

Annex 2

***Overview of Energy Efficiency
Policy Measures***

Synthesis of the 2006 survey

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List of organisations participating to the survey

Algeria	APRUE, National Agency for the promotion and the rationalization of the utilization of the energy
Australia	
Austria	Austrian Member Committee of the World Energy Council
Argentina	Argentina WEC National Committee
Botswana	Department of Energy
Brazil	Petrobras
Bulgaria	EEA, Energy Efficiency Agency
Canada	Office of Energy Efficiency, NRCan
Chile	National Energy Commission
Croatia	Energy Institute Hrvoje Pozar
Czech Republic	CEA, Czech Energy Agency
Denmark	Danish Energy Authority
Egypt	Egyptian Electricity Holding Company
Estonia	MoEAC , Ministry of Economic Affairs and Communications
Finland	Ministry of Trade and Industry
France	ADEME, Agency for Environment and Energy Management
Germany	Fraunhofer Institute Systems and Innovation Research
Ghana	Ghana Energy Foundation
Guinea	Public Electricity Corporation
Guinea Bissau	State Secretariat of Energy
Hong Kong, China	Electrical and Mechanical Services Department
Hungary	Energy Centre
Iceland	Energy Agency Iceland, EAI
India	TERI, The Energy and Resources Institute
Indonesia	Energy Conservation Sub-Directorate, Ministry of Energy and Natural
Ireland	SEI, Sustainable Energy Ireland
Israel	Ministry of National Infrastructure
Italy	Italian WEC National Committee
Japan	Japanese WEC National Committee
Jordan	National Energy Research Centre
Kenya	KPLC, Kenya Power & Lighting Co
Korea (ROK)	KEMCO, Korea Energy Management Corporation
Kuwait	Kuwait National Energy Committee
Latvia	Institute of Physical Energetics
Lebanon	ALMEE, Lebanese Association for Energy Control and Environment
Lithuania	Lithuanian Energy Institute
Malaysia	PTM, Pusat Tenaga Malaysia
Malta	MRA, Malta Resources Authority
Mongolia	National Renewable Energy Centre
Myanmar	MES, Myanmar Engineering Society
Mexico	CONAE, Mexican National Commission for Energy Conservation

New Zealand	EECA, Energy Efficiency and Conservation Authority
Nigeria	Nigeria WEC National Committee
Peru	Ministry of Energy and Mines
Philippines	PDOE, Department of Energy - Energy Utilization Management Bureau
Poland	KAPE, Polish Energy Agency
Portugal	Portuguese Member Committee of WEC
Romania	ARCE, Romanian Agency for Energy Conservation
Russia	Center for Energy Policy
Serbia	SEEA, Energy Efficiency Agency of the Republic of Serbia
Singapore	National Environment Agency
Slovakia	SEA, Slovak Energy Agency
Slovenia	Ministry of the Environment and Spatial Planning
South Africa	SANEA, South African National Energy Association
Spain	IDEA, Spanish Institute for Energy Diversification and Saving
Sri-Lanka	Energy Conservation Fund, Ministry of Power and Energy
Sweden	STEM, Swedish Energy Agency
Switzerland	Swiss Federal Office of Energy
Thailand	DEDE, Dept. of alternative Energy Development and Efficiency
Tanzania	Ministry of Energy and Minerals
Tunisia	ANME, National Agency for Energy Management
Turkey	EİE, National Energy Conservation Center
UK	Defra, Department for Environment, Food and Rural Affairs
USA	US Department Of Energy
Venezuela	MEM PET, Ministry of Energy and Mines
Vietnam	Vietnam Energy Conservation Program, Ministry of Industry
Yemen	Public Electricity Corporation

Notes :

Some countries were directly updated by Enerdata from previous survey and additional sources : Belgium, China, Colombia, Greece, Iran, Morocco, The Netherlands, Norway and Taiwan China

1. Institutions and programmes

1.1 Institutions implementing energy efficiency programme

Europe	National Energy Efficiency Agency (A)/Ministry (M)			Regional/Local (R/L) Agencies		
	A/M	Name	Budget (Millions of US dollars) 2005	Employees	R/L	Number
Austria	A	EVA	6.0	65	R	4
Belgium	M	Energy administration			R/L	1/17
Denmark	A/M	DEA	20	17	¹	
Finland	A	Motiva Oy	3.2	25	R/L	6/2
	M ²		8.0	5		
France	A	ADEME	480	820	R/L	19
Germany	A	DENA		100	R/L	25/13
	M	Energy Directorate	550	10-15		
Greece	A	CRES			R/L	10/8
Ireland	A	SEI	16	43	L	12
Italy	A	AEEG, ENEA		5	R/L	3/18
	M			10		
Netherlands	A	NOVEM . SENTER			R/L	1/3
Portugal	A	ADENE				18
Spain	A	IDAE	170	50	R/L	12/21
Sweden ³	A	STEM	35	200	R/L	13 / 290
UK	A	Carbon Trust				
	M	Defra				
Czech Rep.	A	CEA	2.6	8	R/L	6/44
	M	Energy Department		4		
Estonia	M		0.94	3	R	1
Hungary	A	Energy Centre	2.66	42	L	24
	M		0.08	3		
Latvia	M					
Lithuania	A	SC Energy Agency		30	L	1
	M	Energy Department		10		
Malta	A	MRA				
	M					
Poland	A	KAPE		25		13
Slovakia	A	SEA	1.9	40	R	3
Slovenia						
Bulgaria	A	EEA	0.81	46	R	7
	M			11		
Romania	A	ARCE	0.9	64	R/L	1 / 2
	M					
Croatia	A	EIHP		60		
	M			7		
Iceland	A	EAI	0.25	2		
	M		0.50	1		
Norway	A	ENOVA	90		R/L	
	M					
Serbia	A	SEEA	2	12	R	5
	M			2		

¹ There are no formal regional/local authorities but NGO with about 10 regional offices

² Part of Renewable and Energy Efficiency division (14 employees), Energy Department, Ministry of Trade and Industry.

	National Energy Efficiency Agency/Ministry (A/M)				Regional/Local (R/L) Agencies	
Europe	A/M	Name	Budget (Millions of US dollars) 2005	Employees	R/L	Number
Switzerland	A	SwissEnergy	41.4	20	R/L	26 / 20
Turkey	A	EIE	0.95 ⁴	32		
	M					
Russia	M	Federal Agency on Energy			R/L	75
Middle East						
Iran	A	SABA			R/L	6
Israel	M					
Jordan	A	National Energy Research Center	0.1	10		
Kuwait	A	Building and Energy Technologies Dept		20	L	
Lebanon	M		0.02	3		
Asia						
Australia					R	2
New Zealand	A	EEAC	≅14.8 ⁵	70		
China	M					
Hong Kong, China	M		10.9	35		
India	A/M	BEE			R/L	30
Indonesia	M		0.227	9		
Japan	A	ECCJ	43	120	R	9
	A	IBEC	8	26		
	A	NEDO	2161	1100		
	M	MITI	1537	25		
Korea	A	KEMCO	43	450		
	M		792	11		
Malaysia	A	Pusat Tenaga Malaysia ⁶	0.7	50		
	M	Ministry of Energy, Water and Comm.		31		
Mongolia	A	National Renewable Energy Agency	1.2	50		
	M		0.15	5		
Myanmar	M	Ministry of energy				
Philippines	A	Energy Utilisation Management Bureau	0.5	33	R	2
	M	PDOE	0.35	16		
Singapore	M	Energy conservation section		10		
Sri-Lanka	A	Energy Conservation Fund	0.16 ⁷		R/L	1/11
Taiwan, China	M					
Thailand	A	DEDE	40	200		
Vietnam	M			10	L	3

³ STEM is also responsible for issues all energy issues (including supply) ; budget refers to the funds in the 2005 Budget Bill directed at energy efficiency ; the staff includes all employees (not only energy efficiency related tasks).

⁴ 2006

⁵ 2005/2006 Financial year

⁶ Two other organizations linked to energy efficiency: Energy Commission (Suruhanjaya Tenaga) and Centre for Education and Training in Renewable Energy and Energy Efficiency

⁷ Excludes the loan loss provision and deposit of US\$0.5 m made on the Sustainable Guarantee Facility. Energy Conservation Fund is the agency within the Ministry of Power & Energy (Policy & Planning Division).

	National Energy Efficiency Agency/Ministry (A/M)				Regional/Local (R/L) Agencies	
	A/M	Name	Budget (Millions of US dollars) 2005	Employees	R/L	Number
America						
Argentina	M		2.0	11	L	5
Brazil	M	Energy department		3		
Canada	A	OEE	114	300	R	7
Chile	A	PPEE	1 ⁸	10		
	M					
Colombia	M	UPME				
Mexico	A	CONAE	5.9	100	L	16 ⁹
Peru	A	CENERGIA				
	M	Energy and Mines		4		
USA	A	EPA, NHTSA ¹⁰		100 ¹¹	R/L	200 ¹²
	M	EERE ¹³	1200 ¹⁴	350 ¹⁵		
Venezuela	M	Energy and Petroleum	197		L	1
Africa						
Algeria	A	APRUE	0.83	47		
Botswana	A	Energy Efficiency	0.4	3		
Egypt	A	EEHC		325		
Ghana	A	Ghana Energy Foundation	0.4	7		
	M		4.6	96		
Guinea Bissau						
Kenya	A	Kenya association of manufacturers	0.25	5	L	5
	M		0.025	3		
Morocco	A	CDER				
Nigeria	M		1	137		
South Africa	A	Agency of South Africa	38 ¹⁶	1		
	M		0.2 ¹¹	6		
Tanzania						
Tunisia	A	ANME	8.9 ¹⁷	100		
	M	Energy Management Directorate			R ¹⁸	3
Yemen						

