

“Developing and Financing International Business Opportunities” Conference

November 14th, 2013, New York

Dr Dennis Shomko's Keynote

Good afternoon,

Dennis Shomko, Senior Partner at Avicon Partnership, London (UK). I would like to talk about a project, on which our team has been working over the last 16 months, on behalf of our customer - Distributed Generating Company of Russia - DGC. The company is a start-up, based in Samara region, one of the leading industrial powerhouses in Russia, and is backed by a number of well-established businesses, entrepreneurs and a venture fund.



The project itself is rather unique, at least we were unable to find a large number of analogues projects, and I will explain why. To begin with, it is a typical SME2SME project, if I may, a subset of infamous B2B paradigm. Secondly, the anticipated size of the transaction is in excess of \$300M, which, for the both companies involved, is a significant step up. Frankly, when we started

working on it, we thought it would be a classic example of venture-style financing, but as things were progressing, we have come to the conclusion, that the risks associated were within the moderate zone, so much so, that we did manage to attract third-parties, which expressed interest in their if not direct participation, at least as guarantors, or providers of collateral - what US ExIm bank would classify as Sponsors of the Project.

Finally, although we have not quantified indirect and induced impacts of the project, we have a clear understanding, that there will be a sizeable contribution to the economies of the countries involved.

A colleague of mine, Mark Schnepel of FlexEnergy, will later talk about the underlying technology, while I will cover the original business idea, our findings, strategy and goals.

Perhaps it wouldn't be a secret to many, that SME is the driving force of many developed economies: in the EU, almost 60% of GDP is generated by firms with less than 250 people. In the US, it is 39%. There are some unique countries, such as Germany, with 75% contribution (Source: Global Alliance of SMEs, 2013). In other countries, such as UK, South Korea - such entities not only successfully compete with large businesses, they dictate the market their terms: in South Korea, for example, with 99.9% businesses being SMEs, big companies depend on SMEs, SMEs promote fair competition, and simply put, cannot manipulate markets. I could keep convincing everybody, that numbers clearly speak for SMEs, but instead I will just say that we need SMEs to:

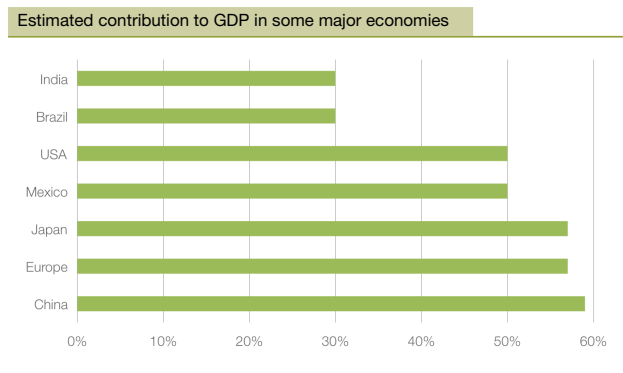
- increase vitality of the market;
- provide large number of jobs;
- create wealth;
- promote economic growth and
- stimulate R&D and innovations

Simple research shows, that, as such, large number of SMEs is one of the attributes of developed economies. That is, countries, which have sound and efficient legal systems, where SMEs are protected by basic law. However, if we look at the cause and effect, we will quickly understand, that SMEs preceded any other form of an organised business entity, therefore, we can say, that SMEs themselves helped to shape modern legal systems, and will continue doing so.

All this is natural for many of us. The only reason why I am paying attention to the theory here is because when DGC team approached us, we realised that we were not talking with an ordinary SME. We were talking with an SME from Russia. Country, where small trader's tradition, so called *'kupechestvo'*, once reputable class of society, has been eradicated almost a hundred years ago. In the country, where wealth creation was looked down upon, and private property has not existed for generations, the economy was focused exclusively

on serving the needs of large enterprises (extensive economic growth model, coming from expansion of ordinary inputs of labour, reproducible capital and natural resources). As the main consequence of that, infrastructure was also developed with such large enterprises in mind.

