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Social Safety Net Options for Energy Sector Reform

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Introduction

- Energy sector reform is an ongoing process in the E&E region, and results in higher tariffs for residential consumers
- There are three approaches to addressing the negative impacts of higher tariffs on low-income and vulnerable households:
  - Energy efficiency
  - Social tariffs
  - Social welfare payments

Context

- Economic transition from historical mismanagement of utilities
- Needed reforms:
  - Regulatory Development
  - Unbundling
  - Privatization
- Now: tariffs must increase because of skyrocketing gas and electricity prices
- Social Consequences
  - Dramatically increased tariffs
  - Enforced collections

Timeliness for addressing social issues

- Albania: privatization of electricity distribution company (KESH) underway now
- Ukraine: District heating reform
- Price increases as a political consequence
  - Ukraine, Georgia, Moldova

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Social Safety Nets Defined

- **Social Safety Nets** are non-contributory transfer programs targeted in some manner to the poor or those vulnerable to poverty and shocks. Social Safety Nets play a well-recognized redistributive role which is supported strongly by moral philosophy, expressed in many different ways. (*World Bank*)
- Energy efficiency has not been widely included in the traditional definition of a social safety net, but should be included under this rubric.
- Social Safety Nets are a social obligation, essential for energy sector reform success, and politically smart.

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3 Options to help the poor and vulnerable:

- Energy Efficiency
- Social Tariffs
- Social welfare payments

Option 1: Energy Efficiency

- Characteristics of residential sector in E&E countries:
  - Lack insulation in residential buildings
  - Poor building construction combined with aging
  - Use incandescent versus CFL light bulbs
  - Energy efficient appliances too expensive for the majority of the population
  - Low or non-existent awareness about energy efficiency
- Residential Energy Efficiency reduces end-use demand, and therefore utility bills.

Technology

- Heat meters and control devices
  - Electricity and natural gas: timers and thermostatic controls
  - Communal heating: heat cost allocators and radiator valves
  - Heating substation improvement & controls
- Weatherization
  - Caulking, sealing, reflective sheet behind furniture, furniture placement
- Building Upgrades
  - Replace dilapidated doors, windows, roofs;
  - CFLs instead of incandescent bulbs
  - Insulation of ceilings and walls
- New Infrastructure
  - Automated light and door closing systems, new building boiler

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Table 1. Typical Annual Savings from Energy-Efficiency Improvements in Multi-Family Residential Buildings of CEE and the CIS

	Armenia (Yerevan)	Arm. (Yerevan & Gyumri)	Bulgaria (Gabrovo)	Bulgaria (Pleven)	Bulgaria (Sofia)	Czech. (Brno)	Czech. (Rumburk)	Latvia (Kuldiga)	Latvia (Valmiera)	Lithuania (Vilnius)	Poland	Poland (Warsaw)	Romania (Bucharest)	Serbia (Pancevo)	Slovakia (Kosice #1)	Slovakia (Kosice #2)	Slovakia (Pezinok)	Slovakia (Žiar #1)	Slovakia (Žiar #2)	Ukraine (Kiev)	Ukraine (Lviv #1)	Ukraine (Lviv #2)
HEATING and LIGHTING																						
New roof					•		•												•			
Insulation: Walls					•	•	•	•	•	•		•			•	•	•		•			
Insulation: Basement					•	•	•	•	•	•						•			•			
Insulation: Roof/Attic					•	•		•	•	•		•			•	•	•					
Windows					•	•	•	•		•					•					•		
Doors (exterior)			•		•	•		•							•	•			•			
Weatherization		•	•	•	•	•	•			•	•					•			•	•	•	•
Waste heat recovery						•									•			•				
TRVs/HCAs		•	•	•								•		•	•							
Radiator shields			•	•																•		
Meters - heating		•																•				•
Heating pipes upgraded/insulated					•	•			•							•			•	•		
Hydraulic regulation		•														•	•	•	•			
New boiler for building												•										
Substation retrofit			•								•			•						•		
CFLs/automation			•													•						
Energy Savings			30%	26%	60%	51%	47%	28%	39%			52%		10%	55%	2%	46%	61%	57%	21%		
Annual Cost Savings*		$21	$52	23%	$350	$172	$468	$190	$246	50%	35%	45%		$60						$19	$25	$35

Source: Alliance to Save Energy – Study on Residential Energy Efficiency and Affordability.

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Administration

- Funding:
  - Donor grants/loans
  - Government budget: federal or municipal
  - Private sector/individual level
- Targeting:
  - Can’t get perfect- broader cost savings acceptable
  - Buildings constructed before 1990 generally need EE improvements
- Implementing:
  - Ministries, mayors, homeowners associations
  - NGO, contractor
  - Train domestic energy efficiency teams?

