

## Europe's energy non-policy

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## Europe's Energy Non-Policy

Frank Umbach

**T**oday's \$50-a-barrel oil is the fallout from soaring world energy demand and diminishing supply. Crisis looms—but is being resolutely ignored by European policy makers.

Current strategic trends in global energy are two-fold. One is the burgeoning demand in Asia (mainly China and India). The other is the world's dwindling surplus production capacity that could be mobilized fast to meet a rapid rise in global demand for crude oil and natural gas or to compensate for a loss of scheduled production capacity. Last May the International Energy Agency (IEA) again had to raise its initial forecast of world-wide demand for crude oil from 78.7 million barrels a day (mb/d) to 82.5 mb/d—an increase nearly twice the average growth registered over the past five years. The IEA estimates that China's oil consumption alone will swell in 2004 by 13 percent, from 5.49 mb/d in 2003 to 6.2 mb/d. Whereas the link between economic growth and escalation in energy demand (which has decelerated) has been weakening in OECD countries for years, energy needs in China continue to exceed economic growth.

There is reason to fear short-term global production bottlenecks that

could lead to even higher crude oil prices and seriously slow economic growth rates around the world. Such anxiety is especially justified if terrorist attacks spread not only in Iraq but also in Saudi Arabia—the largest oil producer—and increasingly affect the oil infrastructure (such as production capacity and refineries). The issue of ensuring international energy supply in the short- and medium-term therefore lies less in the finiteness of crude oil and natural gas reserves (41 and 60 years, respectively) than in the accumulation of regional crises and domestic political instability of the countries producing crude oil and natural gas; in surplus production capacity that has been steadily diminishing since the 1990s because of global competitive pressure; in an unexpected surge in global oil demand; and in a huge need for investment in new exploration, refineries, pipelines, and other infrastructure elements.

The challenges in protecting the global energy supply are not lost on the European Union. They were pointed out, along with numerous structural weaknesses of the EU, in November 2000 in the EU Commission's Green Paper on a European strategy for the security of energy supply. The Commission expressed concern about the prediction that dependence on energy imports will reach 70 percent by 2030. It foresaw that the portion of EU energy consumption covered by imports could climb from

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76 to 90 percent for oil, from 40 to 70 percent for natural gas, and from 50 to more than 70 percent for coal.

Under these circumstances the notion that the market regulates everything will have to be critically examined and widened to include the global and geopolitical dimensions of the international energy supply in coming decades.

### Global Dimensions

According to the IEA and many other energy organizations, fossil fuels will remain the most important primary source of energy until 2030, covering more than 90 percent of the global increase in energy demand despite world-wide development of alternative energy sources. Natural gas will be the fastest growing fossil fuel source of energy (2.4 percent annually). However, crude oil—accounting for 37 percent of the world's energy mix—will remain the world's most important global energy source, thanks to the expansion of the transport sector (whose share of total oil consumption will rise from 47 to about 55 percent). Renewable energy sources and new technologies (such as the fuel cell) will reportedly be unable to contribute much to the global energy supply until after 2025 or 2030.

True, the increase in global known reserves of oil and natural gas has accelerated again since 2000, making a global energy crisis unlikely in the short or medium term. But oil prices are likely to outpace that growth, because the global equilibrium between oil demand, oil production, and oil re-

serves will shift, and because the costs of oil exploration in deep seas as well as in remote and relatively inaccessible regions like the Arctic will soar. The Organization of Petroleum Exporting Countries (OPEC), the IEA, and the American Energy Information Administration all anticipate that total demand for crude oil will reach 103 to 118 mb/d by 2020. OPEC countries alone will produce approximately 55 to 65 mb/d of that total, pushing OPEC's share of global oil production from its current level of 32-38 percent to more than 50 percent.

More than 60 percent of the future rise in world demand for primary energy will come from rapid economic and population growth in developing countries. Industrialization, urbanization, and the replacement of non-commercial biomass by commercial fuels also explain why demand for primary energy will be greater in that part of the world than in OECD countries. From 2000 to 2030 the share of global energy demand accounted for by OECD countries will decline from 58 to 47 percent, while that of developing countries is likely to climb from 30 to 43 percent. Emerging countries will also be responsible for 29 mb/d of the forecast world-wide increase in oil consumption of up to 45 mb/d.

