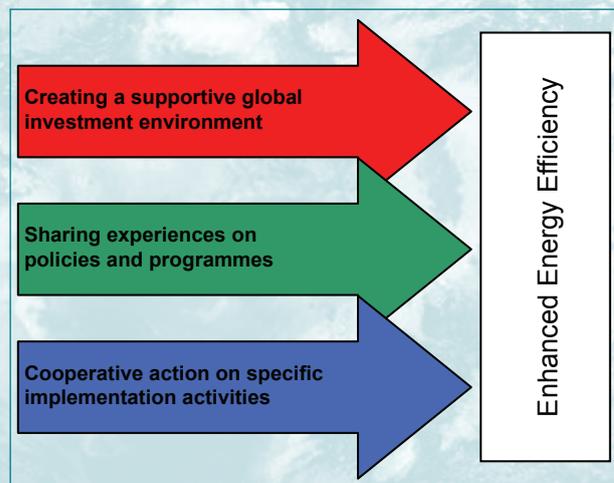
However, there was also wide acceptance that more can be done. This is especially true given recent rises in global energy prices that make energy efficiency even more attractive. The potential costs of new clean energy supply technologies in meeting climate change goals also support greater attention to low-cost energy efficiency options.



Didier Houssin and Walter Steinmann

The Conference discussed three broad areas where international cooperation can assist:

- Creating a supportive global investment environment – while there will be a need for specific attention to energy efficiency, the underlying investment climate will determine the viability and costs of any investment. A supportive environment in all countries lowers costs for all. International financing for energy efficiency will also remain important
- Sharing experiences on policies and programmes – there is now a wealth of information on experience with energy efficiency. Sharing this information in a way that is relevant to different circumstances, and identifies opportunities as well as issues will help to improve and accelerate implementation
- Cooperative action on specific activities – while many activities can be undertaken by individual countries, issues such as global standards, interactions through markets, and economies of scale suggest room for greater cooperation among nations and companies



Within each of these areas, delegates discussed more specific possibilities for further international cooperation. The conference agreed on the need for an ongoing dialogue involving governments, industry, international organisations and other stakeholders to address these issues and ensure energy efficiency was delivered quickly and effectively.

PRIORITIES FOR ACTION

The conference discussed key priorities for further action on energy efficiency, including areas where international cooperation could be enhanced.

Creating a supportive global investment environment

Linking the supply and demand sides

Many options exist to reduce energy demand in a way that is economically attractive. However, those who benefit from the energy savings are not always the same as those who bear any costs of investments. Energy efficiency improvements in rented or leased buildings are the clearest example. Companies or households who are renting a building may not have the legal ability to invest in energy saving lights, heating/cooling equipment or insulation. Or, they may not have the length of tenure to make such investments worthwhile. Meanwhile, landlords who do not pay energy bills have little incentive to invest in energy savings. These problems of mixed incentives also exist in other areas of energy efficiency.



Daojiong Zha

At the economy-wide level, energy efficiency investments reduce the need for investment in new supply capacity, including generation, transmission and distribution. Mr Luigi Meli of CECED estimated that, if the growth in demand for refrigerators in Europe was met by the most

efficient technologies rather than the average, this would avoid the need for around twenty 1 GW power stations costing around €40-80 billion.

However, it can be difficult, especially in deregulated market economies, for the value of these supply savings to be realised by those making the end-use investments. Instead, these savings are dispersed across the economy.



Fabrizio Barboso

The conference agreed that there is a need to find ways to ensure that those who bear the costs of energy efficiency investments can realise appropriate returns. This should be addressed at both the micro- and macro-level.

