

## INTRODUCING PRINCIPLES OF GREEN ECONOMY TO ISSYK-KUL

Agriculture is a very important aspect of the region's economy and the well-being of almost every family in the Issyk-Kul region. The company understands the importance of the agricultural sector for the residents and has for many years supported local farmers, introducing them to new technologies and innovative methods of irrigating fields.

Consultants teach all interested farmers how to build greenhouses and how grow various crops in them. All initiatives implemented in the region with the support from Kumtor Gold Company are aimed at raising productivity and profitability of agriculture - the dominating industry of the Issyk-Kul Region.



### GREENHOUSE BUILT AT ORPHANAGE IN KAJISAI

A greenhouse built at the Hadicha orphanage in Kajisai, Ton district was officially opened last Friday. The greenhouse was built as part of the Karagat Plus Project with the support of Kumtor Gold Company. The official opening ceremony was attended by teachers and children from the orphanage, and representatives of Kumtor.

The tunnel-type greenhouse measuring 168 square meters was built within a few months. It cost more than 650,000 soms. As part of the project, instructors will teach the orphanage employees how to manage the irrigation and

heating systems and how to control the electric supply system through a series of workshops.

The purpose of this innovative greenhouse on the orphanage grounds is to provide more than 40 children with ecologically clean vegetables throughout the year and as well as being an additional source of income for the institution. Previously, under the same project, the company built a similar greenhouse at an orphanage in Ak-Suu where there were as many as 100 orphans.

*"As part of the Issyk-Kul greenhouse development project the company has included a number of social institutions including the Hadicha orphanage. I'm sure the orphanage children will be well provided with fresh herbs and*

### In this issue:

- Greenhouse at Orphanage in Kajisai
- Drip irrigation in Kajisai
- New drying technology introduced in Balykchy
- How Kumtor is supporting agriculture around Issyk Kul
- Waste Management at Kumtor

*vegetables throughout the year, while the administration will acquire the necessary knowledge and skills to keep the greenhouse running,"* said Aktilek Tungatarov, Director of Sustainable Development for KGC.

*"We would like to thank the company for creating such favorable conditions for us. The greenhouse will help us save a considerable amount of money from our food budget during the winter. For now, we have only planted cucumbers, but in a little while we are planning to plant tomatoes and herbs as well. We are doing everything under the supervision of professionals and adhere to their recommendations,"* said Kulushkan Akmatova, the Orphanage Director.



## DRIP IRRIGATION IN KAJISAI

With the support of Kumtor, a local youth organization is developing a drip irrigation system for a public park in the village of Kajisai, Ton district. The company contributed 60,000 som to purchase the necessary equipment and materials.

Earlier in 2013, the company allocated the funds to build a fence for the park which stretches about 3.5-hectares. As planned by the young adults, the space

will not only be a park – a popular place to relax and stroll under the trees they've planted, but it will also be an orchard which will bring in additional revenue for the local community after the first harvest. However, for the time being, the participants are busy watering the newly planted sapplings and are overjoyed by the efficiency of the drip irrigation system for their future apple and pear orchard.

Drip irrigation in Kajisai is also being promoted by local farmer Sabyr Alisherov, a customer of the local Ton Finance microcrediting agency. He

received a loan with an annual interest rate of 10%. The retired farmer used this money to set up a garden where he grows currants, cherries, apricots and apples.

*"I have seen for myself that the drip irrigation system can help any gardener a great deal. It saves time and money invested in managing the garden, provides effective control of the irrigation process, and, most importantly, produces a high crop yield. This is extremely important to me since I sell in bulk,"* commented the gardener.



*"It is very important for the Company that its development initiatives and projects in Issyk-Kul province are sustainable. It gives us special satisfaction to invest in projects that are both sustainable and innovative. It is important that farmers learn more about advanced water-saving agricultural technologies. The use of drip irrigation in a public park will, no doubt, encourage local residents to adopt more effective and sustainable irrigation methods,"* said Aktilek Tungatarov, Director of Sustainable Development for KGC.

