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# Central Asia Security Policy Brief № 1

# Resurrecting an energy tariff policy in Kyrgyzstan

David Gullette

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# Resurrecting an energy tariff policy in Kyrgyzstan

by David Gullette

**Key Points**

- Despite demonstrations and outrage at high cost of energy imposed at the beginning of the year, some experts suggest that these tariffs were still below cost recovery levels.
- Corruption is a major problem in the energy sector. Unless there is a concerted undertaking to root it out, the sector will continue to stagger from crisis to crisis.
- The energy sector is a dilapidated and under-funded system. Low tariffs and corruption have not allowed for proper maintenance or modernization of essential equipment.
- Striking the right tariffs requires meeting social needs. A redeveloped tariff policy must be accompanied with support for social benefits, with improved coverage and targeting of poor families.

NB: The views expressed in this paper are entirely and solely those of the author and do not necessarily reflect the views of the OSCE Academy in Bishkek or the GCSP.

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**About the author**

David Gullette is a social anthropologist and development specialist based at the University of Central Asia, Bishkek, Kyrgyz Republic. Dr. Gullette has conducted research and worked in Kyrgyzstan for the past ten years. He has worked with a number of international organizations, including the United Nations. His research has focused on conceptions of genealogy in Kyrgyzstan. His recent book, *The Genealogical Construction the Kyrgyz Republic: Kinship, State and 'Tribalism'*, examines broader themes in academic literature concerning 'tribalism' and the role of genealogy, both as a way of understanding the importance of relationships and as a methodological tool to investigate the various social meanings invested in these relationships. Dr. Gullette also writes about social and political instability in the Kyrgyz Republic following the April and June 2010 events. Current research plans include a study of relationships created through local-level energy projects.

## Introduction

High energy tariffs introduced at the beginning of 2010 sparked public anger, consolidating a movement which resulted in President Bakiyev's ouster. As the country's new leaders chart a political path, energy tariffs remain a key issue to political stability. The interim government's populist move to return household electricity prices back to their previous level was a widely welcomed move, but it was only a temporary measure. This policy paper thus examines the energy sector and tariff policies. It recommends that a transparent tariff policy must be established and matched by social benefit support. If these steps are followed public trust will slowly be regained and the energy sector can begin to generate the funds to maintain and modernize the sector.

## A crumbling strategic sector

The 2007-2008 winter, the worst in 40 years, was characterized by high energy demands across the country. Increased generation at the Toktogul Hydroelectric Power Station nearly depleted the adjacent Toktogul Reservoir.[1] As a result, the reservoir was roughly 40 per cent below the average water volume

[1] The Toktogul Reservoir is a multi-year storage with hydro-electric generating capacity. It has an effective storage capacity of 14 billion cubic metres (bcm). It has a dead storage level of 5.5 bcm. "Dead storage level" is the point at which there is insufficient water in the reservoir to allow the turbines work. For more background on the energy capacities of the Kyrgyz Republic, see Juraev, S. "Energy Emergency in Kyrgyzstan: Causes and Consequences", *EU-Central Asia Monitoring*, No. 5, February 2009.

level for much of 2008, and there was a significant risk that it would reach the dead level.[2] Although data on river flow and reservoir volume suggest that low levels may have been part of a cyclical pattern, the extremely low volume indicated that climate may not have been the only reason for the depleted water source. The low water volume raised suspicions that a significant amount of electricity had been sold off to Kazakhstan the previous summer.[3] Indeed, Joellyn Murphy, an energy expert, noted that in 2007, Kyrgyzstan exported 70 per cent more than the energy-importing countries' demand of 1.4 billion kilowatt hours, nearly depleting Toktogul Reservoir.[4]

Apart from the harsh climatic conditions, there are significant challenges in the energy sector. The UNDP *Central Asia Regional Risk Assessment* notes that the energy sector suffers from "problematic management and a lack of transparency, high systemic losses and quasi-fiscal deficits, tariffs that are below cost recovery rates, high reliance on imported fossil fuels, and a decapitalized energy infrastructure".[5] The chronic nature of these problems has brought the energy sector to the verge of collapse. Some problems pose a high risk to the sustainable provision of services. Particular attention is devoted here to the changing generation trends, the dilapidated infrastructure, and high commercial losses (or non-payment of services).