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Case study: Ukraine heat & water metering

- Meters and automated heat control unit installed in two residential buildings in Lviv
- Information distributed about new metering system and efficiency measures that can be taken by each household
- Results
  - 28-38 percent decrease in residential bills
  - 12-57 percent decrease in subsidies

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Case Study: Lithuania Multifamily Housing Building Modernization Program

- Higher tariffs in 2004
- Shared stake between GOL and Housing Associations
- Heat cost savings averaged 60% or approx $32/household/month
- Subsidy payments reduced by 40%

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Energy Efficiency Pros & Cons

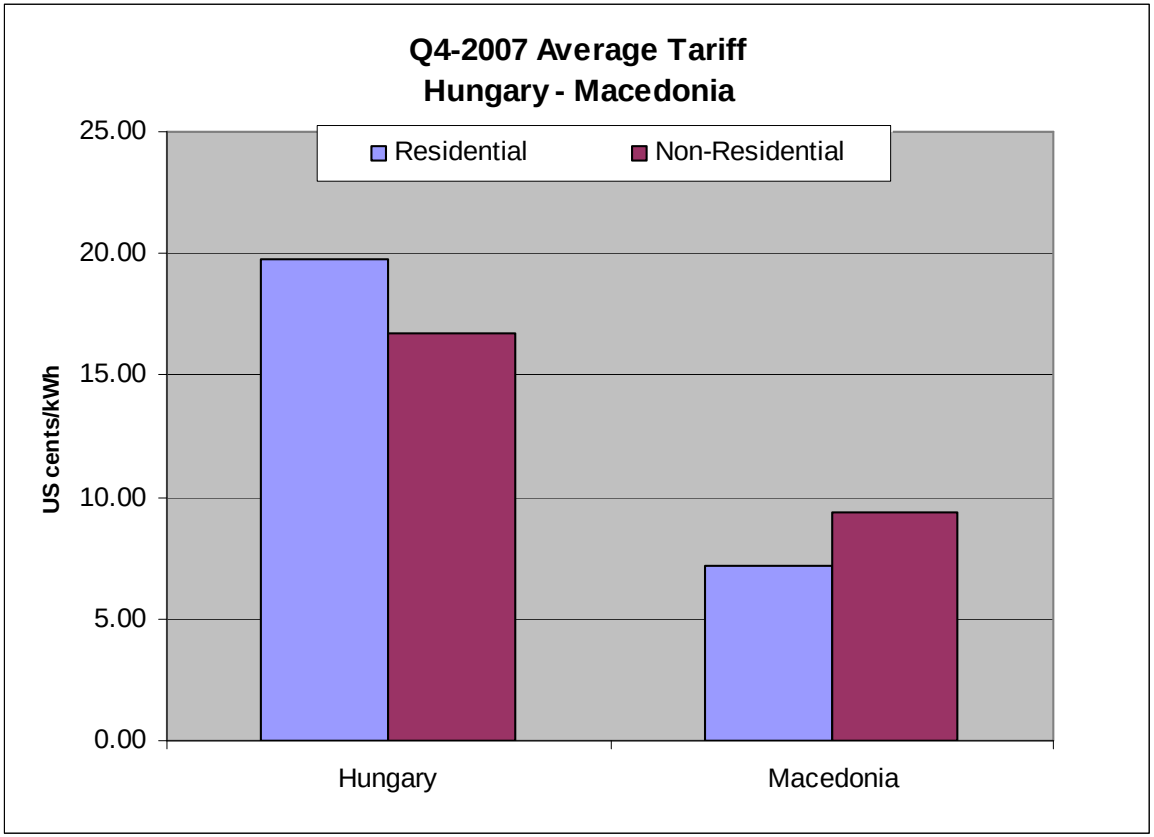
- Cost effective
  - One time cost
- Does not distort market
  - Billing consumption based
- Positive environmental benefits
- Promotes conservation and payment culture
  - Metering leads to understanding of bills

- Strong institutional framework is necessary
  - Different govt ministries, NGOs, donors, HOAs, industry
- Targeting can be difficult
  - Intermixed neighborhoods
- Not widely recognized as a social safety net tool
- Lack of EE technical and administrative knowledge
  - Domestic knowledge
  - Large scale program

Option 2: Social Tariffs

- Lifeline Tariff: charge a concessionary rate for electricity and heat consumption up to a “lifeline” level that meets bare minimum needs.
- Time of Day Tariff (TOD): higher rate is charged for electricity during the day and a lower rate at night