⁸ US\$3m in 2006⁹ Target to have 32 local agencies¹⁰ In addition to the USDOE lead federal role in energy efficiency R&D and deployment, offices in other US federal agencies are involved in efficiency programs and policies. These include offices in the Environmental Protection Agency (EPA) and the National Highway Transportation Safety Administration (NHTSA) in the Department of Transportation.¹¹ Number of employees in EPA and NHTSA involved in energy efficiency is known at the time of completion of this survey, but is estimated to be roughly less than 100.¹² 200 includes only EERE employees. Does not include employees from EPA and NHTSA who work on energy efficiency policies and programs.¹³ Office of Energy Efficiency and Renewable Energy in DOE¹⁴ US\$400m spent annually on energy efficiency programs (incl R&D but excl renewable energy programs)¹⁵ 320 employees are at EERE headquarters. Less than half are involved in renewable energy activities. An additional 30 DOE employees are in DOE's Office of Policy and work in area of domestic and international energy efficiency policy.¹⁶ 2006¹⁷ Of which US\$6.3 m exclusively for the financing of eligible energy efficiency actions¹⁸ They only work on renewable energy for the moment

1.2 Existence of national programmes of energy efficiency

Name and objectives of national programmes		
Europe	Energy Efficiency	CO2/GHG abatements
Austria		Austrian Climate Protection Policy 2008-2012
Belgium		National Climate Plan 2002-2012 : reduction of 7.5% of CO2 emissions by 2008/12
Denmark	Action Plan for Renewed Energy-conservation : 1.7%/year saving in final energy consumption excluding transport (2006 to 2013)	
Finland	Action plan for Energy Efficiency (2002) : 4-6 % reduction in primary energy consumption by 2010	Action plan for Energy Efficiency (2002) : 4-6 MtCO2 savings by 2010
France	Orientation and Program Law on Energy (2005) : decrease of energy intensity by 2 % /year to 2015 and 2.5 % /year to 2030	National Programme Against Climate Change : CO2 reduction of 16 MteC in 2008/12 compared to 1990 (GHG decrease by 3% /year to 2050)
Germany	Coalition agreement (2005) : Doubling of energy productivity in 2020 compared to 1990	National Climate Protection Programme of the Federal Government (2005) : reduction by 25% by 2005 for CO2 and 21% by 2008/12 for all gases ¹⁹
Greece	OPC, Operational Programme for Competitiveness (2000-2006)	Climate Change Programme (2000-2010)
Ireland		National climate change strategy : Reduction of 15.4 Mt CO2 below business as usual (2000 to 2012).
Italy	Decree of Activity Productive Ministry on energy efficiency and renewable sources development (2005-2009) : -2.9 Mtoe/year in 2009	
Netherlands	Third White Paper : 33% of energy efficiency improvement (1.5%/year) over 1995-2020. Action Programme Energy Conservation : increasing the energy efficiency improvement by 1.3%/year	Climate Policy Implementation Plan : reduction of CO2 emissions by 9.4 Mt by 2008-2012
Portugal	PRIME , Incentive Programme to the Economic Modernisation 2000-2006	National Allocation Plan (2004 – 2010)
Spain	Energy Efficiency Strategy 2004-2012 (E4) : 7.2% energy efficiency improvement by 2012. Action Plan 2005-2007 : 12 Mtoe savings.	National Allocation Plan (2005-2007) : 0,2% savings compared to 2002 level by 2007
Sweden	Targets for energy efficiency in buildings : Energy use per m ² should decrease by 20% by 2020 and 50% by 2050 (compared to 1995).	Government Bill on Climate Change 2002 : Swedish Climate strategy, 4 % lower in 2008-2010 compared to 1990 and 25 % lower in 2020 compared to 1990
UK	Energy Efficiency Action Plan (2004) , Climate Change Programme (2006) : energy efficiency to deliver 10 MtC savings / year by 2010, Energy Policy Review (2006) : energy efficiency to deliver 6-9 MtC savings/ year by 2020 above savings in Climate Change Programme. Additional target for households (England): savings of 3.5MtC and energy efficiency improvement by 20% by 2010.	Government climate change programme : 20% reduction in CO ₂ emissions by 2010; Energy White Paper, 'Our Energy future' : cut CO2 emissions by some 60% by 2050.

¹⁹ Results : CO2 emissions 1990-2005: -15.8 % (target missed), all GHG emissions 1990-2004: -17.6 %

Europe	Energy Efficiency	CO2/GHG abatements
Czech Rep.	National Program for Energy Efficiency ²⁰ 2006-2009: energy intensity of GDP reduction of 2.6%/year (electricity intensity 2.1% per year).	National Program to Abate the Climate change Impacts (2005-2030): reduce CO2 emissions per capita to 2020 by 30% compared to 2000
Estonia	Energy efficiency target programme (2001-2005): elasticity of energy consumption to GDP < 0.5	National programme of greenhouse Gas Emission reduction (2003-2012): reduction of GHG emissions by 21% by 2010 compared to 1999.
Hungary	Energy Saving and Energy Efficiency Action Programme 1999-2010: reduction of energy intensity by 3,5%/year (saving of 75 PJ/year).	Strategy on climate Protection 1990-2012: 6% reduction of CO2 for 2008-2012
Latvia	State Energy Efficiency Strategy 2000-2010 ²¹	Fourth National Communication on Climate Change: 46% reduction of GHG emissions by 2010 compared to 1990 (scenario with measures) ²²
Lithuania	National Energy Efficiency Programme (2006-2010) ²³ ; Lithuanian Strategy for the Use of Structural EU Funds (2007-2013) (10%: reduction in energy intensity of GDP)	National strategy for implementation of UNFCC 2006-2012:CO2 decline by 32% from 2004 level in 2010
Malta		
Poland		
Slovakia		Fourth national communication on climate change: 8% reduction of GHG emissions by 2008-2012 ²⁴ (compared to 1990)
Slovenia	ReNEP , The Resolution on the National Energy Programme (2004)	
Bulgaria	National EE program (2005-2015): primary energy intensity at 0.256 koe/€ 2000p, final energy intensity 0.157 koe/€2000p; saved 140 000 toe/600 00 tCO2.	Second national action plan on climate change (2005-2008): 8% reduction of GHG emissions compared to 1988 , (savings of 57 Mt CO2).
Romania	Efficient Utilisation of Energy law (56/2006) and National Strategy for Energy Efficiency (2004-2015) : Energy intensity reduction by 3%/year (2000-2030)	National Strategy for Environment Protection and National Action Plan for the Environment: Reduce CO2 emissions by 8% until 2008-2010 compared to 1989
Croatia	National/sectoral energy programmes ²⁵	National environmental action plan 2008-2012: 5% GHG reduction

²⁰ National Programme for Energy Efficiency and Utilisation of Renewables and Secondary Sources of Energy

²¹ A Strategy for Energy Sector Development has been proposed in 2006

²² 35% by 2020. For the “with additional measures” scenario: - 49% by 2010 and – 45% by 2020).

²³ CHP (20% by 2010 of electricity produced), waste energy resource (2TWh by 2010) and reduce by 7% heat consumption in buildings

²⁴ Reduction from 71.5 MteCO2 to 51 MtCo2 between 1990 and 2004

²⁵ MIEE (industry),KOGEN (cogeneration), TRANCRO (transport), KUENzgrada (buildings), KUENcts (district heating), CROTOK (island communities) – 1997 (permanent)

Europe	Energy Efficiency	CO2/GHG abatements
Iceland		Kyoto Protocol 2008-2012: CO2 emission below 10% of 1990 level
Norway	12 TWh/year in energy saving or new renewable energy by 2010	
Serbia	²⁶	
Switzerland	Swissenergy programme (2001-2010): 10% reduction in fossil demand	CO2 law 2001-2010: 10% CO2 reduction ²⁷ .
Turkey	Energy efficiency strategy (2004)	
Russia	Russia's Energy Strategy (2003): energy intensity reduction by 26-27% in 2010 and 45-55% in 2020; Federal law "On energy efficiency" (1996); Draft Federal program Energy Efficient Economy: savings of 35 Mtce (2007-2010) and 100 Mtce (2011-2015)	
Middle East	Energy Efficiency	CO2/GHG abatements
Iran	Energy Management Programme 2004-2009 : 2.7 Mtoe (20 Mboe) energy savings	
Israel		
Jordan	National Energy Efficiency Strategy (2020)	
Kuwait	²⁸	
Lebanon		

²⁶ Energy efficiency in buildings/industry/municipal energy/ social public buildings. Serbia energy efficiency project (2002-2006)

²⁷ 8% from transport fuels and 15% from heating and process fuels

²⁸ Energy conservation programme for air-condition buildings (1983): 7.5 G US \$ saving ; Kuwait energy technologies assessment programme (5 years)

Asia	Energy Efficiency	CO2/GHG abatements
Australia	Energy Efficiency Opportunities Act 2006	Safeguarding the future 1998-2004: constrain emissions growth to 8% above 1990 levels.
New Zealand	National Energy Efficiency and conservation strategy (2001-2012): 20% improvement in energy efficiency	Under review (greenhouse gas reduction targets).
China	11 th Plan (2006-2010) : 20% intensity decrease	
Hong Kong, China		
India	Energy Conservation Act 2001	
Indonesia	Presidential Decree (05/2006) on National Energy Policy: energy elasticity <1 by 2025	Promotion of RE, Energy efficiency and GHG Abatement (PREEGA): to assess technology options in implementing and disseminating RE, EE and GHG Abatement (2002-2005)
Japan	Law on Rational Use of Energy (1979, revised in 2005) ²⁹	Law on the promotion of measures to Cope with Global warming. (1998, revised in 2005)
Korea	Third Energy Rationalization Plan 2005-2007 : reduce primary energy consumption in 2008 by 7% (18.8 Mtoe)	
Malaysia	Malaysian Industrial Energy Efficiency Improvement project (MIEEIP) (2000-2006)	
Mongolia	National Renewable Energy Programme (2005-2020): decrease losses in overall energy system by 10% by 2020 ³⁰	
Philippines	Republic Act 7638 : Saving 150 Mtoe (2005-2014)	Philippines Clean Air Act (2005-2014): reduce CO2 emissions (41Mt)
Singapore		National Climate Change Strategy: reduce CO2 emissions per \$ of GDP to 25% below 1990 levels by 2012
Sri-Lanka	National Energy Conservation programme (2006-2010): saving 200-300 MW and 1-2 GWh	
Taiwan, China	Energy efficiency and conservation programme : 28% reduction in the energy intensity of the GDP by 2020 (16% by 2010)	
Thailand	Energy Conservation Promotion Act 1992	
Vietnam	National focus programme for EE&C: 3-5% energy savings for 2006-2010 and 5-8% for 2011-2015	National focus programme

²⁹ The official target (not in the law) is to improve energy efficiency by 30% by 2030 from 2003 level

³⁰ Additional target of 20-25% share of renewable in total energy production by 2020.

