

*Conference: “Albania—Opportunities and Challenges in the Move
Towards Emerging Market Status”*

Dealing with Macroeconomic Costs of Energy Shocks

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“The views expressed herein are those of the author and should not be attributed to the IMF, its Executive Board, or its management.”

Key Problems in the Electricity Sector

- Unpaid electricity is the core problem
 - Almost half of the electricity supplied is used free
 - Vulnerability to weather shocks
 - domestic production is heavily dependent on weather
 - Worsening service quality for consumers
 - Frequent blackouts and voltage fluctuations
- ▶ These problems create large macroeconomic costs

Fiscal and Quasi-fiscal Costs

- Direct fiscal costs
 - Budget support, arrears on tax liability, arrears on debt service
- Implicit (or quasi) fiscal costs
 - Build up of contingent liabilities, e.g., through commercial borrowing and accumulation of arrears to suppliers/enterprises
- Measuring fiscal and quasi-fiscal deficit
 - =revenue required to fully cover the operating costs of production and capital depreciation **minus** actual revenue collected at regulated prices
 - 3 components: tariffs below cost recovery prices, excessive losses, and weak collection performance
$$=(T_{\text{cost}} - T_{\text{actual}}) Q + (L_{\text{total}} - L_{\text{normal}}) Q + Q * T_{\text{actual}}(1 - cr)$$

KESH suffered large quasi-fiscal losses in 2007, partly because of external factors. Losses are likely to remain high despite recent increase in electricity tariffs.

	Quasi-fiscal losses in 2007		Quasi-fiscal losses in 2008	
	as % of GDP	€ million	as % of GDP	€ million
Method 1. Operating Costs				
a) Tariffs below cost recovery price	0.9	73	0.5	42
b) Excessive losses (including theft)	0.9	67	0.7	58
c) Poor collections	0.6	47	0.3	27
Total losses	2.4	187	1.4	127
Method 2. Operating Costs+ Return on Equity				
Total losses	2.8	221	1.9	166
Method 3. Economic Price (Export Price)				
Total losses	3.6	282	3.4	302