Kyrgyzstan is not energy independent. It is part of a Soviet-designed system whereby all the Central Asian republics are integrated members of an electricity network. During the Soviet era, Kyrgyzstan was also part of a barter system with its neighbouring countries. Kyrgyzstan would receive electricity and fuel supplies from Kazakhstan and Uzbekistan in winter in return for electricity and irrigation water for downstream countries in summer. In this way, the three countries would provide each other with sufficient annual energy supplies. This was important for Kyrgyzstan as the energy imports helped to meet the winter energy demands.

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[2] Information based on data from the Ministry of Industry, Energy and Fuel Resources and the Central Asia Regional Water Information Base Project (http://www.cawater-info.net/index_e.htm).

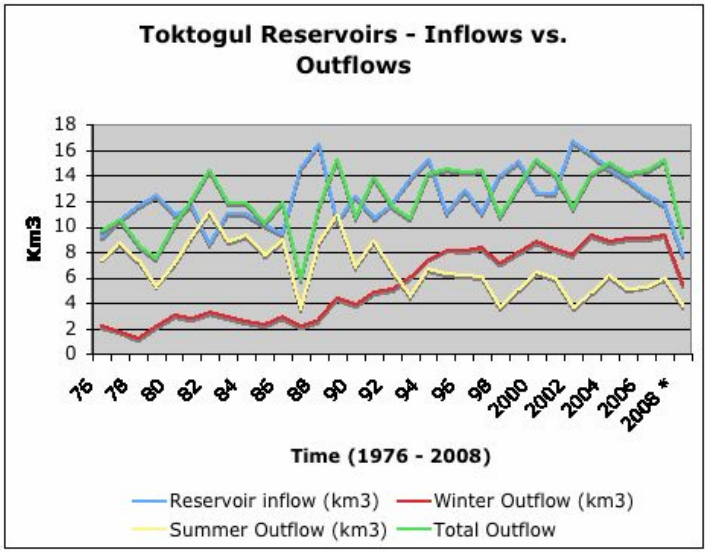
[3] International Crisis Group, *Kyrgyzstan: A Hollow Regime Collapses*, Asia Briefing N° 102 (27 April 2010), p. 3.

[4] AKIpress, 2010, "Veernoe otklyuchenie elektroenergii v 2008 godu proizvodilis' iz-za plokhogo upravleniya energosektrom – nezavisimyi ekspert" [Electricity blackouts in 2008 happened because of poor management of the energy sector – independent expert"], 4 October 2010, http://business.akipress.org/news:119111/ (last accessed 4 October 2010).

[5] UNDP, *Central Asia Regional Risk Assessment*. New York: UNDP Regional Bureau for Europe and CIS (2009), p. 53.

After independence, however, Kyrgyzstan began to generate more electricity in the winter. The reasons for this were twofold. First, this reflected the end of the barter system. Second, the change also signalled a shift to greater reliance on hydroelectric generation. This reduced the need to pay high import costs for electricity and fuel, such as coal, from the neighbouring countries. Chart 1 demonstrates the change in inflow and outflow pattern from Toktogul Cascade (a series of five reservoirs on the Naryn River), indicating a higher winter outflow trend, particularly after 1992.

**Chart 1**: Toktogul Reservoirs – Inflow vs. Outflow[6]




As the Naryn River is largely glacially fed, increased winter demand theoretically meant that spring and summer melt would replenish reservoir volumes to meet the next winter's demands. Gradually decreasing summer outflow created a problem with Uzbekistan which relied on the water to irrigate its cotton crops. Yet, the greater reliance on hydroelectric power put Kyrgyzstan at greater risk of fluctuations in river levels. As is evident in Chart 1, there are wet and dry periods. Even within those periods, however, there are significant variations in reservoir inflow. The greater reliance on hydroelectric power generation meant that the energy reliability was more susceptible to these changes. As is indicated in the graph, reservoir inflow began to drop in 2007. Prudent management of the reservoir resources would thus warn against over-exporting energy during the same year.

