The European Bank for Reconstruction and Development: Fueling Climate Change

An analysis of European Bank for Reconstruction and Development fossil fuel project lending since the 1992 Earth Summit

A study authored by the Sustainable Energy and Economy Network (Institute for Policy Studies, U.S.) and the International Trade Information Service (U.S.)

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Key Findings:

The European Bank for Reconstruction and Development: Fueling Climate Change

1. The EBRD is a significant contributor to climate change.

The EBRD has financed fossil fuel projects, beginning at its inception in 1991, and continuing through Dec. 31, 1996, which will, over their lifetimes, release a total of 6.548 billion tons of carbon dioxide—or 1.78 tons of carbon—into the Earth’s atmosphere. This quantity of carbon is equivalent to approximately 29 percent of all fossil fuel emissions generated by all of the world’s countries in 1995.¹

2. The EBRD is investing in new reserves in remote regions plagued by environmental risks of the highest order while not ensuring that strong environmental mitigation strategies nor accountability mechanisms are in place.

Among the stated goals of the EBRD is "to promote in the full range of its activities environmentally sound and sustainable development."² In keeping with this, the EBRD has proven to be a leader in energy efficiency among the multilateral development banks in Central Europe. Nevertheless, this positive step is countervailed by the role the EBRD is playing in helping to finance oil and gas projects, such as those off of Sakhalin Island in the Russian Far East—an area prone to severe earthquakes, potential ice sheers, typhoons, and tsunamis—where a devastating oil spill is likely. The EBRD also helped finance an oil development project which spilled more oil than the entire Exxon Valdez oil spill.

3. The EBRD is helping some of the richest multinational corporations on the planet gain access to vast oil and gas fields of the former Soviet Union.

The EBRD is a publicly-funded institution, whose primary mission is "to foster the transition towards open market-oriented economies and to promote private and entrepreneurial initiative in the central and eastern European countries." Yet, in many cases, the end result is favorable access to oil and gas fields, thanks to EBRD involvement, by some of the richest corporations on the planet. Transnationals who have joined in public/private partnership with the EBRD include: Shell, Mitsubishi, Amoco, Texaco, Enron, and Conoco. The EBRD, together with the World Bank, is also focused on leveraging foreign direct investment in the former Soviet bloc countries. Net flows into the region have surged over the past two years and are expected to top $55 billion in 1997.³

4. The EBRD is ensuring a steady flow of oil and gas to Western Europe and Japan, while making oil and gas less accessible to many people in Eastern Europe, destroying indigenous cultures, and laying waste to some the last pristine areas on the planet.

Since the EBRD began operations in the former Soviet Union in 1991, and despite the former Soviet bloc’s abundant supply of fossil fuels, consumers are finding oil less available in many regions, more expensive, and regional shortages more commonplace. Meanwhile, oil exports—primarily to western Europe and Japan -- have increased by over 50 percent, from 50 to 60

² EBRD’s Environmental Mandate, September 1996.
³ EBRD, Transition.
million tons per year to 90 million tons. In remote oil- and gas-rich regions, local populations suffer through freezing winters with little or no gas to keep them warm. Meanwhile, the indigenous peoples of the former Soviet Union--and the once pristine environments they inhabited for generations--are rapidly being destroyed by industrialization and environmental destruction introduced by wealthy oil and gas companies.

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4 “Foreign Investments and the Future of the Russian Oil and Gas Industry,” *Taiga News*, no. 13, March 1995,
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About the Authors

The Sustainable Energy and Economy Network, a project of the Institute for Policy Studies (Washington) and the Transnational Institute (Amsterdam), works in partnership with non-governmental organizations in the U.S., Europe, and Asia on environment and development issues. SEEN has produced three prior reports on the World Bank: "The World Bank and the G-7: Changing the Earth’s Climate for Business;" “The World Bank’s Juggernaut: The Coal-Fired Industrial Colonization of the Indian State of Orissa” and “Consultative Group to Assist the Poorest: Opportunity or Liability for the World’s Poorest Women?” Network coordinator Daphne Wysham is co-editor of a book of essays on the World Bank, Beyond Bretton Woods: Alternatives to the Global Economic Order (Pluto, 1995). In addition to research and advocacy work, SEEN is working with village women in rural India to develop the “Women’s Power Project,” a model of sustainable development that incorporates women’s empowerment, renewable energy, forest regeneration, and microenterprise. For more information, please contact: Daphne Wysham, SEEN/IPS, 733-15th St., NW, Suite 1020, Washington, DC 20005. Phone: 202-234-9382. Fax: 202-387-7915. E-mail: <dwysham@igc.apc.org>.

The International Trade Information Service, a project of the non-profit Tides Center, was formed in 1995 to investigate and expose the social and environmental impacts of international trade. Previous reports involving ITIS research include three ground-breaking reports on the production and trade of ozone-depleting chemicals (two in collaboration with Ozone Action, one with Greenpeace International); two reports in collaboration with SEEN, “The World Bank and the G-7: Changing the Earth’s Climate for Business” and "The World Bank's Juggernaut," a report which exposes how multilateral and bilateral aid, combined with transnational corporate interests, is turning a region of India into a "toxic colony" designed to provide G-7 countries with cheap commodities; and "A Day in the Life of U.S.-Indonesia Trade," an independent report on the social and environmental repercussions of a typical day's commerce between two countries. ITIS also provides background reports for numerous non-profit organizations on a wide variety of subjects. For more information, please contact: Jim Vallette, ITIS, P.O. Box 658, Southwest Harbor, ME, 04609, USA. Phone: 1-207-244-3106. Fax: 1-800-861-9611. E-mail: <itis@igc.apc.org>.
Executive Summary

"It is quite likely that private capital will be more efficient than Soviet rule was in developing Siberia's riches. The question is, will it be more humane towards nature and human beings?"

--Ivestiysa broadcast, Jan. 31, 1996

The European Bank for Reconstruction and Development (EBRD) was created in 1991 -- simultaneous with the breakup of the Former Soviet Union -- to open up the formerly communist countries to multinational corporations and investors. Like the World Bank Group5, and other regional development bank offshoots of the Bretton Woods institutions, the EBRD is clearly focused on a strategy of privatization, liberalization of financial and trade markets, and deregulation -- the three pillars of neoliberalism. Also like the World Bank Group, the EBRD has made fossil fuels an engine of this development model. As a result, although only 6 years old, the EBRD is already proving to be a major player in promoting the rapid accumulation of greenhouse gases in the Earth's atmosphere.

Since its inception in 1991 and through Dec. 31, 1996, the EBRD has approved 450 projects totaling $11.5 billion; $1.2 billion of those investments were in oil, gas, and coal projects in the former Soviet bloc. Our report outlines 23 projects totaling $1.01 billion in EBRD financing through December 1996 (and two projects with total financing of $140 million in 1997 to date). The amount of private capital leveraged by the EBRD is roughly double the amount the EBRD invests. Our study of these projects estimates that these fossil fuel projects will, over their lifetimes, release a total of 6.548 billion tons of carbon dioxide -- or 1.78 billion tons of carbon -- into the Earth's atmosphere. This quantity of carbon is equivalent to approximately 29 percent of all fossil fuel emissions generated by all of the world's countries in 1995.6

The World Bank Group also plays a role in financing many of these same fossil fuel projects. A previous report done by the same authors of this report extensively documented those fossil fuel investments since 19927. If World Bank-financed projects are deducted from the total number of EBRD fossil fuel projects, the amount of greenhouse gases for which the EBRD is solely responsible comes to 5.278 billion tons of carbon dioxide -- or 1.4 billion tons of carbon. This is equivalent to 22 percent of all fossil fuel emissions generated by all of the world's countries in 1995.

The EBRD's operations are financed by national government contributions. The dominant investors within the EBRD are the United States, France, Germany, Italy, Japan, and the United Kingdom, which have collectively contributed 55% of the institution's capital. (See p. 20 for a list of other contributors.) These moneys are then invested in the countries of eastern Europe, the Baltics and the Commonwealth of Independent States (CIS).

Fossil fuel investments -- especially in Russia's massive oil and gas fields, the fifth largest in the world-- have been a priority for the EBRD from its inception. About five percent ($554 million) of all EBRD investments have been focused on Russia. About 10 percent of the global oil supply and 30 percent of the world's production of natural gas is extracted from the Russian oil fields. Russia is also a major greenhouse gas emitter, producing nearly 10 percent of global greenhouse gases, ranking third after the U.S. and China. Nearly half of Russia's hard currency

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5 The “World Bank Group” includes the World Bank (IBRD), the International Finance Corporation (IFC), the International Development Association (IDA), and the Multilateral Investment Guarantee Agency (MIGA).


