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ABROAD

The Forecast of the Development of the Market for Gas Turbine Equipment in the Years 2013–2021 (Review)

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Abstract—The data are given, according to which, 12521 power-generating gas turbines will be manufactured in 2011–2021. More than 32% of these turbines will be made by Solar, while products made by General Electric will account for 41% (in terms of money). Servicing of gas turbine units provided by firms manufacturing them will gain wide acceptance.

Keywords: gas turbine, gas turbine unit, combined-cycle plant

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For nearly the next decade the making of 12591 power-generating gas turbine units with the total cost of more than 152.9 billion dollars (in 2012 prices) is forecasted (Tables 1–4)[1]. As can be seen from the data given in these tables, General Electric will again prove to be a leader, and it will take up more than 44% of the market for the power-generating gas-turbine equipment in terms of money. As for gas-turbine units that have already been manufactured, Solar remains to be a leader, because, according to the forecast, it will account for 32% of the total number of gas turbine units.

It is expected that the annual volume of orders for power-generating gas turbine units for the period 2012–2016 will increase to 1300 units. Then, the annual volume of orders will gradually decrease down to its usual level.

The number of gas turbine units with the capacity of 125 MW and higher, such as F7 and F9 (General Electric), SGT5-200E/3000E/4000F and SGT5-8000H (Siemens), SGT63000F/5000F/6000G (Siemens-Westinghouse), GT24/26 and 13E (Alstom), and models 501 and 701 made by Mitsubishi, will account during these years for somewhat more than 20% of the total number of gas turbine units.

It should be noted that the forecasts for making gas turbine units are not always true. For example, in the forecast for the year 2010 [2] it was expected that in the year 2011 the total output would be 1232 units, but the actual output was merely 677 units [2, 3].

Among the power-generating gas turbine units, for those that prevail, their design has technological bases that were developed long ago.

Many gas turbine units will be used as part of combined-cycle power plants with much higher efficiencies.

The service of both high-capacity power-generating and mechanical drive gas turbine units and all their equipment—electric generators, turbine-driven compressors, etc., provided by their makers, will be further developed.

Within the next decade, throughout the world, the profit of firms providing technical maintenance, current, and overhaul repair of the gas turbine equipment, which at the present time is 7.8 billion dollars per year, may increase to 14.5 billion dollars.

The major advantages of gas turbine units will be, as before: universality in their use, small environmental impact, high efficiency, ease of installation, and the possibility of rapid startup.

For the servicing of gas turbine power plants with the capacity of 500 MW only 25 operators are needed. Gas turbine units with lower capacity can be operated and controlled by means of telemetry. Gas turbine units with the capacity up to 25 MW arranged in packages, close to fuel lines, or in the vicinity of transmis-

Table 1. Forecast of the quantity and the cost of power-generating gas turbine units for the years 2013–2021

Indicator	Year								
	2013	2014	2015	2016	2017	2018	2019	2020	2021
Number of gas turbine units (GTUs)	1341	1310	1289	1270	1234	1215	1197	1195	1177
Cost, billion dollars	15.4412	15.4818	15.5881	15.6819	15.3035	15.0513	15.1388	15.4304	15.2165