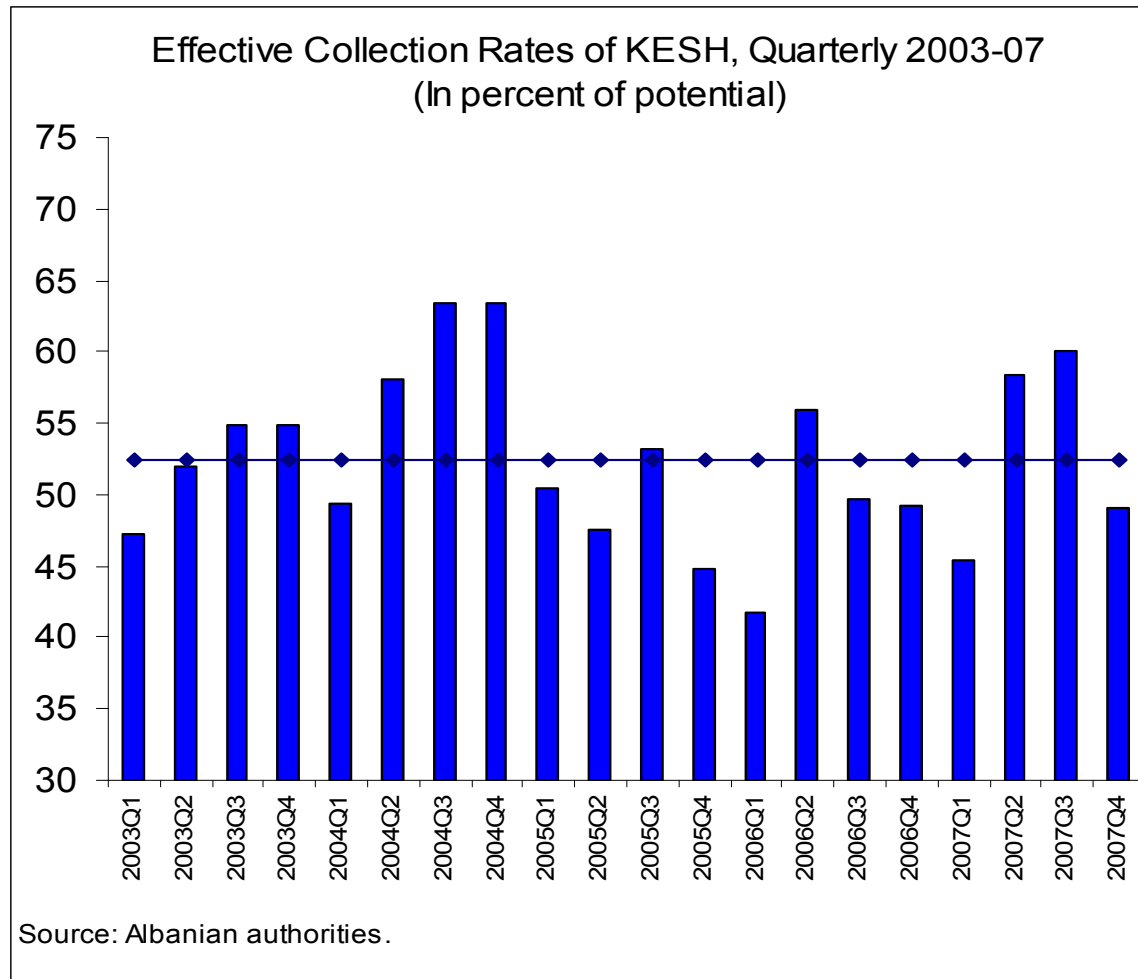
Energy Crisis Weakens Economic Growth

- Energy shocks can directly reduce output
 - In 2007, electricity production declined by about 47%
- Energy rationing increases costs for firms
 - Coping costs are high– alternative electricity costs 20 to 40 lek per kWh
 - One hour of load-shedding increases firms' operating cost by 1.5 percent (based on 4300 firms from 26 transition economies –WB 2008)
 - Increased costs lower profit margin and discourage production
- Weak financial performance adversely affect investment
 - Financial difficulties do not allow KESH to invest and expand the supply
 - More importantly, scarce budget revenues are diverted to KESH, which lowers public investment and ultimately economic growth