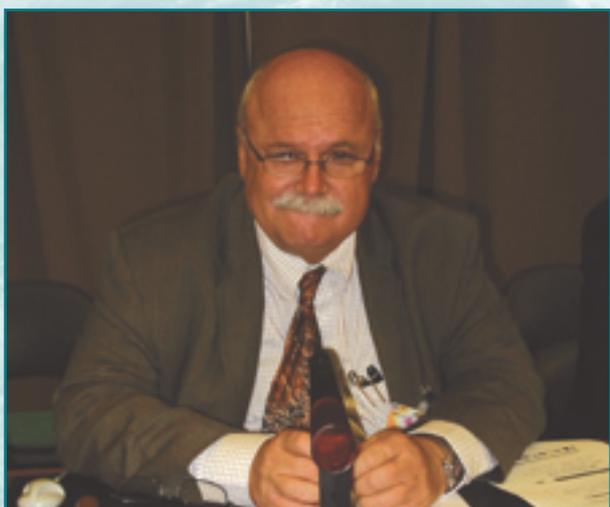
Producer/Consumer Dialogue: Energy Efficiency for Energy Security

The conference supported the commencement of a new dialogue between energy-producing and consuming countries to address the international aspect of this problem of split incentives.

This would involve energy-producing countries developing ways to fund end-use energy efficiency investments through increased revenue from

the greater exports these savings would allow. Importing countries could contribute through technology transfer and technical assistance.

This would not only contribute to improved environmental outcomes, but could improve the energy security of importing countries. A number of speakers pointed to the fact that energy savings in any country is of benefit to all by reducing overall global demand.



Richard Bradley

Financing

The conference agreed that financing of energy efficiency investments would continue to be an important concern. However, there was discussion of what the most pressing financing needs are.

For investments that have clear and relatively quick financial paybacks, large firms generally have access to sufficient finance. However, small and medium enterprises, startup companies, or companies investing in countries with high perceptions of risk, may require assistance, as normal financial channels may not be open to them.

It also will be important to recognise that paybacks for investments will vary in different circumstances. Alternative technologies, differences in energy reliability and costs, and variations in the expertise of implementing bodies will all affect costs, returns and so payback periods. It is therefore important that financing bodies have a good understanding of the local context to avoid misunderstandings and build domestic capacities.

The Conference also reiterated the vital importance of energy pricing, noting recent decisions in

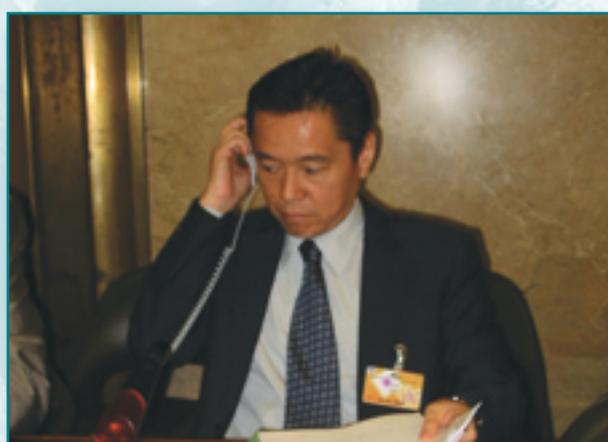
countries including Russia to move toward market based prices for energy.

Existing capital

The conference noted the magnitude of the challenge to make significant reductions in greenhouse gases, and the need to implement all practical options in the residential, commercial, industrial and transport sectors. This will require investments in *new* capital equipment to be highly energy-efficient. The need is especially strong in rapidly developing economies. For example, with more than 600 million people in India currently having no access to electricity, there will be enormous growth in energy needs, and it is vital that these be based on high-efficiency technologies.

But delegates also identified the need to address the energy use of *existing* long-lived capital, especially heat and power generation plant, buildings and urban forms.

At the same time, there was recognition that this could increase the costs of energy efficiency if not done carefully. By working in conjunction with regular maintenance schedules, it was possible to make significant improvements in existing capital at low cost. This was true, for example, in buildings and power generation plant. Further attention is required, however, to address the fact that much existing capital is largely or completely depreciated and in an accounting sense may be most profitable if left untouched.



Takeshi Miki

A secure investment environment

The underlying investment climate in a country affects the level and location of investments, especially for large, long-lived investments. All

countries will require significant new investments in energy efficiency.

