

Technology Fact Sheet

Technology Name	CHP with gas-steam combined cycleⁱ R.Kehlhofer, R.Bachmann, H.Nielsen, J.Warner. Combined-Cycle Gas Steam Turbine Power Plants. 2nd Edition. PennWell, Tulsa, Oklahoma, 1999.
Subsector GHG emissions (megatons CO ₂ -eq)	5.067 mln.t CO ₂ in thermal power sector in 2010
Background/Notes, Short description of the technology option	CHP with gas-steam combined cycle, are plants where 60-70% of electric power is produced by gas turbines and 30 - 40% -by turbines with steam produced in heat boilers on account of exhaust gases from gas turbines. Total electrical efficiency of these plants reaches 40 -60% and overall efficiency - from 80 to 90%. Electric power of such plants can be from 50 MW to 500 MW, depending on the consumer demand, heat index – from 0.5 to 1.0.
Implementation assumptions. How the technology will be implemented and diffused across the subsector? Explain if the technology could have some improvements in the country environment.	In Moldova such CHPs can be built in Chisinau and Balti, to replace physically and morally obsolete existing CHPs, in cities like Orhei, Soroca, where it may reduce some of the technological thermal load. It is expected that a total of 500 MW can be installed by 2030
Implementation barriers	- Large investments - Availability of cheap electricity imported from countries with lower gas prices.
Reduction in HG emissions (megatons CO ₂ -eq)	3.0 Million t CO ₂ eq by 2030
Impact Statements - Impact of this option on the country's development priorities	
Country social development priorities	Create additional jobs Increase electric security of the country
Country economic development priorities – economic benefits	Reduce import of electricity, Reduce import of fuel compared to condensing power plants
Country environmental development priorities	Reducing harmful emissions compared to district and individual heating systems, which have become very popular.
Other considerations and priorities such as market potential	
Costs	
Costs Capital costs	Investments in thermal part – 300 mln USD
Operational and Maintenance costs	Operational and maintenance costs will be 18 USD/GJ
Cost of GHG reduction	52 USD/t
Lifetime	Lifetime – 15 years

ⁱ This fact sheet has been extracted from TNA Report - Technology Needs Assessment for climate change mitigation - Republic of Moldova. You can access the complete report from the TNA project website <http://tech-action.org/>