Strategic management of the potash industry in Russia

D. Dmitrieva, A. Ilinova, A. Kraslawski

1. Introduction

The use of fertilizers increased vastly over the twentieth century, and fertilizer use is estimated to continue to grow also in the near future (Enger, 2010). The global scope of the fertilizers production industry means that global market is a competitive environment and its future (Enger, 2010). The change in the use of agricultural land in recent years has caused by resource exhaustibility also in Agricultures Organization of the United Nations, 2016). Limited supply of potash fertilizers and the estimated surplus of supply over demand is expected to reach 30% of world production by 2017 where North America, Eastern Europe and Central Asia would account for 70% of world incremental potash supply between 2015 and 2020. For

Global consumption of fertilizers in the agricultural years (beginning of July–end of June) 2009–2016 is presented in Fig. 1. The dynamic growth of consumption of fertilizers is seen in all three segments. The greatest increase is observed for nitrogen fertilizers, which are the most commonly used fertilizer worldwide. Table 1 presents main indicators of fertilizer market development for 2013 and 2017.

Fig. 1 shows that in the recent years the annual growth rate of fertilizer consumption has stabilized at 1–2%. The data in Table 1 show that, in the short term, a surplus of supply over demand is foreseen for all segments of the industry despite the attractive fundamentals. This oversupply is connected with production growth and active development of world production capacity. The most significant surplus is observed for potash fertilizers and the estimated surplus of supply over demand is expected to reach 30% of world production by 2017 where North America, Eastern Europe and Central Asia would account for 70% of world incremental potash supply between 2015 and 2020. For
nitrogen fertilizer, overproduction is forecast to increase to 4% of production, and for phosphorus to 11%. However, the current recession is forcing many companies to postpone the increase in production capacity, thus slowing production growth. In consequence, the forecasts may overestimate market surplus.

The global fertilizers market significantly influences the development and prospects of many modern Russian mining and chemical industries, particularly integrated enterprises. The global fertilizers market is affected by many factors, for example (Ponomarenko, 2011):

1. The balance of supply and demand
2. The limited geographic accessibility of mineral resources (potash and phosphate ores);
3. The characteristics of arable farming, including different scales of agricultural activities in different countries and different levels of fertilizer consumption;
4. The concentration of industrial facilities near the sources of raw materials, market outlets and seaports;
5. Directions of agricultural policy in different countries;
6. Conditions for international agricultural trade, etc.

In addition, changes in prices for raw materials and energy have a significant impact on fertilizer prices. The geographical mismatch between production and consumption means that the fertilizer markets are international in nature and a significant share of the products is exported.

When considering the above factors, it should be mentioned that some of them affect the industry in a long-term or predictable way (such as growth in world population and the availability of various natural resources) whereas others can change dramatically, becoming weaker or stronger or even changing direction (for example, agricultural policy or regulation of foreign and domestic trade). The complexity of the interaction of these and other dynamic and multidirectional factors generates turbulence in the external environment and poses challenges for strategic decision-making in integrated mining and chemical companies. Environmental turbulence (Bruno, 2015) should be understood as “a measure of the degree of changeability and predictability of the companies' environment” (Ansoff, 1993). The faster the changes occur, the higher the degree of turbulence.

However, the competitive advantages of Russian manufacturers, which are largely resource-based, can be partially or completely lost as a result of changes in the industry environment. Growing price competition in the fertilizer market, increasing levels of dynamism of the external environment and greater volatility of global markets have forced mining and chemical companies around the world to focus on managing costs and improving the effectiveness of strategic management and marketing activities.

2. Literature review

Despite the wide range of existing methods and tools for strategic management (Aaker, 2013; Barney, 1991), no optimal strategic approach that takes into account the industrial and market peculiarities of the fertilizer manufacturing industry in a highly turbulent environment has been found. Previous studies have addressed fertilizer markets and forecasts of fertilizer consumption (Al Rawashdeh and Maxwell, 2011; Al Rawashdeh et al., 2016; Geman, 2013), demand and supply sides of the fertilizer industry (Al Rawashdeh and Maxwell, 2014), the role of fertilizers in the global food system (Cordell, 2015), and also the development of phosphate and potash resources and reserves (Mew, 2016, Ciceri, 2015, Cooper, 2011). From the point of view of strategy, many studies have considered issues of strategic management of large companies (Freeman, 1984, Glueck, 1980, Lorange, 1980, Worrell, 1988, Grant, 2011, Pitere, 2001, Ansoff, 2007, Spender, 2014). Previous research has also addressed recent evolution of the fertilizers market and has assessed likely developments in the coming decades (Al Rawashdeh and Maxwell, 2014), as well as questions concerning fertilizer availability in a resource-limited world (Dawson, 2011).

There are a small number of papers devoted to development of fertilizer companies and the management of these enterprises. In particular, previous study has attempted to analyze the technical efficiency performance of major global corporations involved in phosphate recourses mining using the BCC (Banker, Charnes, and Cooper) and CCR (Charnes, Cooper, and Rhodes) models of data envelopment analysis (Geisler, 2015). In addition, papers have considered capital investment in fertilizer companies (Geman, 2013), the supply behavior of state mining enterprises (Al Rawashdeh, 2008), and efficiency performance of the world’s leading corporations in phosphate rock mining (Geisler, 2015). However, there are no research papers focusing specifically on strategic management of fertilizer mining companies operating in conditions of a highly turbulent external environment.

Practically all phosphate and potash resources used for fertilizer
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