



July 2007 TRENDVENTS

The Pentagon v. Peak Oil

How Wars of the Future May Be Fought Just to Run the Machines That Fight Them

by Michael Klare in TomDispatch.com

Sixteen gallons of oil. That's how much the average American soldier in Iraq and Afghanistan consumes on a daily basis — either directly, through the use of Humvees, tanks, trucks, and helicopters, or indirectly, by calling in air strikes. Multiply this figure by 162,000 soldiers in Iraq, 24,000 in Afghanistan, and 30,000 in the surrounding region (including sailors aboard U.S. warships in the Persian Gulf) and you arrive at approximately 3.5 million gallons of oil: the daily petroleum tab for U.S. combat operations in the Middle East war zone.

Multiply that daily tab by 365 and you get 1.3 billion gallons: the estimated annual oil expenditure for U.S. combat operations in Southwest Asia. That's greater than the total annual oil usage of Bangladesh, population 150 million — and yet it's a gross underestimate of the Pentagon's wartime consumption.

Such numbers cannot do full justice to the extraordinary gas-guzzling expense of the wars in Iraq and Afghanistan. After all, for every soldier stationed "in theater," there are two more in transit, in training, or otherwise in line for eventual deployment to the war zone — soldiers who also consume enormous amounts of oil, even if less than their compatriots overseas. Moreover, to sustain an "expeditionary" army located halfway around the world, the Department of Defense must move millions of tons of arms, ammunition, food, fuel, and equipment every year by plane or ship, consuming additional tanker-loads of petroleum. Add this to the tally and the Pentagon's war-related oil budget jumps appreciably, though exactly how much we have no real way of knowing

And foreign wars, sad to say, account for but a small fraction of the Pentagon's total petroleum consumption. Possessing the world's largest fleet of modern aircraft, helicopters, ships, tanks, armored vehicles, and support systems — virtually all powered by oil — the Department of Defense (DoD) is, in fact, the world's leading consumer of petroleum. It can be difficult to obtain precise details on the DoD's daily oil hit, but an April 2007 [report](#) by a defense contractor, [LMI Government Consulting](#), suggests that the Pentagon might consume as much as 340,000 barrels (14 million gallons) every day. This is greater than the total national consumption of Sweden or Switzerland.

Not "Guns v. Butter," but "Guns v. Oil"

For anyone who drives a motor vehicle these days, this has ominous implications. With the price of gasoline now 75 cents to a dollar more than it was just six months ago, it's obvious that the Pentagon is facing a potentially serious budgetary crunch. Just like any ordinary American family, the DoD has to make some hard choices: It can use its normal amount of petroleum and pay more at the Pentagon's equivalent of the pump, while cutting back on other basic expenses; or it can cut back on its gas use in order to protect favored weapons systems under development. Of course, the DoD has a third option: It can go before Congress and plead for yet another supplemental budget hike, but this is sure to provoke renewed calls for a timetable for an American troop withdrawal from Iraq, and so is an unlikely prospect at this time.

Nor is this destined to prove a temporary issue. As recently as two years ago, the U.S. Department of Energy (DoE) was confidently predicting that the price of crude oil would hover in the \$30 per barrel range for another quarter century or so, leading to gasoline prices of about \$2 per gallon. But then came Hurricane Katrina, the crisis in Iran, the insurgency in southern Nigeria, and a host of other problems that tightened the oil market, prompting the DoE to raise its long-range price projection into the \$50 per barrel range. This is the amount that figures in many current governmental budgetary forecasts — including, presumably, those of the Department of Defense. But just how realistic is this? The price of a barrel of crude oil today is hovering in the \$66 range. Many energy analysts now say that a price range of \$70-\$80 per barrel (or possibly even significantly more) is far more likely to be our fate for the foreseeable future.

A price rise of this magnitude, when translated into the cost of gasoline, aviation fuel, diesel fuel, home-heating oil, and petrochemicals will play havoc with the budgets of families, farms, businesses, and local governments. Sooner or later, it will force people to make profound changes in their daily lives — as benign as purchasing a hybrid vehicle in place of an SUV or as painful as cutting back on home heating or health care simply to make an unavoidable drive to work. It will have an equally severe affect on the Pentagon budget. As the world's number one consumer of petroleum products, the DoD will obviously be disproportionately affected by a doubling in the price of crude oil. If it can't turn to Congress for redress, it will have to reduce its profligate consumption of oil and/or cut back on other expenses, including weapons purchases.

