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PROSPECTS FOR GERMAN FOREIGN POLICY

Global Megatrends (III): Raw Materials – Explore Alternatives and Create New Paradigms

The Working Group of Young Foreign Policy Experts

Global energy consumption and the demand for industrial raw materials are continuing to increase with the sustained rise of new economic powers. Although German politics and the German economy are already well placed in many respects regarding energy and raw material supplies, there are three areas that are manifestly due greater attention in a purposeful foreign policy. These include urban mining and the substitution of raw materials, particularly in order to reduce dependence on rare earths; establishing a dialogue on energy issues with developing and newly industrialised countries; and creating strategic gas reserves.

For more information on the Working Group of Young Foreign Policy Experts, go to: http://www.kas.de/wf/en/71.6391/

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THE SIGNIFICANCE OF GLOBAL MEGATRENDS FOR GERMAN FOREIGN POLICY

International politics is increasingly determined by long-term developments that can be bundled together under the buzz phrase "Global Megatrends". The most significant of these trends include demographic change, the advance of urbanisation and the supply and demand of certain resources. The much-debated issue of global power shifts is a part of this, and indeed to some extent it can be viewed as a combination of all these trends. Germany is an influential player on the world political stage, and as an export-oriented economic power which heavily relies on raw materials, it is – at least indirectly – affected by all these trends. Whether Germany experiences them as an opportunity or as a problem depends largely on its political approach. The Konrad-Adenauer-Stiftung's Working Group of Young Foreign Policy Experts has produced three interrelated reports that it hopes will stimulate discussion on how Germany's foreign policy should approach some of these mega trends and their effects: Global Power Shifts (I), Demographic Change (II) and Global Demand for Raw Materials (III). These papers identify priorities for German foreign policy and make concrete proposals on how our country can be equipped for the future in the legislative period that is now underway.

THE SIGNIFICANCE OF RISING DEMAND FOR RAW MATERIALS FOR GERMANY

With the sustained rise of new economic powers, both demand for industrial raw materials and global energy consumption are set to increase. In many respects, German politics as well as the German economy are already well placed to react to these developments or even benefit from them. However, due to the new centres of gravity in the global economy, new international supply structures are emerging as well, posing an economic challenge to Germany.

If developments are steered in the wrong direction through energy and raw materials policies, this could potentially affect the independence of strategically important industries and thereby indirectly also the scope for action in German and European politics. The good news, however, is that appropriate German policies can be effective in countering this. There are three areas to consider, which have so far not received the attention that they deserve in the deliberations about a purposeful foreign policy on raw materials.

- **Urban Mining and Substitution of Raw Materials**

The recycling rate in Germany is comparatively high, and some raw materials are already included in perpetual reutilisation cycle. However, the dependence on rare earths in particular and the striving for greater sustainability in the use of natural resources make the search for alternatives a crucial task. Urban mining and action to encourage the use of alternative materials must be given greater prominence when policy responses are devised.

- **Dialogue on Energy Issues with Developing and Newly Industrialised Countries**

However, any attempts to mitigate dependencies and limit impacts on the environment would be bound to fail if they were restricted to Germany itself. Not all emerging industrial economies attach the same importance to climate protection and sustainable use of resources. A dialogue on energy issues can help to export German knowledge and prepare the ground for international efforts to promote climate protection.

- **Creating Strategic Gas Reserves**

The willingness to enter into dialogue will not be capable of alleviating dependencies in all areas. Particularly where the supply of gas is concerned, there is a worrying dependence on Russia – a country that is involved in an ever increasing number of conflicts. The fact of being reliant on supplies of natural gas from Russia has repeatedly limited the scope of action of German as well as European politicians in these conflicts with Russia – Germany and Europe need alternatives to Russian gas, and until such time as those are available, they need gas reserves.