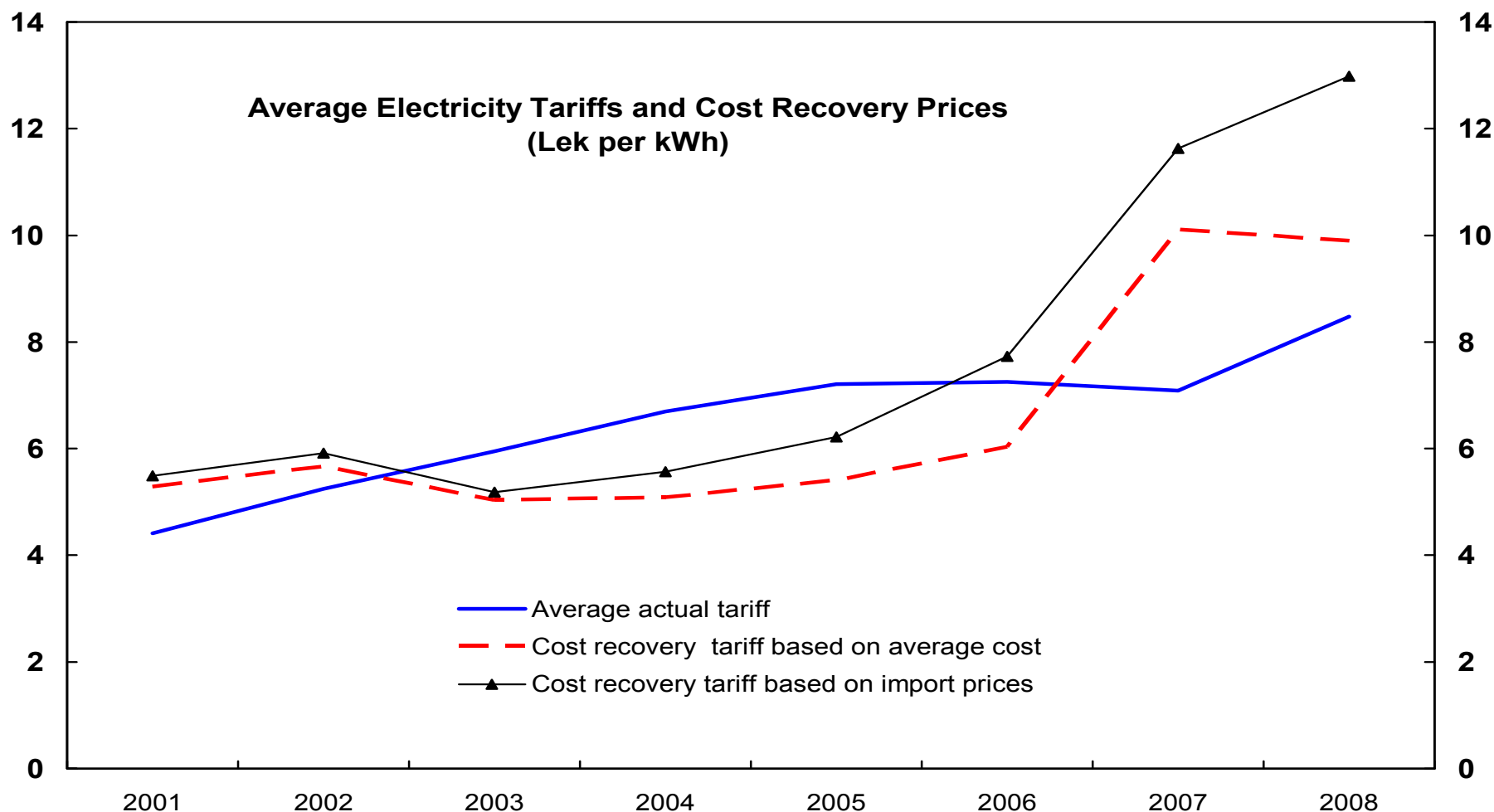
Reform 1: Address the fundamental problem of large unpaid electricity consumption

Example		2007 Albania	2007 Region
Imported electricity	kWh	100	100
Cost of imported electricity	Lek	877	877
Losses in transmission	percent	4%	3%
Losses in distribution	percent	35%	15%
Billed electricity	kWh	62	82
Average sale price	Lek per kWh	7.1	7.1
Billed revenue (including VAT)	Lek	529	701
Collection rate	percent	81%	95%
Total collection	Lek	429	666
Total revenue (net of VAT)	Lek	323	526
Cost recovery performance	percent	37%	60%

