



ENERGY EFFICIENCY IN ECONOMIES IN TRANSITION (EITs): A POLICY PRIORITY

Energy Efficiency in EITs: a Sound Priority

1. Energy efficiency refers to the ratio between energy output (services such as light, heat and mobility) and input (primary energy). Energy intensity (GJ per unit of GDP) and unit consumption ratio (GJ/t of product, GJ/Sq. m) in Economies in Transition (EITs) are, despite clear progress during the last decade, still much higher than the average in Western Europe. For instance, energy intensity in the Czech Republic is 1.6 times higher and over four times higher in CIS countries like the Ukraine.
2. The estimates of the economic potential for energy saving in Central Europe are estimated to exceed 20% of the total current final consumption (ref.: World Bank Energy efficiency Action Plan in the Czech Rep.-1999 and Slovakia-2002¹). In South East Europe and CIS, this potential is even higher in the range of 30-50%.
3. Increasing energy efficiency will assist EITs in increasing competitiveness for business and welfare for consumers (especially in the context of energy price increase), and shift activities to more sustainable directions. It generates environmental benefits through reduced emissions of greenhouse gases and local air pollutants. It also stimulates new services, creating value and local jobs.
4. The combination of new technologies with higher efficiency, programs to deploy them, and rational markets will maximise their impact. Improving energy efficiency both by reducing quantities of energy consumed and by changing processes, offers a powerful tool for achieving sustainable development by reducing the need for investment in energy infrastructure and by cutting fuel costs. Lower demand for energy will reduce energy security concerns and will improve commercial competitiveness.

The Need for an Integrated Approach

5. There is a need to integrate energy efficiency in an overall policy framework and therefore a necessity to develop and implement:
 - general energy policy (supply and demand) and subsequent regulation,
 - energy efficiency support policy including institutional framework and sectoral policies.
6. Energy efficiency is generally integrated in the national energy policy which sets-up the objectives and priorities of the country in the medium-term. Improving energy efficiency towards Western European levels is a general objective for EITs. It must be supported by other policy objectives, such as pricing reforms.
7. The implementation of the energy policy objectives is done through a prescriptive legislation (e.g. energy law) and measures. Regulatory reforms and sector restructuring generally play a crucial role in promoting energy efficiency. On the demand side, the price adjustment, tariff reforms and removal of direct subsidies and cross-subsidies in order to achieve cost covering pricing are the driving forces to motivate consumers to use energy more rationally. On the supply side, the introduction of market prices together with the restructuring of the sector and the lower energy demand have led to the gradual elimination of the least efficient generation and transport infrastructure. The separation of monopolistic activities (unbundling) such as transmission and distribution makes easier the development of energy efficiency customer policies than in a vertically integrated industry. For instance, independent distribution companies have more incentive to provide demand management services to increase customer satisfaction.
8. Market forces and good information can accelerate energy efficiency improvement, but market failures and barriers can inhibit efficiency gains. In such cases, government intervention may be necessary in focusing market interest on energy efficiency. The role of the government proved to be essential in the design of an energy efficiency support policy and related action plans. But government intervention must

¹ Slovak Energy Efficiency Action Plan (2002) is available on: www.ecbratislava.sk

be designed to reinforce market segments to achieve their objectives. Generally, the objectives are implemented through a specific energy efficiency legislation.

9. Energy efficiency policy defines the means and institutional set-up, identifying the responsibilities of state bodies and their co-ordination with users and other organisations (professional organisations, NGOs). The government separates its responsibilities between policy (ministry) and implementation and monitoring through an independent energy authority which can also cover environmental issues.
10. The main measures of an energy efficiency action plan include:
 - Information and awareness,
 - Assessment and monitoring (data and indicators, energy audits and feasibility studies),
 - Regulation (e.g. codes and standards for buildings, appliances, vehicles...etc),
 - Voluntary agreements,
 - Tax incentives (e.g. reduced VAT for energy efficient appliances, accelerated depreciation, energy and/or carbon tax...etc),
 - Special financial arrangements (e.g. revolving funds, third party financing, clustering small projects into investment portfolios),
 - R&D (including pilot and demonstration projects).
11. Of the same importance, the action plan defines the targets, details the objectives and calendar for implementation with the roles for each organisation clearly identified. Constant monitoring and evaluation are crucial in adapting the action plan to changing environment and experiences.
12. The best results from energy efficiency programs occur when they are directly embedded into sectoral policies for energy sector, buildings, transport and industry as well as for transversal uses (lighting, motors, CHP) by encouraging more efficient energy use and technologies. The most effective policies include measures that, together with raising the national awareness towards energy efficiency, both “push” the market (e.g.. rational prices, mandatory efficiency requirements for equipment, buildings and vehicles) and “pull” the market (e.g.. incentives such as labelling). In addition, energy efficiency should be integrated into governmental policies on environment, urban planning, regional development and social issues.