Comparative tariff structures



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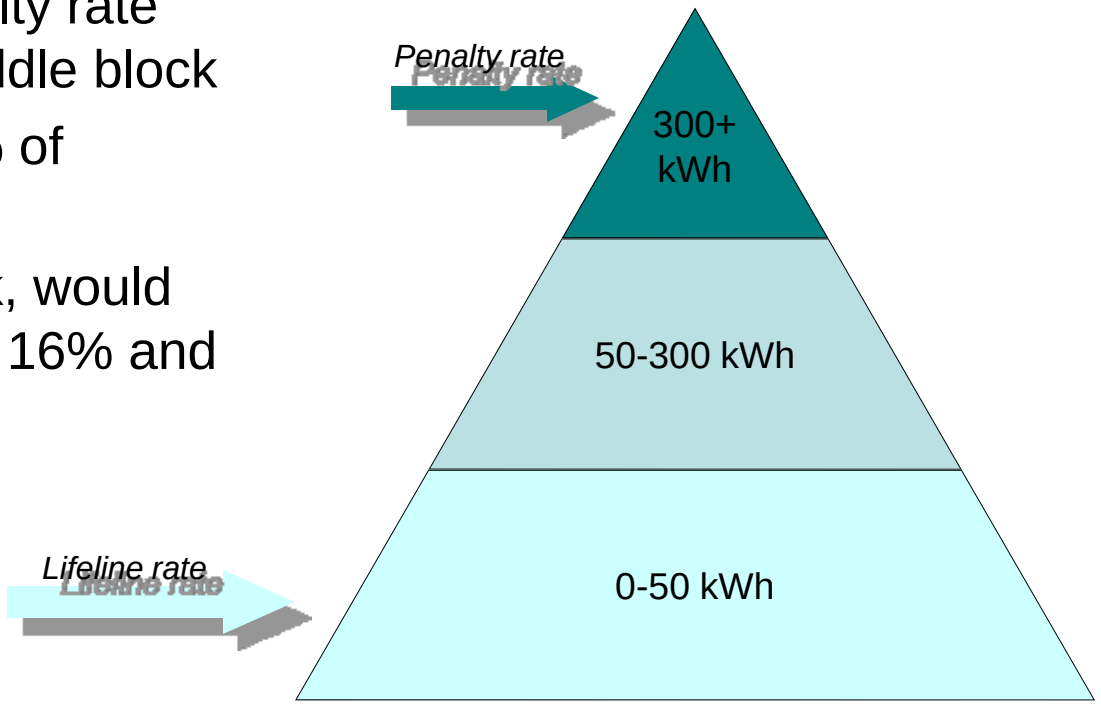
Variations of Lifeline Tariffs

- Targeted/piggybacking
- Supplementary or transition
- Time of year
  - Depending on whether electricity is used for heating

Example: Hungary

- Lifeline rate set 16% below middle block, penalty rate set 17% above middle block
- Poor received 20% of subsidy
- If had been 2 block, would have only targeted 16% and cost 35% more



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Social Tariff Pros & Cons

- Easy to implement
  - Targeting not necessary
- Transparent
  - Major cash exchanges limited to between govt. and utility
- High Coverage
  - Good as a short term solution

- Poorly Targeted
  - Everyone is subsidized in lifeline block
  - TOD more beneficial for owners of luxury goods
- Distortionary Effects
  - Energy Use
  - Utility Efficiency
    - May be used for short-term political objective by govt
- Costly
  - For government, utility, or other consumers

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Option 3: Social Welfare Payments

- Conventional social safety net
- Immediate relief
- Different ways to disburse:
  - Bundled vs. unbundled direct cash payment to household
  - In-kind transfer to utility
  - Voucher programs
  - Reimbursement

How to target?

- Basic means testing
- Burden limit
- Normative consumption burden limit
- Consumption earmark from guaranteed minimum income (GMI)
- Proxy testing

Case study: Hungary

- 1997: electricity and gas price increases
- $9 million fund created by GOH and private company contributions
  - Distribution of funds coincided to beginning of price shock
  - Approx. 373,000 received payments between $8-$60/household between 1997 and early 1998
- Targeted payments piggybacked on existing social assistant payment; application was also available
- Utilities contributed, but benefited from their contribution due to increased payments

Case study: Armenia proxy means testing

- Poverty family benefits: a bundled social assistance program introduced during increasing prices
- Assigns point value to independent variables
  - Social risk status
  - Number of family members incapable of working
  - Residence location
  - Housing situation
  - Family income
  - Presence of car, private business, ineligibility are dummy variables
- P = Psocialriskcat* Pfamincap * Presidence * Phousing * Pcarownership * Privatebus * Pbenefitdoc * Pincome

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Social Welfare Payment Pros & Cons

- Immediate, targeted relief
  - Cash in hand or prepaid services
- May stimulate payment culture
  - Assuming metering and strict disconnection
  - Receipt based programs
- May stimulate broader social safety net reform
- Avoids market distortion
  - Ability to cut subsidization

- Costly
  - Generosity, coverage, duration of benefit
- Difficulty in targeting and administration
  - Dwelling size and income level have insignificant correlation
- May hurt other social programs
  - Crowding out of broader social programs possible

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Conclusions

- Social safety nets are necessary
- Flexibility and individual country constraints must be considered when developing the program
  - Budget and funding
  - Sector reform in question
  - Socioeconomic makeup of country
  - Administrative capacity and cooperation
    - “Stove piping” is an issue for both governments and donors
- Energy Efficiency has enormous potential as a social safety net