[6] Information provided by PA Consulting.

While Kyrgyzstan remains a member of the Central Asia Energy Network, Uzbekistan has withdrawn from the network and cut off its supply to Tajikistan. There are worries that an increasingly tense relationship over water and energy use may cause Uzbekistan to cut off its electricity ties with Kyrgyzstan. Thus, there is an argument that the country must become energy independent. This has prompted the move towards completing large-scale hydroelectric projects, such as Kambarata-2, and the planning of new high-voltage power cables, such as the Kemin-Datka line. While these may improve internal distribution, they do not solve the country's immediate problem of meeting winter demand and equipment modernization.

Much of the equipment in the energy sector is 30-40 years old and is need of constant repair. In August 2008, the Ministry of Energy asked international donors for $60 million to conduct maintenance and repair work, and to purchase other types of fuel (such as gas, coal and *mazut* – a fuel oil) for the coming winter. In Bishkek, the capital, the Thermal Power Station (TPS) – which supplies hot water, heating, and electricity during the heating season – is nearly fifty years old and operates at a third of its intended capacity. It requires constant maintenance to remain functional.

In addition, the republic loses a significant amount of electricity through losses, both technical (regular transmission and distribution problems) and commercial (non-payment of services). In a 2008 USAID report, it was an estimated that Kyrgyzstan's electricity distribution companies lose between 31 and 44 per cent of electricity. While improved payment collection methods have been made to reduce this, losses are still high. For example, in August 2010, Energy Minister Osmonbek Artykbayev stated that losses for the first half of the year were nearly 27 per cent of generated electricity.[7] The financial loss is great. Akylbek Tyumenbayev, former deputy Minister of Energy and now Director of the Ministry of Energy's Department of Perspective Development, stated that for every one per cent of electricity lost this equals a loss of 52 million som (over $1.1 million).[8]

[7] Zpress.kg, 2010, "S nacha goda obshche poteri elektroenergii sostavili 1.3. mlrd. kVt/ch ili 26.7% - Minenergo KR" ["Overall electricity losses were 1.3 billion kW/h or 26.7 per cent] from the beginning of the year – Ministry of Energy of the Kyrgyz Republic"], 19 Augsut 2010, http://www.zpress.kg/news/news_only/1/21722/418.py (last accessed 18 October 2010).

[8] AKIpress, 2010, "Minenergo: 1% poteri elektroenergii raven 52 mln somov, v energosfere KR poteri dostigayut 30%" [Ministry of Energy: One percent loss of electricity is equal to 52 million som, in the energy sector Kyrgyzstan losses reach 30 per cent], 15 October 2010, http://business.akipress.org/news:123251/ (last accessed 15 October 2010).

To address the energy crisis in 2008, the government developed a response plan to winter preparations.[9] Altogether it introduced 64 measures to address the energy deficit and other emerging challenges before and following the 2008-2009 winter. One response, which was initiated before the plan came into effect but became part of them, was rolling blackouts throughout the country. These were initiated in March through to mid June 2008 and re-instated again from August 2088 to April 2009. Scheduled blackouts were to be for eight hours every night, perhaps longer in rural areas. Some areas, however, reported that blackouts lasted for up to 16 hours per day. Some experts, though, suggested that the blackouts only had a limited effect. One hour of a blackout did not equal an hour of energy saved; people simply used greater amounts of energy when they had electricity. In addition, as the energy system was not designed to be shut off, this increased the loads on equipment and the entire network, heightening the likelihood of breakages.