2012. DGC founders, having been working in the new reality for twenty years, realised, that despite certain economic, social and legal freedoms, now enjoyed in Russia, SMEs are still not blossoming. Here are the numbers for Russia:



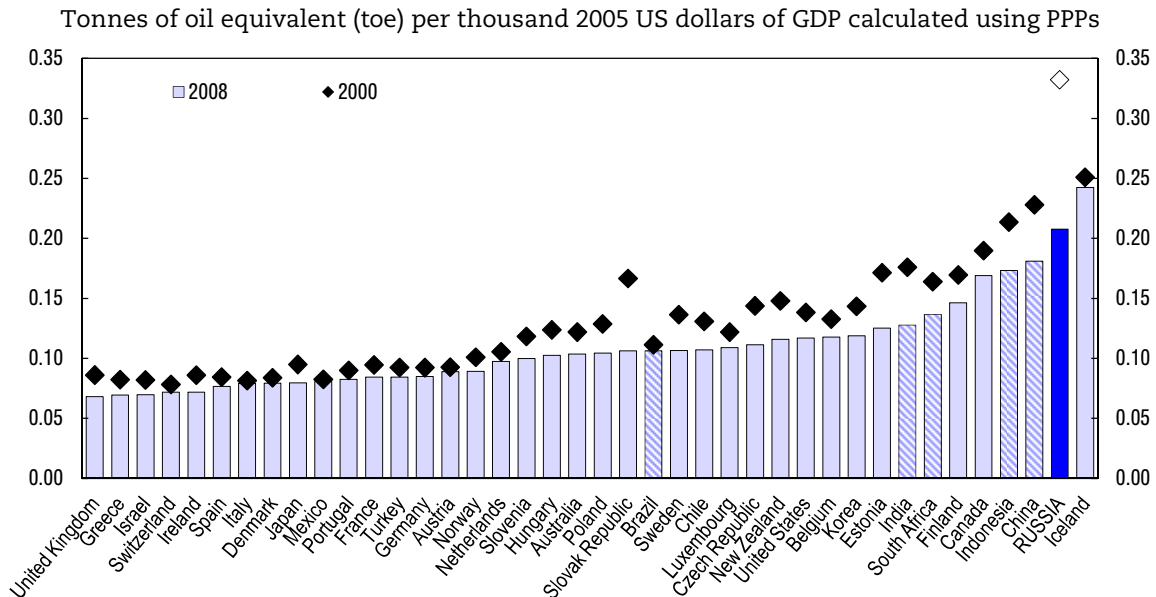
- 17% in GDP Structure
- 25% of jobs

Now the scary bit: only 11% of those SMEs involved in industrial production of goods, and High Tech - well, that is something that personally surprised me - 1%. Virtually non-existent. The majority, 80%, are in trading, which is low-level speculative operations, and low-skills services (Source: All-Russian Organisation of SMEs - OPORA)

Again, let's compare it with the developed countries. Of course, there will be a natural questions: what about developing countries. Let's have a look, shall we: China: more than 60% in GDP structure, 80% of jobs; in terms of growth, SMEs showed 25% growth on average (2004-2010), so we can see that actually large enterprises are those who are holding back the country (source: The University of Sydney, SMEs - the source of China's economic miracle, 2012).

Few more numbers: India, Brazil - 30%, Mexico - 50% (Source: Regus, A global report into the state and status of entrepreneurship, 2010).

We have checked all the surveys, social factors, and have come to the conclusion, that Russians are not wired differently in that sense, they also aspire to be entrepreneurs, just



like in any other country. We then looked at other reports, and came across this piece, published by OECD:

One area where the gap with OECD countries has remained very wide is the business climate. Russia scores poorly on a range of indicators of the business environment. State involvement in the economy is pervasive, corruption endemic, the rule of law weak, and the foreign trade and investment regimes relatively restrictive. These deficiencies are reflected in low levels of competition, sluggish innovation, low investment and a greater dependence on natural resource extraction than would otherwise be the case. Although on a number of fronts improvements can be discerned, there is a need for further policy action and reinforced implementation efforts in many areas, including cutting red tape, privatisation, judicial reforms, eliminating corporate subsidies and liberalising the international trade and investment regimes.