The rising price of oil is producing what Pentagon contractor LMI calls a “fiscal disconnect” between the military's long-range objectives and the realities of the energy marketplace. “The need to recapitalize obsolete and damaged equipment [from the wars in Iraq and Afghanistan] and to develop high-technology systems to implement future operational concepts is growing,” it explained in an April 2007 [report](#). However, an inability “to control increased energy costs from fuel and supporting infrastructure diverts resources that would otherwise be available to procure new capabilities.”

And this is likely to be the least of the Pentagon's worries. The Department of Defense is, after all, the world's richest military organization, and so can be expected to tap into hidden accounts of one sort or another in order to pay its oil bills *and* finance its many pet weapons projects. However, this assumes that sufficient petroleum will be available on world markets to meet the Pentagon's ever-growing needs — by no means a foregone conclusion. Like every other large consumer, the DoD must now confront the looming — but hard to assess — reality of “[Peak Oil](#)”; the very real possibility that global oil production is at or near its maximum sustainable (“peak”) output and will soon commence an irreversible decline.

That global oil output will eventually reach a peak and then decline is no longer a matter of debate; all major energy organizations have now embraced this view. What remains open for argument is precisely *when* this moment will arrive. Some experts place it comfortably in the future — meaning two or three decades down the pike — while others put it in this very decade. If there is a consensus emerging, it is that peak-oil output will occur somewhere around 2015. Whatever the timing of this momentous event, it is apparent that the world faces a profound shift in the global availability of energy, as we move from a situation of relative abundance to one of relative scarcity. It should be noted, moreover, that this shift will apply, above all, to the form of energy most in demand by the Pentagon: the petroleum liquids used to power planes, ships, and armored vehicles.

The Bush Doctrine Faces Peak Oil

Peak oil is not one of the global threats the Department of Defense has ever had to face before; and, like other U.S. government agencies, it tended to avoid the issue, viewing it until recently as a peripheral matter. As intimations of peak oil's imminent arrival increased, however, it has been forced to sit up and take notice. Spurred perhaps by rising fuel prices, or by the growing attention being devoted to “[energy security](#)” by academic strategists, the DoD has suddenly taken an interest in the problem. To guide its exploration of the issue, the [Office of Force Transformation](#) within the Office of the Under Secretary of Defense for Policy [commissioned LMI](#) to conduct a study on the implications of future energy scarcity for Pentagon strategic planning.

The resulting study, “Transforming the Way the DoD Looks at Energy,” was a bombshell. Determining that the Pentagon’s favored strategy of global military engagement is incompatible with a world of declining oil output, LMI concluded that “current planning presents a situation in which the aggregate operational capability of the force may be unsustainable in the long term.”

LMI arrived at this conclusion from a careful analysis of current U.S. military doctrine. At the heart of the national military strategy imposed by the Bush administration — the Bush Doctrine — are two core principles: *transformation*, or the conversion of America’s stodgy, tank-heavy Cold War military apparatus into an agile, continent-hopping high-tech, futuristic war machine; and *pre-emption*, or the initiation of hostilities against “rogue states” like Iraq and Iran, thought to be pursuing weapons of mass destruction. What both principles entail is a substantial increase in the Pentagon’s consumption of petroleum products — either because such plans rely, to an increased extent, on air and sea-power or because they imply an accelerated tempo of military operations.

As summarized by LMI, implementation of the Bush Doctrine requires that “our forces must expand geographically and be more mobile and expeditionary so that they can be engaged in more theaters and prepared for expedient deployment anywhere in the world”; at the same time, they “must transition from a reactive to a proactive force posture to deter enemy forces from organizing for and conducting potentially catastrophic attacks.” It follows that, “to carry out these activities, the U.S. military will have to be even more energy intense.... Considering the trend in operational fuel consumption and future capability needs, this ‘new’ force employment construct will likely demand more energy/fuel in the deployed setting.”

The resulting increase in petroleum consumption is likely to prove dramatic. During Operation Desert Storm in 1991, the average American soldier consumed only four gallons of oil per day; as a result of George W. Bush’s initiatives, a U.S. soldier in Iraq is now using four times as much. If this rate of increase continues unabated, the next major war could entail an expenditure of 64 gallons per soldier per day.

