

42.8% RETURN ON INVESTMENT IN ENERGY SAVINGS DUE TO THE REPLACEMENT OF A PRESSURE REDUCING COOLING SYSTEM

One of the largest vertically-integrated agriculture companies in the Siberian Region of Russia consisting of a pig-breeding complex and a meat-processing plant requested the RUSEFF experts to assess potential energy saving opportunities. The company is a leading meat products supplier and also a heat supplier for municipal consumers and industrial enterprises.

The current production process which requires low steam pressure uses an inefficient conventional pressure reducing cooling station.

The RUSEFF experts advised how the installation of a steam turbine to replace the pressure reducing system would result in the energy savings equivalent of 8 429 MWh annually.

The proposed investment of USD 1.33 million will result in lower fuel consumption and reduced electricity costs, which will lead to annual savings of USD 272 000, a payback period of 5 years, yielding a 42.8% return on investment in terms of energy savings.



Company

Economic sector	Livestock and meat processing
Region	Kemerovo

Project Goal and Main Investment

Project goals	<ul style="list-style-type: none"> Electricity generation for auxiliaries
Main investments	<ul style="list-style-type: none"> Purchase a steam turbine for electricity generation
Investment size	USD 1 330 000

Results

Project Results	<ul style="list-style-type: none"> Energy savings equivalent to 8 429 MWh per year Energy savings: 5.4 kWh per USD invested Emission reduction equivalent to 956 tonnes CO₂ per year
Financial viability	<ul style="list-style-type: none"> Annual cost savings: USD 272 000 Payback period: 5 years IRR: 42.8 %



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