The cost of these investments will be higher if there are perceived risks, which could arise from possible expropriation, loss of intellectual property, significant and unanticipated changes in regulatory or fiscal frameworks, or other investment risks. International cooperation can help through developing common understanding and implementation of supportive investment frameworks.

Sharing experiences on policies and programmes

Context-specific assessment

The Conference strongly endorsed the importance of sharing information among governments and industry on best practices in energy efficiency. The valuable experience of the Energy Charter, IEA and UNECE was noted in this regard.

However, it was also seen that there was now a vast quantity of information, and it was important to provide lessons in ways that were clear, honest, transparent and concise. It was also important to identify the context in which different approaches succeeded best. It was noted, for example, that measures successful in industrialised countries may encounter difficulties in countries with less reliable electricity systems, or less implementation experience. Differing regulatory and legislative frameworks also affect the selection of best-practice measures.

One of the reasons identified for energy efficiency not proceeding as quickly as some would like is its dispersed nature through the economy. All market participants are affected, many to only a small degree; this also means that energy efficiency measures often have a low political profile. This presents particular challenges for policy in reaching many actors, and in designing integrated institutions to deliver government policies and programmes. Differing institutional mechanisms are therefore an important aspect of international information-sharing.

Work on common metrics of performance would also be welcome. These would help with comparability across countries, and also ensure that success has objective measures.

Speech Bubbles

***We have lots of things to do.
We have to move as fast as
we can.***

Brice Lalonde

***It doesn't matter who does
the analysis or what the
methodology is. In all cases,
there is great potential for
energy efficiency.***

Richard Bradley

***Business as usual is not
sustainable.***

Fabrizio Barbaso

***Countries that adopt and
implement aggressive and
ambitious energy efficiency
programmes will be wealthier
in 2030. Exactly the same
applies to companies.***

Russel Mills

***We need to know what works
and what doesn't, under what
conditions and why.***

Anne Pellegrino

***To cut energy supply is
controversial for everyone, but
to improve energy efficiency is
beneficial for everyone.***

Takeshi Miki

***Energy that is saved in China,
equals an increase in global
supply.***

Daojong Zha



Russel Mills

Public-private partnerships

The conference strongly supported the importance of effective partnerships between governments and industry. In the end, it is the private sector that will need to provide most of the investments needed to improve energy efficiency and reduce greenhouse gas emissions.

An important consideration in this public-private partnership is the choice of instruments used by governments to promote action. While the important role of market instruments was recognised, including the vital role of energy pricing, there was also a call from some industry participants for use of clear target setting and regulations. The common theme was long-term predictability and flexibility for industry to meet objectives while maintaining competitiveness and profitability.

The conference also recognised the important role of regional and local governments, especially in the area of urban planning and development.

International partnership

Mr Fabrizio Barbaso of the European Commission outlined the role of the International Partnership on Energy Efficiency Cooperation, to be considered by the G8 at its meeting in Tokyo in July. This voluntary Partnership would provide for a clear picture of international activities, promote a strategic view and jointly identify gaps. It would

provide a potential platform for concrete activities of interests to participating countries.

Generation and network efficiency

The Conference repeatedly noted the importance of energy efficiency on the supply as well as the demand side. Without improvements in thermal efficiency in power stations, as well as improvements in transmission and distribution efficiency, it will be very difficult to deliver sufficient savings. These can be achieved in both existing and new plant while maintaining profitability, if completed within normal maintenance cycles.

A number of delegates also mentioned the importance of Smart Grids, which allow for more active management of electricity use.

Cooperative action on specific activities

Sectoral agreements

The issue of possible international sectoral agreements on energy efficiency was discussed in a number of different contexts. It was emphasised that such agreements would likely work as part of a bottom-up approach to national climate change abatement plans, not separate from such plans.



Anne Pellegrino

A number of speakers pointed to the possible role for such agreements, especially in the industrial sector, where different industries faced quite different constraints. The ability of multinational companies to move investments from one country to another was another strong reason for such an approach. It was agreed that even within

sectoral agreements, there was room for effective competition between companies.