7 See, “The World Bank and the G-7: Changing the Earth’s Climate for Business,” by Daphne Wysham and Jim...
is generated by oil and gas exports—the biggest single source of revenue to the Russian state—and a vital resource for credit and repayment of further EBRD and World Bank loans.

As a consequence, as the EBRD and the World Bank have grown more heavily invested in the capitalization of Russia, big projects, like the exploitation of the massive oil and gas fields in the Arctic, in Siberia, and around Sakhalin Island, have moved to the front of EBRD’s growing lineup of fossil fuel financing schemes. (See p. 14 for further information on Sakhalin.)

In the first two years, these investments were delayed by bureaucratic obstacles that developed during the disintegration of the former Soviet Union. “We have come up against every hurdle you can imagine and about 30 you can’t,” an EBRD official told the Petroleum Economist magazine in 1993.

But with the help of an army of World Bank- and EBRD-paid economists and privatization experts, the Soviet way of doing things was speedily replaced with the capitalist way. As a result, since 1993, the EBRD’s fossil fuel projects have gained considerable momentum, particularly in Russia.

**Modernization**

In helping to finance oil, gas and coal projects, the EBRD has acted as an agent of Western corporations by arguing that these powerful players bring vital expertise, modernization and efficiency to oil, gas, and coal rehabilitation projects. The problem of a decaying energy infrastructure, long neglected by a Soviet leadership, and its potential for both environmental problems and economic inefficiencies, is certainly a real and serious environmental problem; lakes of oil lie beneath countless ruptures in oil pipelines, undetected for months, if not years.

However, the EBRD’s and the World Bank’s push for modernization of oil and gas fields is not, as a rule, directed at the most egregious examples of decaying infrastructure for the petroleum industry. This is because, for the most part, the most accessible (and the most environmentally abused) oil and gas fields are still held in Russian hands—and the infrastructure servicing these fields usually remains owned by Russian industries.

Rather than working with the Russian oil industry to make existing infrastructure projects more environmentally sound, the EBRD and Western investors are largely focused on gaining access to and control over heretofore untouched oil and gas fields. These fields are often in remote and pristine regions, or in regions where the risk of an environmental accident—from earthquakes, tsunamis or ship wrecks—is dangerously high. Where the EBRD does make loans for "rehabilitation," the projects are focused primarily on increasing production by modernizing and reconditioning abandoned wells, instead of paying close attention to environmental aspects.

As a result, the call for "modernization" of Russia’s oil and gas fields—while genuinely needed—instead provides a convenient entree to transnational corporations who then obtain access to previously untouched fields of black gold. Rare is the fossil fuel financing scheme set up by the EBRD that does not involve at least one Western corporation.

**Privatization**

Once the EBRD, together with oil multinationals like Amoco and Texaco, has gained entree to the former Soviet bloc countries' energy markets by claiming a competitive edge in providing more "modern" equipment, the EBRD, alongside other powerful quasi-governmental institutions like the World Bank, shifts its attention to privatization. Between 1992 and 1994, 70 percent of state-owned enterprises in Russia were privatized. Many of these were state-owned energy enterprises.

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8 “Foreign Investments and the Future of the Russian Oil and Gas Industry,” by Alexei Grigoriev, Socio-Ecological Union of Russia.

One of the EBRD's first fossil fuel loans was extended to Romania in 1992. Mario Sarcinelli, EBRD's vice president in charge of development banking, said, "By giving financial support to this petroleum pilot modernization project, the European Bank will help Petrom (the Romanian national oil company) modernize its operations, save the government foreign exchange by curbing the need to import oil and, more importantly, help promote future involvement of the private sector in oil activities."  

The importance of private sector involvement in fossil fuels, the EBRD and World Bank officials argue, is that they are more efficient and less prone to bureaucratic delays than public ones. They are also more inclined to sign procurement contracts with foreign equipment suppliers, continuing the influx of foreign ownership and capitalization of the fossil fuel industry, and export-oriented economic growth in the former Soviet bloc countries. But such procurement of foreign goods and services does not come without government resistance, in the form of taxation. In fact, much of the money approved by the EBRD and the World Bank remains undisbursed because some aid recipients complain of high Russian tariffs on imported equipment; others complain of the Bank's insistence that the rehabilitation equipment should be imported, not domestically produced.

In August 1996, the U.S. embassy in Moscow reported that "the World Bank, European Bank for Reconstruction and Development and U.S. Export-Import Bank have been active in attempting to support foreign equipment sales to Russian petroleum producers, having made available loans totaling $5.5 billion through special programs for oil field workovers, oil production joint ventures and refinery modernization. However, only a tiny fraction of these funds has been disbursed to date due to high taxes imposed on the petroleum sector by the Russian government which has made utilization of foreign loans uneconomical."

On the other hand, some Russians have found the EBRD's and World Bank's insistence on purchasing foreign equipment to be absurd. "World Bank rehabilitation loans routinely have open international tenders mounted for buying the equipment required and open to whatever companies from Bank member-countries," reported Russia's Segodnya magazine in 1996. "As it happens, Russian equipment has a patent edge in the event, habitually costing at least forty percent less than overseas facilities at much the same technical standards fitting Russia's requirements; its further assets are adequate repair facilities, personnel, and modest transportation expenses. Crucially, the standards and quality of such Russian equipment, essentially metal-intensive unsophisticated articles, have dramatically improved following some defense factories joining in their output as part of a drive to convert to civilian production. Going by past experience, though, such tenders are inherently a losing battle for Russian bidders; ludicrously enough, now and then the foreign winners of such tenders ultimately come to supply precisely Russian equipment for such projects."

When a recently privatized Siberian oil company, Yuganskneftegaz, canceled its $190 million loan from the World Bank in March 1996, Moscow's Economic News Agency reported that, "a major factor in declining the loan was a condition that only foreign companies be allowed to tender to supply equipment, which is available from Russian producers at between a third and half the price of [Russian producers]. Tatneft and Permneft have in the past refused World Bank credits for similar reasons."

Privatization, others argue, is not in itself a negative development, and could, in the some cases be positive. However, without adequate regulatory structures in place, and without democratic participation ensuring transparency and accountability, privatization is resulting in one remote, unaccountable bureaucracy being replaced by another.

**Foreign Investment**
The goal of the EBRD's initial energy operations policy\textsuperscript{11} was to: focus on repair and rehabilitation of existing supply facilities; promote "liberalization' of supply; and inject foreign capital." It has certainly succeeded, by any measure, in the latter goal. By positioning foreign agents of modernization to develop oil and gas fields; ushering in privatization which allows transnational corporations to own and export the goods, and even gain tax breaks from the host country in the process of bargaining loans; and providing political and other forms of risk insurance for investors; the EBRD and the World Bank have made investment in the former Soviet bloc countries a very attractive investment opportunity. As a result, a growing supply of foreign, mostly private, capital is flowing into the region. Net flows into the region have surged over the past two years and are expected to top $55 billion in 1997.\textsuperscript{12}

**Fossil Fuel Infrastructure Support**

In other Eastern European countries, where oil and gas reserves are depleted, the EBRD is providing loans for the energy sector "downstream" from actual fossil fuel recovery; for example, the EBRD is providing support to refineries, pipelines, and terminals, many of which will be tied into EBRD-financed, TNC-invested oil and gas field developments.

*Pipelines*

The EBRD is eyeing Azerbaijan’s and Kazakhstan’s considerable oil, coal and gas reserves as potential future investments\textsuperscript{13}, and has expressed interest in financing an oil pipeline from--and perhaps under-- the Caspian Sea to Eastern Europe. The EBRD is also considering financing a planned pipeline for Azeri, Kazakh and Russian crude from the Caspian Sea, via the Black Sea port of Bourgas, Bulgaria, to the Mediterranean port of Vlore, Albania.\textsuperscript{14} Western transnationals are heavy investors in the booming Caspian Sea oil fields.

*Power Plants*

Another fossil fuel sector in which the EBRD is very active--albeit downstream from actual mining--is power production. The EBRD has claimed that it is focusing on rehabilitating existing power plants, rather than building new plants, because, according to *Eastern European Energy Report*, “existing power generating plants can produce more power than the region needs currently.”\textsuperscript{15}

As with primary oil and gas production, however, the promotion of energy efficiency by the EBRD is not viewed as an end in itself, but instead appears to set the stage for privatization and expansion of access to fossil fuel reserves. The EBRD has joined forces with the World Bank to encourage power sector privatization in several Eastern European countries, and is reportedly poised to lend considerable funds to some new fossil fuel power projects in countries like Poland and Romania.\textsuperscript{16} Rehabilitation loans appear to be the EBRD’s first wave of entree into these countries’ power sectors, with the development of Western corporation-owned, -supplied, and -built fossil fuel power plants the ultimate and final wave of investment.

