

Appendixes

APPENDIX A: BANK ATTENTION TO SUBSIDIES IN THE
LARGE SUBSIDIZING COUNTRIES

Country	Total subsidies	Subsidy			PER attention
		Electricity	Fuel	Gas	
Argentina	1990–91: \$0.6 bln ^a 1995–96: \$0.15 bln ^a	\$1.5 bln ^b	\$1.0 bln ^b	\$4.0 bln ^b	2003 +
China	1990–91: \$24.5 bln ^a 1995–96: \$10.3 bln ^a	\$5.0 bln ^b	\$7.0 bln ^b	\$4.0 bln ^b	No PER
Egypt, Arab Rep. of	11.9% of GDP ^c	\$2.0 bln ^b	\$9.5 bln ^b	\$1.0 bln ^b	No PER
Indonesia	1990–91: \$2 bln ^a 1995–96: \$1.3 bln ^a PER: 2006–\$12 bln	\$2.0 bln ^b PER \$3.8 bln. =1.4% of GDP, includes explicit and implicit (2005)	\$15.5 bln ^b PER: 1.5% GDP 2004–3% 2005–3.5%		2007 ++
India	1990–91: \$4.2 bln ^a 1995–96: \$2.7 bln ^a	\$10.0 bln ^b	\$7.0 bln ^b	\$2.0 bln ^b	No PER
Iran, Islamic Rep. of	17.5% of GDP ^c	\$2.5 bln ^b	\$24.0 bln ^b	\$9.5 bln ^b	No PER

CAS objectives related to energy pricing or subsidies	Outcomes and status
2004: Social tariff to be targeted to the poor. Sanction temporary seasonal price adjustment mechanisms in the energy sector.	2006: Social tariff: draft law before Congress, but government is unreceptive. 2007: Electricity tariffs raised but still substantially below long-run marginal cost; gas subsidies in place.
1995: Average power tariffs should approach long-run marginal cost countrywide, but especially in the interior provinces. 1997: Enact price reforms and user fees to increase retained earnings of infrastructure companies. No energy pricing/subsidy target in CASs.	2003: Average power prices cover cost; higher than long-run marginal cost in coastal provinces. 2007: GoE announced plans to eliminate gas and electricity subsidies for energy-intensive industries over the coming three years. Bank provided input on energy prices and subsidies. 2008: Increases in electricity, natural gas, and fuel prices, but still low by international and regional standards. The Ministry of Finance started to record energy subsidies in the budget in 2005/06 to increase transparency.
1995: Institute electricity rate increases. 1997: Raise domestic fuel prices. Power: increase household electrification ratio; raise electricity tariffs. 2001: Phase out fuel and power subsidies to solve the problem with power sector bottlenecks. 2004: Cost-effective tariff/user charges policies; automatic tariff adjustment mechanisms for power.	1999: Financial crisis constrains tariff hikes. 2003: Some tariff increases in electricity, but prices still inadequate to attract investors. 2005: Fuel price hiked, with compensatory targeted assistance to the poor. An unconditional cash transfer program reached 19.2 million poor and near-poor households (34% of the national population). Fuel price adjustments saved \$15 bln in public funds over 2005–06. 2006: Electricity and petroleum prices remain below cost levels as world prices rise.
1995: Depoliticize tariff adjustments and other decisions in power sector. 1998: Implement power tariff adjustments. Liberalize coal pricing and distribution. 2002: Bring down theft and losses. Reduce fiscal drain of the power sector. Better cost recovery for power through appropriate tariff schedules, lower subsidies, and reversal in culture of nonpayment. 2005: Tariffs should cover the cost of service provision. Progressively reduce the primary deficit at the center and in states by reducing power sector losses and phasing out petroleum subsidies.	1999: Adjustment of domestic diesel prices (40% price hike). Higher electricity tariffs, reduced power subsidies. 1996-2006: Bank's five state-level power restructuring projects fail to achieve expected tariff increases. 2008: After-tax petroleum prices are above world market levels; kerosene heavily subsidized.
2001: Interim Assistance Strategy Country Economic Reform agenda addresses subsidies. Bank will intensify economic and sector work, including a study on the reform of the energy pricing system.	2001: Study on the reform of the energy pricing system finalized. Subsidies continue.

