Improving Energy Efficiency

JSC "Russian Railways" has achieved its highest ever level of energy efficiency in its transportation process based on a number of parameters.

In 2012, JSC "Russian Railways" completed the mandatory energy audit. The energy certificate of JSC "Russian Railways" has been registered with the self-regulatory energy audit organization, SoyuzEnergoAudit, under number CPO-4-19122012-00807.

In 2012, energy saving and energy efficiency programs were implemented at 42 branches of JSC "Russian Railways".

In comparison with the year 2011:

- specific consumption of fuel and energy was reduced for electric traction (by −0.1%) and for diesel traction (by −0.9%);
- the level of energy recovery increased by 18.6%.

An example in 2012 of an integrated approach to addressing environmental development, energy efficiency and reducing the energy intensity of the transport infrastructure was the implementation of the Smart Station concept during the modernization of the Anapa railway station. 560 solar modules with a total capacity of 70 kW were installed in the station building. Now it is independent of the public electricity supply.

Of standard fuel / 103 virtual ton-km net was the energy intensity of the production activities of JSC "Russian Railways" in 2012

71,8 kg

Compared with 2011, the energy intensity decreased by −1.1 kg of standard fuel / 103 virtual ton-km net (−1.5%)

Key areas of the energy policy of Russian Railways holding company up to 2015

Energy intensity of the transportation process to be reduced by 7.2% in 2015 compared with 2010

- Improving the fuel and energy resources accounting system
- Energy saving modes for trainsов
- Development and implementation of energy saving programs for JSC "Russian Railways"' subsidiaries following the results of the mandatory energy audit
- Increase in the number of electrified railway lines
- Introduction of new generation locomotives
- Infrastructure updating and development with the introduction of energy saving technologies
- Increased use of renewable energy sources and energy efficient technologies in the stationary power system
- Improving the efficiency of energy recovery

ENERGY SAVING AND ENERGY EFFICIENCY MEASURES OF JSC "RUSSIAN RAILWAYS"

			Annual savings of fuel and energy resources		
			In real terms,		
		Costs, RUR th.	Number	Unit of measurement	In monetary terms, RUR th.
1	Management of train speed	102,288.36	54,457.02	th. kWh	136,408.39
			5,604.69	diesel fuel, ton	140,992.90
2	Improvement of indicators for locomotives	312,113.00	64,970.68	th. kWh	158,640.91
			34,075.64	diesel fuel, ton	855,603.72
3	Improving the technical condition of rolling stock	48,808.80	9,061.62	th. kWh	22,135.65
			1,559.54	diesel fuel, ton	38,126.55
			1,366.80	Gcal	1,567.40
			11.00	coal, ton	12.70
4	Improving the technical condition of tracks	1,384,801.49	3,484.34	th. kWh	8,299.31

			388.26	diesel fuel, ton	9,706.45
5	Improving the traction pow er supply	165,573.19	33,335.99	th. kWh	79,296.53
6	Improving energy recovery on electric traction	401,571.00	69,906.51	th. kWh	176,854.33
7	Optimizing operation of heating systems at production premises	727,911.29	10,182.10	th. kWh	23,621.28
			31,790.01	Gcal	35,390.11
			401.25	th. cubic m	1,784.76
			324.07	fuel oil, ton	3,308.47
			1,249.84	coal, ton	1,798.02
8	Use of energy efficient lighting, optimization of lighting system modes, introduction of LED technology	1,356,348.76	45,303.77	th. kWh	124,775.61
9	Improving energy efficiency of technological processes and infrastructure	3,390,036.31	305,759.97	th. kWh	744,569.71
			661.60	diesel fuel, ton	17,679.53
			15,868.35	Gcal	18,079.65
			842.50	natural gas, th. cubic m	2,975.77
			364.20	petrol, ton	9,587.47
			958.80	fuel oil, ton	10,163.57
			2,790.00	coal, ton	4,390.55
			649.14	w ater, th. cubic m	8,061.22
10	Mandatory energy audit	2,790,177.98			
	Total, in real terms,	10,679,630.18	276,491.42	ton of standard fuel	2,633,830.59
	including:	electricity	596,462.01	th. kWh	1,474,601.74
		diesel fuel	42,289.72	ton	1,062,109.16
		thermal energy	49,025.16	Gcal	55,037.16
		natural gas	1,243.75	th. cubic m	4,760.53
		Petrol	364.20	ton	9,587.47
		fuel oil	1,282.87	ton	13,472.04
		Coal	4,050.84	ton	6,201.28
		Water	649.14	th. cubic m	8,061.22

Coal 4,050.84 ton 6,201.28 Water 649.14 th. cubic m 8,061.22