**An Upward Trend**

Now that privatization has firmly taken hold in the former Eastern Bloc, and foreign direct investment is on a steady upward trend, the EBRD is poised to fund many more large-scale fossil fuel projects. Pending loans include:

\textsuperscript{11} As reported by *International Gas Report* (March 6, 1992).
\textsuperscript{12} EBRD, Transition.
\textsuperscript{13} *Asia Times*, April 14, 1997
\textsuperscript{14} *EEER*, March 19, 1996
\textsuperscript{15} *EEER*, September 1, 1996.
* A $116 million loan to develop the 140-million-metric-ton Piltun-Astokskoye oil field off Sakhalin Island, Russia. The targeted project is run by a joint venture of Shell (U.K./Netherlands), Marathon Oil (U.S.), and Mitsui and Mitsubishi (Japan).  

* A $300 to $400 million loan for development of Romania’s oil fields, slated for private investment.

* $175 million in annual investments in Russian gas company GazProm’s export-oriented ventures.  

With over $600 million dollars in pending fossil fuel loans, the EBRD will apparently continue its trend of increasing fossil fuel investments over time. In 1992, its fossil fuel investments totaled $79 million. By 1996, the EBRD financed fossil fuels to the tune of $391 million, bringing its total fossil fuel lending past the $1.15 billion mark, and increasing its annual investment in fossil fuels by almost 500 percent.

The Consequences

What are the consequences of this economic and political restructuring led by the multilateral development banks? If you happen to be one of the 10 million people in the former Soviet bloc countries dependent on the fossil fuel industry as a source of livelihood, things are not looking bad; for example, the average salary in the oil and gas industry is three times higher than in most other sectors of the Russian economy.

However, for those not employed by the oil and gas industry, things are less than rosy. Income disparities and poverty have increased throughout the region in the 1990s. According to the EBRD’s recent publication, Transition Report 1997:

> Social policies in central Europe have mitigated [the growth of income disparities] to some extent, but in the CIS, inequality and poverty have risen very sharply. Related social indicators, particularly life expectancy, have also deteriorated in many countries.

Some point to the positive aspects of new "production sharing agreements" as a sign of good things to come for people in the oil- and gas-bearing regions. These agreements in countries like Russia may result in as much as 60% of tax revenues from oil and gas allegedly returning to local governments. However, corruption is rife in the region, and is not adequately challenged by the EBRD nor by the World Bank. Hence, a large portion of benefits ostensibly intended for local communities will likely end up lining the pockets of local politicians instead.

Because economic and energy self-sufficiency for local communities has not been a priority in most petroleum-rich regions, most people living in oil- and gas-rich regions like Sakhalin will remain poor, without access to affordable electricity. With oil spills likely, their current reliance on fisheries as a source of revenue is threatened.

Furthermore, despite the former Soviet bloc’s abundant supply of fossil fuels, consumers are finding oil less available in certain regions, more expensive, and regional shortages more commonplace, making long, cold winters even more unbearable. Meanwhile, Russian oil exports have increased by over 50 percent--from 60 million tons per year to 90 million tons. The target market is primarily western Europe and Japan.

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17 EBRD; Emerging Markets Week, July 28, 1997.
19 In fact, at least $100 million from a recent $500 million dollar loan by the World Bank to privatize the Russian coal sector has disappeared into corrupt government officials' bank accounts, according to Business Week (Sept. 8, 1997).
20 “Foreign Investments and the Future of the Russian Oil and Gas Industry,” Taiga News, no. 13, March 1995,
The growing expansion of export markets will have predictable consequences for these highly polluting countries: It will keep energy prices lower than they otherwise might be; it will continue to make renewable forms of energy less competitive, with predictably less private capital investment in renewable forms of energy; and it will decrease motivation for further reductions in fossil fuel consumption. Future investments from the EBRD and Western investors in expansion of a trans-European pipeline will lift the only existing constraint on Russian oil exports.

**A Fraying Social Fabric**

In addition to poverty and a diminished access to fossil fuels, social consequences at the mining or drilling site are proving serious. The high salaries paid to workers in the fossil fuel industry has attracted questionable characters--some with criminal records--to remote regions. These high-paid laborers are slowly outnumbering the original indigenous inhabitants of the region. Because of this and other political changes at the local level, indigenous peoples lack any meaningful representation or participation in the political decision-making process. As a result, the rights and traditional, subsistence ways of life of the indigenous peoples--the Komi, Khanty, Mansy, Evenki and other smaller tribes--have been severely disrupted and destroyed.

For generations, these tribes have herded reindeer, and fished and hunted caribou and other animals. Today, migration routes for the caribou are being disrupted by oil and gas pipelines and industrial development. Poaching, introduced by the roads that have penetrated these once pristine regions, is now commonplace. And environmental pollution and degradation has reduced or destroyed fish, bird, and other animal populations around oil and gas fields.

**Environmental Degradation**

The final consequence of the EBRD's and the World Bank's investments in fossil fuel as an engine of growth in the FSU is the impact it has on the regional and global environment. Once virtually untouched, the vast expanse of the Russian taiga forest and other wild lands and marine areas are now at risk from the fossil fuel industry. The exploitation of fossil fuels is particularly rapid in the central and northern taiga in Siberia and the Far East; there, roads built by the oil and gas industries in wilderness areas means tens of millions of hectares of once pristine forest and lowland areas are now open to logging or other forms of exploitation.

The EBRD and the World Bank Group are playing a pivotal role in getting countries to turn their "black gold" into cash--helping them get fossil fuels out of the ground as fast as possible so that loan repayment schedules can be met. In doing so, they are creating a cycle of dependency on a natural resource whose future is dim. According to some estimates, Russian oil reserves will be exhausted in 20 years at the present rate of extraction.

**The World Bank’s Global Carbon Initiative**

One obvious mitigation strategy in dealing with the threat climate change poses for present and future generations is for Annex 1 countries to stop providing countless government subsidies--hidden and unhidden--to the fossil fuel industry, and instead to start funding energy efficiency and truly sustainable, renewable and safe energy options. Instead, publicly funded development lending institutions--like the EBRD and the World Bank--and other multilateral and bilateral development finance and export credit agencies are doing just the opposite. Furthermore, the World Bank now proposes that they couple their massive fossil fuel financing with an emissions trading scheme, wherein industries in, say, the U.S. could continue to emit high quantities of greenhouse gases by purchasing emissions credits from former Soviet bloc countries FSÜ (whose collective emissions are currently below 1990 levels). The World Bank proposes (via its newly minted "Global Carbon Initiative") that it act as a "middleman" in this financial transaction--thus playing the role of the world’s largest public financier of fossil fuels, and the buyer and seller of emissions credits to make these projects (and others) slightly less polluting. Should this prove successful, the Bank proposes that it eventually be extended to other developing countries.
While this may be the most "economically efficient" response to climate change for a handful of industries, it is certainly not the most environmentally nor socially viable response to the global threat climate change poses to all of the world's peoples, particularly the poorest. Nor does it do anything to remedy the growing gap between the energy-rich and the energy-poor peoples of the world.

**Who benefits from this scheme?**

1) Large oil, gas and coal companies--and energy intensive industries--who might face costly emissions restrictions in the future in their home countries, but now have easy access to credits.
2) Government officials, many of them corrupt, in the former Soviet bloc, who willingly receive payment from the World Bank for these pollution credits.
3) The World Bank, who carves out a new niche for itself as the repository for JI funds. By 2005, the World Bank estimates the market for greenhouse gas offsets could be in the range of $3 billion to $16 billion. It also begins to generate additional revenue for fossil fuel projects in the pipeline, making these projects less expensive for the client countries and, therefore, potentially even more attractive.

**Who loses?**

We all lose with the promotion of a scheme that is a “shell game”--moving emissions from one bank account to another, rather than making truly significant cuts as is urgently required for climate stabilization. But the biggest losers are the poorest communities, often indigenous or tribal peoples or other equally marginalized populations, who are devastated by fossil fuels from cradle to grave--from mining to refining to burning. It is these people who will continue to pay the highest price for this shell game.

**Conclusion**

If the EBRD wants to achieve truly sustainable development, it should assist the former Soviet bloc countries in making a truly sustainable transition, with a particular focus on providing resources for energy efficiency--for the future of their people, for the future stability of their economy, and for their environment--and not continue to encourage the region to rebuild its economy with fossil fuels--a house of cards that will certainly collapse as it burns.
Sakhalin: An Exxon Valdez in the Making?

Sakhalin Island is located in a very seismically active environment on the Pacific Rim. On May 28, 1995, an earthquake estimated to be as high as 8 on the Richter Scale struck the Sakhalin oil town of Neftegorsk, destroying the town, reportedly killing 2000 of its 3000 residents, and rupturing oil pipelines in over 50 places. At least 100 tons of oil spilled into several rivers. The Sakhalin region is rich in marine biodiversity, and harbors one of the richest fisheries on the Pacific Rim. Several endangered species of dolphin and whale migrate through these waters.