**Tariff policy revised**

Before this crisis, the government had been developing a new tariff plan to improve the energy sector's efficiency and modernize equipment. On 23 April 2008, the government adopted two decrees outlining medium-term tariff policies for electricity, heating and hot water.[10] Electricity prices, the government noted, were below the expenses incurred by the electrical companies. In 2007, the tariff was 62 tyiyn per kilowatt hour ($0.016). According to the government, the rate should have been almost twice that at 1.08 som per kilowatt hour ($0.028).[11]

The two resolutions set out a new tariff plan from 2008 to 2012. In the first year, household electricity prices would rise by almost 13 per cent, and then roughly 20 per cent each year. In addition, households would also have to pay an average of over 30 per cent more each year for heating and over 45 per cent for hot water (see Annex 1). There were increases as well for other consumers. The first increase was

[9] The response plan was outlined in two decrees: Kyrgyz Government Decree No. 135, "On measures for the accumulation of the necessary volume of water in Toktogul Reservoir and on the preparedness of sectors of the economic and the people of the Kyrgyz Republic for the autumn-winter period of 2008-2009" (passed 9 April 2008); and Kyrgyz Government Decree No. 415, "On the results of the socio-economic development of the Kyrgyz Republic during the first half of 2008 and measures for the stabilization of the macroeconomic situation and maintaining the rate of economic growth" (passed 31 July 2008).

[10] Decree of the Government of the Kyrgyz Republic, "Medium-term tariff policy of the Kyrgyz Republic for electric energy from 2008 to 2012", No. 164, 23 April 2008; and Decree of the Government of the Kyrgyz Republic, "Medium-term tariff policy of the Kyrgyz Republic on thermal energy from 2008 to 2012", No. 165, 23 April 2008.

[11] The resolution used the exchange rate of $1 = 38 som. There are 100 tyiyn to 1 som.

made on 1 July 2008. However, prices were not raised as planned in April 2009. The government took this measure to compensate consumers for the second year of imposed rolling blackouts. In addition, food prices were still high and the impact of the global financial crisis had affected poor families throughout the country.[12] The government did not set an alternative date for the next stage in the medium-term tariff policies.[13]

In November, however, the government announced a dramatic price increase beginning 1 January 2010. In the first tariff increase, heating and electricity prices would more than double, while hot water fees would triple, with further increases six months later. Energy Minister Il'yas Davydov stated that the tariff increases were essential or the country's energy sector would continue to endure a crisis.[14]

This sparked shock and anger throughout the country. In February, people in Naryn began to demonstrate against the high tariffs. Winter lasts for six months in Naryn, thus the energy demands are much higher. In addition, Naryn residents, on average, receive fewer monthly benefits – a means-tested cash benefit for the children of poor families to meet the guaranteed monthly income – due to poor targeting, which made the increases harder to bear.[15]

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[12] For more information on the "compound disaster" affecting Kyrgyzstan at this time, see Gullette, D. "Institutionalized Instability: Factors leading to the April 2010 uprising, *Eurasia Review* (forthcoming).

[13] There was a discussion about whether to revise the heating tariffs. At that time, Prime Minster Igor Chudinov said that it the country could no longer "stick its head in the sand". AKIpress, 2008, "Pravitel'stvo KR rassmatrivaet vopros tarifov na teplo" ["Kyrgyz government examines the question of raising the heating tariff"], 14 October 208, http://kg.akipress.org/news/62725 (last accessed 14 October 2008).

[14] Fergana.ru. 2009. "Kyrgyzstan: S 1 yanvarya 2010 goda tarify na elektroenergiyu i otoplenie vyrastut v 2-10 raz" ["Kyrgyzstan: From 1 January 2010 electricity and heating tariffs will rise 2-10 times"], 12 November 2009, http://www.ferghana.ru/news.php?id=13423 (last accessed 22 April 2010).