(Continues on the next page.)

Bank Attention to Subsidies in the Large Subsidizing Countries (continued)

Country	Total subsidies	Subsidy			PER attention
		Electricity	Fuel	Gas	
Kazakhstan		\$0.5 bln ^b	\$1.0 bln ^b	\$4.0 bln ^b	No PER
Malaysia		\$0.4 bln ^b	\$3.5 bln ^b	—	1999 +
Nigeria	1990–91: \$0.9 bln ^a 1995–96: \$0.5 bln ^a PER: power and steel sectors (% of total budget): 1998—2.6% 2000—7.9% Implicit fuel subsidies: 2003—1.6% of GDP ^c 2005 estimate: 2.2% of GDP ^c	\$0.4 bln ^b	\$2.0 bln ^b		2001 +
Pakistan	Explicit fuel subsidies: 2003—0.1% of GDP ^c 2005 estimated: 0.2% of GDP ^c		\$2.0 bln ^b	\$3.0 bln ^b	—
Russian Federation	2003 (PER): 3.3% of GDP in housing and utility subsidies, direct budget support, quasi-fiscal financing	\$14.0 bln ^b		\$26.0 bln ^b	2005 ++

CAS objectives related to energy pricing or subsidies	Outcomes and status
<p>1998: Liberalization of pricing and regulations in energy.</p> <p>2002: Government will introduce a new tariff policy that will fully cover the cost and will be aimed at reducing the independence of the tariff on electricity transmission distance.</p> <p>No energy pricing/subsidy target in CAS.</p> <p>No energy pricing/subsidy target in CAS.</p>	<p>2000: Government implemented the replacement of the petroleum subsidy by a consumption tax resulting in a doubling of the gasoline price.</p> <p>2004: Nigeria successfully implemented a fiscal rule de-linking the budget from current oil prices.</p>
<p>1995: Improve structure of energy prices. Increase gas, petroleum, and electricity prices. Introduce an automatic adjustment mechanism for petroleum prices.</p> <p>1998: Increase electricity tariffs, with possible delay in petroleum price adjustment.</p> <p>2002: Increase in electricity tariffs, gas prices (to be linked to international crude price), with possible delay in petroleum prices adjustment.</p> <p>2006: Oil and gas prices should fully reflect world market conditions.</p>	<p>1998: Electricity tariffs increased by 21%.</p> <p>2001: Formula-based adjustment of petroleum prices introduced. Consumer gas prices increased, but gas is still sold at \$0.77/mmbtu when opportunity cost is \$1.76/mmbtu.</p> <p>2004: Gas subsidy to fertilizer industry continued, electricity rates were reduced despite continued high losses. Little progress in reducing public sector arrears. Petroleum prices adjusted partially to reflect international oil prices.</p> <p>2005: Government temporarily suspended policy of automatic petroleum price adjustment. Reduction in petroleum taxes, to reduce the impact of rising international prices. Gas tariff collections met policy goals but price adjustment mechanism is not consistent. Gas tariffs are priced close to long-run costs on average but are still below opportunity costs for households and for the fertilizer industry.</p> <p>2006: Inability of government to adjust petroleum consumer prices as foreseen in the CAS. Good progress made in the pricing of natural gas, but gas tariffs continue to be distorted by cross-subsidies among different classes of consumer, and implementation of the gas price adjustment mechanism has been erratic.</p>
<p>1995: Pricing, cost recovery in utility sector (power).</p> <p>1997: Reduction in subsidies to coal enterprises for investment and production.</p> <p>1999: Energy sector—district heating—tariff level; structure; cash collection. Coal—improve subsidy management system, social safety net, level/composition of subsidies and sector governance. Indicator: Real reduction in level of coal sector production subsidies.</p> <p>2002: Reduction of subsidies in energy sector (coal, district heating, power tariffs).</p>	<p>Substantial improvements in cash collection.</p> <p>1997: Introduced new pricing principles in infrastructure monopolies—electricity, natural gas, and railways—to cost-based pricing and reduced cross-subsidization. Electricity prices to industrial customers are comparable to many OECD countries.</p> <p>1999: State subsidies to the coal industry declined from 1% to 0.2% of GDP.</p> <p>2002: Substantial improvements in cash collection in electricity and gas.</p> <p>2005: Subsidies to natural monopolies reduced. Though tariffs are being gradually increased toward long-run marginal costs, price subsidies remain substantial. Domestic prices of gas still well below export levels.</p>