The area is also rich in oil and gas, and has attracted interest from investors, including the EBRD, the US Overseas Private Investment Corporation, and the Japanese Export-Import Bank. Drilling platforms would be placed in the frigid waters of the Sea of Japan, where they and cargo tankers would be exposed to high winds, tsunamis, ice sheers, and other wind and wave action that could result in a catastrophic spill that would be difficult—if not impossible—to contain.

Activists and others who suffered through the aftermath of the Exxon Valdez oil spill say that one lesson learned from this experience is that public oversight is perhaps the single most important factor in assuring the protection of the environment. In a recent letter to Neftegorsk Governor Farkhutdinov, written by oil spill mitigation and prevention expert Rick Steiner of Valdez, Alaska, Steiner suggested that a Sakhalin Regional Citizens Advisory Council (RCAC) be established to empower and finance the public to ensure adequate oversight of oil industry operations on Sakhalin. "I feel that the establishment of a Sakhalin RCAC is so critical that it should be required by the international lending institutions as a condition of their financial support, and/or by the government as a condition of permitting the project," Steiner wrote.

No such RCAC is in place in Sakhalin. A thorough environmental risk analysis had not been conducted. No requirements were placed on oil and gas companies that they provide for the energy needs of the local population—and protect them from economic ruin in the event of a catastrophic spill. Nevertheless, the EBRD was prepared to approve a loan for $116 million to finance the first phase of new oil and gas development in the region. A letter of protest, led by the Pacific Environment Resource Center21, slowed down the process by several months. Nevertheless, the project—one of many new oil and gas projects pushed by the EBRD throughout the region—is moving forward.
Summary tables of greenhouse gas emissions by EBRD-financed fossil fuel projects, 1992 to present

Total EBRD Fossil Fuel Financing, 1992 to present: $1.214 billion
Total estimated lifetime carbon dioxide emissions from these projects: 6.548 billion tons
Total emissions, excluding World Bank-financed projects: 5.278 billion tons

EBRD-financed fossil-fuel burning power plants

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(Power plant generator manufacturer)

Poland ABB Dolmel $7 coal >470 75,200,000 (d)

EBRD-financed fossil fuel fields and mines

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<th>Financing</th>
<th>(Metric tons)</th>
<th>Estimated lifetime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russia</td>
<td>Samotlar (a)</td>
<td>$58</td>
<td>1.2 billion</td>
<td>3,720,000,000</td>
</tr>
<tr>
<td>Romania (x)</td>
<td>Petrom</td>
<td>$26</td>
<td>137 million</td>
<td>424,700,000</td>
</tr>
<tr>
<td>Russia</td>
<td>KomiArctic (b)</td>
<td>$105</td>
<td>68.5 million</td>
<td>212,300,000</td>
</tr>
<tr>
<td>Russia (x)</td>
<td>Geolibent</td>
<td>$55</td>
<td>48 million</td>
<td>148,800,000</td>
</tr>
<tr>
<td>Russia</td>
<td>Ardalin</td>
<td>$90</td>
<td>15 million</td>
<td>46,500,000</td>
</tr>
<tr>
<td>Russia</td>
<td>Chernogo</td>
<td>$40</td>
<td>14.1 million</td>
<td>43,700,000</td>
</tr>
<tr>
<td>Russia</td>
<td>Magma</td>
<td>$53</td>
<td>8.5 million</td>
<td>26,300,000</td>
</tr>
<tr>
<td>Ukraine</td>
<td>Poltava</td>
<td>$8</td>
<td>7 million</td>
<td>21,700,000</td>
</tr>
<tr>
<td>(x) Russia</td>
<td>Tomsk Obl.</td>
<td>$9</td>
<td>4 million</td>
<td>12,400,000</td>
</tr>
</tbody>
</table>

Oil imports from Iran

<table>
<thead>
<tr>
<th>Country</th>
<th>Project</th>
<th>Financing</th>
<th>(metric tons)</th>
<th>Estimated 20-year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moldova</td>
<td>Giurgulesti</td>
<td>$15</td>
<td>42 million</td>
<td>130,200,000</td>
</tr>
<tr>
<td>OIL REFINERY</td>
<td>($million)</td>
<td>(metric tons)</td>
<td>Estimated 20-year CO2 emissions</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>------------</td>
<td>---------------</td>
<td>--------------------------------</td>
<td></td>
</tr>
<tr>
<td>Country</td>
<td>Project</td>
<td>Financing</td>
<td>20 year flow</td>
<td></td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>Fergana</td>
<td>$90</td>
<td>120 million</td>
<td>372,000,000 (local oil)</td>
</tr>
<tr>
<td>Slovakia</td>
<td>Slovnaft</td>
<td>$56</td>
<td>118 million</td>
<td>365,800,000 (oil from Urals)</td>
</tr>
<tr>
<td>Russia</td>
<td>Achinsk</td>
<td>$42</td>
<td>24 million</td>
<td>74,400,000 (oil from E. Siberia)</td>
</tr>
</tbody>
</table>

**OIL TRANSPORT**

| Russia       | Novo. Ships | $60   | 88 million | (assumed to be incl. above) |
| Russia       | SFAT Trains | $42   | 16.2 million | (assumed to be incl. above) |

**GAS FIELDS**

<table>
<thead>
<tr>
<th>Country</th>
<th>Project</th>
<th>($million)</th>
<th>(cubic meters)</th>
<th>Estimated lifetime CO2 emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Romania (x)</td>
<td>Petrom</td>
<td>(incl. above)</td>
<td>99 billion</td>
<td>183,200,000</td>
</tr>
<tr>
<td>Ukraine</td>
<td>Poltava</td>
<td>(incl. above)</td>
<td>31 billion</td>
<td>57,400,000</td>
</tr>
<tr>
<td>Russia</td>
<td>Tomsk Obl.</td>
<td>(incl. above)</td>
<td>29 billion</td>
<td>53,600,000</td>
</tr>
</tbody>
</table>

**GAS PIPELINES**

<table>
<thead>
<tr>
<th>Country</th>
<th>Project</th>
<th>($million)</th>
<th>(metric tons)</th>
<th>Estimated 20-year CO2 emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macedonia</td>
<td>Gasification</td>
<td>$34</td>
<td>28 billion</td>
<td>51,800,000</td>
</tr>
</tbody>
</table>

**GAS STORAGE**

<table>
<thead>
<tr>
<th>Country</th>
<th>Project</th>
<th>($million)</th>
<th>20 Year flow (c. meters)</th>
<th>Estimated 20-year CO2 emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>(x) Hungary</td>
<td>Zsana</td>
<td>$55</td>
<td>&gt;3 billion</td>
<td>5,600,000</td>
</tr>
</tbody>
</table>

(a) - Combines two projects to expand production in the massive Samotlar oil field (the Chernogorneft Drilling project approved in March 1997 and the Samotlar Pan-Canadian project approved in February 1994).

(b) - Combines initial project (Feb 1994) to expand production in Usinsk oilfield, and subsequent emergency loan (May 1995) to clean up oil spill.

(c) - Assumes half of fuel burned is oil, half is gas.

(d) - Reflects two 235 megawatt generators sold by ABB Dolmel after loan. This facility has likely manufactured many more fossil fuel power generators during this time frame, and will continue to make such equipment into the future.

(x) - World Bank-financed project.
Methodology

Power plant emissions

For each power plant project financed by the EBRD, it is assumed that it will run for 20 years at full capacity from the time of financing.

Environmental Costs of Electricity, a book by the Pace University Center for Environmental and Legal Studies (Oceana Publications, 1990), summarizes rates of carbon dioxide and other emissions from various power plants. Table 2 in Chapter IV of the book, "New Coal Plant Emissions," summarizes studies by PLC Inc. and the Oak Ridge National Laboratories for the U.S. Department of Energy.

Coal

According to these studies, a new coal fired power plant will release between 1.96 (PLC) and 2.09 (DOE) pounds of carbon dioxide per kilowatt hour of operation. For our report, we assume that any given coal-fired power plant will emit 2 pounds of CO2 per kilowatt hour.

A power plant with a one megawatt (1,000 kilowatts) name plate capacity will produce the equivalent of 8,760,000 kilowatt hours annually at full operation -- that is, 8,760 hours multiplied by 1,000. At this rate, such a plant would emit an estimated 17,520,000 pounds, which is the equivalent of 8,760 short tons or 7,947 metric tons of CO2.

Natural Gas

Pace's table 3, "Emissions for Natural Gas-Fired Generation," puts the rate of emissions for these type of plants at 1.14 pounds (PLC) and 0.99 pounds (DOE) of carbon dioxide per kilowatt hour. For this study, we assume that 1 pound of CO2 will be released per kilowatt hour; that is, a plant with 1 megawatt capacity will release 8.76 million pounds per year -- 4,380 short tons / 3,973 metric tons.

