Reduction of gas losses in gas distribution networks of medium and low pressure in Moldova due to reduction of leaks, theft and identification of faulty accounting units

Description of the project, type and schedule of implementation of the "BALANCE" system

Objective of the project	The installation and wide use of innovative remote metering systems and equipment for controlling the balance of released and consumed gas in gas distribution networks, can significantly reduce losses of natural gas and methane emissions into the atmosphere.
Description	Methane leaks during transportation and distribution of natural gas are a significant source of greenhouse gas emissions. Gas leaks occur in flanges, pipeline fittings, valve valves, tap valves, safety valves, in connection points of accounting units and faulty equipment of the consumer. The project will detect, measure, localize and eliminate leaks based on monitoring the balance of daily and hourly consumption in medium and low pressure networks. The presence of leaks behind the gas metering unit is determined by analyzing the hourly profiles of gas consumption. In Moldova there are about 600 thousand subscribers. Total losses of natural gas in 2010 amounted to **57.915 million m3**. When implementing the remote accounting system, gas losses are reduced by 80%, which is a reduction in losses for 600,000 consumers by **46.332 million m3**. In the CO2 equivalent, this will amount to **97 297 tons per year.** Additionally, at a gas cost for the population of $ 400 per 1000 m3, the savings from loss reduction will be $ 18,533,000 per year or $ 30.89 per subscriber per year. If the cost of equipment is 80 USD $ (balance meter + BALANCE system + works), the payback period of the metering system installation will be about 32 months. **In case of participation in the program of CO2 emission reduction, the installation of the metering system "BALANCE" can be performed exclusively at the expense of the grant and does not require any additional costs from MOLDOVAGAZ.**
The program for the implementation of the "BALANCE" system	With a 5-year program for installing equipment for 600,000 meters, it will be necessary to install **10 000 radio modules D100FC per month** + equip the distribution networks with balance meters, which will cost **$ 0.8 million per month**. Below is a table of monthly costs for the implementation of the BALANCE system on the scale of the Republic of Moldova.

Month	**2**	**4**	**6**	**8**	**10**	**12**	**14**	**16**	**18**	**20**	**22**	**24**	**26**	**28**	**30**	**32**	
Expenses USD/month	**0,8**	**0,8**	**0,8**	**0,8**	**0,8**	**0,8**	**0,8**	**0,8**	**0,8**	**0,8**	**0,8**	**0,8**	**0,8**	**0,8**	**0,8**	**0,8**	
Savings (mln.USD)	**0,05**	**0,10**	**0,15**	**0,20**	**0,25**	**0.30**	**0, 35**	**0,40**	**0,45**	**0,50**	**0.55**	**0,60**	**0,65**	**0,70**	**0,75**	**0,80**	
Cost per month	**0,75**	**0,70**	**0,65**	**0,60**	**0,55**	**0,50**	**0,45**	**0,40**	**0,35**	**0,30**	**0,25**	**0,20**	**0,15**	**0,10**	**0,05**	**0.00**	**13,2**

Results of the application of the "BALANCE" system	The total project costs for the first 32 months will amount to **13.2 million USD**, and over the next 32 months, **13.2 million USD can be returned due to savings on reducing gas leaks.** **MoldovaGaz** will receive an automated metering system on the scale of the Republic of Moldova and leaks in the system of no more than **11.6 million m3**. **In case of participation in the program of CO2 emission reduction, MOLDOVAGAZ can receive the BALANCE metering system solely from the grant and also save by reducing gas losses amounting to US $ 18,533,000 per year.**	
Location	The Republic of Moldova. Number of subscribers 600 000	
Category	Fugitive emissions from fuel	
Current status	Project	
Schedule	Project start date	2012
	The duration of the project	5 years (installation of the BALANCE system)

Reduction of GHG emissions (tonnes of CO2 equivalent)

Before and including 2017 (indicative estimate)	**243 243 tons of CO2**
Period 20 years - until 2032 (indicative estimate)	**1 702 700 tons of CO2**

Finance

The cost of the grant at the rate of 10 USD / ton of CO2	**19 459 430 USD**
Total investment for the system BALANCE and thermal insulation (USD)	**13 200 000 USD**
Profit from the project (USD)	**6 259 430 USD**

Contact Information

The developer of the project	The company «DJV-COM»
Mailing address	of.712 left side, 7 Miron Kostin str., Chisinau, Moldova, MD2068
Internet site	www.djv-com.net, www.djv-com.com
Phone / Fax	(+373 22) 438341/438334
Contact person / Position	Dombrovschi Veaceslav, Director
E-mail	djv-com@starnet.md, office@djv-com.net