(Continues on the next page.)

Bank Attention to Subsidies in the Large Subsidizing Countries (continued)					
Country	Total subsidies	Subsidy			PER attention
		Electricity	Fuel	Gas	
South Africa	1990–91: \$0.9 bln ^a 1995–96: \$0.4 bln ^a	\$4.0 bln ^b			No PER
Thailand	1990–91: \$0.5 bln ^a 1995–96: \$0.4 bln ^a	\$1.0 bln ^b	\$2.0 bln ^b	\$0.3 bln ^b	No PER
Ukraine	PER: Quasi-fiscal activities in the energy sector (% GDP): 2001: 7.4; 2005: 4.3	\$2.5 bln ^b	\$0.3 bln ^b	\$13.0 bln ^b	2006 ++
Venezuela, R. B. de	1990–91: \$3.4 bln ^a 1995–96: \$2.4 bln ^a	\$1.5 bln ^b	\$8.5 bln ^b		No PER
Vietnam		\$0.7 bln ^b	\$0.7 bln ^b		No PER
Mexico	1990–91: \$5.4 bln ^a 1995–96: \$2.2 bln ^a	PER: 1% of GDP in 2003			2005 ++

Sources for subsidy estimates:

a. World Bank 1995.

b. Estimate of energy subsidies based on IEA 2007, figure 11.7: Economic Value of Energy Subsidies in non-OECD Countries for 2005.

c. Baig and others 2006.

d. Bacon and Kojima 2006.

Note: No PER = no PER implemented; – = no subsidy analysis in PER; + = perfunctory analysis and general recommendations; ++ = detailed analysis and specific recommendations.

CAS objectives related to energy pricing or subsidies	Outcomes and status
2007: Assess competition and regulation in the energy sector.	
1995: Assessment of impact of power tariff and connection charges.	Fuel subsidies phased out over 2004–05.
2000: Improve financial discipline across the economy (including energy sector—full payment in cash).	1999–2006: Collection rates in the energy sector increased from 8% to 98%, coal tariffs doubled, gas tariffs increased by 25%, and electricity by 47%.
2003: Financially sustainable sectors: Energy and Infrastructure (tariff, regulatory, and old debt issues addressed).	CO ₂ emissions/\$ dropped substantially. Bank lending and advisory work helped. However, the rise in energy prices leaves tariffs still below economic costs.
Set tariffs sets close to cost recovery (coal, gas, electricity).	
1997: Maintain domestic petroleum prices at export parity.	
1996–2002: Raise power tariffs to long-run marginal cost countrywide.	2002: Tariffs are still below long-run marginal cost.
2003: Rationalize pricing policies for infrastructure policies.	2006: Gradual convergence to regional prices. Cost recovery in electricity.
2007: Institute cost-effective electricity tariffs for different consumer categories.	
1997: Reduce price distortions in infrastructure, technical assistance on tariff policies in power sector.	
1999: New approach to pricing and subsidization needed at both the national and subnational levels.	
1997: “On the top of environmental agenda is efficient energy pricing.”	
2002: “Revise pricing policies and subsidies (including energy) that claim to assist the poor, actually convey perverse signals and induce overuse, misallocation, and waste of environmental assets.”	
2004: Better targeting of subsidies.	
2008: Electricity subsidies study.	