With Asia already consuming one quarter of the oil needed in the world, energy consumption will approximately double in the next twenty years. In 2020, the continent will have to import up to 80 percent (currently 60 percent) of the oil it needs (compared to 27 percent for the United States). Largely without policies to en-

sure its energy supply and and without adequate diversification of its energy sources and imports, Asia already has to pay an "Asian premium" of up to \$1.50 per barrel more than the world market price.

China is mired in a worsening energy crisis, finding itself compelled this summer to pare back electricity consumption by 30 million kilowatts in nearly two-thirds of the country because of the overheated climate and economy. Almost 6,400 companies had to close for one week by government order until mid-August to prevent the electricity network from collapsing completely. In the first six months of 2004 more than 750,000 temporary power cuts were ordered by the government nation-wide. Despite efforts by China to introduce renewable energies (especially wind power), the country's tremendous energy demand means that its share of electric power production will rise to just 10 percent by 2010 and only 12 percent by 2020.

Moreover, energy demand will double by 2020 not only in China and India, but also in the Association of Southeast Asian Nations. Despite new efforts to diversify in these states, oil will remain their most important source of energy, although the region's own production will ebb. Southeast Asia's oil reserves are already lower than Europe's. In 2004 the largest oil producer in the area, Indonesia, will become a net importer of oil for the first time. Its oil fields are exhausted, and foreign investment is inadequate because of violent domestic instabilities.

## Middle East Crisis Region

As imports of oil and natural gas increase throughout the world, the global political importance of the crisis-ridden Middle East will only increase proportionally. This change will be felt especially if OPEC should some day succeed in forging a political consensus that goes beyond energy policy and comes active in the unresolved Israeli-Palestinian dispute. Furthermore, there is a crucial difference between the situation today and that of the 1973/74 oil price shock. The oil sheiks at that time were able to hike prices only for a short time, because there were many oil-producing competitors and because the Western oil companies were able to develop new fields in Alaska, Canada, and the North Sea.

But if the countries of the Near East came to think in the future that the Western oil companies had no alternative sources of petroleum, the political balance between oil-producing and oil-importing countries would shift toward OPEC. Ninety percent of the world's known oil reserves lie in the Islamic world, ranging from the fields in Central Asia and the Caspian Basin, most of which have yet to be exploited, to the Persian Gulf. The six member states of the Gulf Cooperation Council (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates) have more than 45 percent of the world's known oil reserves and 15 percent of the world's gas resources. If Iraq and Iran are included, the Persian Gulf as a whole has approximately 65 percent of

the world's oil reserves and 34 percent of the world's natural gas reserves.

For these reasons, the Gulf region will have a pivotal role in the global supply of both oil and natural gas. Yet the domestic political conditions in ten of the fourteen oil-exporting countries are unstable, and conflicts could bring about disruptions of exports to the world market. At present half of world energy demand is met by oil-producing states whose domestic instability poses a high risk. The likelihood of medium-term energy imbalances, attendant drastic price increases, and major supply crises between now and 2020 is thus growing. Uncertainty will be compounded particularly if Saudi Arabia—both the largest oil producer and the one with the largest known oil reserves and the only notable surplus production capacity—should fail to deliver.

#### Demand in Emerging Countries

As world demand for oil shifts from the Western industrialized states to the most populous industrialized emerging countries such as China and India in the 21st century, the global share of refineries will also move from the US and Europe to Asia and other regions. Not only will the increase in global demand for oil have to be met by politically unstable regions; 60 percent of the world's refinery system will be located there. Relatively frequent production stoppages could at the least cause major fluctuations in world prices for oil, gasoline, and natural gas. Competition over resources is already heating up in Asia, especial-

ly between China and Japan, the world's second- and third-largest oil consumers; the two are vying for a pipeline from Russia (to China or Nachodka on Russia's Pacific coast) and the exploitation of offshore oil in the East China Sea.