However, there was not unanimity on whether such approaches would be beneficial, or the details of how they might be implemented. One important issue was whether any sectoral agreement was based on minimum requirements and “punishment” or on “rewards” for good performance.

Harmonised standards

There was agreement that, in the areas of home appliances, there was a need for greater international harmonisation in the area of appliance labelling and standards. Experience with CFLs showed that it was possible to reduce costs and achieve greater outcomes through international cooperation, while recognising the difficulties in this process.

Different approaches to this issue were considered. One possibility was to choose a particular product and work toward a harmonised international approach. Alternatively, greater harmonisation on testing methods, with the implementation of standards and labels left to national circumstances, was also proposed. These approaches have many common elements.



Vaidhyanathan Raghuraman

Research and development

While recognising that there are significant energy efficiency technologies already available,

the conference also considered the role for possible international cooperation on research and development of energy efficiency technologies.



Alexander Karasevich

It was noted that there were existing cooperative international approaches in areas such as carbon capture and storage, and hydrogen technologies. The possibility for similar cooperation in key end use areas, such as LED lighting technologies, could also be considered.

In order to spur development and diffusion of energy efficient technologies, it is important to ensure that no unnecessary barriers are imposed. In this context, it may not be enough to develop only energy performance standards for products, but also standards for quality and environmental impacts, as has happened with international work on CFLs.

Awareness raising and capacity building

The Conference recognised that one of the reasons energy efficiency is sometimes slowed is a lack of awareness on the part of energy users, but also relevant technical experts, such as plumbers, architects, builders, appliance retailers, etc. Many countries have programmes in place to increase the level of understanding of and capabilities in energy efficiency.

There may be scope for more coordinated approaches to this capacity building, especially in those industries which operate internationally. Consumer awareness tools, such as appliance labelling, may also present opportunities.

WHERE TO FROM HERE?

The Conference agreed to a set of recommendations, which the three organising institutions – the Energy Charter Secretariat, the International Energy Agency and the United Nations Economic Commission from Europe – agreed to consider in their relevant forums and develop appropriate next steps. These next steps will ensure a move from wide agreement on the need for action, to concrete steps to progress, based on priorities identified at the Conference.

Key elements of further work supported in the Conference

- The importance of governments and industry working together on practical solutions
- Drawing on the vast experience of countries as examples of possible measurable, verifiable and reportable actions under a future climate change agreement
- Recognising the specific situations of developed, transition and developing countries and ensuring solutions are tailored to these national circumstances as needed
- Focusing on issues that will make significant gains, including on both the supply and demand side
- Building on work already underway
- The need for an effective dialogue between energy consumers and producers, at both the domestic and international level



(From left to right) Richard Bradley, Dario Chello, Frederic Romig, Jean-Christophe Füg, Zdravko Genchev

CONFERENCE RECOMMENDATIONS

Conference participants reiterated that energy efficiency is a top priority for energy, environmental and social policy. It can deliver parallel benefits for:

- Low-cost greenhouse gas abatement
- Enhanced productivity and competitiveness
- Improved energy security
- Social benefits through reallocation of investments from energy to other social needs

Despite recognition of these benefits, and the considerable efforts of many governments, companies, regional organisations and other bodies to improve energy efficiency, progress has generally not been as could have been achieved, based on estimates of potential. Moreover, improvements in energy intensity have been greatly exceeded by increases in the magnitude of energy services demanded. Much greater investment in energy efficiency, in all countries, will be required for decades to come.

