

What Are the Benefits of Government Assistance with Household Energy Bills? Evidence from Ukraine

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Fuel subsidies occur when the government imposes that fuels or electricity be sold at prices below the marginal and/or average cost of producing and distributing them. Fuel subsidies are usually motivated by the desire to help poorer households, achieve full electrification, and protect the standard of living and health of the population, but may lead to substandard supply, service interruptions, and inadequate investment in production, transmission and distribution infrastructure.

We focus on the energy price reforms that took place in Ukraine in 2015-16, when price subsidies on natural gas were dropped, and on the measures subsequently introduced by the government to soften the impact of the extreme tariff hikes. We ask three questions. First, did the assistance program—the HUS—offset the tariff hikes and provide relief for the most vulnerable segments of the population? Second, did the assistance program end up helping heavy (and potentially wealthier) consumers, namely those that were already taking advantage of the artificially low price of natural gas before the tariff reforms? Third, are there alternative energy assistance designs that perform better in terms of cost to the government and welfare effects?

Using Ukraine's Household Budget Survey, we document pervasive fuel poverty. The average non-assisted household would be considered fuel poor by conventional standards, as its energy expenditures account for 10% or more of income. The HUS managed to reduce the energy bills' share of income (or total expenditure) by as much as 10 percentage points and cut the fuel poverty rate in half. One-third of the households however met the definition of fuel poor, even with the HUS in place. The HUS brought consumer welfare improvements on the order of 1,800 UAH per household per year (2014 UAH), or 6% of net income. The poorest families' consumer surplus gains are 9%-14% of income, those of middle-income families 4%-7%, and those of the wealthiest families 2%-3%.

We experiment with simple variations on the design of the HUS. Halving the HUS would imply a loss of welfare for the average household that is only 60% of that brought by targeting assistance only to the poorest families, while still saving considerable government funding. Making the HUS assistance targeted to poor consumers (regardless of their gas consumption level) would bring a large loss of welfare. More generous assistance to the poorest households would come with a high price tag for the government. The HUS has only a small effect on gas consumption and the price elasticity of gas demand is low, implying that social tariffs could be introduced to help finance the consumption of the poorest, and that they would be sustainable. We discuss the opportunities offered by fuel switching and by combining energy assistance with government energy-efficiency subsidies.

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