STRENGTHEN URBAN MINING AND SUBSTITUTION AS ALTERNATIVES TO RARE EARTHS

In view of the fact that global economic output is still rising fast, that consumption is continuing to increase worldwide and that new middle classes are emerging, global demand for raw materials is set to continue rising strongly. While this can be compensated for in part through the markets, there is a danger of bottlenecks developing in some cases. Since the mid-1980s, China has gradually overtaken the USA as the most important exporter of rare earths and is now virtually the only country to supply the world market, creating a problematic situation of dependency in the global economy. The structural elements involved in the supply of raw materials become particularly relevant in countries that have few of their own natural resources – first and foremost rare earths (Neodymium, Europium, Lanthanum and fourteen

further metals). In the German and European strategy for raw materials, these are classed as critical raw materials as they are indispensable for the manufacture of numerous high-tech products. These include electronic entertainment devices, computers and batteries, which are becoming increasingly important particularly for electric vehicles. But there are also many industrial products such as turbines and motors, particularly for the defence industry as well as the increasingly important "green technologies" in the area of renewable energies, for which rare earths are essential.

Germany already occupies a leading position worldwide where recycling is concerned. While even industrialised EU countries only achieve a recycling rate of some thirty per cent, over sixty per cent of German waste is reintroduced into the raw material cycle. Raw materials such as steel are already being regarded as immortal due to their high recycling rate. There is, however, still room for extending the lifecycles of raw materials – modern settlement areas in particular represent an obvious source. Vehicles, consumer goods, buildings, urban infrastructure: they all have a limited life and can then be recycled. This type of urban recycling is generally referred to as "urban mining". The more Germany invests in research into urban mining and thereby increases the efficiency of resource utilisation, the more the German economy can become inured against the pressures from global demand, while new urban mining processes can produce attractive export products as raw material prices keep rising. Particularly in emerging economies, demand for such solutions is likely to grow dramatically in the medium term.

Another potential means for German foreign policy to find an answer to the rising demand for and therefore scarcity of raw materials would be purposeful efforts to find substitutes for raw materials. Industrial raw materials – such as rare earths – can be replaced to a certain extent by other substances and novel materials with comparable characteristics. This is already becoming a trend in aircraft and turbine construction, which in turn allows savings to be made in fuel consumption. In the production of magnets, some manufacturers are doing entirely without rare earths these days. However, the resulting magnets are not as powerful and have caused an increase in the price of the replacement raw material. These examples show that while the use of alternatives can reduce dependence on particularly sought-after raw materials, manufacturers may become exposed to other vagaries of the market, which might ultimately also be to the detriment of the affected companies. Substitution is therefore not the ultimate solution to reduce raw material dependencies, but it can represent a viable option.

Germany is particularly well placed in the area of research and development – a competitive advantage that the country should take advantage of and further purposefully. Ideally, this may make it possible to reduce the dependence on raw material imports and to generate technologies and expertise for export.

ESTABLISH A DIALOGUE ON ENERGY ISSUES WITH DEVELOPING AND NEWLY INDUSTRIALISED COUNTRIES

The search for alternatives for the raw materials required in industrial processes also increasingly requires better coordination with other countries. Demand for sources of energy is rising massively, particularly in developing countries. A prognosis by the US Energy Information Administration shows that the People's Republic of China, for instance, could overtake the United States as largest oil importer in 2014.[1] It must be in the interest of established industrialised countries for the industrialisation in the emerging new economic powers not to be based on fossil resources and limited sources of energy in the long term.

Against the backdrop of increased demand for scarce resources and the challenges in terms of environmental and climate protection, Berlin should complement its energy policy with a strong and regular dialogue on energy issues, which should not be aimed exclusively at the BRICS states, but also involve those that are still at the beginning of their economic catching-up process.[2] This dialogue should be conducted bilaterally, because due to its position as an important industrialised country within Europe, Germany can serve as a model thanks to its own achievements with the so-called "Energiewende", i.e. energy transition. The central element should be an annual symposium involving the Federal Ministry for Economic Affairs and Energy and the respective ministry responsible for energy in the partner country. Formally, the exchange can be based on existing and proven models, such as the dialogue on the rule of law or the dialogue on human rights. The Indo-German Energy Forum, which was run by the German Society for International Cooperation from 2008 to 2011, can serve as a template. Initially, the two parties need to discuss the cooperation potential and determine the direction the cooperation should take. Due to the heterogeneity of the rapidly developing emerging economies, there may well be significant differences in this respect. The dialogue should cover topics such as an environmentally and socially compatible energy policy, sustainable growth and the distribution of energy resources, and it should be conducted at a high political level.