In times of crisis and conflict, additional capacity to pump oil and deliver natural gas is more limited than ever. In the second Gulf war (1990–1991) only Saudi Arabia was able to increase its oil production significantly (by 2 mb/d). It offset the loss of 4 to 5 mb/d from Iraq and Kuwait (whose combined output constituted approximately 14.7 percent of the world's oil exports at that time) and kept prices stable after a brief rise. By early 1998 these uncommitted delivery capacities of OPEC members had shrunk from 5 mb/d in the early 1990s (22 percent of OPEC's entire production, or 10 percent of world oil production) to only 1.5 mb/d (only 9 percent of OPEC's production, or 3 percent of world production). In April 2003, the theoretically available spare oil production capacity of 7.3 mb/d had dropped to somewhere between 0.7 and 1.2 mb/d.

In June 2004 OPEC actually pumped not only the agreed quota of 23.5 mb/d, but 27 to 28 mb/d. To reduce the international price of oil, Saudi Arabia raised its oil production by 2 mb/d, delivering up to 10.3 mb/d. The United Arab Emirates were likewise able to boost their production (by 400,000 mb/d), but Venezuela, Indonesia, Nigeria, and other leading oil-producers either no longer had any appreciable reserve capacities or had

their own domestic political crises and production stoppages to deal with. At such levels, even Saudi Arabia's ability to raise production has limits.

#### Russia's Problems

As for Russia, its problems lie less with increased production than with pipeline bottlenecks in any attempt to deliver additional oil to the world market. Iraq could theoretically pump up to 6 mb/d, but because of its tense security situation will hardly figure as a leading oil exporter on the world market for the next few years. Current delivery has not even regained the prewar level of 2.5 mb/d. Such a vast production increase is unrealistic without massive investment of at least \$25 billion, and investment on that scale will not materialize for Iraq under present conditions. The country is therefore likely to remain sidelined as a major oil producer for the foreseeable future.

Lastly, in Norway a strike temporarily halted production in the oil industry, which normally provides more than 3mb/d, or almost 4 percent of the world's demand for oil. Norway exports nearly all of this oil, making the country the world's third-largest oil exporter, so the stoppage deprived an already tight international oil market of a further 375,000 barrels.

In previous decades the world's surplus production capacity, including OPEC's, was never this low. The ten OPEC members alone have lost more than 1 mb/d over the last two years by raising their oil production to compensate for production stoppages

in Venezuela, Indonesia, Nigeria, Iraq, and other countries. International experts contend that Saudi Arabia could increase its production to only 11.2 mb/d should further stoppages occur throughout the world. An additional 200,000 barrels per day could come from other members of OPEC and less than 1 mb/d from nonmembers. By late 2004, when seasonal global oil demand increases by 3 to 4 mb/d, this capacity might no longer suffice to satisfy the world's oil needs at a middle-range price level. The situation on the market could also be exacerbated by Beijing's laudable plan to allocate \$10 billion to build up China's own strategic oil reserve in order to help protect the long-term energy supply of the People's Republic.

Major foreign investment, especially on the part of private utility corporations, will come in only when there are stable political conditions for it. Without it, however, many oil- and gas-exporting states risk losing their economic foundations. The result could be an escalation of domestic unrest and instability that scares off even more investors, spawning a vicious circle like the current one in Iraq, Central Asia (the Caspian Basin), and African countries. To meet the nearly 50 percent rise in global energy demand expected by 2020, oil production in the Persian Gulf must increase by 80 percent. This feat will be possible only if sufficient foreign investment flows in, if all sanctions and embargoes are lifted from Iraq and Iran, and if the entire region is politically stable. The last-named condition seems rather unlikely, as

impressively documented by the two Arab Human Development Reports of 2002 and 2003, which exposed the backwardness and persistent dearth of economic and political will for reform in most Arab states with rapidly growing populations.

### Development Costs

It is estimated that approximately \$300 billion is required for the development of new oil and natural gas fields in the six member states of the Gulf Cooperation Council, and the IEA has estimated that world-wide investment in the energy sector will come to \$16 trillion by 2030. At the most recent meeting of the Asia-Pacific Economic Cooperation even conservative estimates of the investment required to achieve average economic growth of only 3.5 percent in the region by 2020 went as high as \$4.4 trillion for Asia's oil infrastructure alone—despite the decision by the ASEAN nations to follow China's example and recover about 10 percent all the energy they consume.