America	Energy Efficiency	CO2/GHG abatements
Argentina	³¹	Energy efficiency project : peak reduction of 800 MW in the sixth year of the project. (2007-2012)
Brazil	PROCEL , Electrical Energy Conservation National Program ³² ; CONPET , National Program for Rational Use of Oil Products and Natural Gas ³³	
Canada	Energy Efficiency Act (1993), EAE Programme , Energy Efficiency and Alternative Energy Programme	
Chile		National Strategy for Climate Change
Colombia		
Mexico	Energy Program 2001-2006 : achieve national energy savings of 2.5% (final consumption) ³⁴	
Peru	Law on Energy Rational Use and Efficiency (2000)	
USA	Energy Policy Act (2005), National Energy Plan (2001)	³⁵
Venezuela	National Programme of Electric Efficiency ; increase energy efficiency levels in electricity related activities and in the final consumption. (2005-2024)	

³¹ Exist several sectoral programmes: Programa de Incremento de la Eficiencia Energetica y productiva en la Industria PIEEP (efficient use of resources, increasing productive efficiency and competitiveness) (2000-2010); Programa de Calidad en Artefactos energeticos and Programa de Ahorro y e Eficiencia Energetica en Edificios Publicos

³² 22 TWh saved between 1985 and 2005

³³ 320 M liters of diesel saved since 1996

³⁴ Savings end 2006 : 22 GWh/year, 5500 MW capacity, 10 Mbl/year of oil. The energy program for the 2007-2012 period is being developed.

³⁵ A reorganization of federal oversight, management and administrative control of climate change activities was done in 2002 ; a Presidential Directive to the Secretaries of Energy and Commerce to develop a National Climate Change Technology Initiative (NCCTI) was issued in 2001

Africa	Energy Efficiency	CO2/GHG abatements
Algeria	National Program for Energy Efficiency 2006-2010 : 1 Mtoe saving	National Program for Energy Efficiency 2006-2010: 2 Mt CO2 savings
Botswana	Energy efficiency and conservation in building sector (2004-2008)	
Egypt	Energy Efficiency Improvement and Greenhouse Gas Reduction 1999-2007 ³⁶	Energy Efficiency Improvement and Greenhouse Gas Reduction 1999-2007: 11.8 Mt CO2 emission reduction
Guinea Bissau	Article 12 and 17 of the State Secretariat of Energy's law	
Ghana	Energy efficiency and conservation programme ³⁷	
Kenya		
Morocco	Strategic Plan for Renewable and Energy Efficiency 2002-2020 : 2 Mtoe of savings by 2011 and 4 Mtoe by 2020 (18%) ³⁸	
Nigeria	³⁹	Zero gas flaring by 2008 by oil companies.
South Africa	National Energy Efficiency Strategy 2005-2015: energy demand reduction in each sector	
Tanzania		
Tunisia	Energy Management Programme (2005-2008): saving of 1.25 Mtoe; 11st plan (2007-2011): saving of 3.2 Mtoe and energy intensity reduction of 2%/yr; Energy Management strategy by 2030: -3%/yr of energy intensity after 2011 ⁴⁰	Energy management programme: reduction of 2%/yr of the carbon intensity between 2007 and 2011 and 3%/yr after 2011 ⁴¹
Yemen		

³⁶ Includes energy service industry support, standards and labelling of household appliances, promotion of cogeneration, energy efficiency building codes.

³⁷ since 1985, 19.6 MW savings

³⁸ Savings of 100 000 toe/year in industry and 50 000 toe/year in services

³⁹ National Industrial energy Efficiency Awareness/Sensitization programme (2000)

⁴⁰ In addition exists two important laws: Law N°2004-72 related to Energy Management and Law N°2005-106 for the creation of the National Fund for Energy Management; results: -1%/yr of the energy intensity until 2005

⁴¹ Results until 2005: -1%/yr of the carbon intensity

2. Main incentives and regulation

2.1 Economic and fiscal incentives

Europe	Industry	Services	Households	Transport
Austria	I ⁴² , R, TC, TR	I, R, TC, TR	I, R, TC, TR ⁴³	I ⁴⁴ , TC, TR
Belgium			I	
Denmark				
Finland	S (40%), I(15-40%) ⁴⁵	S (40-50%) ⁴⁶ , I(15-40%)	S (40%), I(10-15%), TC ⁴⁷ , TR	S(40%),I(15-40%)
France	S (50%), A	S (50%), A	TC ⁴⁸ , R, TR	S (50%)
Germany	I (30%), R (75%)	R	S (130 US \$) ⁴⁹ , R, A	
Greece	I	I		I
Italy	TC ⁵⁰		TC ⁵¹	I, TR
Malta ⁵²	I, R	I, R (hotels only)	I	I
Netherlands	I	I		
Portugal	I	I	R	I
Spain ⁵³	S (75%), I (22%), R (100%), TR	R	I (7%), R	
UK ^{54 55}	R, S, TC ⁵⁶	R, S, TC	S ⁵⁷	R, S, TC
Sweden	TR	TC, I	TC, I	TR
Czech Rep.	S (30%), I(30%), A, TR	S(30%), I(30%), A, TR	S (30%), I(30%), A, TR	A, TR
Estonia	TC	I(75%), TC	S (50%)	TC
Hungary	R(10%)	S(40%), R(10%)	I(33%)	
Latvia				
Lithuania	S(75%), I(75%), R(80%)	S(100%), I(75%), R(80%)	I(75%), R(30%)	I(75%), TR ⁵⁸
Malta				
Poland	R	I, R	R	
Slovakia	I (75%), R	I (75%), R		
Slovenia				

S : Subsidies for audits ; I : Investment subsidies ; R : Soft loans ; TC : Tax credit or deduction
A : Accelerate depreciation · TR · Tax reduction

⁴² Up to 30 % of investment costs for building retrofitting or investment in renewable energies

⁴³ For energy saving building and renewable energies

⁴⁴ Promotion of cars using natural gas

⁴⁵ 15-20% for conventional energy conservation investments, max 40% for new technology promoting energy savings

⁴⁶ 50% for municipal sector buildings, 40% for public buildings of municipalities

⁴⁷ Tax deduction max US\$1450 per person per year.

⁴⁸ For solar water heaters, the tax credit increased from 15% before 2005, to 40% in 2005 and 50% in 2006; for other equipment, from 15-25% in 2005 to 25-40% in 2006.

⁴⁹ Only at the level of some Federal Lander

⁵⁰ 20% deduction on owner income taxes for the substitution of an old machine with an high efficient one, or the purchase of the latter, that has a power between 5 to 90 kW, up to 1.500 € each machine.

⁵¹ 55% deduction on owner income taxes for home energy retrofitting. 20% tax deduction for the purchasing of A+ or A++ appliances.

⁵² Amount of subsidies: 15.75% for electric vehicles (up to US\$ 1425), 25% for solar water heaters (up to US\$ 285), 25% for roof thermal insulation (up to US\$ 85), 20% for PV systems (up to US\$ 1425), 20% for wind systems (up to US\$285), 20% for energy efficient domestic appliances (up to US\$ 142.5)

⁵³ Energy audits for industry are under development. The ongoing measure “Public Support Program” (Action Plan) gives support to ease the economic feasibility of the investments regarding energy saving

⁵⁴ Interest-free loans available for SMES investing in energy efficiency, administered by The Carbon Trust

⁵⁵ Audits available from the Carbon Trust

⁵⁶ Enhanced Capital Allowances available for investment by business in energy efficient technologies

⁵⁷ Web-based home energy audits available from Energy Saving Trust

⁵⁸ Import tax higher for old cars

Europe	Industry	Services	Households	Transport
Bulgaria	TC ⁵⁹	TC	R	
Croatia ⁶⁰	S	S	S	
Iceland	R (Geothermal) ⁶¹	R (Geothermal)		TR
Norway				
Romania			S, I	
Russia		R ⁶²	R ⁴⁷	TR
Norway				
Serbia ⁶³	S (100%)	I (75%) ⁶⁴	R ⁶⁵	
Switzerland	TC	I, TC	R, TC	TC
Turkey	S, I ⁶⁶			
Asia				
Australia	S (Victoria EPA only)		S	
New Zealand	S(50%),I(40%),R ⁶⁷	S		S(50%)
China				
Hong Kong, China				
India ⁶⁸				
Indonesia	S(100%)	S(100%)		
Japan	S, I, R, TC, A	S, I, R, TC, A	I, R, TC, A	S, I, R, TC
Korea	S(80%) ⁶⁹ , I(70%), R, TC(10%)	I(75%), R, TC(10%)	I, R, TC(10%)	
Malaysia	S (50%), I, TC, A, TR	R,TC, A, TR		
Mongolia			I, TR ⁷⁰	
Philippines ⁷¹	S	S		S
Singapore	S(50%) ⁷² , A	S(50%) ⁷¹ , A		
Sri-Lanka	I(1.5%) ⁷³	S(100%) ⁷⁴	TR(100%) ⁷⁵	
Taiwan, China	I	I	I	
Thailand	I, R, TR	I, R, TR	I, R, TR	R, TR
Vietnam			I	

S : Subsidies for audits ; I : Investment subsidies ; R : Soft loans ; TC : Tax credit or deduction
A : Accelerate denreciation · TR : Tax reduction

⁵⁹ Tax deduction under corporate income taxation act in cases when companies delivering grants to the EE Fund

⁶⁰ Variable rates, within Fund for environmental protection and energy efficiency.

⁶¹ Up to 50% of cost waived if unsuccessful

⁶² State guarantees available for energy efficiency projects financed by international financial organizations in RF regions

⁶³ From 2007 energy audits in industry and service sector subsidised up to 50%; soft loans up to 80% of total investment for industry, services and households (interest rate=EUROBOR+ (0.5-1%) ; tax deduction on annual income should be applied

⁶⁴ Only for municipal public buildings and infrastructure

⁶⁵ Higher custom duties for imported cars >7 years

⁶⁶ EIE conducts audits in industry at low cost and non-profit basis. General investment incentives schemes for the manufacturing and service sectors can be used for energy efficiency projects.