Such an exchange can have many interconnected consequences. For one, it will strengthen Germany as an economic and technological location. The country already possesses knowledge and technology relating to sustainable and environment-friendly energy. Secondly, many emerging industrialised countries have a positive image of Germany. Its central role in the energy transition can serve as a model for them. And thirdly, a dialogue such as that proposed here is a means to establish trust. The issue of energy and resources will also produce tensions between different countries over the coming decades. Mechanisms that are initiated now will facilitate finding solutions in the future; the search for a consensus can begin now through dialogue with individual states and make a contribution to positive developments at international level.

GREATER INDEPENDENCE WHERE GAS SUPPLIES ARE CONCERNED

The crisis in Ukraine has underlined the extent to which Germany's and Europe's scope of action in their foreign policy is limited by the dependence on Russian energy supplies. Dependence on fossil fuel imports had already presented a problem in the past and caused the German government to build up strategic oil reserves in the 1970s. Although supply bottlenecks can now be compensated for without any problems within the market in the case of oil and the monopoly of the oil-producing countries (OPEC) has been broken quite some time ago, Germany is holding on to its policy of maintaining reserves.

Against this backdrop, one might wonder why there has not been an equivalent policy to maintain reserves of gas. Currently, only a modest volume of just under 19 billion cubic metres is being kept in reserve, mainly for the purpose of smoothing out seasonal demand fluctuations. So far, there has been no policy to hold strategic reserves to compensate for fluctuations in supply due to political reasons. This is surprising seeing that dependence on a particular supplier is significantly greater in the case of gas. Russian gas makes up over 36 per cent of the entire supply for Germany, for instance. In some Eastern European countries the percentage is even higher, for example in Poland where nearly half the country's total demand is covered by Russian imports.

Although there is an element of mutual dependence here – Russia depends on its European customers as much as Europe is dependent on Russian deliveries – Russia will be able to open up other sales opportunities in the medium term, for instance in Asia. Furthermore, the possibility of overcoming any bottlenecks by going to the global market is very limited, as the gas supply, unlike oil, requires a very static infrastructure, which has cemented these dependencies in the past. To date, there has not been sufficient development in terms of alternative routes for pipelines, and some of the projects have fallen short of expectations – for instance in the case of the Nabucco Pipeline. Plans to transport supplies from other production areas by ship, American shale gas for instance, have failed to materialise partly due to the lack of a liquid gas terminal in Germany, although there had been plans to build such a facility in Wilhelmshaven that were later abandoned when EON decided to become involved in the Rotterdam Terminal instead. In addition, the development of the infrastructure for the export of American shale gas is still in its infancy. There are plans for twenty facilities in the USA on the drawing board, but it will be some time before even a small number of these will be operational.

Establishing strategic gas reserves can help us to reduce the dependence on Russian gas deliveries, and it represents a pragmatic interim solution until we can achieve greater diversification with respect to gas supplies. However, strategic reserves will not by themselves reduce Europe's dependence on Russian gas and they therefore only represent one step in the efforts to guarantee security of supply in the long term. In the medium term, opening up other sources of supply is absolutely crucial.

To date, the idea of strategic gas reserves has not found many takers. Deliberations in this direction – last voiced at the turn of the year 2009/2010 – have met with opposition, particularly from industry. Six years ago, for instance, opponents argued that the extra cost involved would be totally disproportionate to the benefit. However, the current crisis in Ukraine illustrates that the decision to introduce strategic gas reserves should not be based on considerations of cost-effectiveness alone.

1| US Energy Information Administration: China poised to become the world's largest net oil importer later this year, 09.08.2013, http://www.eia.gov/todayinenergy/detail.cfm?id=12471.

2| Die BRICS-Staaten umfassen Brasilien, Russland, Indien, China und Südafrika. So ist Russland in diesem Kontext weniger interessant als andere, weniger in der Öffentlichkeit behandelte Aufstiegsnationen wie Mosambik und Indonesien.