In order to progress further with improving energy efficiency:

- Governments should adopt and implement national energy efficiency strategies with ambitious short and long-term policies and measures and transparent assessment of progress
- Industry should ensure energy efficiency is a key consideration in business decision-making; at a minimum, investments should be on the basis of whole-of-life costs
- International organisations working on energy efficiency must ensure they act effectively in promoting energy efficiency, while avoiding unnecessary overlap and duplication

International cooperation has an important role to play through sharing of information on policies, activities and good practices. International organisations should ensure this work is well coordinated to maximise synergies. Where appropriate, attention should be given to more consistent regulatory and market regimes, the need for global-scale R&D, competitiveness concerns in international markets, effective government/industry partnerships, supportive national and international investment frameworks, insufficient international finance, capacity building, awareness raising, and interactions through interconnected energy and climate systems.

Through discussions, the conference identified a number of barriers to energy efficiency that can only be resolved through effective international cooperation. Addressing these barriers could lead to significant improvements in energy efficiency globally.

Participants agreed to submit these Conference Recommendations to their respective organisations and bodies as appropriate with a view to address these priority issues.

International Cooperation on Energy Efficiency: Working Together for a Low-carbon Economy

PROGRAMME SUMMARY

Speakers' presentation available on the Energy Charter website: http://www.encharter.org/index.php?id=energy_efficiency_cooperation.

Welcome and Opening Statements

Marek Belka, Executive Secretary, UNECE

André Mernier, Secretary General, Energy Charter Secretariat

Walter Steinmann, State Secretary for Energy, Switzerland

Didier Houssin, Director, Oil Markets and Emergency Preparedness, International Energy Agency

Key Note Address

Brice Lalonde, French Ambassador for Climate Change Negotiations

Session One: The Drivers for Energy Efficiency and its Role in a Low-carbon Economy

Session Chairman: Takekazu Kawamura, Chairman of the Energy Charter Conference

Vitaly Matsarski, Coordinator Reporting Data Analysis Programme, UNFCCC Secretariat

Daojiong Zha, Professor, School of International Studies, Peking University

Richard Bradley, Head, Energy Efficiency and Environment Division, International Energy Agency

Session Two: National Perspectives

Session Chairman: Jean-Christophe Füeg, Chairman, Committee on Sustainable Energy, UNECE

Anne Pellegrino, Assistant Secretary, Energy Efficiency Branch,
Department of the Environment, Water, Heritage and the Arts, Australia

Fabrizio Barbaso, Deputy Director General for Energy, European Commission

Sergei Mikhailov, Director, Department of State Energy Policy, Ministry of Industry and Energy, Russia

Takeshi Miki, Director, Energy Efficiency and Conservation Division, METI, Japan

Vaidhyanathan Raghuraman, Head, Energy, Environment and Natural Resources
Confederation of Indian Industry, India

Session Three: Sectoral Perspectives

Session Chairman: Richard Bradley, Head, Energy Efficiency and Environment Division, International Energy Agency

Russell Mills, Director, Climate and Energy Policy, Dow Chemicals

Luigi Meli, General Director, CECED

Willy Tomboy, Director, Environmental Affairs, Toyota Europe

Carlo Luzzatto, Director, Marketing and Business Development, Ansaldo Energia

Alexander Karasevich, Director General, Promgaz

Session Four: Common themes for international cooperation, the Way Forward

Session Chairman: Frederic Romig, Director, Sustainable Energy Division, UNECE

Session Moderator: Dario Chello, Director, Energy Efficiency and Investment Division, Energy Charter Secretariat

All Session Two and Three Speakers as well as:

Jean-Christophe Füeg, Energy Charter PEEREA Working Group

Richard Bradley, Head, Energy Efficiency and Environment Division, International Energy Agency