APPENDIX B: ENERGY-EFFICIENCY PROJECTS WITH POLICY COMPONENTS

Projects with Energy-Efficiency Policy Component, 1996–2007						
Fiscal year	Project ID	Project and status (closed [C]/active [A])		IBRD/IDA grant amount (US\$ million)	IEG outcome rating	Type of efficiency measures
1996	P034491	Albania Power Transmission and Distribution—IBRD/IDA	C	29.50	Unsatisfactory	Appliances and buildings standards
1996	P034617	Mali Selingue Power Rehabilitation Project—IBRD/IDA	C	27.30	Highly satisfactory	DSM study
1997	P035693	China Efficient Industrial Boilers—GEF	C	32.80	Satisfactory	Technology diffusion
1997	P035163	Lithuania Energy Efficiency/Housing Pilot Project—IBRD/IDA	C	10.00	Moderately satisfactory	Efficiency finance fund
1997	P042056	Senegal SN-GEF Energy Mgmt Sust Prtn SIL—GEF	C	4.70	Not rated	Technology diffusion
1997	P010498	Sri Lanka Energy Services Delivery—IBRD/IDA	C	24.20	Satisfactory	Voluntary building standards; capacity building for DSM
1998	P000532	Chad Household Energy Project—IBRD/IDA	C	5.30	Moderately satisfactory	Household energy DSM/technology diffusion
1998	P003606	China Energy Conservation—IBRD/IDA	C	63.00	Satisfactory	ESCO demonstration and market information
1998	P037859	China Energy Conservation—GEF	C	22.00	Satisfactory	Energy conservation information center
1998	P000736	Ethiopia Energy 2—IBRD/IDA	C	200.00	Moderately satisfactory	Electric Standards and Technical Regulation study

Energy-efficiency component, (US\$ million)	Efficiency measures detail	Outcome
8.7 (metering)	Purchase of meters and related accessories. UNDP-financed studies on appliance efficiency and energy conservation in buildings.	Meters purchased. The study on energy conservation in buildings was completed and a law was passed in 2002 to prescribe insulation standards. The study on appliance efficiency was not done.
Not identified	Purchase and installation of equipment for reducing distribution network technical losses and the design and promotion of end-use efficiency programs.	Never implemented
31.49	Development, production, marketing of energy-efficient and cleaner industrial boiler designs.	Achieved
9.80	Loan finance for energy-efficient rehabilitation of residential buildings.	The investments introduced controllable heat consumption.
0.33	Demand management and fuel substitution component to promote substitution of kerosene and liquid petroleum gas for charcoal, and will disseminate efficient charcoal stoves.	Achieved
1.9	Energy-efficiency objectives within the capacity-building component.	The project launched DSM programs, including: a code of practice for energy-efficient commercial buildings; increased technical capacity to carry out energy audits and provide advice on energy efficiency measures; and an appliance energy-labeling program.
0.53 actual	Improve the efficiency of household fuel use: DSM to reduce wood fuel consumption, through: (a) commercialization of efficient cooking stoves (firewood, charcoal); and (b) promotion of the use of low-cost kerosene and liquefied petroleum gas stoves.	Not achieved, subcomponent was discontinued—production problems and lack of demand.
57.96	Adapting the EPC (energy performance contract) model; energy management company demonstration; information dissemination.	Energy management company demonstration. By 2007, the energy efficiency achieved total energy savings of 5.92 mmtce, and associated reductions in carbon dioxide emissions of 5.06 million tons of carbon equivalent versus the target of 3.77 in 2002.
22	The Energy Conservation Information Dissemination Center (NECIDC).	NECIDC was established.
Not identified	Supply-side efficiency investment—energy-efficiency subcomponent related to increasing efficiency in the power sector.	Improve utilization efficiency of rural renewable energy: not achieved.

(Continues on the next page.)