Oil

Pace's table 4, "Emissions for Oil-Fired Generation," puts the rate of emissions for oil-fired plants at 1.65 (DOE) to 1.75 (PLC) pounds of carbon dioxide per kilowatt hour. For this study, we assume that 1.7 pounds of CO2 will be released per kilowatt hour, or the equivalent of 7,446 short tons / 6,754 metric tons of CO2 per year per megawatt.

This table also summarizes the PLC-determined rate of emissions from diesel-fired plants: 2.19 pounds of CO2 per kilowatt hour, the equivalent of 9,592 short tons / 8,702 metric tons of CO2.

Multiplying these rates' emissions by the assumed 20 years of operation at full capacity, the following conversion rates are used to determine estimated total emissions of World Bank-financed power plants:

<table>
<thead>
<tr>
<th></th>
<th>Coal</th>
<th>Natural Gas</th>
<th>Oil</th>
<th>Diesel</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2 (in metric tons)</td>
<td>159,968</td>
<td>79,484</td>
<td>135,188</td>
<td>174,061</td>
</tr>
</tbody>
</table>

Fossil Fuel Extraction and Distribution
The study takes the admittedly simplified approach that all fossil fuels extracted and/or distributed will be burned in power plants. We also assume that all proved reserves in fossil fuel fields that are touched by EBRD programs ultimately will be burned.

Other than power plants, potential demand points for fossil fuels include industrial processes, vehicles, household stoves and heaters. Rates of emission are generally comparable across demand or transformation points, although vehicles tend to emit a bit less carbon dioxide than power plants.

Counterbalancing this approach, however, are numerous omissions from our report. This study does not take into account numerous other likely releases of greenhouse gases due to the extraction and distribution of fossil fuels, such as natural gas flaring from oil field production, methane releases from coal mining and gas operations, and pipeline leaks. We do not attempt to estimate releases of perfluoromethanes, hydrofluorocarbons, nitrous oxide, or other very potent greenhouse gases. Nor do we catalog EBRD involvement in numerous other industries -- particularly transportation and cement, aluminum and steel factories -- which are major greenhouse gas emitters. Also, fields touched by EBRD financing have considerable "probable" reserves which may be extracted in the future but are not taken into account here.

Therefore, overall, this report might greatly underestimate the greenhouse gas emissions that the EBRD's projects since mid-1991 ultimately will help to create.

When the EBRD finances a pipeline, we have attempted to identify the source fields for the pipelines, and the total proved reserves of these source fields, which form the basis for our estimates. If we do not know the reserves, but do know the anticipated flow rate through a given pipeline project, we assume that this rate will continue for 20 years.

In 1993, the Stockholm Institute - Boston Center produced "Towards a Fossil Free Energy Future: A Technical Analysis for Greenpeace International." In this report, the Stockholm Institute summarizes greenhouse gas emissions from various sources (Table 4.5: Compilation of GHG emission factors used in this study: transformation sources, page 36). It lists emission factors of 2.71 kilograms of carbon dioxide per kilogram of coal input, 1.85 kg per cubic meter of natural gas, and between 3.06 and 3.14 kilograms per kilogram of oil. We split the difference and assume 3.1 kilograms of carbon dioxide emissions per kilogram of oil input.

Thus, we use emission rates of 3.1 tons of carbon dioxide per ton of oil, 2.71 tons per ton of coal, and 1.85 kilograms per cubic meter of gas.

For oil, a conversion rate of 7.3 barrels per metric ton is used. For natural gas, the conversion rate is 35.314 cubic feet per cubic meter. One metric ton of gas equals about 138 cubic feet or 3.908 cubic meters.

We have tried to prevent double-counting of emissions that may occur when a EBRD-financed power plant burns fossil fuels that have been extracted or distributed with EBRD involvement. Similar double-counting prevention procedures are used in pipeline and refinery projects.
Member Contributors to EBRD

Membership and capital

The EBRD has 60 members (58 countries, the European Community and the European Investment Bank), including 26 countries of operations in central and eastern Europe and the Commonwealth of Independent States (CIS). The EBRD operates in the following countries: Albania, Armenia, Azerbaijan, Belarus, Bosnia & Herzegovina, Croatia, Czech Republic, Estonia, Macedonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Moldova, Poland, Romania, Russian Federation, Slovak Republic, Slovenia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. The EBRD's initial subscribed capital is ECU 10 billion, of which 30 per cent is paid in. In April 1996 the Board of Governors agreed to increase the Bank's capital base to ECU 20 billion. The Bank also borrows in various currencies on world capital markets.

Organization

The powers of the EBRD are vested in a Board of Governors, to which each member appoints a Governor and an Alternate. The Board of Governors has delegated powers to a Board of Directors with 23 members, who are elected by Governors for a 3-year term. The Board of Directors is responsible for the direction of the general operations of the Bank, including establishing policies, taking decisions concerning projects and approving the budget. The President is elected by the Board of Governors for a 4-year term. Vice Presidents are appointed by the Board of Directors on the recommendation of the President.

Financing

The EBRD can operate in both the private and public sectors. The kinds of finance it offers include loans, equity investments and guarantees. The terms of the EBRD's funding are designed to enable it to cooperate both with other international financial institutions and with public and private financial institutions through co-financing arrangements.

By 31 December 1996, the Bank had approved 450 projects: these involved ECU 9.96 billion of the EBRD's own funds and were expected to mobilize an additional ECU 20.1 billion. Of the approved projects, 370 had been signed committing ECU 7.7 billion of the EBRD's own funds. Seventy-three per cent of total approved funding was for private sector projects.

The EBRD's headquarters are in London, with 24 Resident Offices or Regional Offices in 22 of its countries of operations.

Members of the EBRD as of December 31, 1996 (with capital subscriptions to EBRD in millions of US$ in parentheses): Albania ($11.5); Armenia ($5.7); Australia ($115); Austria ($262); Azerbaijan ($11.5); Belarus ($23); Belgium ($262); Bosnia and Herzegovina ($19.4); Bulgaria ($90.8); Canada ($390.8); Croatia ($41.9); Cyprus ($11.5); Czech Republic ($98.1); Denmark ($137.9); Egypt ($11.5); Estonia ($11.5) Finland ($143.7); Macedonia ($7.9); France ($979); Georgia ($11.5); Germany ($979); Greece ($74.7); Hungary ($90.8); Iceland ($11.5); Ireland ($34.5); Israel ($74.7); Italy ($979); Japan ($979); Kazakhstan ($26.4); Korea ($74.7); Kyrgyzstan ($11.5); Latvia ($11.5); Liechtenstein ($2.3); Lithuania ($11.5); Luxembourg ($23); Malta ($1.2); Mexico ($34.5); Moldova ($11.5); Morocco ($11.5); Netherlands ($285.1); New Zealand ($11.5); Norway ($143.7); Poland ($147.1); Portugal ($48.3); Romania ($55.2); Russia ($459.8); Slovak Republic ($49); Slovenia ($24.1); Spain ($39.1); Sweden ($262.1); Switzerland ($262.1); Tajikistan ($11.5); Turkey ($132.2); Turkmenistan ($1.2); Ukraine ($92); United Kingdom ($979); USA ($1,149.4); Uzbekistan ($24.1); European Community ($344.8); European Investment Bank ($344.8).

Top Six Contributors to the EBRD:

USA $1,149.4 million
France $979
Germany $979
Italy $979
Japan $979
United King. $979

Total of top six = $6.044 billion (55% of total)
Others combined = $4.923 billion

EBRD total investment pool, 1996 = $10.967 billion
Inventory of EBRD-financed fossil fuel projects, 1992 to present

ARMENIA

Type of Industry: 300 megawatt oil/gas power plant  
Subsidized Project: Hrasdan Thermal Power Plant-Unit 5  
Location: 60 km north of Yerevan, Armenia  
Owner of Project: Energy Ministry  
TNC Involvement: In February 1997, Armenia requested bids for contractors to complete the construction of the power plant; eventual foreign ownership of this plant is likely.  
EBRD Financing: $57 million.  
Date of Approval: April 1993.  
Additional Financing: Japan Import-Export Bank; Armenian government.  
Notes: The project involves construction of a 300MW combined oil and gas-fired power plant and a 72 kilometer transmission line. Although the EBRD approved the loan in 1993, construction has not yet begun. The EBRD held up disbursement of the loan while Armenia considered re-starting its Chernobyl-type Medzamor nuclear power plant. In 1997, the Armenian government said the nuclear plant would close by 2004 if Hrasdan Unit 5 were completed in two years. Armenia also announced this year that it would begin privatizing its energy sector, and will seek transnational bidders for existing power companies. Hrasdan Unit 5 will be the first privately-owned power plant in the country.  