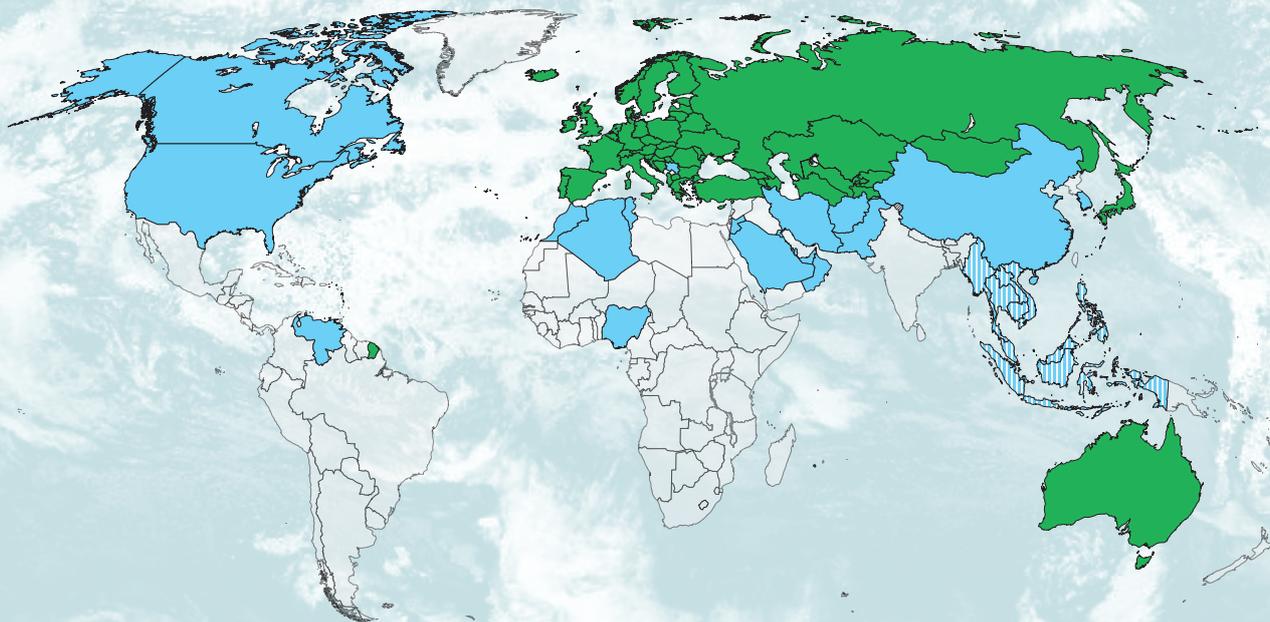
Zdravko Genchev, Vice-chairman, UNECE EE21 Steering Committee



ENERGY CHARTER SECRETARIAT

The Energy Charter Treaty is a legally-binding multilateral instrument covering investment protection, liberalisation of trade, freedom of transit, dispute settlement and environmental aspects in the energy sector. The Energy Charter Treaty was signed in December 1994 and entered into force in April 1998. To date the Treaty has been signed or acceded to by fifty-one states plus the European Communities, representing nearly 40% of global GDP.¹ Twenty more states and ten international organisations have the status of observers to the Energy Charter.²

The Energy Charter Protocol on Energy Efficiency and Related Environmental Aspects (PEEREA) is a legally-binding instrument that was signed together with the Energy Charter Treaty and came into force in April 1998. It requires its signatories to formulate energy efficiency strategies and policy aims, to establish appropriate legal frameworks, and to develop specific programmes for the promotion of efficient energy usage and the reduction of harmful environmental practices in the energy sector. Implementation of PEEREA is kept under review and discussion by the Energy Charter Working Group on Energy Efficiency and Related Environmental Aspects.



¹ Albania, Armenia, Austria, Australia, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, European Communities, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Kazakhstan, Kyrgyzstan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Mongolia, the Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, the former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, United Kingdom, Uzbekistan

² **States:** Afghanistan, Algeria, Bahrain, People's Republic of China, Canada, Islamic Republic of Iran, Hashemite Kingdom of Jordan, Republic of Korea, Kuwait, Morocco, Nigeria, Oman, Pakistan, Qatar, Saudi Arabia, Serbia, Tunisia, United Arab Emirates, United States of America, Venezuela

International Organisations: ASEAN, EBRD, IEA, OECD, UN-ECE, World Bank, WTO, CIS Electric Power Council, BSEC, BASREC

*This report was prepared by Mr Gene McGlynn with the assistance of Ms Valya Peeva and Ms Olga Sorokina.
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