Projects with Energy-Efficiency Policy Component, 1996–2007 (continued)

Fiscal year	Project ID	Project and status (closed [C]/active [A])		IBRD/IDA grant amount (US\$ million)	IEG outcome rating	Type of efficiency measures
2000	P047309	Brazil Energy Efficiency—GEF	C	15.00	Moderately satisfactory	Standards, testing, capacity building
2000	P066345	Mauritania Energy, Water, and Sanitation Sector Reform Technical Assistance Project—IBRD/IDA	C	9.90	Unsatisfactory	Energy-saving action plan
2002	P074040	Bangladesh Renewable Energy Development—GEF	A	8.20	Not rated	DSM and master plan
2002	P063644	Ecuador Power and Communications Sectors Modernization and Rural Services—IBRD/IDA	A	23.00	Not rated	Standards, tariffs incentives for energy conservation in electricity; efficiency finance
2002	P072527	Ecuador Power and Communications Sectors Modernization and Rural Services—GEF	A	2.80	Not rated	Building standards and efficiency
2002	P076702	Sri Lanka Renewable Energy for Rural Economic Development—IBRD/IDA	A	75.00	Not rated	DSM technical assistance, including efficiency finance
2002	P066396	Vietnam System Efficiency Improvement, Equitization, and Renewables Project—IBRD/IDA	A	225.00	Not rated	Utility-based DSM
2003	P076977	Brazil Energy Sector Technical Assistance Project—IBRD/IDA	A	12.10	Not rated	Expansion planning, tariff reform with targeted smart subsidies
2003	P049395	Ethiopia Energy Access SIL—IBRD/IDA	A	132.70	Not rated	Technology diffusion

Energy-efficiency component, (US\$ million)	Efficiency measures detail	Outcome
11.9	Capacity building for improving the efficiency of electricity use by the residential and commercial sectors in Brazil. Removal of barriers to energy efficiency and energy conservation.	GEF project implemented, IBRD loan canceled. Energy Efficiency Reference Center is fully operational. Marketing Plan and Publicity Campaign implemented. National Electric Laboratory is fully operative—testing and labeling programs in place. Testing, Certification, and Labeling Program supported the implementation of the Law on Energy Efficiency (approved October 2001). Research on acceptance of efficiency equipment by market. Training on energy-efficiency management and capacity-building program.
Not identified	The preparation of an energy-saving action plan for public services.	Studies deemed of limited utility. Complementary tariff reforms not enacted.
Not identified	Introducing standards and programs for testing and certification.	
1.74	Develop strategies and policies to remove barriers; standards for efficient design and use of buildings and electrical appliances, public information, and support to the establishment of ESCOs.	
Not identified	Design of energy-efficiency standards for buildings and energy equipment.	
0.75	Energy efficiency and DSM. Technical assistance and credit support for provision of energy-efficiency services. Public policy and ESCO elements.	
5.5	DSM components.	
1.4	Increasing access to and affordability of electricity, natural gas, and liquefied petroleum gas including through tariff reform with targeted, smart subsidies. Demand- and supply-side possibilities—through training and capacity building.	
Not identified	Promotion of commercially based production and dissemination of approximately 320,000 improved baking stoves.	

(Continues on the next page.)

Projects with Energy-Efficiency Policy Component, 1996–2007 (continued)

Fiscal year	Project ID	Project and status (closed [C]/active [A])		IBRD/IDA grant amount (US\$ million)	IEG outcome rating	Type of efficiency measures
2003	P071019	Vietnam Demand-Side Management and Energy—GEF	A	5.50	Not rated	Utility-based DSM
2004	P073036	Mali Household Energy and Universal Access Project—IBRD/IDA	A	35.70	Not rated	Energy services, charcoal-efficiency promotion
2004	P074686	Morocco Energy and Environment Upgrading—GEF Medium Size	C	0.80	Not rated	Capacity building for efficiency finance
2004	P068124	Uruguay Energy Efficiency Project—GEF	A	6.90	Not rated	Utility-based efficiency services
2005	P077575	Bulgaria District Heating—Carbon Offset	A	4.30	Not rated	DSM public awareness
2005	P069126	Burkina Faso Power Sector Development—IBRD/IDA	A	63.60	Not rated	DSM institutional strengthening
2005	P072721	China Heat Reform and Building Energy Efficiency Project—GEF	A	18.00	Not rated	Codes and standards; metering
2005	P070246	Poland Energy Efficiency—GEF	A	11.00	Not rated	Efficiency finance, capacity building, and demonstration