Another area where Russia lags the most advanced countries is energy efficiency, and this has been a major factor in poor environmental outcomes and the high carbon- intensity of the economy. The energy-intensiveness of GDP in Russia is among the highest in the world. The main imperative is to ensure that the price of energy reflects marginal social costs, which means removing subsidies and export taxes on energy and introducing mechanisms to price in the negative externalities of fossil-fuel use. The installation of meters for all energy use should also be sped up, and measurement of energy consumption improved. Especially in the interim, while many energy users do not face prices reflecting marginal social costs, there is also a role for other measures to improve energy efficiency, such as standards for housing and transport and the provision of information to firms and households.

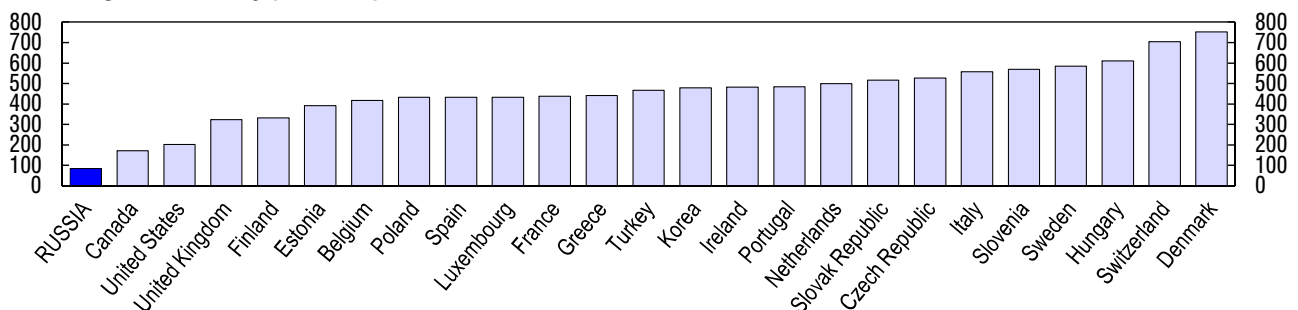
(Source: OECD Economic Surveys - RUSSIAN FEDERATION, 2011)

While there's nothing new fundamentally, the attention has been drawn to the energy efficiency. So people behind DGC, themselves representatives of financial industry, started a dialogue with SMEs, and the main question was: "what's wrong with energy?"

General conclusion can be summarised by the same OECD's report, and its authors' recommendation:

*Although energy use has declined substantially in absolute terms since the Soviet era, Russia still has one of the most energy-intensive economies in the world (See the Figure). Thus, while Russia has the sixth largest economy in the world in PPP terms, it is the fourth largest user of energy and the third largest emitter of greenhouse gases. Moreover, low energy efficiency contributes to poor air quality, and Russia has one of the highest rates of premature mortality attributable to air pollution in the world. Raising energy efficiency is far from costless; the government's programme projects total spending, by all sectors of the economy, of more than 1% of GDP on average over the period 2011-20 to meet the goal of reducing the energy intensity of GDP by 40%. **The scope for profitable energy efficiency investment in Russia is nonetheless huge**, and indeed a good deal is already happening, but there is reason to believe that a number of constraints and market failures make this process slower than optimal. This means that improving energy efficiency should be a top priority for government policy in Russia. Fairly ambitious official targets for energy efficiency gains have been established, but so far the policy measures identified appear insufficient to meet them.*

C. Natural gas for industry (10⁷ kcal)



It looked like the hot spot has been found, many if not all admitted, that they wished for improvements in that particular area. And, surprisingly, it wasn't even price per kW/h, the real deal breaker turned out to be the grid connection fee. Rule of a thumb: \$1M per MW. That is steep, by all standards. What is more, the process is extremely bureaucratic, there are waiting lists, brown envelopes, restrictions - and no other options. For many entrepreneurs, that works as a cold shower, and it quickly explained us why so few SMEs are in hi-tech or manufacturing: very high price of the ticket. We looked at the problems of the Russian Energy Generation and Distribution network. Huge, cold country, distances between consumers and generating facilities means transfer losses (which compensated out of consumers' pockets). Worn out equipment (and some sources say certain pieces of energy generation and distribution hardware are 160-175% worn out, which means some facilities have exceeded their designed lifetime almost twice), poor management skills, and

insufficient utilisation of modern production technologies (Source: MFA of Denmark, Trade Council) are the most critical issues for the Russian Energy Sector.