These global strategic trends in the reliability of the international energy supply and the increasing importance of geopolitical factors highlight the extreme dependence of the global energy supply on a highly unstable region—the Middle East—and hence on political circumstances. The faith in market mechanisms as a cure-all appears to be as boundless as ever, especially in Germany. In the last 15 years the dependability of the energy supply has been left to the private utility companies, whose corporate strat-

egy is primarily profit-driven. Scarcely anyone has felt ultimately responsible for safeguarding the future supply of energy. Although the October 2001 energy report by Germany's Ministry of Economics put as much importance on reliable energy supply as on the political objectives of environmental compatibility and efficiency, the vulnerability of the international energy supply received little attention. And what scant treatment the subject did get was not the kind the EU Commission desired. Despite the terrorist attacks of September 11, 2001 in the United States, whose aftermath has once again focused world interest on the future political stability of the Middle East, the geopolitical factors affecting the international security of the energy supply tend to be less a concern in Germany than in the rest of the world. Although Foreign Minister Joschka Fischer has justifiably and repeatedly pointed out energy's centrality to world politics, the foreign ministry evidently still sees no need to involve itself long-term in the future energy policy of Germany and the EU by offering expertise in regional, foreign, and security policy. The tacit assumption still seems to be that electricity comes from the wall socket and gasoline from the gasoline pump.

Paired with an ideological and dogmatic rather than a pragmatic bent, Germany's provincialism and the lack of concern about global factors and developments are quickly hitting European limits. Although pursuit of a national energy policy is economically and politically ever more anachronistic, Berlin is not really seeking to

transfer elements of its authority and sovereignty to Brussels so that a common European energy policy could emerge. The German government knows that its views on energy policy, including the unilateral withdrawal from the use of nuclear power, cannot carry a majority within the EU. Even the internationally salient question of climate policy does not convince Berlin to regard nuclear power as an important option, although the EU Commission, the IEA, the World Energy Council, and numerous international energy experts are urging precisely that.

While Europe's safest nuclear power plants are therefore being shut down, Finland, France, Russia, Italy, and many new Central European members of the EU have indicated that they do not want to renounce the nuclear power option. In fact, the construction of new nuclear power plants is being declared or seriously considered. Even Sweden no longer precludes the possibility of rethinking its decision to close down its nuclear power plants. For economic, technological, and political reasons, the nuclear power option is also undergoing a renaissance in the United States and particularly in Asia. In a new report the International Atomic Energy Organization has forecast that the use of nuclear energy throughout the world could increase by 70 percent by 2030, raising the share of world energy demand met by nuclear power from today's 16 percent to 27 percent—and could rise even higher by 2050.

The reasons lie in international environmental policy (the Kyoto Proto-

col), economic policy, and supply policy. Currently, 442 power plants in 30 countries are meeting one-sixth of the world's demand for electricity. Ambitious programs to build new nuclear power plants exist in Asia, particularly in China and India, although nuclear power will cover only 4 to 6 percent of the huge energy demand in China by 2020. Of the 27 nuclear power plants now under construction, 18 are located in Asia. Characteristically, the debate over coal as an energy source in Germany is also framed solely in terms of subsidies and environmental issues, although it is the country's only sizeable fossil-fuel resource. Even though subsidization of renewable energies is, on average, at least twice the level per energy unit as that for coal, they too should be analyzed with an eye to ensuring Germany's energy supply.

The need for such thinking is sharpening, especially because world demand for coal has intensified, so much so that German coal importers now speak of a "coal OPEC." China, although it has the world's largest coal deposits, is importing more and more additional coal (up to now, usually for environmental reasons, since foreign coal generally contains less sulfur than China's own stocks).

#### Fixation on Russia?

Given the political instabilities in the Middle East, the natural solution for Germany and the rest of the EU seems to be to expand imports of oil and natural gas from Russia, as expressed in the European-Russian en-



ergy partnership proclaimed in 2000. At first glance, there are indeed a number of reasons (not least the argument of improved political stability) for a drastic escalation of energy imports from Russia. In the first four months of 2004, 47.6 percent of the natural gas that Germany consumed came from Russia, and the corresponding figure for oil was 33.8 percent. The imports of natural gas could rise to 60 percent or more by 2030.