Energy-efficiency component, (US\$ million)	Efficiency measures detail	Outcome
5.5	1. Electricity of Vietnam's DSM Program: expanded time-of-use metering, pilot direct-load control program, CFL promotion, fluorescent tube lamp market transformation; 2. Ministry of Industry Pilot Commercial Energy Efficiency Program: training, subproject financing, grants, program marketing.	
10.56	Interfuel substitution and household energy efficiency.	
Not identified	Energy (electricity and fuel) savings in an industrial park in Casablanca by facilitating local ESCO businesses and strengthening the local executing agency.	
6.48	Improved efficiency of energy use: energy-efficiency market development (implemented by the Ministry of Industry, Energy, and Mining); utility-based energy-efficiency services.	
4.34	Rehabilitation of pipeline and district heating substations. The technical assistance supported by the KIDS component of the project will support a public awareness campaign to promote DSM.	
3.38	1. Design a DSM policy framework and implement DSM programs, including capacity building in Energy Management Unit, to build a base for building code and appliance standards. 2. Purchase of efficient air-conditioning and lighting system. 3. Information awareness campaign.	
18	Promote simultaneous development of both heating sector reforms and building energy-efficiency improvements in 4-6 northern Chinese municipalities, achieving broad national impact.	
12.37	Components: 1. A partial guarantee. 2. Investments in bundled energy efficiency projects in the Krakow region. 3. Technical assistance for: deployment of guarantee mechanism; ESCO subsidiary in the development of the performance contracting model; training to local banks; awareness and demand for efficiency investments; project monitoring data and dissemination of results.	

(Continues on the next page.)

Projects with Energy-Efficiency Policy Component, 1996–2007 (continued)

Fiscal year	Project ID	Project and status (closed [C]/active [A])		IBRD/IDA grant amount (US\$ million)	IEG outcome rating	Type of efficiency measures
2006	P086379	Djibouti Power Access and Diversification—IBRD/IDA	A	7.00	Not rated	Studies on sector efficiency
2007	P097635	Kosovo Lignite Power TA—IBRD/IDA	A	8.50	Not rated	Technical assistance policies and strategies on energy efficiency
2007	P099618	Morocco Energy Sector DPL—IBRD/IDA	C	100.00	Not rated	Standards, energy-efficiency audits, public policy, efficiency finance
1996	P091074	Philippines Public and Private Sectors Capacity Building Project (TF028553)—IDF	C		Not rated	Capacity building for DSM policy development
1997	P039965	Sri Lanka Energy Services Delivery—GEF	C	5.90	Not rated	DSM policy; efficiency finance
2004	P066532	Philippines Electric Cooperative System Loss Reduction Project—GEF	A	12.00	Not rated	Capacity building for efficiency finance

Source: IEG based on project appraisals, Implementation Completion Reports, Implementation Completion Report reviews, and Project Performance Assessment Reports.

Energy-efficiency component, (US\$ million)	Efficiency measures detail	Outcome
< 0.5	Technical assistance directed on tariffs and losses study.	
Not identified	Policies and strategies to promote renewable energy, cogeneration, and energy efficiency in Kosovo.	
16	1. Set energy-efficiency standards for appliances, appliance labeling, new buildings, street lighting, and public buildings. 2. Organize the execution and monitoring of mandatory energy-efficiency audits in large and medium-size industries. 3. Government support for financing of energy efficiency programs. Conditionality: Adoption of implementing decrees on Energy Efficiency and Renewable Energy.	
Not identified	Support to the process of public consultation to design a DSM strategic plan and foster ownership of DSM programs through shared energy efficiency and energy conservation objectives.	
1.06	Strengthen the environment for DSM implementation, and improve the public and private sector performance to deliver energy services through renewable energy and DSM.	
12.00	Partial Credit Guarantee Program. Capacity building: 1. Provide technical assistance and training to financial intermediaries, electric cooperatives (ECs), and ECs' investors, in power distribution systems; 2. Technical assistance to the Department of Energy for energy-efficiency gains of ECs from improved access to commercial lending.	