The Challenges of Energy Efficiency in EITs: Ambitious Objectives but Low Priority

13. The large majority of EITs have developed ambitious objectives for energy efficiency to reach the EU energy intensity levels in the medium-term. Meeting this objective will require a sustained strong reduction of the energy intensity in all major consuming sectors.
14. **However, the resources allocated to energy efficiency remain largely insufficient to implement these ambitious objectives.** Supply oriented policies remain dominant whereas energy demand management has not received sufficient priority. As a clear illustration, energy agencies in EITs with responsibility of most implementation of the energy efficiency policy, have remained relatively small and have limited intervention programmes. For instance, the Czech Energy Agency (CEA) has a staff of only 20 and an annual budget of € 3 million to develop a broad set of activities and programmes in order to abate an energy saving economic potential of 5 Mtoe as well as inform and advise a population of 10 million. Therefore, the impact of CEA’s programmes, for example in industry, has been limited to 0.05% of the annual energy consumption². In Poland (39 million inhabitants), Kape (National Energy Conservation Agency) employs less than 20. As a comparison, Novem (the Netherlands Agency for Energy and Environment) has a staff of 600 and manages a budget of over € 300 million (energy represents 60%).
15. Thus, energy efficiency in EITs suffers from an imbalance between a large energy saving potential and insufficient resources allocated to policies to reach the objectives. The experience of energy saving programmes in Western Europe show that even a more limited energy saving potential requires a sustained policy and adequate resources.
16. **Governments should make energy efficiency a higher policy priority and allocate adequate resources to institutions and programmes. This effort will pay for itself thanks to the large benefits of energy efficiency.**

² See Czech Rep. Energy Policy 2001 Review (IEA, p 31-43): free download from <http://www.iea.org/public/reviews/czrep2001.htm>

17. However, some EITs place higher priority on energy efficiency. Hungary has integrated energy efficiency in the medium-term economic development plan (Szechenyi plan, 1999) with a significant effort to allocate resources for an integrated organisation (Energy Centre Hungary) and sectoral programmes, notably to retrofit housing. In 2002, the Slovak government, with the support of the World Bank, developed an ambitious energy efficiency Action Plan 2002-2012¹ which foresees substantial state financial support for institutions and programmes. Slovenia (population of 2 million) adopted in 1996 a programme aiming at improving energy efficiency by 2% annually. The Energy Efficiency Agency (11 staff) implements most of the programme with a financial state support of € 5.3 million (2003).

IEA Contribution

18. The International Energy Agency (IEA)³ has developed an energy co-operation programme for economies in transition. The work is designed to help countries in achieving market-oriented, energy-efficient policies and increase energy security.

19. Energy efficiency has been identified as a policy priority for EITs. Furthermore, energy efficiency can contribute to the enhancement of domestic and regional energy security.

20. For this purpose, and in order to foster the development of ambitious and effective energy efficiency policies in EITs, the IEA has developed a set of activities, including:

- Statistical harmonisation: supply and demand data, and energy efficiency indicators,
- Policy and energy efficiency reviews and advice,
- R & D through International Co-operation Agreements (ICAs)⁴,
- International collaboration (policy co-ordination, standards).