As to SMEs, earlier we were talking about Extensive Economic Growth, where infrastructure was designed to serve the needs of large enterprises. It will be an exaggeration, perhaps, but will nicely illustrate the issue: try plugging your mobile phone charger directly into the nuclear power plant generator. You can do that, but you will need a few million dollar transformer. On my way here, I was discussing the issue with DGC's technical director, who shared his experience: at some point, while working for a small non-SME, he had to build a local step-down transformer at his own expense, in order to be connected to the grid. For the reason stated above: the infrastructure was not designed to serve small consumers, and solutions are prohibitively expensive.

Clearly, any solution would not come for cheap. Then, we looked at the way the price for electricity is formed. It turned out, price for gas is one of the main component, the other one being capex. So, gas - and hardware... Quick look at the chart, and we can see that in fact, in Russia, gas is very cheap for industrial consumers. It also turned out, that a large number of enterprises are already connected to the gas mains, and, overall, the situation with new connections to the mains is a no-brainer: it is relatively cheap and quick, and does not require expensive downstream-to-consumer infrastructure.

The other part was hardware. Hardware which can generate electricity and consume for that purpose gas. And the solution was obvious: gas turbines. As turn-key deployments, such systems have been around for awhile, but normally, such were still very expensive, and with excessive power, which, again, would limit its practicality for SMEs. Now, Russia wasn't the first country, of course, which faced with such a problem, and, actually, gas and oil industry itself came out with a solution: micro turbines. Such were designed for a slightly different purpose, to burn APG, aka flare gas, in harsh environments, with less than ideal conditions for in-field service, reliable, long lifetime design, and uptime close to 100%.

SMEs were aware already, that such solutions existed, but only a handful of entities could afford them: the price of hardware is comparable with what energy consumers pay through

grid connection fees. Secondly, such hardware would mean new problems: even if maintenance is low, you still need to have in-house expertise to keep it up and running, troubleshoot, if the need be - and that would be additional expenses. It is that combination of factors, which led to the formation of DGC.

The business idea was to create a company, itself an SME, which would purchase micro turbines, develop a set of standardised solutions for quick deployment, and offer customers long-term, predictable contracts, for on-site power generation, with no grid connection fees. While working through this, we even realised, that energy can be sold to customers with 10% discount to the existing rates. DGC would also build in-house expertise to provide maintenance and upgrades if required. All this will be performed with little to no attention to the customers. Perhaps, not surprisingly, DGC's Preliminary Order Book quickly filled up, and they believe that within the next 3 years, they will be able to deploy microturbines-based solutions with total energy generation capacity of at least 200MWs.

After a long search, and very difficult negotiations, we have found the most optimal solution for our client. We have analysed specifications, reliability, ability of the manufacturers to timely deliver such hardware and support the deployment, engineering and service support, and a large number of other factors - and we have come to the conclusion, that the best hardware the market has to offer today, is by an American manufacturer, surprisingly, an SME itself (although, an spinoff of a very large business), - FlexEnergy of Portsmouth, New Hampshire.

And I am pleased to say, that today we are signing a contract with FlexEnergy, on behalf of our customer, Distributed Generating Company, for the supply of hardware with the total value in excess of \$300,000,000. The first deliveries will take place this coming January, followed by already scheduled monthly deliveries up to June, 2014. We are the same time applying for US ExIm Bank financing, which we see as a critical part of the project, and, of course, are hoping to get approval in order to expedite the delivery of the solutions to the end-users.

This deal is a serious step forward in bilateral cooperation. Western countries do want to see in Russia a reliable business partner; a country, whose businesses will become our customers, and who will be delivering to our markets competitive, hi- and medium- tech products, and not just oil, gas and raw materials. Through projects like this, we want to stimulate the rapid growth of SMEs in Russia; type of entities, which play fundamental role in economic growth of developed and a large number of developing countries.

At the same time, we are giving a boost to a number of American SMEs, not just FlexEnergy. It is clear to us, that positive direct, indirect and induced impacts are quite sizeable for the economy of the State of New Hampshire.

But what is more important, is the precedent we are trying to create, where cross-border SMEs can enter into a long-term, multi-million-dollar cooperation, with the support of well-established institutes, such as ExIm bank. For many, it remains uncharted waters, and we want to show, that it is accessible to those who want to create competitive, innovative products and export them to similar-minded partners across the globe.