[15] On 1 January 2010, the guaranteed monthly income – calculated as a share of the extreme poverty level – was raised to 282 som ($6.40) per person in a family with children. This is significantly below the extreme poverty level of 960 som ($21.77) per month. Monthly benefits were 212 som ($4.81) per month with an additional 40 som ($0.91) to compensate for high food prices. See Asian Development Bank, International Monetary Fund and the World Bank, 2010, "Joint Economic Assessment: Reconciliation, Recovery and Reconstruction, 21 July 2010, pp. 77-78; see also Slay, B, 2010, "Recent developments in the Poverty/Energy/Vulnerability nexus in Kyrgyzstan and Tajikistan (July 2010). Exchange rate was a taken from the week beginning 26 December 2009, $1 = 44.0917 som. All information on exchange rates, unless otherwise stated, was taken from the National Bank of the Kyrgyz Republic (http://www.nbkr.kg).

**Tariff debates and election promises**

Given this situation, how should the government set energy tariffs? International organizations have long noted that the government is effectively subsidising most of the country.[16] These organizations have also noted that electricity tariffs, in particular, are the lowest in Europe and Central Asia, and "below cost recovery, placing perennial pressure on energy sector cash flows and fiscal balance".[17] Raghuveer Sharma, Team Leader of World Bank Group's Central Asia Energy Program, noted that until 2008, electricity rates had not changed for the previous five years. During that time gas prices went up ten times, and the price of coal also increased. Given the average rise and need to meet cost recovery levels, he estimated that an acceptable electricity tariff should be around $0.04-$0.05 per kilowatt hour.[18]

During the campaigns for the parliamentary election in 2010, there was widespread debate about energy tariffs and concern that they would quickly rise again. In September 2010, the Ministry of Energy suggested that the real cost of a kilowatt of electricity should cost 1.40 som ($0.03).[19] This was a concern to many households. The ousting of President Bakiyev in April was in part due to high increases in energy tariffs at the beginning of the year. If this tariff was implemented, it would double the current tariff and would be a significant blow to those that had demonstrated for lower tariffs. As a result, Energy Minister Osmonbek Artykbaev released a lengthy article explaining the cost of electricity generation and distribution to households.[20]

There were others, however, that claimed that the real cost of energy was much lower. For example, Kurdet Mamatov, an independent expert and economist, stated that the real cost to generate one kilowatt of electricity was 30 tyiyn ($0.006). He criticised Minister Artykbaev saying that tariffs could

[16] This is, in fact, illegal; see the law "On electricity" (Article 21 "Tariffs").
[17] Asian Development Bank, International Monetary Fund and the World Bank, op cit., p. 91
[18] Karimov, D. 2008, "Raghuveer Sharma: Odna prichin chrezvychainoi situatsii v energosektore Kyrgyzstana – plokhoe upravlenie gidroresursami" ["Raghuveer Sharma: One reason of the reasons for the emergency situation in the Kyrgyz energy sector is poor management of hydro-resources"]. 24.kg. 8 October 2008. http://www.24.kg/economics/40494-2008/10/08/94649.html (last accessed 12 September 2010).
[19] Exchange rate was taken from the week beginning 26 December 2009, $1 = 44.0917 som.
[20] AKIpress, 2010, "Minenergo KR raz"yasnyaet raschet sebestoimosti elektroenerggii v razmere 1 som 40 tyiyn za 1 kVt.ch" ["The Ministry of Energy of the Kyrgyz Republic explains the cost of electricity at the rate of 1.40 som per kilowatt hour"], 28 September 2010, http://analitika.akipress.org/news:1031 (last accessed 28 September 2010).

only be so high due to corruption.[21] He provided information of the tariff history, generation costs and the actual cost of energy.

In the run-up to the parliamentary elections in October 2010, a number of parties also addressed the problems in the energy sector. They were careful, however, not to make too many claims. It was clear that reforms were needed, but how to finance it was a delicate topic. Many parties said that "investment" was needed. Party programmes were unclear as to whether this meant investment from donors and other countries, privatization of strategic energy objects or tariff increases. One party, the People's Union of Kyrgyzstan (SNK), highlighted energy tariffs in their campaign materials distributed around Bishkek. Together with their party programme, a comic strip lampooned the country's energy situation. It showed an empty reservoir and people in villages without electricity; while others, who benefited from "commercial losses" had money sticking out of their pockets as the lights from casinos and saunas burned brightly in the night. Based on the average monthly electricity demands for households, SNK promised to provide 300 kilowatt hours per month of electricity for free, while each additional kilowatt hour would cost 50 tyiyn ($0.01).[22] Casinos, gaming and gaming halls and saunas would have to pay 3 som ($0.06) per kilowatt hour; a rise by 32.4 per cent in current tariffs.