BELARUS

Type of Industry: 65 megawatt gas-fired power plant  
Subsidized Project: Orsha Power Plant  
Location: northeast Belarus  
Owner of Project: Ministry of Energy  
TNC Involvement: GEC-Alsthom (joint-venture between GEC (UK) and Alsthom (France), providing two turbines and electrical equipment purchased with this loan.  
Amount of Financing: $45 million  
Date of Approval: December 1993  
Additional Financing: None  
Notes: This loan secured GEC-Alsthom's first contract to build a power plant in Eastern Europe. The power plant's natural gas fuel will be imported from Russia. Construction is due to be completed in 1998.  

BULGARIA

Type of Industry: 215 megawatt coal-fired power plant  
Subsidized Project: Maritza East II Power Project-Unit 8  
Location: 240 km southeast of Sofia, Bulgaria  
Owner of Project: National Electric Company of Bulgaria  
TNC Involvement: While Bulgaria has invited bids from foreign corporations for the supply of equipment and services for this project, no specific corporate involvement has been reported in the media.  
Amount of Financing: $46 million  
Date of Approval: June 1992  
Additional Financing: European Investment Bank.  
Notes: The EBRD is financing the completion of the 215-megawatt lignite-fired power plant
ash disposal site and rehabilitation of coal handling facilities for the entire complex. The new unit will tap into local coal mines which hold an estimated two billion tons of lignite, or soft coal, which are expected to be burned for national energy needs for the next 100 years. The project was delayed while the EBRD and World Bank pressured the Bulgarian government to raise electricity rates. The Maritza coal-fired power complex, of which this is one piece, accounts for 20% of Bulgaria's power production. The Bulgarian government plans to continue to boost coal-fired power production to fuel industrial growth. It is planning to rehabilitate 17 old coal-fired power plants by the end of the decade. The EBRD is considering additional loans for the Maritza complex.


GEORGIA

Type of Industry: 1,800 megawatt oil and gas-fired power plant
Subsidized Project: Gardabani Thermal Power Plant
Location: Gardabani, outside Tiblisi
Owner of Project: Sakenegro, Georgia's power utility
TNC Involvement: Foreign owners to be sought; GEA Energy System (India) sold $3.4 million condenser tube cleaning system under EBRD loan; AO Leningradski Metallichesky Zavod (Russia) sold $1 million turbine replacements under EBRD loan; Siemens (Germany) won a contract to provide emergency repairs under a German government program.
Amount of Financing: $18.1 million
Date of Approval: December 1994
Additional Financing: World Bank ($52 million credit approved in June 1997); German government (Kreditanstalt fur Wideraufbau, $14 million loan in 1995); government of Georgia ($4.8 million).
Notes: Gardabani, Georgia's main power source, is an aging complex of oil and gas-fired power units. As of June 1997, only three units, with a combined operating capacity of 620 megawatts, were running, with the rest of the plant suffering from disrepair. Gas comes from either Turkmenistan or Russia. The U.S. Agency for International Development has also shipped oil from the U.S. to Gardabani. The EBRD loan was the leading edge of a wave of foreign government attempts to rehabilitate and privatize this power plant. The government of Georgia is developing a privatization program, with Gardabani and its 1,800 megawatts of potential fossil fuel power generation capacity to be one of the first pieces to be sold.

HUNGARY

Type of Industry: Natural gas storage (150 million to 350 million cubic meters/annual flow)
Subsidized Project: Zsana Gas Container Project
Location: Zsana
Owner of Project: Hungarian Oil and Gas Ltd. (MOL), state-owned
TNC Involvement: Nis-Naftagas-Promet (Yugoslavia), owner of gas
Amount of Financing: $55 million
Date of Approval: December 1994
Additional Financing: World Bank ($27 million, loan approved in 1989)
Notes: MOL is building a new underground gas storage facility in depleted gas wells. The facility will be Hungary’s second largest gas storage facility and will hold up to 1.2 billion cubic meters of gas per year after its planned completion in 2000. The gas will be owned by Nis-Naftagas-Promet of Yugoslavia, which will pour 150 million cubic meters/year of gas into the Zsana wells initially, with this flow reaching 350 million cubic meters/year. The gas will be...
imported from Russia. Bankers considered the EBRD loan to be a "vote of confidence... about the upcoming privatization of MOL," according to the Budapest Business Journal. 

**Sources:** *Budapest Business Journal*, April 1, 1994, March 31, 1995, June 17, 1996; *East European Energy Report*, November 18, 1996; *MTI Econews*, Nov. 6, 1996

**MACEDONIA**

**Type of Industry:** gas pipeline (1.4 billion cubic meter annual throughput)

**Subsidized Project:** JP Gasificacija

**Location:** Skopje

**Owner of Project:** JP Gasificacija (GA-MA) a state company in charge of importing and transporting natural gas

**TNC Involvement:** Company to be offered to international bidders. Construction: Uraltransgas (Russia), Bulgargas (Bulgaria), Pietro Fiorentinni (Italy); Gazprom (Russia, gas supplier).

**Amount of Financing:** $33.9 million.

**Date of Approval:** December 1996.

**Notes:** The EBRD funded pipeline project is designed to bring Russian gas into Macedonia's capital city area and, eventually, other cities. It is also designed to foster the privatization of GA-MA. EBRD is supporting privatization by taking an equity stake in the company. The main 100 kilometer pipeline, which opened in August 1997, taps into Russian gas via pipeline connectors in Bulgaria, Romania and Ukraine. The capacity of the pipeline is greater than Macedonia is expected to need; the excess is planned to be forwarded to Serbia and Albania. This pipeline project may be carving a path for a future Bulgaria to Albania pipeline for crude oil from Azerbaijan, Russia, and Kazakhstan. The initial consumers of the Russian gas in Macedonia were a chocolate factory, a tannery, a chemical plant and a brewery.


**MOLDOVA**

**Type of Industry:** Oil terminal (2.1 million tons/year)

**Subsidized Project:** Giurgulesti oil terminal

**Location:** Giurgulesti, 220km southwest of Chisinau, capital

**Owner of Project:** Terminal

**TNC Involvement:** Terminal is a Moldovan-Greek joint venture between Technovax (Greece), Tirex Petrol (Moldavia)

**Amount of Financing:** $14.8 million of $29.6 million

**Date of Approval:** December 1996


**Notes:** The EBRD is funding the development of an oil terminal and pipelines on the Danube River. The oil will likely come from Iran, with whom Moldavia recently signed a deal to import 2 million tons of oil within five years. The German Dresdner Bank is backing the oil purchase with a $50 million loan. Construction is expected to be completed by 1999.


**POLAND**

**Type of Industry:** Power plant generator manufacturing plant

**Subsidized Project:** ABB Dolmel

**Location:** Wroclaw, Poland

**Owner of Project:** Asea Brown Boveri

**TNC Involvement:** Asea Brown Boveri (Switz/Sweden)

**Amount of Financing:** $6.6 million

**Date of Approval:** December 1992
Notes: The EBRD loan funded the expansion of a generator plant in Poland owned by energy giant Asea Brown Boveri. This factory, taken over by ABB in 1990, makes generators for hydroelectric and fossil fuel-fired power plants, mainly in Poland and other Eastern European countries. Poland, which is looking to rehabilitate 32,000 megawatts of power capacity, is a prime target of ABB's equipment sales plans. In 1994, ABB won a $363 million contract to replace two 200 megawatt coal-fired power plant generators at the Turow, Poland, power plant with two 235 megawatt generators. Glen Liddy, an engineering analyst in London, told the Budapest Business Journal this year that, "in Europe, ABB is shifting manufacturing capacity out of Germany, Switzerland and Sweden to low-cost neighboring countries, and it's more likely they'll be going further east, not west, in the next three or four years."

ROMANIA

Type of Industry: Coal-fired power plant rehabilitation (1,400 megawatts)
Subsidized Project: Regia Autonoma de Electricitate (RENEL, state utility)
Location: throughout Romania
Owner of Project: RENEL
TNC Involvement: GEC/Alsthom (UK/ France joint-venture) Potential suppliers/investors: Lahmayer (Germ), ABB (Switz/Sweden); Amoco (U.S.)
Amount of Financing: $90 million.
Date of Approval: November 1995
Additional Financing: World Bank, EIB, PHARE, USAID.
Notes: The EBRD joined the World Bank's program to restructure and re-equip Romania energy sector its 1995 loan for the rehabilitation of four power plants. The loan also targets upgrades at three transmission substations, and encourages private investment. At the urging of EBRD and the World Bank, RENEL is undergoing privatization; the government is now encouraging fossil fuel power plant investments by foreign corporations, such as ABB and Amoco. According to an October 8, 1997, EIU ViewsWire report, "US oil firm Amoco and Swiss-Swedish ABB are currently building a greenfield power plant, with EBRD money." However, no record of EBRD lending for such a plant could be found in other literature.
Sources: EBRD; World Bank; East European Energy Report, November 27, 1995; March 19, 1996; Europe Energy, December 1, 1995; Financial Times, June 19, 1997; Euro-East, December 19, 1995; EIU ViewsWire, October 8, 1997.