⁶⁷ Subsidies limited to 3% of the firms energy bill or US\$ 35300; investment subsidies limited to US\$ 70500 ; for soft loans fee of 10% of the loan up to the first US\$ 70500 plus 6% of any additional amount over US\$ 70500

⁶⁸ Accelerated depreciation benefits are available on certain categories of equipment. Duty exemption for a few energy efficiency equipment is available.

⁶⁹ 80% in funding for renovation, remodel or improvement after audit

⁷⁰ 50% of 50W solar home system cost; PV module exempt from custom tax

⁷¹ 100% for walk through audits only

⁷² Up to US\$ 116 000 per facility/building

⁷³ Free audits for public services; real cost (without profit) for commercial public services (e.g. state owned water supply).

⁷⁴ Credit enhancement tool “Sustainable Guarantee Facility” to mobilize commercial fundings at 1.5% rate (< the market rate)

⁷⁵ For compact fluorescent lamps, no import duty (instead of about 38% for similar goods) and no VAT (15%).

Middle East	Industry	Services	Households	Transport
Iran	I, R	I, R		
Israel				
Jordan	S, I, TR	TR	TR	TR
Kuwait				
Lebanon	S (100%) ⁷⁶	S (100%) ⁶¹		
America				
Argentina	S (100%)	S (100%)		
Brazil				
Canada	S ⁷⁷ , A ⁷⁸	S ⁷⁹ , I ⁸⁰	S ⁸¹ , TR ⁸²	TC
Chile	S ⁸³ , R ⁸⁴			
Colombia	R			
Mexico	TC	TC	TC	TC
Peru				
USA ⁸⁵	TC ⁸⁶ , S, R ⁸⁷	TC ⁸⁸ , Other ⁸⁹	TC ⁹⁰ , R ⁹¹ , I ⁹²	TC ⁹³
Venezuela				

S : Subsidies for audits ; I : Investment subsidies ; R : Soft loans ; TC : Tax credit or deduction
A : Accelerate depreciation · TR · Tax reduction

⁷⁶ Voluntary under the project “Lebanon Cross Sectoral Energy Efficiency and Removal of Barriers to ESCO Operations” MEW/UNDP/GEF

⁷⁷ Financial incentives for energy audits of small and medium scale enterprises

⁷⁸ For industry and private sector power producers to invest in energy consumption and renewable energy technologies

⁷⁹ Up to a maximum of US\$ 20 350

⁸⁰ Up to a maximum of \$ 203 500

⁸¹ A number of provinces and utilities subsidize home energy audits

⁸² Province of Saskatchewan and the Province of British Columbia

⁸³ 70% up to US\$ 10 000

⁸⁴ up to US\$5m for investments and US\$1m for environment

⁸⁵ Exist economic/fiscal incentives, covering all sectors. Information on most recent fiscal incentives are available on www.energy.gov/taxbreaks.htm and www.think-energy.net/EnergyAct2005_TaxCredits.htm

⁸⁶ 30% tax credit for qualified fuel cells, 10% credit for microturbines and 30% for solar energy equipment.

⁸⁷ Loan Guarantee Program

⁸⁸ Energy Efficient Commercial Building Tax Deduction (for energy efficient commercial buildings that reduce annual energy and power consumption by 50% compared to ASHRAE, standard). (maximum of \$1.80 per square foot)

⁸⁹ Energy Savings Performance Contracts (ESPCs). Federal agencies are encouraged to use ESPCs to finance investments in energy-saving improvements.

⁹⁰ Includes, Business Tax Credit for Increased Manufacture of Energy Efficient Appliances (credits vary depending on the efficiency of the unit and criteria established by Energy Star; 10% Tax Credit for Improving Energy Efficiency in Existing Homes; Business Tax Credit for Construction of Energy Efficient New Homes (\$1,000 for new Energy Star qualified homes or with 30% savings and \$2,000 for homes with 50% savings).

⁹¹ Energy Efficient Mortgages (EEM) to help homebuyers or homeowners to finance the cost of adding energy-efficiency features to new or existing housing as part of their home purchase or refinancing mortgage.

⁹² Weatherization Assistance Program (provides subsidized cost-effective energy efficiency improvements to low-income households through the weatherization of homes). In addition, the Low Income Home Energy Assistance Program (LIHEAP) provides grants to States to help low-income consumers in meeting their heating/cooling needs.

⁹³ Automobile Tax Credits (maximum of \$3,400 for the most fuel-efficient vehicles); tax credit for purchase of high efficiency hybrid vehicles or diesel light duty vehicles (credit depends upon the weight class of the vehicle and its rated fuel economy compared to a base fuel economy. Will not exceed \$7,500-\$30,000 based on vehicle.

Africa				
Algeria ⁹⁴	S, I	S, I	S, I	S, I
Botswana				
Egypt	S, R, TC, TR	S, R	No	R
Ghana	S, R	S, R	TR	No
Kenya			TR	
Morocco				
Nigeria	No	No	No	No
South Africa	S, TR	No	No	No
Tanzania				
Tunisia	S (50%), I (20%)	S (50%), I (20%)	I (20%), TC (20%)	S (50%), I (20%)

⁹⁴ Subsidies between 20 to 70% according to the projects and sector.

2.2 Efficiency standards for new buildings

	Dwellings			Buildings		
Europe	Year	Status	Savings ⁹⁵	Year	Status	Savings ⁹³
Austria		P ⁹⁶			P	
Belgium	1986/97	M	15-25%	2000	M	
Denmark⁹⁷	2006	M	25-30%	2006	M	25-30%
Finland	2003 ⁹⁸	M	10-15%	2003	M	10-15%
France	2001 2006	M M	15% 15%	2001 2006	M M	40% 20%
Germany	2002/07	M	30%	2002	M	30%
Greece	1995/01	M	20%/30%	1995/01	M	20%/30%
Ireland	1997/02/06	M		1997/02/2006	M	
Italy	1994	M	10%	1994	M	10%
Netherlands	1995/98 2000	M M	23% 22%	1995/98 2000	M M	23% 22%
Portugal	2002	M	7.5%	2002	M	25%
Spain	1998/07	M	20%	1998	M	20%
Sweden	2006	M		2006	M	
UK	2002/06	M	25%/15%	2002/06	M	25%/15%
Czech Rep.	2006	M	16%	2006	M	
Estonia	1999/07	P	26%	1999/07	P	26%
Hungary	1996	M	15%	1996	M	15%
Latvia	2003	M	40%	2003	M	35%
Lithuania	2006	M	15%	2006	M	15%
Malta	2006			2006		
Poland	2004	M		2004	M	
Slovakia	2005	M		2005	M	
Slovenia	2002	M	15%	2002	M	15%
Bulgaria	2005	M		2005	M	
Romania⁹⁹						
Croatia	2006	M	20%	2006		
Iceland	1998	M	2%	1998	M	2%
Norway	1998	M	15%	1998	M	
Serbia						
Switzerland	2001	M	26%	2001	M	26%
Turkey	2000	M	50%	2000	M	50%
Russia	2003	M		2003	M	
Middle East						
Iran	2000	M		2000	M	
Israel						
Jordan	1988					
Kuwait	1983	M	40%			
Lebanon	2005 (Draft)	V	25%	2005 (Draft)	V	25%
Syria						

M: mandatory; P: planned; V: Voluntary; Savings: consumption reduction compared to situation before new standards

⁹⁵ Savings compared to previous report

⁹⁶ The implementation of the EU directive into national law is under way.

⁹⁷ The new requirements were developed as a part of the implementation of the EU EPBD

⁹⁸ Regulations revised from standards 1983

⁹⁹ Several laws exists (325/2002, 211/2003, 550/2003, 372/2005)

	Dwellings			Buildings		
Asia	Year	Status	Savings ⁹³	Year	Status	Savings ⁹³
Australia	2003	P		2003	P	
New Zealand						
China	1995	M		1995	M	
Hong Kong, China				1995	M	15%
India ¹⁰⁰					P ¹⁰¹	
Indonesia						
Japan	1999	V		2003	V	
Korea	2001	V	13.5%			
Malaysia				2001	V	
Mongolia						
Philippines				1992	V	
Singapore				2004	M	22%
Sri-Lanka				2000	V ¹⁰²	
Taiwan, China	1995-2002	M	20%	1995-2002	M	5-10%
Thailand						
Vietnam						
America						
Argentina						
Brazil				2001	M	
Canada	1997	V	20-50%	1997	V	
Chile ¹⁰³						
Colombia						
Mexico	2007	M	30%	2001	M	30% ¹⁰⁴
Peru						
USA	1998	V, M			M ¹⁰⁵	
Venezuela	2005	P	25%	2005	P	10%
Africa						
Algeria	2000	M	30-40%	2000	M	30-40%
Botswana						
Egypt	2006	M		2006	M	
Ghana						
Kenya						
Morocco		P	20%		P	20%
Nigeria						
South Africa	2008	P		2007	P	
Tunisia	2007	M ¹⁰⁶	30-50%	2006-07 ¹⁰⁷	M	30-50%
Tanzania						

M: mandatory; P: planned; V: Voluntary; Savings: consumption reduction compared to situation before new standards

¹⁰⁰ A draft Energy Conservation Building Code has been prepared by BEE in 2006.