Despite this, international organizations suggest that the situation in the energy sector is not this simple. In the "Joint Economic Assessment", published by international financial institutions operating in Kyrgyzstan, it was noted that "Even with the sharp rise [in January 2010], energy tariffs would not have led to full cost recovery".[23] Now that the interim government lowered the prices, the planned revenues are not present to carry out modernization and maintenance work.

[21] Mamatov, K.., 2010, "Kak Don Kikhoty prevratilis' v drakonov" ["How Don Quixotes changed into dragons"], AKIpress, 28 September 2010, http://analitika.akipress.org/news:1011 (last accessed 28 September 2010). For more information, see Mazykina, Yu., 2010, "SEBEstoimost' elektroenergii" ["The cost of electricity"], 28 September 2010, http://www.24.kg/economics/83404-sebestoimost-yelektroyenergii.html (last accessed 28 September 2010).

[22] Exchange rate was taken as an average of the first decade of October, $1 = 46.5679 som.

[23] Asian Development Bank, International Monetary Fund and the World Bank, 2010, "Joint Economic Assessment: Reconciliation, Recovery and Reconstruction", 21 July 2010, p. 40.

**Recommendations**

The new government has a significant challenge ahead. If not handled in an open and transparent manner, revisions to the tariff policy could lead to further instability. First among the challenges is to reduce corruption. President Roza Otunbayeva has taken the first step by introducing a decree on the Fuel and Energy Sector Transparency Initiative (FESTI) on 20 July 2010.[24] The decree outlines a number of measures to introduce transparency into the energy sector, including the re-establishment of a monitoring committee, transparent and accessible information on money flow, and open auctions for import, export and purchase of energy resources.[25] This last point is also important as Kyrgyzstan often exports electricity at a low cost, and limits the contribution to GDP growth.[26] The government must limit corruption and allow for domestic and export tariffs to generate more income for the sector.

FESTI is a positive step, but this must be followed by thorough and strict measures. For example, a cost of service study needs to be conducted. The various reported costs and a decision on the mix of hydroelectric and thermal energy that the country will use are not supported by a proper study of the cost of generation. This study must also be accompanied by a management audit to determine that the energy sector's staff operates efficiently. Only then can tariffs be set at a level that matches cost recovery and provides for the sector to generate income to finance modernization projects. Together with this there must metering of energy usage and improved methods of tariff collection.

The tariff policy should also consider people's ability to pay for energy. The high tariffs at the beginning of year were accompanied by a rise in public sector wages and social benefits, which have not been reversed.[27] Yet, only 22 per cent of the population receives state electricity subsidies, of which more

[24] Decree No. 49 of the President of the Kyrgyz Republic "On the Fuel and Energy Sector Transparency Initiative of the Kyrgyz Republic". See also Trilling, D., 2010, "Kyrgyz Energy Transparency Initiative Promises to Reform Troubled Sector", EurasiaNet.org, 2 August 2010, http://www.eurasianet.org/node/61653 (last accessed 19 September 2010). A resolution has since been passed regarding the Monitoring Committee and its functions to oversee transparency in the sector (see Resolution of the Government of the Kyrgyz Republic No. 200 "On the Monitoring Committee of the Fuel and Energy Sector Transparency Initiative of the Ministry of Energy, Kyrgyz Republic, 13 September 2010).

[25] AKIpress, 2010, "Otunbayeva podpisala ukaz ob initsiative prozrachnosti noplivno-energeticheskogo kompleksa" ["Otnubayeva signed a decree on a fuel and energy complex transparency initiative"], 20 July 2010, http://kg.akipress.org/news:240281 (last accessed 19 September 2010).