Type of Industry: Oil field developments
Subsidized Project: Petrom S.A. (Formerly Societatea Nationala de Petrol, Romania's national oil company).
Location: throughout Romania.
Owner of Project: Societatea Nationala de Petrol
TNC Involvement: Amoco, Shell, Enterprise Oil and Occidental hold oil exploration concessions in Romania.
Amount of Financing: $26 million (additional $300 to $400 million pending)
Date of Approval: September 1992.
Notes: One of the EBRD's first fossil fuel loans was a $26 million package for the purchase of new equipment and spare parts for three oil fields (Berca, Braila and Gaesti) in Romania. Romania hosts considerable reserves in the Black Sea. The EBRD released the loans one month after the Romanian government awarded exploration concessions to oil transnationals Amoco, Shell, Enterprise and Occidental. Since this initial loan in 1992, the EBRD has been pressuring Romania to privatize its national oil company. According to EEER, in May 1997, "Romanian media reported that during negotiations in London the EBRD recommended the establishment of a new, restructured national oil company before releasing a $400 million credit line which Romania is to use for the upgrading and privatization of its oil sector."
During these negotiations, Romania's Finance Ministry State Secretary Mircea Costea told the EBRD that their new policy involves making "Romania more attractive for foreign investors." Three months after this report, the Romanian government announced that it decided to privatize much of its national oil company, and that "this project will be backed by the EBRD ($300-400 million)." The restructuring forced the closure of three refineries in the countries, leading to widespread strikes. According to one press account, "A delegation headed by government secretary-general Remus Opris went to Ploiesti to explain to workers that it was not the government who shut down their companies, but the laws of the market economy."


**RUSSIA**

**Type of Industry**: Oilfield development; oil spill cleanup  
**Subsidized Project**: KomiArcticOil  
**Location**: Upper Vosey Silurian oilfield in Usinsk  
**Owner of Project**: KomiArcticOil (KAO)  
**TNC Involvement**: KAO was originally a joint venture between British Gas (25%), Gulf Canada (25%), and Russian concerns Ukhtaneftgasgeologia and Kominet; AES/Hartec (U.S., Australia), was contracted to assist with the oil spill clean-up.  
**Notes**: The EBRD pumped big money into the Upper Vosey Silurian oilfield on the Arctic Komi Peninsula in February 1994. "We are delighted that the EBRD has chosen to participate in financing this project," said Chuck Shultz, Gulf's President and CEO and KomiArcticOil's Chairman: "The joint venture offers opportunities to work with our Russian partners in applying Western experience and technology to maximize recoveries in this proven resource base."  
"We are proud to be a key part of this important undertaking," said Randal Fischer, EBRD's Head of Natural Resources. "This important private sector investment project in Russia's oil sector provides exactly the combination of essential components which the bank is striving to foster: development of a sound commercial opportunity; strong Russian and foreign equity sponsorship; a forceful and effective joint management team; and application of a 'best practices' way of doing business, which affords useful sharing of both foreign and Russian technology, management and systems."

Seven months later, the EBRD's pride turned to shame when an ecological disaster became evident. A pipeline carrying oil from the multinational-operated oilfield leaked an estimated 300,000 tons of oil over a period of months, beginning in February 1994 -- the very month that the EBRD announced its loan to the oil field project. The oil companies kept pumping oil through the faulty pipeline until October 1994, when they claimed they first learned of the leaks. The resulting oil spill -- several times larger than the Exxon Valdez disaster -- flooded tundra, marshes and rivers. While the multinationals blamed the Russian pipeline operators for the spill, and pulled out of the venture, the EBRD deserves a goodly share of international outrage. In 1995, the EBRD approved an emergency loan (less than one-third the size of their production loan) for assistance in cleaning up the spill. "There are always lessons to be learnt," lamented an EBRD official.  


**Type of Industry**: Arkhangelsk oilfield development.  
**Subsidized Project**: Polar Lights Company development.  
**Location**: Ardalin oilfield, Timan Pechora.  
**Owner of Project**: Polar Lights Company.
TNC Involvement: Polar Lights is a joint venture between Conoco (US, subsidiary of DuPont) and Komineft (Russia).
Amount of Financing: $90 million.
Date of Approval: September 1993.
Additional Financing: IMF, OPIC.
Notes: The Ardalin oilfield holds oil reserves of 110 million barrels, and the EBRD loan is to develop and export them through the Polar Lights joint venture. Located 1000 miles northeast of Moscow, Ardalin was the first major oilfield in the remote Arctic Arkhangelsk region to be developed. "We always had an interest in Timan-Pechora. The fields are certainly greater than most of those you will find in North America," said Archie Dunham, Executive Vice-President of Conoco Inc, in 1994. "Ardalin is a proving grounds for us. We won't stop at this, and if the project proves as successful in an economic sense as it has been technically, I can foresee our company's participation in the joint development of not only oil but also gas deposits, in the construction of oil refineries, and in the expansion of our area of operations beyond the Timan-Pechora basin and into Siberia and the Caspian region," Conoco executive Konstantin Nikandros told Izvestia in September 1994, as the first oil began to flow from the Polar Lights venture. "Greenfield oilfield development projects such as Polar Lights can provide the necessary foundation for the long-term increase in Russian oil production," said Azam Alizai, director of the IFC Oil, Gas and Mining Department, in 1993, when the World Bank agency, EBRD, and OPIC announced their $210 million in combined lending to the Polar Lights project.


Type of Industry: oil field development.
Subsidized Project: Geolibent.
Location: North Gubkinskoye and Prisklonovoye oil and gas fields, western Siberia
Owner of Project: Geolibent Joint Venture.
TNC Involvement: Geolibent is a JV between Benton Oil (US, 34%), Purneftegasgeologia Industrial Association (Russia, 33%), and Purneftegaz (Russia, 33%, subsidiary of Rosneft oil company).
Amount of Financing: $55 million loan.
Date of Approval: November 1996.
Additional Financing: The World Bank has loaned Purneftegaz money for boosting production in several oil fields, including North Gubkinskoye.
Notes: The North Gubkinskoye field holds estimated reserves of 344 million barrels of oil. The EBRD has promoted this loan as a catalyst to "revive idle oil wells and exploit new ones." Benton constructed a 37-mile pipeline connecting the North Gubkinskoye fields with the Soviet pipeline system that brings oil to refineries in the Czech Republic, Slovakia and Germany. The pipeline was built in Texas and installed by a Russian company. Benton, the U.S. investor in the oil field, has abandoned its U.S. operations since the early 1990s in favor of Russian and Venezuelan oil fields. Benton is also eyeing fields in China and Vietnam. "We basically have had an opportunity to participate in projects over there that are of such a size (that would be impossible) to find in the United States," Alex Benton, the company's chairman, said in 1992. After the EBRD loan was approved in 1996, Benton declared that "this transaction will provide the necessary financing to accelerate development and immediately increase oil production from this giant west Siberia field." "The development of these fields represents an additional step towards arresting the decline of Russia's oil production," said Ron Freeman, first vice president of the EBRD. The oil is for domestic and foreign consumption.
Type of Industry: oil field development.
Subsidized Project: Samotlar.
Location: Samotlor oilfield, western Siberia.
Owner of Project: Chernogorneftegas (March 1997 loan); Samotlor Pan-Canadian (February 1994 loan).
TNC Involvement: Chernogorneftegas is a subsidiary of Russian oil giant Sidanko, in which British Petroleum is attempting to invest. Samotlor Pan-Canadian is a joint venture between Canadian Fracmaster (Canada) and Samotlar Services (in turn, a JV between Gulf Canada, Canadian Fracmaster, and Nizhnevatovskneftegaz).
Amount of Financing: $8.25 million (February 1994) and $50 million credit (March 1997)
Date of Approval: March 1997.
Additional Financing: U.S. Export-Import Bank
Notes: The EBRD has extended two loans toward the development of the massive Samotlar oilfield in western Siberia. The first loan, "to enhance oil production," was extended in 1994. The second, "to develop and update production process(es) and carry out environmental projects," was approved in March 1997. Samotlar's proven deposits are a weighty 1.2 billion tons of oil.