¹⁰¹ For buildings above 500kW (draft codes)

¹⁰² No new building adopted this Energy Efficiency Building Code until now; mandatory implementation suggested for government buildings and legal provisions included in the draft act on creation of the "Sustainable Energy Authority of Sri Lanka" to be by the Parliament in 2007

¹⁰³ In January 2007 the second stage of thermal regulation for new houses began mandatory. It establish minimum insulation standards for walls, ceiling and windows

¹⁰⁴ energy savings until 2006 : 250 GWh/year and 60 MW of capacity

¹⁰⁵ For Federal Government buildings -- The current Federal Standard covers building envelope, heating, cooling, ventilating and service water heating equipment; and lighting requirements for all new Federal commercial buildings. <http://www.energycodes.gov/implement/pdfs/fedcom.pdf>

¹⁰⁶ For multifamily dwellings

¹⁰⁷ Public buildings from 2006 and other services buildings from 2007

2.3 Energy efficiency standards and labels for household electrical appliances

Europe	Nb ¹⁰⁸ L/ES	Refrigerators	Washing Machines	Air conditioners	Lamps	Water Heaters
EU ¹⁰⁹		L, ES (1996)	L(2002)	L (2002)		ES (1992)
Austria	10/2	L (1999) ¹¹⁰ , ES (1997)	L (1996)	L (2004)	L (1999) ¹¹¹ , ES (2001)	L (1994-2004)
Belgium		L, ES	L	L		
Denmark	8/2	L (1995), ES (1997)	L (1996)	L (2003)	L (1999)	
Finland	9/6	L (1995), ES (2000)	L (1996)	L (2005)	L (2000), ES (2002)	
France	8/2	L, ES (1998)	L (1997)	L	ES (2001)	
Germany	7/1	L, ES (1998)	L (1998)	L (2003)	L (1999)	
Greece		L, ES (1998)	L	L		
Ireland	8/3	L, ES (1997)	L (1996)	L (2002)	L (1999), ES (2001)	
Italy	7	ES (1999)	ES (1998)	ES (2003)	ES (2001)	
Netherlands		L (1996), ES (2004)	L	L		
Portugal		L (1999), ES	L (1999)	L		L (1996)
Spain	10	L (1995), ES	L (1996)	L (2003)	L (2002)	
Sweden		L, ES (1995)	L (1996)	L (2002)	L (1999)	
UK		L, ES (1995)	L (1996)	L (2003)	L (1999)	
Czech Rep.	8	L (2004)	L (2004)	L (2004)	L (2004)	
Estonia	8/3	L (2001), ES (2004)	L (2001)	L (2004)	L (2004), ES (2004)	
Hungary	5	L, ES (1994)	L, ES (1994)	L, ES (2004)	L, ES (1994)	
Latvia	4	L (2001)	L (2001)	L (2001)	L (2001)	
Lithuania	4	L, ES (2002)	L, ES (2002)	L, ES (2002)	L, ES (2002)	
Malta	4	L (2004)	L (2004)	L (2004)	L (2004)	
Poland	6	L (2001/03/05)	L (2001/03/05)	L (2001/03/05)		
Slovakia	7/1	L (2002/04), ES (2001/02/03)	L (2002)	L (2003)	L (2002)	
Slovenia		L (2002)	L (2002)	L (2002)	L (2002)	
Bulgaria		L (2003), ES (2001)	L (2003)	L (2003)	L (2003)	
Romania	9	L (2001), ES (1997)	L, ES (2001)	L, ES (2003)	L, ES (2001)	
Croatia	8/1	L, ES (2006)	L (2006)	L (2004)	L (2004)	
Iceland	5	L (1996)	L (1996)	L (2004)		
Norway						
Serbia						
Switzerland	8/6	L, ES (2002)	L, ES (2002)	L, ES (2002)	L, ES (2002)	
Turkey	7/2	L (2002), ES (2005)	L (2003)		L, ES (2003)	
Russia	7	L, ES (2000)	L (2000)	L (2000)	L (2000)	
Middle East						
Iran		L,ES (1999)	L,ES (2002)	L,ES (2002)		
Israel						
Jordan						
Kuwait	1			L, ES (1983)		
Lebanon						

L: label; ES: Energy efficiency standards

¹⁰⁸ Total number of appliances concerned

¹⁰⁹ For EU countries, exist Directives defining mandatory labels for most appliances and mandatory standards for some appliances: refrigerators and freezers (Directive 96/57/EC); a law has to be passed in each country to make it effective. For washing machine, there is a voluntary agreement to improve the efficiency, signed with the association of manufactures (CECED).

¹¹⁰ Implemented between 1994 and 2004

¹¹¹ Implemented between 1994 and 2004

Asia	Nb ¹¹² L/ES	Refrigerators	Washing Machines	Air conditioners	Lamps	Water Heaters
Australia ¹¹³		ES (1999/ 2005)	L	ES (2001)		
New Zealand	5/7	L (2002), ES (2002/05)	L (2002))	L (2002), ES (2002-04/06)	2002	
China	1/3	L (2004), ES (1989/00)	ES (1989)	ES (1989/00)		
Hong Kong, China	3	L (2008)		L (2008)	L (2008)	
India ¹¹⁴	2	L (2007)			L (2007)	
Indonesia	1				L, ES (2006)	
Japan ¹¹⁵	11	L (2004)	L (2004)	L (2004)	L (2004)	L (2004)
Korea	10/9	L (1992), ES (1994/97/01/02/04)	L (2001), ES (2001/04/07)	L (1993), ES (1994/97/00/04)	L (1992), ES (1994/97/00/04)	
Malaysia						
Mongolia						
Philippines	3	L (1997)		L (1993)	L (2006)	
Singapore	2	L (2007)		L (2007)		
Sri-Lanka						
Taiwan, China ¹¹⁶		L (2000)		L (2002)		
Thailand						
Vietnam						
America						
Argentina	4/2	L (2005), ES (2007)	L (2007)	L (2007)	L (2006), ES (2007)	
Brazil ¹¹⁷	3/2	L (2006)	L (2006)	L (2006)	ES (2006)	
Canada ¹¹⁸	8/30	L,ES (1995)	L,ES (1995)	L,ES (1995)		
Chile	2	L (2007)			L (2007)	
Colombia	3/3	L,ES (2004)	L,ES (2005)	L,ES (2004)		
Mexico	7/7	L, ES (1995)	L, ES (1995)	L, ES (1998)	L, ES (1997)	
Peru ¹¹⁹	3/1	L (2006)			L (2003)	ES (2006)
USA	15	ES (1990/1993)	ES (1994/2004)	ES (1992/2006) ¹²⁰	ES (1990-91/2005)	ES (1990/2004)
Venezuela	1	L (1998)				

L: label; ES: Energy efficiency standards

¹¹² Total number of appliances concerned

¹¹³ Projected saving from MEPS of 1.4 TWh in 2018 for refrigerators and commercial refrigerators and 0.8 TWh for air conditioners

¹¹⁴ Launched in 2006 by BEE ; fluorescent lamps only ; MEPS planned later

¹¹⁵ The concept of the program is that energy conservation standards for electric appliances shall be set exactly the same or higher than the best standard value of each product item currently available in the market. A “Top Runner Program” was introduced for the energy conservation standards for home/office appliances in 1999. The program standards for LCD and plasma televisions are to be added.

¹¹⁶ By 2011, home appliances will be required to meet energy efficiency standards

¹¹⁷ Until 2005 equipments were labelled on a voluntary basis. From 2006, labels became mandatory. Minimum efficiency standards for electric motors were introduced in 2002. In 2010 minimum efficiency standards to standard motor shall be the same as the levels adopted nowadays to high efficiency drivers. In 2006, minimum efficiency standards were introduced to circular and compact fluorescent lamps too.

¹¹⁸ Labels also exist since 1995 for electric ranges, freezers, dishwashers and integrated over/under washer-dryers and since 1998 for clothes dryers. Minimum efficiency standards for Canada’s Energy Efficiency Regulations provide minimum efficiency levels for over 30 energy-using products see . A complete list can be accessed at the website:

http://oee.nrcan.gc.ca/regulations/html/EERGuide_Part1.cfm?text=N&printview=N

¹¹⁹ Labels also exist for electric motors since 2003. Minimum efficiency standards also exist for boilers since 2004.

¹²⁰ Central air conditioners (ES (1990/2000) for room air conditioners)

Africa		Refrigerators	Washing Machines	Air conditioners	Lamps	Water Heaters
Algeria ¹²¹						
Botswana						
Egypt	3/2	L, ES (2003)	L, ES (2003)	L, ES (2003)	plan	plan
Ghana	2			ES (2005)	ES (2005)	
Kenya						
Morocco						
Nigeria ¹²²						
South Africa	1	L (2006)				
Tanzania						
Tunisia	1/1	L (2004), ES (2006/2007)		¹²³		

L: label; ES: Energy efficiency standards

¹²¹ Label's are currently under development

¹²² The Energy Commission is working towards securing UNDP/GEF support for "Nigeria Energy Labelling Programme for appliances" starting with Air-conditioners and fridges. Enactment of Energy Efficiency laws and regulations is a major component of the programme

¹²³ In course of study

2.4 Other regulations

Europe	Consumption reporting	Energy Managers	Energy saving plan	Maintenance
Austria ¹²⁴				
Belgium				
Denmark	M (2005)	M	M	M
Finland				
France				
Germany	H, S, I ¹²⁵ (2002)			H,S ¹²⁶ (2002)
Greece		S	Yes ¹²⁷	
Ireland				
Italy	I	I,T,S	I,H,S	T,H,S
Netherlands				
Portugal	I,T,S	I,T,S	I,T,S	
Spain				
Sweden				M
UK	I,S ¹²⁸			
Czech Rep.	I,T,S			I,H,S (2006)
Estonia	I (1992)			
Hungary	I,T (1986)	I (1960)		
Latvia				
Lithuania	I	I		
Malta				
Poland		I,S	I,S	
Slovakia	I,T,H,M			I,H,M
Slovenia				
Bulgaria				
Romania ¹²⁹		I,S,T (2000)	I,S,T (2000)	I,S,T (2000)
Croatia				
Iceland				
Norway				
Serbia	M (2007)		M (2007)	⁹⁶
Switzerland	S ¹³⁰			H,S ¹³¹
Turkey ¹³²	I	I	I	
Russia	I,T, H, B	I	I	T
Middle East				
Iran		I	Yes	
Israel				
Jordan				
Lebanon				

¹²⁴ Voluntaries measures (i.e. audits, consumption reporting, energy managers, energy saving plan)

¹²⁵ Part of energy saving ordinance

¹²⁶ For heating boilers (2002)

¹²⁷ 1980, 1988, 1994 and 1997

¹²⁸ For energy intensive industry in Climate change agreements and for the participants (industry and services) in the UK emissions trading scheme

¹²⁹ For all consumers with energy consumption > 1000 toe/year

¹³⁰ For buildings of large public enterprises

¹³¹ For heating furnaces

¹³² Industries are mandatory by the “Regulation on energy efficiency measures to be taken in industrial establishment” issued in 1995; however there is no penalty presently.