APPENDIX C: DISTRIBUTIONAL INCIDENCE OF SUBSIDIES

Country	Energy subsector	Source	Energy expenditure as a share of household expenditure	
			Poor	Non-poor
Albania	No subsidy	PSIA, 2003	>20% on electricity of the cash income of the core poor (bottom 12%)	
Argentina	Patagonian gas	PER, Sept. 2003	...	...
Armenia	Utilities	PSIA, 2001	18% on utilities such as telephone, gas, central heat, and water for the poor	11% on utilities such as telephone, gas, central heat, and water for the non-poor
	Electricity	Tajikistan PSIA, 2006	13.9% for bottom quintile	6.5% for top quintile
Bangladesh	Residential gas	PER, Sept. 2003	...	...
Bolivia	Hydrocarbon derivatives	PSIA 2004, Coady, Grosh, and Hoddinott 2006	7.8% on transportation, fuel, and lubricants	9.3% on transportation, fuel, and lubricants
	Transportation	PSIA, 2004	5.4% on transportation	5.9% on transportation
	Fuels and lubricants for vehicles	PSIA, 2004	0.6% on fuels for vehicles	2.2% on fuels for vehicles
	Fuels and lubricants to cook	PSIA, 2004	1.9% on fuels for cooking	1.2% on fuels for cooking
	LPG	Coady, Grosh, and Hoddinott 2006	2.6% for bottom quintile	1.1% for top quintile
	Gasoline and diesel	Coady, Grosh, and Hoddinott 2006	0.0% for bottom quintile	2.5% for top quintile
Djibouti	No subsidy	PSIA, 2005	18.2% (18.5) ^a on biomass, electricity, and other energy sources in bottom quintile	16.3% (13.4) ^a on biomass, electricity, and other energy sources in top quintile
Ecuador	Cooking gas	PER, Nov. 2004	...	...
	Electricity, cooking gas and fuel	PER, Nov. 2004	...	...
Egypt, Arab Rep. of	Kerosene	PSIA, 2005	...	...
	Natural gas	PSIA, 2005	...	...

Income impact of subsidy removal/price increase		Share of benefit from the energy subsidy	
Poor	Non-poor	Poor	Non-poor
...
...	...	Subsidy excludes 95% of poor gas consumers, while 63% of its beneficiaries are non-poor; 100% of the resources of the subsidy go to the far south, which has only 3% of the nation's poor.	
9 percentage point increase in expenditure for the poor	3 percentage point increase in expenditure for the non-poor	...	...
...
...	...	The 4% of households with gas access receive Tk1.6 billion in implicit subsidies	
5.8% reduction in real income for bottom quintile	4.7% reduction in real income for top quintile	15.3% for bottom two deciles	...
...
...
...
...
...
...	...	3% to bottom quintile	17% to top quintile
...	...	...	67% to top four deciles
2.2 percentage point reduction of income for bottom quintile	0.1 percentage point reduction of income for top quintile	...	...
0.1 percentage point reduction of income for bottom quintile	0.6 percentage point reduction of income for top quintile	...	...

(Continues on the next page.)

Distributional Incidence of Subsidies (continued)