[26] Juraev, op cit., notes that the energy sector shrank in its contribution to GDP.

[27] Ibid., p. 19.

than 60 per cent of the recipients are non-poor and less than 20 per cent are from the extremely poor.[28] These figures point to a dual problem: coverage and targeting. The new government must ensure that the money is going to the right people and that the poor benefit from this. Without such support, higher tariffs will reduce poor families' choices to a simple question of survival – which utilities will they pay for each month? Few people will tolerate increases without an improvement in their ability to pay for the tariffs.

Finally, the short- and medium-term goals that should be achieved – a reduction in corruption, the development of a fair tariff structure and modernization of existing equipment – should not be confused with longer-term goals, such as the construction of large-scale energy objects. The hopes for increased exports Kambarata-1 to South Asia is still a distant goal and will not bring in the much needed revenue to improve the system now. A new tariff policy should not pin hopes on future revenues at the expense of current demands.

The revised utility rates are higher than the previous year, expect for households which are paying the same rates for electricity. This is, however, only a temporary measure. A new tariff policy must be developed, but through transparent methods as outlined in FESTI. If this can be done and a fair plan is developed where the sector operates at the lowest possible cost while ensuring the allocation of social benefits to poor families, the energy sector will begin to generate badly needed revenue.

[28] Interview with energy expert in Bishkek, 19 October 2010. This figure does not include pensioners. In 2008, poverty was rated at 1,527 som ($41.72) per month. National Statistical Committee, 2009, "Uroven' zhizni naseleniya Kyrgyzskoi Respubliki 2004-2008, godovaya publikatsiya" ["The Population's Standard of Living in the Kyrgyz Republic 2004-2008, annual publication"]. The exchange rate was taken as an average for 2008. Information taken from National Bank official rates of $1 = 36.5969 som.

## Annex 1: Utility Tariff Plans (2008-2012)[29]

Table 1: Electricity tariff increases – 2008-2012[30]

| | | 01 July 2008 | 01 April 2009 | 01 April 2010 | 01 April 2011 | 01 April 2012 |
|---|---|---|---|---|---|---|
| Household | tyiyn/kWh | 70 ($0.019) | 84 ($0.023) | 100 ($0.028) | 120 ($0.033) | 145 ($0.040) |
| | % | 12.9 | 20 | 19 | 20 | 20.8 |
| Industry | tyiyn/kWh | 96 ($0.027) | 116 ($0.032) | 128 ($0.036) | 144 ($0.040) | 160 ($0.045) |
| | % | 20 | 20.8 | 10.3 | 12.5 | 11.1 |
| Budget-funded users | tyiyn/kWh | 100 ($0.028) | 120 ($0.033) | 145 ($0.040) | 174 ($0.048) | 200 ($0.056) |
| | % | 25 | 20 | 20.8 | 20 | 14.9 |
| Agriculture | tyiyn/kWh | 96 ($0.027) | 110 ($0.031) | 126 ($0.035) | 145 ($0.040) | 167 ($0.046) |
| | % | 20 | 14.6 | 14.5 | 15.1 | 15.2 |
| Others consumers | tyiyn/kWh | 102 ($0.028) | 122 ($0.034) | 150 ($0.042) | 180 ($0.050) | 210 ($0.058) |
| | % | 27.5 | 19.6 | 23 | 20 | 16.7 |
| Pumping stations | tyiyn/kWh | 68 ($0.019) | 82 ($0.023) | 95 ($0.026) | 115 ($0.032) | 140 ($0.039) |
| | % | 13.3 | 20.6 | 15.9 | 21.1 | 21.7 |