Asia	Consumption reporting	Energy Managers	Energy saving plan	Maintenance
Australia				
New Zealand				
China				
Hong Kong, China				
India				
Indonesia	I, B (20 years)			
Japan	I (1999), B (2003), T (2007)	I, B (1999)	I (1999), B (2003), T (2007)	
Korea ¹³³	I, B, H		I, T, B	
Malaysia				
Mongolia				
Philippines ¹³⁴				
Singapore				
Sri Lanka				
Taiwan, China				
Thailand	I, S (1995)	I, S (1995)	I, S (1995)	
Vietnam	I	I		
America				
Argentina				
Brazil				
Canada				
Chile.				
Colombia				
Costa Rica				
Mexico				
Peru				
USA	S ¹³⁵			
Venezuela				
Africa				
Algeria	I, T, H, B (2006)	I, T, H, B (optional)	I, T, H, B (2006)	
Botswana				
Cote d'Ivoire				
Egypt				
Ghana				
Kenya				
Mali				
Mauritania				
Morocco				
Nigeria				
South Africa				
Tanzania				
Tunisia	S (2001 and 2005) ¹³⁶	¹³⁷	I, T, B ¹³⁸ (each 5 years)	

¹³³ Between 1993 and 2005, 6,025 ktoe energy saving (10.1%)

¹³⁴ Monitoring of energy consumption by the PDOE is voluntary in nature on the part of the business industry sectors. Mandatory savings on energy consumption applied only to the National Government Agencies.

¹³⁵ For Federal Agency buildings only US also has "voluntary" reporting for GHGs, including energy consumption reporting. The Registry of Greenhouse Gas Emissions and Emission Reductions encourages companies, electric utilities, farmers, landowners and other participants to submit reports on their emissions and emission reductions, including sequestration. <http://www.pi.energy.gov/enhancingGHGregistry/index.html>

¹³⁶ One semester mandatory report

¹³⁷ No mandatory, investment subsidies

¹³⁸ For service sector buildings the rate of execution of energy saving plans is 60%. The energy saving potential is estimated to 20% of the energy consumption of audited buildings.

3. Selected energy efficiency measures

3.1 Mandatory energy audits

Europe	Dwellings	Buildings	Industry	Transport
Austria				
Belgium				
Denmark ¹³⁹				
Finland				
France ¹⁴⁰	M	M		
Germany				
Greece				
Ireland				
Italy	I	I,T,S	I,H,S	T,H,S
Portugal				
Spain				
Sweden				
Netherlands				
UK	¹⁴¹			
Czech Rep.		PS (30%) (2002-2005)		
Estonia				
Hungary		PS (40%) ¹⁴²	PS	
Latvia				
Lithuania		PS	PS	
Malta				
Poland	PS (up to 20%) ¹⁴³	PS (up to 20%) ¹⁴⁴ (Public buildings)		
Slovakia				
Slovenia				
Bulgaria		PS (US\$6.6m) ¹⁴⁵		
Romania	FS (beginning in 2009)	yes ¹⁴⁶	yes ¹⁴⁷	
Croatia				
Iceland				
Serbia				
Switzerland				
Turkey			PS ¹⁴⁸	
Russia				
Middle East				
Iran				
Israel				
Jordan				
Lebanon				
Syria				

FS: free for the consumers = fully subsidized; PS: partially subsidized

¹³⁹ The old labelling schemes have been evaluated. The new system have been implemented in 2006

¹⁴⁰ Mandatory for new construction, sales of existing dwellings (2006) and renting (2007)

¹⁴¹ From June 2007 households selling or leasing a domestic property must provide an Energy Performance Certificate

¹⁴² Consumers concerned: municipalities; 820 audits (2000-2005) for buildings (commercial)

¹⁴³ Objective: optimisation of the scope of modernization; consumers concerned: all types of buildings ; 5200 audits (1999-2006)

¹⁴⁴ Objective: optimisation of the scope of modernization; consumers concerned: all types of buildings; 1300 audits (2002-2006)

¹⁴⁵ Municipality owned

¹⁴⁶ Every 5 years for buildings with surface >1000 m2

¹⁴⁷ Annually for consumers with energy consumption >1000 toe/year and every 2 years for consumers with energy consumption between 200 and 1000 toe/year

¹⁴⁸ Since 1995; objective: 600 audits; Consumers concerned: > 2000 toe industries; 100 audits

Asia	Dwellings	Buildings	Industry	Transport
Australia				
New Zealand				
China				
Hong Kong, China				
India				
Indonesia		FS	FS	
Japan				
Korea ¹⁴⁹		Yes	Yes	
Malaysia				
Mongolia				
Philippines ¹⁵⁰		Commercial: FS/PS Public : FS	FS/PS	FS/PS
Singapore				
Sri Lanka ¹⁵¹				
Taiwan, China				
Thailand				
Vietnam				
America				
Argentina				
Brazil				
Canada				
Chile				
Colombia				
Costa Rica				
Mexico				
Peru				
USA				
Venezuela				
Africa				
Algeria		PS (2006) ¹⁵²	PS (70%,2006) ¹⁵³	PS (2006) ¹⁵⁴
Botswana				
Cote d'Ivoire				
Egypt				
Ghana				
Kenya				
Mali				
Mauritania				
Morocco				
Nigeria				
South Africa				
Tanzania				
Tunisia		PS (50%, 1986-06) ¹⁵⁵	PS (50%, 1986-06) ¹⁵⁶	PS (50%, 1986-06) ¹⁵⁷

FS : free for the consumers = fully subsidized ; PS : partially subsidized

¹⁴⁹ Law is being established

¹⁵⁰ 50 audits per year max

¹⁵¹ Mandatory audits are included for implementation in the draft act on the creation of the “Sustainable Energy Authority of Sri Lanka”. This will be enacted by the Parliament in early 2007.

¹⁵² Consumers concerned > 500 toe

¹⁵³ Consumers concerned > 2000 toe

¹⁵⁴ Consumers concerned > 1000 toe

¹⁵⁵ Consumers concerned >= 500 toe ; 162 audits

¹⁵⁶ Consumers concerned >= 2000 toe before 2004 law and >=1000 toe after 2004 law ; 225 audits

¹⁵⁷ Consumers concerned >= 1000 toe before 2004 law and >=500 toe after 2004 law ; 37 audits

3.2 Energy efficiency incentives for passenger transport (cars)

Europe	Car Purchase tax	Annual Tax	Motors fuels tax		Subsidies for cars	Tolls ¹⁵⁸	Regulations / VA
			gasoline	diesel			
Austria			\$0.33/l ¹⁵⁹	\$0.32/l	Hybrid		L
Belgium			\$0.59/l	\$0.59/l			
Denmark	¹⁶⁰	EE ¹⁶¹	\$0.46 /l ¹⁶²	\$0.67/l ¹⁶³	¹⁶⁴		
Finland	F ¹⁶⁵ (28%)	F ¹⁶⁶	\$0.74 /l	\$0.40 /l			
France	CO2 ¹⁶⁷		\$0.73/l	\$0.53/l	¹⁶⁸		EU VA
Germany	P ¹⁶⁹ , CO2		\$0.66/l	\$0.47/l			
Greece			\$0.30/l	\$0.25/l			
Ireland	F ¹⁴⁹ (50%)		\$0.44/l	\$0.37/l			
Italy		¹⁷⁰	\$0.56/l	\$0.41/l	CO2 ¹⁷¹		
Netherlands			\$0.68/l	\$0.37/l			
Portugal			\$0.53/l	\$0.34/l	¹⁷²		
Spain¹⁷³	P,F		\$0.40/l	\$0.29/l			
Sweden		CO2,F	\$0.49/l	\$0.67/l	CO2,F,R	CO2	L
UK		CO2	\$0.93/l ¹⁷⁴	\$0.99/l ¹⁷⁵		¹⁷⁶	VA (at EU-level)

P : difference by engine power class - F : difference by fuel type - EE : difference by energy efficiency class - CO2 : difference by CO2 emission class - L: label - R: regulation on energy efficiency - VA: voluntary agreement on the performance of cars

¹⁵⁸ Tolls on urban infrastructures

¹⁵⁹ Dependent tax for passenger cars and bike (called NoVA) is a non-recurring delivery and becomes dependent on consumption (passenger car) or of the capacity (motor cycles) as a percentage of the net price.

¹⁶⁰ 105% of value until US\$9700 + 180% of the rest (2005)

¹⁶¹ US\$160- 4250 (2006)

¹⁶² Energy tax of US\$ 21 /GJ and CO2-tax of US \$1.3 /GJ

¹⁶³ Energy tax of US\$ 11.7 /GJ and CO2-tax of US \$ 1.3 /GJ

¹⁶⁴ US\$ 295/GJ for scrapping old cars

¹⁶⁵ Car purchase tax on passenger cars is 28% of the taxable value minus US\$570 (if the propelling force is diesel oil) or minus US\$ 820 (other than diesel oil).