Type of Industry: Oilfield development.
Subsidized Project: Chernogorskoye field.
Location: West central Siberia.
Owner of Project: Chernogorskoye.
TNC Involvement: Chernogorskoye is a joint venture between Chernogorneft (Russia), Anderman Smith Overseas (US), and Itochu (Japan).
Amount of Financing: $40 million credit
Date of Approval: June 1993
Additional Financing: The US Import-Export Bank, U.S. OPIC
Notes: The Chernogorskoye field, located just north of the massive Samotlar field (see above), holds an estimated 100 million barrels of oil. All of the drilled oil is exported to Europe. At the beginning of 1997, the joint venture was pumping out 350,000 barrels of oil per month. The 1993 loan was the EBRD's first for a private oil development in Russia.

Type of Industry: oilfield development
Subsidized Project: Magma Oil
Location: Yuzhnoye oilfield, western Siberia
Owner of Project: Magma Oil
TNC Involvement: Magma Oil is a majority-owned subsidiary of Vanguard of Australia/U.K. Petro-Hunt (U.S.) also has an interest in Magma.
Amount of Financing: $53 million
Date of Approval: May 1995
Notes: The West Siberian field of Yuzhnoye, owned by Magma Oil, holds over 62 million barrels of proven reserves. The EBRD required Russia to exempt Magma from national export taxes that normally apply to crude oil exports, according to Platt's Oilgram News. Australian/British TNC Vanguard acquired a controlling interest in Magma Oil in early 1994. Magma also holds the production license for the Orekhovskoye oilfield, 25 kilometers northwest of Yuzhnoye, and interests in nine other fields.
Owner of Project: Vasyugan Services
TNC Involvement: Vasyugan Services is a joint-venture between Canadian Francmaster Ltd/Samotlor Services
Amount of Financing: $8.7 million
Date of Approval: December 1994
Additional Financing: IFC
Notes: The EBRD loan financed the development of existing oil and gas wells in Tomsk Oblast, which are tapping into 29 billion cubic meters of gas and 4 million tons of gas condensate in reserve.
Sources: ITAR-TASS News Agency, June 30, 1993; EBRD.

Type of Industry: Oil refinery (2 million tons/year flow).
Subsidized Project: Achinsk Refinery.
Location: eastern Siberia, near Krasnoyarsk.
Owner of Project: East Oil Co. (Russia).
TNC Involvement: Bechtel (UK), Encon System Ltd (UK).
Amount of Financing: $41.6 million.
Date of Approval: April 1996.
Additional Financing: Moscow International Bank, Moscow Narodny Bank.
Notes: The EBRD loan is to be used to purchase a vacuum distillation unit and a delayed coker unit at the Achinsk refinery. The Bank touted the loan as a safety measure. "Oil refining is pretty dangerous, so we are trying to bring international standards in this business," Sergei Popov, head of EBRD natural resources department, said in 1996. Another EBRD official, Vittorio Jucker, in 1997 said the bank could "act as a pioneer" in financing Russia's downstream fossil fuel sectors.

Type of Industry: oil transport (11 tankers, estimated 4.4 million tons/annual carrying capacity)
Subsidized Project: Novorossiysk Shipping Co. (Novoship)
Location: Russia
Owner of Project: At least 50% government-owned.
TNC Involvement: Novorossiysk rents oil tankers to Mobil and Exxon; Croatian shipbuilding companies built the vessels.
Amount of Financing: $60 million
Date of Approval: December 1995
Notes: Novoship, which ranks as the 10th biggest fleet in the world measured by capacity, operates 81 vessels. The 11 new EBRD-funded tankers are Croatian-built double-hulled specifically constructed to transport oil products and hold up to 40,000 dead weight tons each. Novoship "rents its vessels to oil multinationals like Exxon and Mobil," according to the Moscow Times.
Sources: Traffic World, March 8, 1996; The Moscow Times, Jan. 6, 1996; South China Morning Post, March 1, 1996.

Type of Industry: Rail cars for oil shipments (estimated 812,000 tons/year)
Subsidized Project: SFAT/Transfat
Location: Throughout Russia
Owner of Project: Sovfinamtrans (SFAT)/Transfat
TNC Involvement: Transfat is a joint venture between EBRD (10%), Trancisco Industries (U.S., 23%), HAKA Group (Finland), and SFAT (40% owned by Russia's Ministry of Railways).
Amount of Financing: $42 million ($30 million loan; $12 million equity)
Date of Approval: April 1996
Notes: This loan finances the purchase of 1,500 rail cars fitted with Trancisco's heating system. The rail cars will enter a fleet of thousands of rail cars used to ship oil from Russia, mainly to Europe. An estimated 812,000 tons of oil/year will be shipped via these rail cars, given a rate of
1.1 million tons hauled by 2,032 rail cars already dedicated for export. The EBRD-financed cars will bring the total Russian petroleum and petrochemical rail car fleet to 7,000 cars.


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**SLOVAKIA**

**Type of Industry:** Oil refinery.

**Subsidized Project:** Slovnaft Refinery.

**Location:** Bratislava.

**Owner of Project:** Slovintegra (joint stock company involving managers of Slovnaft)/National Property Fund (FNMs).

**Amount of Financing:** $56 million equity.

**Date of Approval:** December 1994.

**Notes:** In 1995, the EBRD purchased 10.5 percent in shares in the Slovnaft refinery from Slovakia's National Property Fund (FNMs). The EBRD was not pleased, however, to find that it had been charged 1,000 korunas per share, while others purchased shares at 165 korunas. The EBRD began talks with Slovnaft in early 1997 in an attempt to sell its shares back to the FNMs. The refinery has a throughput capacity of 115,000 barrels per day. In 1995, half of its production of 5.3 million tons was exported to 36 countries.

**Sources:** EBRD; *The European, Nov. 14, 1996; The Prague Post, Apr 16, 1997; Finance East Europe, June 6, 1997; Platt’s Oilgram News, March 7, 1996.

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**UKRAINE**

**Type of Industry:** Oil and gas production.

**Subsidized Project:** Poltava Petroleum Company.

**Location:** Ignatovskoye oil and gas field, Poltava.

**Owner of Project:** Poltava Petroleum Company.

**TNC Involvement:** Poltava is a joint-venture of JKX Oil & Gas (UK, 49%) and Poltava GazProm, a subsidiary of Poltavaneftegazgeologia/Ukraine State Property Fund.

**Amount of Financing:** $8 million

**Date of Approval:** April 1995

**Notes:** The EBRD's funding is being used for the drilling of four new wells, connecting these wells to the operation and production base, and constructing a pipeline and rail export facilities. Daily production from the field is expected to reach 4,000 barrels of oil and 45 million cubic feet of natural gas in the first phase, according to the EBRD. The Ignatovskoye field holds reserves of 1.1 trillion cubic feet of gas and 51 million barrels of oil and condensates. Oil and gas development by the owners of the project may soon spread into the Black Sea.


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**Type of Industry:** Coal-fired power plant (210 megawatts).

**Subsidized Project:** Starobeshevo Power Plant.

**Location:** Donbas region, southwestern Ukraine.

**Owner of Project:** Donbasnegro Genco, state-owned thermal power generator.

**TNC Involvement:** Ukraine has requested international bids to replace the boiler. Winning bids are expected to be selected by the end of 1997.

**Amount of Financing:** $113 million.

**Date of Approval:** December 1996.

**Notes:** The project is to replace a 200-megawatt pulverized coal boiler at the power plant with a 210-megawatt atmospheric circulating fluidised bed boiler. The owners plan to replace its normal fuel (expensive, hard coal) with low-grade product and coal washings. John Besant Jones, an EBRD banker, says "They have 10 million metric tons of the stuff."
UZBEKISTAN

**Type of Industry:** Oil refinery.

**Subsidized Project:** Fergana Refinery Rehabilitation Project

**Location:** Fergana.

**Owner of Project:** Uzbekneftegas, national corporation for oil and gas industry of Uzbekistan

**TNC Involvement:** Mitsui (Japan), to install equipment, will subcontract with Toyo Engineering (Japan); Texaco (U.S.) may take over ownership of the refinery; Enron (U.S.) may develop local oil and gas fields.

**Amount of Financing:** $90 million.

**Date of Approval:** January 1997.

**Additional Financing:** Export-Import Bank of Japan; OPIC.

**Notes:** The EBRD loan is financing the regearing of the state-run refinery, which will allow it to process high-sulfur crude from a local oil field, rather than low-sulfur Russian crude. The installation of a desulfurization unit will compensate for the higher sulfur content of the local crude. A twin objective, according to the Bank, is "supporting commercialization of the sector and Uzbekneftegas." The refinery is the only such facility in the country and processes 6 million tons of crude annually.

**Sources:** EBRD; International Market Insight Trade Inquiries, March 18, 1997; Russia Express Briefing, Dec. 9, 1996; Energy Alert, November 19, 1996; East European Markets, August 30, 1996; Oil Daily, June 25, 1996.