Table 2: Heating tariffs – 2008-2012

| | | 01 July 2008 | 01 January 2009 | 01 January 2010 | 01 January 2011 | 01 January 2012 |
|---|---|---|---|---|---|---|
| Household | som/Gcal | 500 ($13.92) | 725 ($20.18) | 1050 ($29.22) | 1310 ($36.46) | 1570 ($43.70) |
| | % | 28.2 | 45 | 44.8 | 24.8 | 19.8 |
| Industry | som/Gcal | 860 ($23.94) | 1032 ($28.72) | 1187 ($33.04) | 1365 ($37.99) | 1570 ($43.70) |
| | % | 61 | 20 | 15 | 15 | 15 |
| Budget-funded users | som/Gcal | 860 ($23.94) | 1032 ($28.72) | 1187 ($33.04) | 1365 ($37.99) | 1570 ($43.70) |
| | % | 61 | 20 | 15 | 15 | 15 |
| Others consumers | som/Gcal | 860 ($23.94) | 1032 ($28.72) | 1187 ($33.04) | 1365 ($37.99) | 1570 ($43.70) |
| | % | 61 | 20 | 15 | 15 | 15 |

[29] Information from Resolution Nos. 164 and 165 (23 April 2008). Exchange rates were taken from the week beginning 28 June 2008, $1 = 35.9283 som.

[30] For more information, see UNDP, op cit., pp. 46-49.

Table 3: Hot water tariffs 2008-2012

| | | 01 July 2008 | 01 January 2009 | 01 January 2010 | 01 January 2011 | 01 January 2012 |
|---|---|---|---|---|---|---|
| Household | som/m³ | 23.7 ($0.64) | 31 ($0.86) | 41.1 ($1.14) | 55.3 ($1.54) | 74.4 ($2.07) |
| | % | 97.5 | 30.8 | 32.6 | 34.5 | 34.5 |
| Industry | som/m³ | 51.8 ($1.44) | 59.7 ($1.66) | 66.8 ($1.86) | 75 ($2.09) | 84.4 ($2.35) |
| | % | 77 | 15.2 | 11.9 | 12.3 | 12.5 |
| Budget-funded users | som/m³ | 51.8 ($1.44) | 59.7 ($1.66) | 66.8 ($1.86) | 75 ($2.09) | 84.4 ($2.35) |
| | % | 77 | 15.2 | 11.9 | 12.3 | 12.5 |
| Others consumers | som/m³ | 51.8 ($1.44) | 59.7 ($1.66) | 66.8 ($1.86) | 75 ($2.09) | 84.4 ($2.35) |
| | % | 77 | 15.2 | 11.9 | 12.3 | 12.5 |

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This series deals with current issues of comprehensive security relevant for Central Asia. This includes but is not limited to such themes as socioeconomic determinants of security, identity-based conflicts, political Islam, ethnopolitics, security organizations, bilateral relations, the situation in Afghanistan and other neighbouring states. **Central Asia Security Policy Briefs** will be published on-line in the pdf format, with printed copies available. The language of publication is English. Submissions can be made in English or Russian. We will make Russian translation of select Briefs.

**Submission guidelines:**

1. OSCE Academy – GCSP ISP **Central Asia Security Policy Briefs** are submitted to the
1. OSCE Academy and GCSP preferably after preliminary discussion.
2. The content of **Central Asia Security Policy Briefs** does not necessarily reflect views of the OSCE Academy or GCSP
3. A **Central Asia Security Policy Brief** is a 3000-3500 words (inclusive of key findings and endnotes) paper. The Security Policy Briefs should include a short author bio noting one or two recent
4. publications, research focus and e-mail contact details.
5. Submissions have to be sent to policybriefs@osce-academy.net in the **.doc** or **.docx** format
6. 4. Use of diagrams for presentation of arguments is welcome and clear identification of
7. **recommendations** will be enhanced by setting them apart from other text in a box
8. 5. To acknowledge sources and relevant literature, please use endnotes.
9. 6. At the beginning of the Brief will be a list of key findings/recommendations
10. 7. While the structure of a **Central Asia Security Policy Brief** may vary depending on the preferences of the author, as a product addressing policy and expert communities it must outline (1) existing challenges, (2) proposed or implemented responses, (3) policy dilemmas and trade-offs, and present (4) recommendations based on analysis of alternative policy options.