However, the expense of the infrastructure and the investment involved make the supply of natural gas far less flexible than that of oil, especially during crises. (Many states depend on a single pipeline.) A technical complication with the pipeline or a politically motivated interruption of the pipeline flow is much more serious than with the supply of oil, because the resulting shortfalls cannot be offset quickly by other deliveries. This predicament will exist until Germany and the rest of Europe shift largely to imports of liquefied natural gas, which are, however more expensive.

### Diversification

Excessive dependence on Russia, especially for natural gas imports, would run counter to the EU's imperative of diversification. It would also prove to be a delicate problem because of linkage between foreign and security policy motives in Russia's approach to energy exports, which by no means follows purely economic criteria. The current Yukos affair shows that jailed Yukos CEO Mikhail Khodorkovsky's political ambitions were certainly not

the only thorn in the side of Russian President Vladimir Putin. Another one was Yukos's plan to build the first private pipeline from Russia to China and to sell a 25 percent share of Yukos to the American utility giant Exxon, an idea that encountered stiff resistance not only from Russia's still largely state-owned utility industry but also from the Kremlin. The Kremlin has no intention of losing control over Russian resources, the utility corporations, or, most of all, pipeline policy.

In this sense, real market structures have yet to appear in the Russian utility industry. It continues as a kind of state capitalism whose most striking feature is the effort to preserve the Kremlin's political control. From the outset of Putin's presidency, this characteristic has prompted many experts to speak of a "creeping renationalization" of Russia's utility industry, although Putin has pragmatically welcomed an increase in the financial involvement of Western companies, especially German ones. Moreover, Moscow has so far ratified neither the international Energy Charter nor the protocol concerning transit and will not abide by the World Trade Organization's rules on competition in the energy sector. Under these circumstances, it would be politically and economically shortsighted for Germany and the rest of Europe to concentrate their energy policies fully and unilaterally on Russia.

Such fixation would be even more precarious for the former Warsaw Pact countries, which are still far more dependent on Russian energy than Western Europe is. They seek to in-

crease their energy imports from other countries and regions, even if it is more expensive than the Russian option. Importing oil and natural gas from Central Asia would often be financially more attractive for Europe. It would also be in keeping with the principle of diversification and would contribute to the economic and political stabilization of this large area, whose geopolitical importance to Europe and other regions is growing. Intensification of, and political backing for, energy management at the EU level has become particularly necessary for Europe since the eastward expansion of NATO and the EU, for Europe cannot isolate itself from the instability emanating from Central Asia. In view of Russia's need for vast inward foreign investment of up to \$600 billion, it is highly doubtful whether that country in the next two decades can modernize its own utility industry enough to keep pace with the energy exports that Moscow is planning to make to Europe. From the EU's perspective, expansion of energy imports from Russia should therefore coincide with expansion of such imports from Central Asia, the Caspian Basin, and (on a lesser scale) Africa. This linkage should be an integral part of a European strategy to secure the long-term supply of energy if the already heavy dependence on Russia, the Middle East, and OPEC is not to become even greater.

In the last decade the global demand for oil has shot to twice the level it was at in the preceding 20 years. Moreover, indications are mounting

that the pace at which exhausted oil fields are being replaced by new ones is slowing, despite swelling worldwide reserves of oil. Many forecasts of current oil reserves could prove to be overly optimistic. The high concentration of oil and natural gas reserves in the "strategic arc of the Greater Middle East;" the unexpectedly rapid rise of global energy demand (particularly in Asia); and the growing dependence of the EU, Asia, and the United States on imports of oil and natural gas from relatively unstable countries increase the likelihood of supply disruptions and bottlenecks from terrorist attacks, political unrest, strikes, or environmental disasters.

Granted, the EU has an ambitious program with which it aims to meet 20 percent of its demand for electricity and 12 percent its total energy demand with renewable resources by 2010. Even if it succeeds, however, rampant global energy needs, surging EU imports of oil and natural gas from politically unstable regions, and other geopolitical factors will meanwhile require the use of every available energy source to solve the global challenges of energy management and secure Europe's energy supply. Neither Germany nor the EU is close to being ready to face this new new challenge. The Europeans have neither built up sufficient strategic stocks to weather future crises, nor do they manage the stocks they have in a way that could ensure their energy security.

They urgently need to do so before it's too late.