The following table summarises the activities on energy efficiency in the 26 IEA Member Countries (including the Czech Republic and Hungary) and in EITs:

	IEA Members	EITs
Energy data and indicators	. Annual energy balances and statistics . Energy efficiency indicators (Forthcoming publication in September 2003)	. Annual energy balances and statistics . Energy efficiency indicators for the ECS/PEEREA (2003 Kiev meeting)
Energy Policy Reviews <i>including energy efficiency</i>		
National	<i>Every 4 years:</i> Hungary (1999*, 2003), Czech Republic (2001*)	Russia Energy Survey (1995, 2002) Slovakia (1997)
Regional		. Black Sea (2000) . Baltic Energy Efficiency Group (papers, 2001) . South East Europe (2004, <i>tbc</i>)
Energy Efficiency Analysis	- Publications: . "Energy Efficiency Up-date"* (Hungary-2001, Czech Rep.-2003) . Contribution to the IEA 2002 World Energy Outlook (alternate scenarios) . "Energy Efficiency Initiative" (1997, <i>Volumes I and II</i>)* - ICA CADDET-Energy Efficiency	. Covers most of EITs . Information available to EITs

³ The IEA was founded in 1974 in the wake of the first oil shock. It is an independent organisation within the framework of the Organisation for Economic Co-operation and Development (OECD). Its core mission is to meet energy supply disruptions. Over the years, the Agency has extended its tasks to include extensive gathering of statistics, analysis and projection of energy market trends, the promotion of energy efficiency and involvement in energy-related environment issues, especially climate change (more on <http://www.iea.org/about/index.htm>).

⁴ Include the following ICAs "CADDET Energy Efficiency", "Buildings and Community Systems", "Energy Conservation and Emissions Reduction in Combustion", "Demand Side Management", "District Heating and Cooling" (detailed information and specific web pages on <http://www.iea.org/impagr/imporg/imagpub/listof.htm>).

	IEA Members	EITs
Energy Efficiency Workshops (extract)	. "Enhancing Demand Response in a Liberalised Market" (March 2003) . "Save Electricity in a Hurry" (19-20 June 2003, Paris) . "International Workshop on Energy Efficient Set-Top Boxes" (Sep. 2003, Paris)	Open to EITs
Transversal		
Energy Efficient Appliances	. "Labels and Standards" (2000)* . "Stand-by Power" (2001)* . "Cool Appliances, Policy Strategies for Energy Efficient Homes (2003) . Stand-by Power Initiative (1W)	CEE Appliance Policy Project: - Stage 1 (2002): project report, Berlin Workshop* (November) - Stage 2 (2003): with Novem, Dena, SEA Project Start-up meeting (15-16 May 2003, EC, Brussels)
Lighting	. Promotion of efficient appliances and regulation . Forthcoming IEA Publication on Energy Efficient Lighting (December 2003)	Co-operation with IFC/GEF Efficient Lighting Initiative
Financial schemes	ICA "Demand Side Management" (Task X: Performance Contracting)	. "Regulatory Framework for Energy Third Party Financing in Central Europe" (Budapest, 2001) and note on Poland . CD-ROM "Guide to Energy Services Companies in Central and Eastern Europe" (2003)
Sectoral		
Buildings	. Co-operation Agreement "Buildings and Community Systems" . Joint IEA-OECD programme on " Sustainable Building ": 3 rd International IEA-OECD Workshop (Jan. 2004)	
Transport	. Publications: including "Saving Oil and Reducing CO ₂ Emissions in Transport"* (2001) . ICA "Energy Conservation and Emissions Reduction in Combustion"	Information dissemination in Central Europe (2003)
District Heating and CHP	ICA "District Heating and Cooling"	Policy Initiative on District Heating in EITs, Priorities and Best Policy Practices: . Regional Round Table (December 2002) . Regional Conference (Fall 2003, Prague)
Industry	ICA "CADDET Energy Efficiency"	

ICA: International Co-operation Agreement

ECS/PEEREA: Energy Charter Treaty/The Energy Charter Protocol on Energy Efficiency and Related Environmental Aspects

Legend: **forthcoming 2003/2004 workshops opened to EITs**

*: Free download from:

<http://www.iea.org/effi/index.htm> (IEA countries)

<http://www.iea.org/about/nmccee.htm> (EITs)



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Web page: <http://www.iea.org/effi/index.htm>

The Energy Efficiency Update by Country: <http://www.iea.org/pubs/newslett/eneeff/table.htm>

International Co-operation Agreements: <http://www.iea.org/impagr/imporg/imagpub/listof.htm>

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Russia: <http://www.iea.org/about/nmcrussi.htm>

Baltic Energy Efficiency Group: <http://www.ens.dk/sw1559.asp>

District Heating Policy Initiative: <http://www.iea.org/workshop/2003/dhr/workshop.htm>