¹⁶⁶ US\$ 0.33 per day on vehicles in use before 1st January 1994 and US\$ 44 on vehicles in use since 1st January 1994

¹⁶⁷ US\$2.5/g CO2 above 200g CO2/km , US\$5/g above 250g CO2/km

¹⁶⁸ Subsidy for Electric hybrid

¹⁶⁹ \$8.5-47.5/100 cm³

¹⁷⁰ Two year road tax exemption for new Euro 4/5 cars. Tax exemption reaches 3 years if the car is less than 1300 cc

¹⁷¹ US\$ 995 incentive for substitution of Euro0/1 car with Euro4/5 that emits less than 140 gCO2./km; 2000 € incentive for the substitution of delivery van Euro0/1 with Euro4/5 up to 3,5 t

¹⁷² When scrapping an old car, reduction of the new car tax (IA) by US\$ 945 for 10 years old cars and US\$ 1260 for 15 years old cars. The IA varies according to the vehicle class. For public road transport fleets conversion to GN, electric and biofuel 50% of the over cost of the technology is subsidized (max amount of US\$ 1900000 by promoter)

¹⁷³ US\$1956 and US\$1658 subsidies for bioethanol and biodiesel cars respectively

¹⁷⁴ US\$ 0.88 for ultra low sulphur or sulphur-free gasoline

¹⁷⁵ US\$ 0.88 for ultra low sulphur or sulphur-free diesel

¹⁷⁶ Congestion charging and tolls in some areas

Europe	Car Purchase tax	Annual Tax	Motors fuels tax		Subsidies for cars	Tolls ¹⁷⁷	Regulations / VA
			gasoline	diesel			
Czech Rep.			\$0.53/l	\$0.44/l		From 2007	
Estonia			\$0.37/l	\$0.32/l			
Hungary	P(300-450\$)	EE	\$0.53/l	\$0.44/l	EE		
Latvia		US\$ 22-183 ¹⁷⁸	\$0.35 /l	\$0.30 /l			
Lithuania			\$0.35/l	\$0.37/l			
Malta	P	P	F	F	EE ¹⁷⁹		
Poland	P ¹⁸⁰	P ¹⁸¹	\$0.53 /l	\$0.36 /l	¹⁸²		
Slovakia		P (1220)	\$0.75/l	\$0.61/l			
Slovenia							
Bulgaria	P	P	50%	50%			
Romania					¹⁸³		
Croatia		P,F					
Iceland		P	60%	60%	\$4000		
Norway			\$0.75/l	\$0.53/l			
Switzerland¹⁸⁴			\$0.59/l	\$0.61/l			
Turkey		P ¹⁸⁵			\$2900 (2004)		Partly
Russia		¹⁸⁶					
Middle East							
Iran							
Israel							
Jordan							
Lebanon							
Syria							

P : difference by engine power class - F : difference by fuel type - EE : difference by energy efficiency class - CO2 : difference by CO2 emission class - L: label - R: regulation on energy efficiency - VA: voluntary agreement on the performance of cars

¹⁷⁷ Tolls on urban infrastructures

¹⁷⁸ Depending on the weight of the car and US\$ 16 for more than 20 years old cars

¹⁷⁹ For clean and efficient cars

¹⁸⁰ Applied only to below 3500 kg cars with less than 8 seats (Akcyza tax): between 3.1% and 65% of the catalogue price based on the engine capacity and the age of the car. No annual registration tax is applied on these type of vehicle.

¹⁸¹ Applied only to vehicles which do not pay Akcyza tax. The value of the tax is from US\$ 185 to US\$ 525

¹⁸² In the process of elaboration

¹⁸³ US\$ 100 subsidy for scrapping old car

¹⁸⁴ Motor fuel tax reform (calculated on CO2/environmental impact) under preparation.

¹⁸⁵ Decreasing for 6 years

¹⁸⁶ >73.55 kW cars: 5 R/kW ; 73.55-110.33 : 7R/kW ; 110.33-147.1 : 10R/kW ; 147.1-183.9: 30R/kW ; >183.9kW:30 R/kW. Unified transport tax for all car owners in RF. Energy efficiency intensives are established by progressive scale of tax depending on engine capacity. Similar progressive scale is implemented for all type of vehicles (motor bike, truck, ...)

Asia	Car Purchase tax	Annual Tax	Motors fuels tax		Subsidies for cars	Tolls ¹⁸⁷	Regulations / VA
			gasoline	diesel			
Australia			\$0.38/l	\$0.38/l			VA ¹⁸⁸
New Zealand			\$0.32/l ¹⁸⁹	\$0.1/l			
China							R ¹⁹⁰
Hong Kong, China							
India	P	P	P	P			
Indonesia							
Japan	EE,CO2 ¹⁹¹	EE,CO2 ¹⁹²	\$0.49/l	\$0.29/l			
Korea	P(1500\$)		\$0.93/l	\$0.53/l			R ¹⁹³
Malaysia							
Mongolia							
Philippines							
Singapore	See Website						
Sri-Lanka	P/F	P/F ¹⁹⁴	\$0.33/l	\$0.04/l			
Taiwan, China							
Thailand	20-25% tax		\$ 1.04/l	\$0.57/l ¹⁹⁵			
Vietnam							

P : difference by engine power class - F : difference by fuel type - EE : difference by energy efficiency class - CO2 : difference by CO2 emission class - L: label - R: regulation on energy efficiency - VA: voluntary agreement on the performance of cars

¹⁸⁷ Tolls on urban infrastructures

¹⁸⁸ Target of reduction from 8.4 l/100km to 6.8 l/100km in 2010 (final agreement signed between government and car industry)

¹⁸⁹ Tax relief for ethanol blended petrol

¹⁹⁰ National standard set up in september 2004 in effect since July 2005: specific consumption <8.3 l/100km for vehicles < 1t (<7.5 l/100km by January 2008)

¹⁹¹ Maximum \$US 2700

¹⁹² Tax reduction : 50 %

¹⁹³ Car manufacturers allowed improve the energy efficiency by 20% between 1999 and 2009

¹⁹⁴ US\$15-20 for gasoline cars and US\$ 40-55 for diesel cars

¹⁹⁵ For low sulphur diesel (<0.25%). US\$ 0.59/l for high sulphur diesel (>0.25%)

America	Car Purchase tax	Annual Tax	Motors fuels tax		Subsidies for cars	Tolls ¹⁹⁶	Regulations / VA
			gasoline	diesel			
Argentina							
Brazil							
Canada	EE ¹⁹⁷					EE ¹⁹⁸	
Chile			\$0.36/l	\$0.09/l			
Colombia							
Costa Rica							
Mexico			\$0.08/l	\$0.005/l			
Peru ¹⁹⁹							
USA							R ²⁰⁰
Venezuela							

P : difference by engine power class - F : difference by fuel type - EE : difference by energy efficiency class - CO2 : difference by CO2 emission class - L: label - R: regulation on energy efficiency - VA: voluntary agreement on the performance of cars

¹⁹⁶ Tolls on urban infrastructures

¹⁹⁷ Tax for fuel conservation (TFFC) applies to new passenger vehicles using 6.0 or more liters and sport utility vehicles using 8.0 or more liters per 100 km of highway driving

¹⁹⁸ A number of provinces offer financial incentives for the purchase of hybrid cars (British Columbia : maximum of \$2000; Ontario : maximum of \$1000)

¹⁹⁹ The government is studying alternative to motivate the change of engines with diesel fuel to gas, as result pf high prices of oil barrel.

²⁰⁰ The Corporate Average Fuel Economy (CAFE) requires automobile manufacturers to meet average fuel economy standards for the light duty vehicle and Light Truck fleets sold in the U.S. Congress set fuel economy standards as follows for passenger car: 1978 (18 mpg); MY 1979 (19 mpg); MY 1980 (20 mpg); and for MY 1985 and thereafter (27.5 mpg). Subsequently, standards of 22, 24, 26, and 27 mpg were established for the years 1981-1984. For the post-1985 period, Congress provided for the continued application of the 27.5 mpg standard for passenger cars, but gave DOE the authority to set higher or lower standards. From MY 1986 through 1989, the passenger car standards were lowered. Thereafter, in MY 1990, the passenger car standard was amended to 27.5 mpg, which it has remained at this level.

For Light Trucks, Model Years 2005-2007: NHTSA raised in 2003, the standard for minivans, pickup trucks, SUVs, and other light trucks from 20.7 MPG up to 21.0 MPG for 2005, 21.6 MPG for 2006, and 22.2 MPG for 2007. In March 2006, NHTSA issued new fuel economy standards for the light truck vehicle category (e.g., sport utility vehicles, pick-up trucks): from 21.6 to 24 miles per gallon (mpg) during the period 2008 to 2011. The new rule includes an innovative reform that varies fuel economy standards according to the size of the vehicle.

Section 771 of the Energy Policy Act of 2005 authorizes several million dollars annually additional funding in each of the years from 2006 through 2010 for the NHTSA to enforce the CAFE standards.

Africa							
Algeria			EE	EE ²⁰¹			
Botswana							
Cote d'Ivoire							
Egypt	P	P			F ²⁰²		
Guinea Bissau							
Ghana	P	P	F: \$0.32/l (2006)	F: \$0.2/l (2006)			
Mauritania							
Morocco							
Nigeria							
South Africa							
Tanzania	P(2005)		F (2005)		EE		
Tunisia	P, F (\$192-1540)	P (\$46-1500)	P (\$250- 308)	P (\$115- 173)			

P : difference by engine power class - F : difference by fuel type - EE : difference by energy efficiency class - CO2 : difference by CO2 emission class - L: label - R: regulation on energy efficiency - VA: voluntary agreement on the performance of cars

²⁰¹ Big cylinder vehicles pay 30% in spite of 15%.

²⁰² Incentives for fuel switching to NG include soft payment terms and 50% fuel cost savings compared with gasoline.

3.3 ESCO's and Energy Efficiency Funds

Europe	ESCO's		Energy efficiency funds	
	Number	Budget ²⁰³ (2005) (million US \$)	Name	Budget (2005) (million US \$)
Austria				
Belgium				
Denmark	2-5		Electricity Saving trust	15
Finland	9			
France			FOGIME (guaranty fund)	€ 30m
Germany	500-1000 ²⁰⁴	850		
Greece				
Ireland			SEI	20 (2006)
Italy	58			
Portugal				
Spain				
Sweden				
Netherlands				
UK	20-25 ²⁰⁵	£600-700m	Warm Front programme ²⁰⁶	£315m (2006)
Bulgaria	4	25	National fund "Energy efficiency	1.8
Croatia			Environmental protection and energy efficiency	16.7
Czech Rep.	15	100		
Estonia			Support to energy efficient investments in municipalities	12.1
Hungary	25	122	EU Structural funds + ²⁰⁷	13
Iceland				
Latvia			Energy saving project + ²⁰⁸	2.1
Lithuania				
Norway				
Poland	15		NFOSiGW (1991), EcoFund Foundation (1992), Thermo-modernisation Fund (1998)	
Romania	6	confidential	Romanian Fund for Energy Efficiency (FREE)	6.9
Russia			24 energy funds	
Serbia ²⁰⁹	1		Special fund for SEEA (2002-06)	4
Slovenia				
Slovakia				
Switzerland	50		Swiss climate Cent Foundation ²¹⁰	
Turkey ²¹¹				
Middle East				
Iran				
Israel				
Jordan		3	NAFES/ MEMR/ Jump	5/3/5
Lebanon				
Syria				

²⁰³ Turnover

²⁰⁴ Of which about 25 large companies, the other are small ones.