## NEW TECHNOLOGY TO BE USED IN BALKYCHY TO PROCESS FARM PRODUCE

With the support of the Balykchy City Hall, Kumtor Gold Company has donated a drying chamber to the "Generation Next" youth organization for free use. The equipment was supplied as part of a pilot project that the company intends to implement in the Ton and Jeti-Oguz districts, Issyk-Kul province with the support of local youth organizations and communities.

Even though young people in Balykchy have just started learning about the opportunities opened up by this drying chamber, they have already realized that they can not only use it to produce dried fruit but also kurut, an extremely popular fermented milk product.

Tilek Omurbekov, a member of the "Generation Next" association, thanked



Kumtor for their support and noted that with this new equipment the association's young members will be able to earn additional revenue that will in turn be used to support more new projects.

Currently, there are five of these drying chambers in use across the Issyk-Kul province. The cost of one refitted container, including delivery, attachment and installation, is approximately 440,000 som (about \$6,300).

This drying technology was developed by Swiss experts. It is based on 20-tonne shipping containers which, after installation of appropriate equipment, can be used to process fruit and berries, medicinal herbs and

meat. The system is completely autonomous. The air inside the chamber is heated using solar energy and is then circulated by fans.



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# HOW KUMTOR IS PROMOTING AGRICULTURAL DEVELOPMENT AROUND ISSYK KUL

## provides Financing at 10% interest

working days and  
\$173,545 invested  
in reservoir  
cleaning in 2015

farmers received loans  
to build storehouses  
(which now hold  
about 150 tons of  
fruits and vegetables)

\$362,000 worth  
Equipment  
donated

## Infrastructure maintained or constructed

technical service station for  
repairing farm equipment  
established in Barskoon to  
serve nearby villages

farmers received  
loans to build  
greenhouses

thousand USD invested to  
reclaim land and improve  
irrigation on 6,000 ha  
since 2013

drip-irrigation  
demo plots (used  
to train 1,689  
farmers since 2013)

thousand frost resistant,  
high-yield berry seedlings  
supplied to farmers

other pieces of  
farm equipment

Seeders

"Niva" combines

Plows

"Belarus" tractors

reception points for  
fruits and berries  
from local farms

Training  
imparted

demo greenhouses  
(used to train 489  
farmers since 2013)

tons of high-grade potatoes  
for planting (distributed to  
needy residents of the  
Jeti-Oguz Region)

thousand more  
seedlings grown  
at 6 local nurseries

Crops  
supplied

## Results

Since the beginning of the Karagat+ project in 2013, 27 contracts have been signed with local producers to supply a total of 745 tons of fruits and berries.

### Water infrastructure rehabilitation projects implemented from 2013-2015

Kumtor Contribution		Volume cleaned (1,000 m <sup>3</sup> )	Area now receiving irrigation in hectares (ha)	Number of people now receiving access to water
2015	\$90,000	Tort-Kul <b>118</b>	<b>1,127</b>	<b>3,115</b>
	1,450 L diesel fuel	Eshperov <b>3</b>	<b>687</b>	<b>595</b>
		Darkhan <b>36</b>	<b>304</b>	<b>1,950</b>
	\$83,545	Kyzyl-Suu <b>43.5</b>	<b>1,062</b>	<b>240</b>
		Saruu <b>27</b>	<b>270</b>	<b>150</b>
2014	\$242,000	Svyetlaya Polyana <b>30*</b>	<b>1,500</b>	<b>2,700</b>
		Kabak & Chirak <b>pump repaired</b>		<b>3,390</b>
2013	\$200,000	Ak Dobo <b>25*</b>	<b>467</b>	<b>1,912</b>
		Lipenka <b>14*</b>	<b>720</b>	<b>1,500</b>

\*DRP volume after cleaning

# WASTE MANAGEMENT AT KUMTOR

Being a large-scale mining operation, Kumtor understands the importance of waste recycling and in this regard operates in compliance with operating instructions concerning waste management, materials handling and worker safety. We are committed to the ongoing improvement of our waste management strategy and have developed an integrated solid waste management plan in accordance with good international industry practice. Currently, we are actively working to implement priority measures to improve waste management efficiency and minimize the amount of waste generated. This includes decreasing waste generation volumes, reusing and reprocessing waste and improved segregation and collection of industrial waste.