Country	Energy subsector	Source	Energy expenditure as a share of household expenditure	
			Poor	Non-poor
Egypt, Arab Rep. of (continued)	Gasoline	PSIA, 2005	...	...
	LPG	PSIA, 2005	...	...
	Above four products	PSIA, 2005	...	...
Georgia	Electricity	Tajikistan PSIA, 2006	6.3% for bottom quintile	2.0% for top quintile
Ghana	Petrol	Coady and Newhouse 2006	0.1% for bottom quintile	2.1% for top quintile
	Kerosene	Coady and Newhouse 2006	5.9% for bottom quintile	1.6% for top quintile
	LPG	Coady and Newhouse 2006	0.0% for bottom quintile	0.2% for top quintile
	Above three products	Coady and Newhouse 2006; Coady and others 2006	...	...
	Electricity	PSIA, 2004	...	...
Hungary	Electricity	Tajikistan PSIA, 2006	6.5% for bottom quintile	3.7% for top quintile
Indonesia	Fuel	DPL-II Program Document, 2005	3.6% for the bottom two deciles spent on fuel (3% on kerosene)	...
	Electricity	PER, 2007	...	...
Jordan	Fuel	Coady and others 2006	7.1% for bottom quintile	7.1% for top quintile
	Kerosene	Coady and others 2006	1.0% for bottom quintile	0.3% for top quintile
	LPG	Coady and others 2006	1.8% for bottom quintile	0.7% for top quintile
	Gas, regular	Coady and others 2006	0.9% for bottom quintile	2.3% for top quintile
	Gas, premium	Coady and others 2006	0.0% for bottom quintile	1.1% for top quintile
	Diesel	Coady and others 2006	0.3% for bottom quintile	0.9% for top quintile
	Electricity	Coady and others 2006	3.1% for bottom quintile	1.8% for top quintile
Kazakhstan	Electricity	Tajikistan PSIA, 2006	0.9% for bottom quintile	0.6% for top quintile
Mali	Fuel	Coady and others 2006	...	...

Distributional Incidence of Subsidies (continued)

Country	Energy subsector	Source	Energy expenditure as a share of household expenditure	
			Poor	Non-poor
Mexico	Electricity	Coady and others 2006	...	...
Moldova	Electricity	Tajikistan PSIA, 2006; Moldova PSIA, 2004	6.3% for bottom quintile, 4.7% for the poor	3.0% for top quintile, 3.4% for the non-poor
	Central heat	PSIA, 2006	0.1% for bottom quintile	1.8% for top quintile
	Central gas	PSIA, 2006	1.0% for bottom quintile	1.9% for top quintile
	LPG	PSIA, 2006	0.4% for bottom quintile	0.4% for top quintile
Mongolia	Heating	PSIA, 2003	10.8% for the poor on heating (18% in winter months) ^b	5.7% for the poor on heating (10.1% in winter months) ^b
Morocco	Diesel and fuel	Coady and others 2006	...	...
	Energy	Program document for DPL-II, 2007	8.7% for bottom quintile	9.3% for top quintile
Poland	Electricity	Tajikistan PSIA, 2006	5.8% for bottom quintile	2.9% for top quintile
Sri Lanka	Fuel	Coady and others 2006	...	...
Tajikistan	Electricity	PSIA, 2007	< 4% for bottom quintile	...

a. Numbers are calculated for Djibouti Ville and shown in parentheses for other towns.

b. For ger districts in Ulaanbaatar.

Note: LPG = liquefied petroleum gas.

Income impact of subsidy removal/price increase		Share of benefit from the energy subsidy	
Poor	Non-poor	Poor	Non-poor
...	...	Majority of subsidy goes to upper-middle-income households (deciles 6-8)	
1.6–5.4% increase in household expenditure for bottom quintile	1.1–3.6% increase in household expenditure for top quintile	...	...
0.0–0.1% increase in household expenditure for bottom quintile	0.7–1.8% increase in household expenditure for top quintile	...	...
0.4–1.0% increase in household expenditure for bottom quintile	0.7–1.9% increase in household expenditure for top quintile	...	...
0.2–0.4% increase in household expenditure for bottom quintile	0.1–0.4% increase in household expenditure for top quintile	...	...
...	...	15% of lifeline tariff to the poor	85% of lifeline tariff to non-poor
...	...	<10% for bottom quintile	33% for top quintile
...
2.9% reduction in real income for bottom quintile	2.2% reduction in real income for top quintile	25.1% for bottom four deciles	...
16% increase in spending for poor households under tariff adjustment, even with continued subsidies and lifelines.	...	...	...