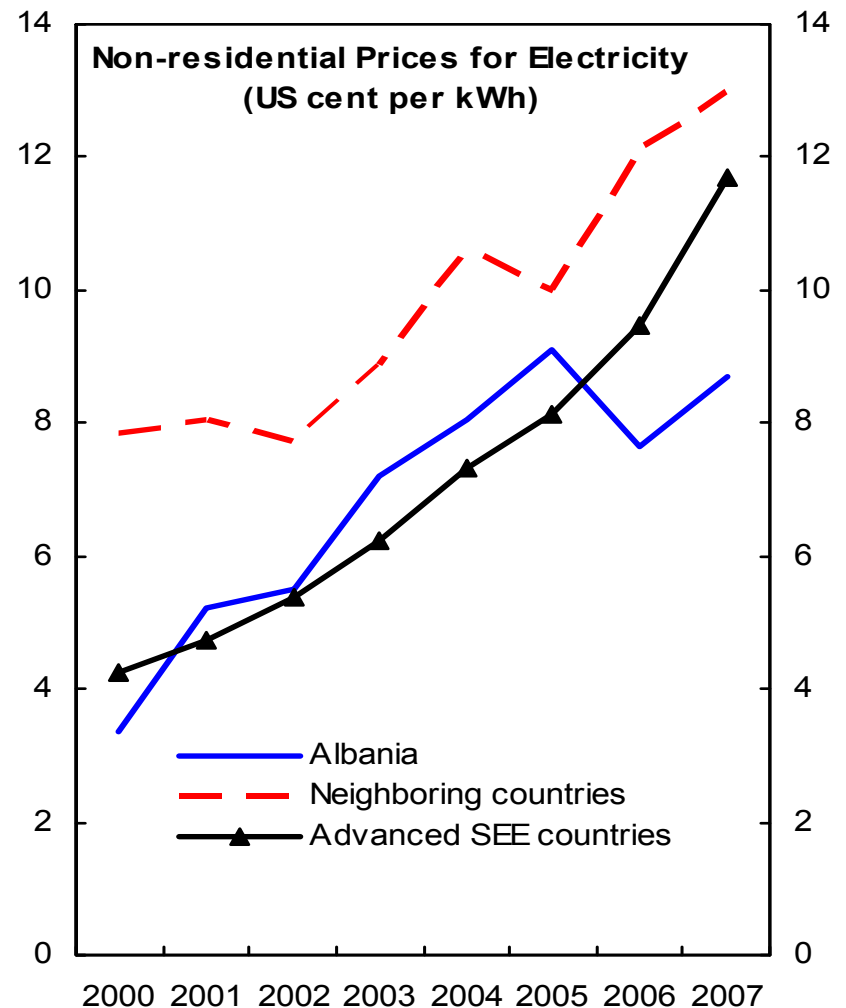
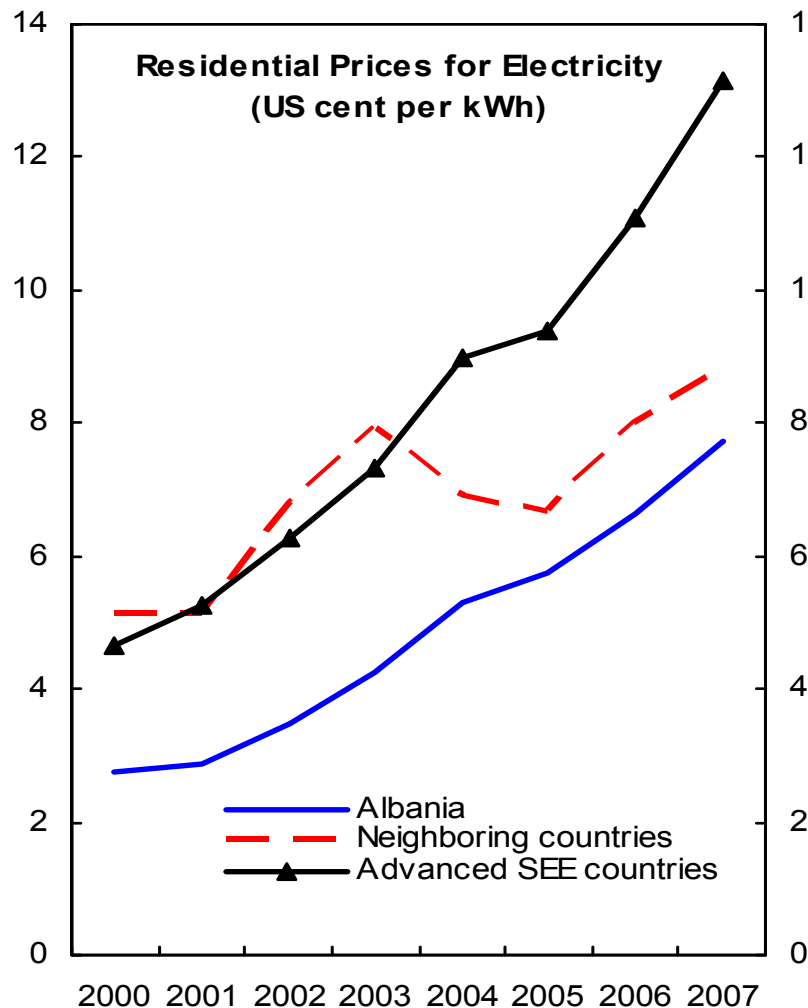
Effective collection rate is low despite many action plans. Besides strong political commitment, intensive efforts on technical and governance fronts are essential.