## MAJOR WASTE STREAMS

Our operations produce several key waste streams. These include domestic, industrial, and hazardous waste. Domestic waste typically include food waste and paper materials from camp facilities and offices. Industrial waste typically include plastic containers, wood, scrap metal, waste oil and fluids, and tires. Our main hazardous waste include cyanide packaging, batteries, medical waste, and expired reagents.

## WASTE DISPOSAL

By the end of 2014, construction of new landfills for solid domestic waste, hazardous waste and temporary sites for disposal of waste oil was completed at the mine site. In May 2015, these landfills were approved by the Government. The design and construction were carried out by taking into consideration modern engineering standards as well as requirements to comply with the national environmental legislation. Using properly designed and constructed landfills minimizes environmental impact associated with waste disposal.

## WASTE RECYCLING WITH RELIABLE PARTNERS

**We recycle 100% of our scrap metal, waste oil and wood through local vendors**

Waste such as scrap metal and waste oil are contracted to third parties. Clean wood is provided to local communities through KGC regional offices. Waste materials with a potential to be recycled or reused, are temporarily stored on site if feasible recycling options become available. In terms of waste tires, we undertook a comprehensive search for partners who had the ability to recycle tires used at the Mine and found a small tire recycling plant in Balykchy. Our negotiations with the plant lasted throughout 2014; and in 2015, the plant started recycling a part of our waste tire inventory.

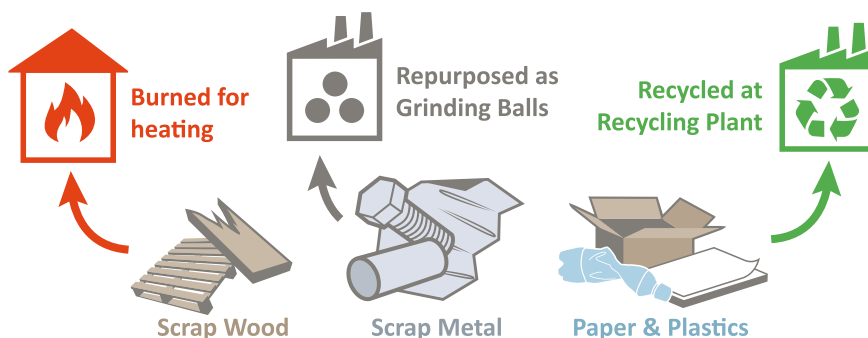
In 2014, Kumtor managed to recycle 100 percent of its scrap metal, batteries, waste oil, and scrap timber through local

vendors. Scrap metal is re-used in the production of grinding balls, which the local company Vulkan Plus produces for the Company. Originally Vulkan Plus only produced small grinding balls, but as of 2014 they manufacture virtually all sizes used at the mill and employ 120 people, enabling them to supply nearly all of Kumtors needs.

Last year Kumtor introduced an electronic timesheet system for employees, both saving the Company time spent on filling out and approving timesheets, and cutting down on paper waste. The new system will save over 48,000 sheets of A4 paper annually.

Kumtor donates all scrap wood to local communities for use as firewood during winter. Last year about 22 trucks delivered wood to needy families, NGOs focusing on children with special needs, public bath houses for people in need, as well as some schools in Jeti-Ogyz District, and the town of Balykchy in Ton District.

Another project demonstrating our Companies' initiative is our partnership with two local waste recycling firms. The first one, EcoBox, collects paper waste from all KGC's offices and information centers in the Issyk-Kul region. The other, a public foundation for recycling plastic waste, set up several recycling bins in KGC's offices. We believe that together with our partner organizations, Kumtor will not only improve the Company's waste management practices, but will stimulate our employees to spread the idea of waste segregation and recycling to their families, friends and broader public.



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