Technology Fact Sheet

Technology Name	**High and medium power heat pumps**[i] http://www.junkers.ro/ro/ro/ek/infocenter/download/6_Pliant_pompa_caldura.pdf
Subsector GHG emission (megatons CO2-e)	5.067 mln.t CO_2 in thermal power sector in 2010
Background/Notes, Short description of the technology option Context / Notes, Short description of the technology option	Heat pumps (HP) raise the temperature of low potential heat sources (LHS) to values needed by consumers. Low potential heat sources (LHS) can be the atmospheric air, soil, surface waters and ground waters, as well as a number of technological sources (ventilation air, sewage, cooling fluids of power plants and technological equipment, in the long run - heat from asphalt roads, etc). Heat pumps use one kWh of electricity to get 3 to 5 kWh of heat. Heat pumps can be used in a number of technological processes that require simultaneous heating and cooling (grinding, drying, etc). Heat pumps do not eliminate any emissions. Lately, ozone-active refrigerants are being replaced with environmentally safe hydrocarbons.
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.	High efficiency of the heat pumps, easy servicing and environmental friendliness make them increasingly attractive. Heat pumps of air-air type, which can be used for rooms conditioning in summer have become very popular in urban areas, in the Republic of Moldova inclusively. Heat pumps of air-ground and ground-water types are used increasingly wider. It is expected that by the year 2020 HP will ensure 10% of the heat supply for heating, hot water consumption and technological processes.
Implementation barriers	- Large investments. - Limited knowledge of the HP technology by consumers.
Reduction in GHG emissions (megatons CO2-eq)	A reduction of 1.03 mln.t CO_2 can be achieved between 2010 – 2030
Impact Statements - Impact of this option on the country's development priorities	
Country **social** development priorities	Increase safety and ensures consumers' independence
Country **economic** development priorities – economic benefits	A reduction of 100 mil m^3 of natural gas per year can be achieved by 2030.
Country **environmental** development priorities	Reduction in CO and NO_x emissions
Other considerations and priorities such as market potential	-
Costs	
Capital costs	Total investments will amount to cca 465 mil.USD
Operational and Maintenance costs	Operational and maintenance costs will be 13.5 USD/GJ
Cost of GHG reduction	450 USD/t
Lifetime	Lifetime – 20 years
Other	-

[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/**