Reform 2: Set domestic electricity prices at cost recovery level. An independent regulator with adequate capacity & clear regulations on tariff adjustments are key factors.



Average electricity tariffs in Albania are low compare to the regional countries.



Reform 3: Increase investment in order to expand and diversify electricity generation and modernize distribution system.

- **Installed capacity is stagnant**
 - For past five years, capacity stood at around 1300 MW despite large potential for hydro power—which is cheaper and cleaner
- **Poor distribution system results in large losses**
 - Technical losses in the distribution system are around 20% compared to regional average of around 12-14 percent
- **According to experts, investment needs are large**
 - World Bank estimates and desirable local component
 - But KESH is unable even to pay for operating costs
- **Many donor-financed projects are in progress**
 - Two thermal power plants to be completed or rehabilitated in 2009
 - Private sector is pursuing two large hydro power projects

Privatization of the electricity distribution company has been used as a solution.

- **Key benefits of privatizing distribution company**
 - (a) reduces unpaid electricity consumption
 - (b) provides needed resources for upgrading distribution network
- **Lesson from recent privatization experiences**
 - Studies from the World Bank covering a large set of companies
 - Electric distribution companies became more efficient: higher labor productivity, lower losses, etc.
 - Better service quality: less or no black outs, but not much improvement in coverage (total number of connections)
 - Average price is likely to increase

Summary of Privatization Experiences

	116 electric companies from Latin American countries		220 electric companies from developing countries	
	Transition Period t0---t1	Post-Transition t2---t4	Privatization	Privatization with Strong Regulator
Firm Efficiency				
Labor productivity	▲	▲	▲	▲
Electricity losses	▼	▼	▼	▼▼
Operating cost per connection			▼	▼
Social Welfare				
Service quality (e.g., no black-outs)	▲	▲	—	▲
Coverage	—	—	—	▲
Average price	▲	▲	▲	▼

Reform 4: Develop mechanisms to mitigate energy shocks from poor weather.

- **Albania is highly dependent on hydro power**
 - Over 95 percent of domestic production is hydroelectric power
- **Action: diversify electricity generation**
 - Two thermal power plants to be completed or rehabilitated in 2009
 - Will increase production be about one-third of the current total
- **Action: integrate in the regional network**
 - After long delay, a new transmission line to Montenegro is in progress
 - Cyclical adjustments: export excess electricity in the summer and import in the winter
- **Action: establish and enforce a stabilization fund**
 - Weather shocks are repeating every few years
 - A fund could help offset high cost of imports in bad years with savings accumulated in good years

Reform 5: Design safety net for poor households while reforming the energy sector.

- Poor pay much higher proportion of their income
 - While many poor do not have access, those who have access spend about 9% of their income on energy while rich spend 4% of their income
 - Not unusual. Poor in other countries have similar expenditures on electricity (Moldova and Montenegro around 8%, Poland and Turkey around 10%)
- Design of a good safety net
 - A good safety net is **targeted** to poor, provide **predictable** benefit, minimize **cost** for the government, **easy** to implement, and not subject to **exploitation**.
- Targeted conditional subsidy
 - Could be well *targeted*, linked to payment of bills, *limit* the cost to the budget and avoid price distortions.
 - But *difficult* to implement and subject to *exploitation*
- Lifeline tariffs
 - Poor pay a lower tariff for a fixed low level (<200 kWh) of electricity consumption.
 - Not the first best option, but lifeline tariffs are *easy* to implement and, if designed properly, cost to the budget is *limited*.
 - Key issues: need sufficient political will to keep the lifeline tariff block small and the government should compensate the electricity company for the social transfer.

Conclusion: What are the likely benefit of these reforms?

Stakeholder	Objective	Outcome indicator
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Consumers	Improved service quality	a) Reduced number of outages/black-outs b) Frequency and voltage stability c) Low cost electricity
Power company	Improved resource efficiency	a) Increased revenue & collections b) Reduced cost of supply c) Reduced losses d) Improved operational efficiency e) Increase investment
Government	Increased financial independence	a) Reduced fiscal and quasi-fiscal costs b) Increased sector investment