²⁰⁵ Commercial ES providers

²⁰⁶ Targeted at low incomes to address fuel poverty

²⁰⁷ National Energy conservation Fund (US\$5m)

²⁰⁸ Energy efficiency fund of Vilnius energija (ESCO Dalkia) ; Fund for national energy efficiency (US\$ 0.73 m/year)

²⁰⁹ The average energy consumption has been decreased by 30-60% comparing to state before works in all buildings

²¹⁰ Annual revenues : CHF 100m to be invested to abate 1.8 Mt CO₂

²¹¹ Not yet but envisaged by the Draft Energy Efficiency Law

Asia	ESCO's		Energy efficiency funds	
	Number	Budget (2005) (million US \$)	Name	Budget (2005) (million US \$)
Australia	60-70		Various funds ²¹²	
New Zealand				
China	106			
Hong Kong, China	5			
India ²¹³	20	5 (2003)		
Indonesia				
Japan		34		
Korea	170	183		
Malaysia				
Mongolia				
Philippines	15			
Singapore			EASe	6 / over 5 years
Sri-Lanka	12	1	Sustainable Guarantee Facility	0.145 (from 2007)
Taiwan, China				
Thailand	20	100	EE Revolving fund (since 2004)	25 (revolving)
Vietnam				
America				
Argentina				
Brazil	60 ²¹⁴	18	Proesco	45 (2006)
Canada	12	285	Green Municipal fund	300
Chile.				
Colombia				
Costa Rica				
Mexico	15	215	FIDE ²¹⁶	
Peru			PAE	600 ²¹⁷
USA	500-1000 ²¹⁸	2550 (2004)		
Venezuela				
Africa				
Algeria			NFEE/34	34 ²¹⁹
Botswana				
Cote d'Ivoire				
Egypt	7	1	GEF/UNDP	4.98
Ghana	1	0.2	Electricity management / Energy fund	0.1 each
Kenya				
Mali				
Mauritania				
Morocco				
Nigeria		0.4 ²²⁰		
South Africa			Eskom funding	1.5\$
Tanzania				
Tunisia	4	0.8 (2006)	National fund for energy management	13(2006) ²²¹

²¹² In Australia exist 6 programmes with a total public budget of US\$25.6m/year (US\$ 14m); the total volume of investments induced is estimated to 59.6 \$.

²¹³ See ESCO's case study of India

²¹⁴ ESCOs in Brazil act mainly on electrical power, tend to be small sized companies, exception for less than 10 that have an annual revenue of more than US\$ 1 m. 1300 GWh saved until 2003.

3.4 Measures For Solar Water Heaters

Europe	Period	Installed capacity		Subsidy
		1000 m2	Units	
Austria	2004	2800	191465	For dwelling and buildings (commercial and public)
Belgium	2005	79.6		
Denmark				
Finland	2004	29 ²²²		Max. 15%
France	2005	914		50% tax credit for households
Germany	End of 2005	7197		3600 km ² , 421500 units for the 1999-2005 period ²²³
Greece	2005	3047		
Ireland	2005	10.1		
Italy	2005	530		
Malta	2005	19.6		25% up to US\$ 285 (2006) ²²⁴
Portugal	2005	151	250 (installed in 2005)	For Public and Commercial Buildings
Spain	2005	575 ²²⁵		50-95% tax credit, 10% specific loans
Sweden	2000	200		For dwellings and buildings. SEK 2.5/kWh produced
Netherlands	2005	543		
UK	2005	204		Max 30% (up to US\$ 700) (households) ; max 50% (up to US \$55 000) for communities and SME ; max 40% for commercial and public sector org.
Bulgaria				
Croatia				
Czech Rep.	2005	60.3	152 (installed in 2005)	Average investment subsidy in 2005 : 30%
Estonia	2005	0.82		
Hungary	2005	48.0	500 (installed in 1999)	30%
Iceland				
Latvia	2005	2.35		
Lithuania	2005	2.05		
Norway				
Poland	2004	95 ²²⁶		8745m2 from Ecofund (2005)
Serbia ²²⁷				
Romania				
Russia				
Slovenia	2005	60.3		
Slovakia	2005	64.2		
Switzerland	2003	1356		
Turkey	2005	10832		

²¹⁵ Not available information. 9 ESCO's correspond to US\$ 26.5 m of sales per year, 165 employees and 18 projects developed

²¹⁶ Trust Fund For Efficient Use of Electric Energy Savings

²¹⁷ The PAE (Programa de Ahorro de energia) reduced 3 % from national energy demand.

²¹⁸ Of which 63 real ESCO's offering performance contracting (see ESCO's case study)

²¹⁹ Investment of US\$ 69 m

²²⁰ Level of activity is very low. Only few manufacturing companies patronize them.

²²¹ Of which US\$ 7.7 m exclusively for energy efficiency and US\$ 92 m for 2007-2001

²²² Including 14 km² for residential and 15 km² for agriculture

²²³ Market Incentive Programme for renewable energies (MAP): offers rebates for the installation of solar collector systems. On average, the subsidy amounted to 12.7% of the total investment costs. Solar collector systems can also be supported by low-interest loans within programmes of the reconstruction bank KfW

²²⁴ 15.75% up to US\$ 143 (2005)

²²⁵ Objective 4.9 Mm² by 2010

Asia	Period	Installed capacity		Subsidy
		1000 m2	Units	
Australia	2003	4211		
New Zealand ²²⁸	2003	79.6	35000	
China	2005	79300		
Hong Kong, China	2006	2.2		
India	2003	800		
Indonesia				
Japan	2005	6990	55,000	US\$280-370 / unit
Korea	2003-2004	30.6	1769	50% (except residential)
Malaysia				
Mongolia				
Philippines				
Singapore				
Sri-Lanka	2005	50		
Taiwan, China				
Thailand ²²⁹				
Vietnam				
America				
Argentina				
Brazil	2003	2233		
Canada	2004	37.4		25% (except homeowners)
Chile.				
Colombia				
Costa Rica				
Mexico ²³⁰	2003	556.7		
Peru				
USA	2003	27315		
Venezuela				

²²⁶ Corresponds to 66.2 MWh

²²⁷ In 2007 US\$12m will be used for soft loans to households and thermal solar collectors are eligible measures. Max amount per household is foreseen as US\$ 3000

²²⁸ EECA and the department of building and housing (DBH) are working together to ensure that appropriate guidance on installing solar water heating is incorporated into the building code.

²²⁹ Objective of 40 000 m² installed by 2008-2011 (feasibility study project)

²³⁰ Environmental obligation to install solar water heater in Mexici City (since April 2006). CONAE is developing a National Solar Water Heater Programme (2008-2012) that will include specific goals and create new incentives

Africa	Period	Installed capacity		Subsidy
		1000 m2	Units	
Algeria	2002	0.8	220	2007-2009: US\$685 000
Botswana	2005-2006	105	498	
Cote d'Ivoire				
Egypt	1998	200	100	
Ghana				
Kenya				
Mali				
Mauritania				
Morocco				
Nigeria ²³¹				
South Africa	2003	262.6		
Tanzania				
Tunisia	2005	145	49000	20% ²³²
Middle East				
Iran				
Israel	2003	4720		
Jordan		897		
Lebanon	2005	100 ²³³		
Syria				

²³¹ 50 000 units to be installed as part of a pilot project.

²³² GEF (1995-2004): subsidiary equal to 35%. Prosol (since 2005) : SWH purchase subsidy of 100 DT from State and 100 DT from Medrep fund ; a 5 year loan with for 2005 a US\$ 1 m fund from Medrep/PNUE to decrease the interest rate of loans.

²³³ 85.5% in dwellings and 9.7% in buildings

3.5. Obligation of energy savings for energy companies

Europe	Period	Target	Measures	Sectors
Austria ²³⁴				
Belgium	2003-2008			
Denmark ²³⁵	2006-2013	0.83 TWh/year		I, S, H, M
Finland				
France				
Germany				
Greece				
Ireland				
Italy	2003-2012			
Portugal				I, T
Spain				
Sweden				
Netherlands				
UK	2002-2005 2006- 2008	62 TWh 130 TWh		H
Bulgaria				
Croatia				
Czech Rep.				
Estonia				
Hungary				
Iceland				
Latvia				
Lithuania				
Norway				
Poland				
Romania	2004-2015			I, S, H, T,M
Russia ²³⁶				
Slovenia				
Slovakia				
Switzerland				
Turkey				
Middle East				
Iran				
Israel				
Jordan				
Lebanon				
Syria				

²³⁴ In accordance with EU legislation (Directive of the European parliament and the council on energy end-use efficiency and energy services)

²³⁵ The utilities have to be involved in the implementation (direct or indirect). There are some limitations in the trading.

²³⁶ Energy savings are in accordance with individual energy saving plan developed for each company

Asia	Period	Target	Sectors
Australia			
New Zealand			
China			
Hong Kong, China			
India			
Indonesia			
Japan			
Korea			
Malaysia			
Mongolia			
Philippines ²³⁷	Since 1994	60 TWh/yr	Electricity utilities
Singapore			
Taiwan, China			
Thailand			
Vietnam			
America			
Argentina			
Brazil			
Canada			
Chile			
Colombia			
Costa Rica			
Mexico ²³⁸			
Peru			
USA			
Venezuela			
Africa			
Algeria			
Botswana			
Cote d'Ivoire			
Egypt ²³⁹			
Ghana			
Kenya			
Mali			
Mauritania			
Morocco			
Nigeria			
South Africa			

²³⁷ Loss reduction on the network

²³⁸ Pemex and CFE have Energy Savings Programmes for their installation and internal activities (no mandatory)

²³⁹ For electric utilities the electricity regulator is implementing a benchmarking program which include efficiency indicator, penalties is under development for low efficiency companies.