It was the unassailable logic of this situation that led LMI to conclude that there is a severe “operational disconnect” between the Bush administration’s principles for future war-fighting and the global energy situation. The administration has, the company notes, “tethered operational capability to high-technology solutions that require continued growth in energy sources” — and done so at the worst possible moment historically. After all, the likelihood is that the global energy supply is about to begin diminishing rather than expanding. Clearly, writes LMI in its April 2007 report, “it may not be possible to execute operational concepts and capabilities to achieve our security strategy if the energy implications are not considered.” And when those energy implications are considered, the strategy appears “unsustainable.”

The Pentagon as a Global Oil-Protection Service

How will the military respond to this unexpected challenge? One approach, favored by some within the DoD, is to go “green” — that is, to emphasize the accelerated development and acquisition of fuel-efficient weapons systems so that the Pentagon can retain its commitment to the Bush Doctrine, but consume less oil while doing so. This approach, if feasible, would have the obvious attraction of allowing the Pentagon to assume an environmentally-friendly facade while maintaining and developing its existing, interventionist force structure. Oil prices: You ain't seen nuthin' yet



A couple of data points about oil.

The Wall Street Journal reports today that world oil demand is growing twice as fast as last year.

The International Energy Agency, which monitors oil markets on behalf of industrialized nations, is forecasting average global oil demand of 86.1 million barrels a day this year, up 2 percent from last year. That is twice as fast as the 0.9% growth recorded in 2006, compared with 2005.

Demand is expected to accelerate further in the fourth quarter to 88 million barrels a day, an unprecedented quarterly volume and up 2.6 million barrels a day from the year-earlier period. In the second quarter, global oil demand already has risen at a 1.7% rate, more than double the 0.8% a year ago, according to forecasts and data compiled by the IEA.

Where's the demand coming from? All over, but especially China.

The China Daily reports:

In the first five months this year, China's net oil imports roared to 65.83 million tons, an increase of 11.5 percent from the same period last year. At the same time, China produced 77.51 million tons of oil, a 1.7 percent rise year-on-year... Customs statistics show that from January to May, China imported 67.43 million tons of crude oil, up 9.6 percent year-on-year. Meanwhile, it exported 1.6 million tons, down 36.6 percent... And people think the price of gasoline is high now.

But there is also a more sinister approach that may be far more highly favored by senior officials: To ensure itself a "reliable" source of oil in perpetuity, the Pentagon will increase its efforts to maintain control over foreign sources of supply, notably oil fields and refineries in the Persian Gulf region, especially in Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates. This would help explain the recent talk of U.S. plans to retain "enduring" bases in Iraq, along with its already impressive and elaborate basing infrastructure in these other countries.

The U.S. military first began procuring petroleum products from Persian Gulf suppliers to sustain combat operations in the Middle East and Asia during World War II, and has been doing so ever since. It was, in part, to protect this vital source of petroleum for military purposes that, in 1945, President Roosevelt first proposed the deployment of an American military presence in the Persian Gulf region. Later, the protection of Persian Gulf oil became more important for the economic well-being of the United States, as articulated in President Jimmy Carter's "Carter Doctrine" speech of January 23, 1980 as well as in President George H. W. Bush's August 1990 decision to stop Saddam Hussein's invasion of Kuwait, which led to the first Gulf War — and, many would argue, the decision of the younger Bush to invade Iraq over a decade later.

Along the way, the American military has been transformed into a "global oil-protection service" for the benefit of U.S. corporations and consumers, fighting overseas battles and establishing its bases to ensure that we get our daily fuel fix. It would be both sad and ironic, if the military now began fighting wars mainly so that it could be guaranteed the fuel to run its own planes, ships, and tanks — consuming hundreds of billions of dollars a year that could instead be spent on the development of petroleum alternatives.

Michael T. Klare, professor of Peace and World Security Studies at Hampshire College, is the author of Blood and Oil: The Dangers and Consequences of America's Growing Dependency on Imported Petroleum (Owl Books).



"Commentary No. 211, June 15, 2007

"A Missile Defense Shield: Crazy Idea or Rational Objective?"

George W. Bush has been pushing hard to establish what he calls a missile defense shield in the Czech Republic and Poland. Very few people think this is a sane idea. While the two east European governments seem to support it enthusiastically, public opinion polls show that their own populations are against it. Russia has denounced it openly. Germany has been fighting it more quietly. Iran has shown total indifference. And Joseph Cirincione, who has devoted his professional career to fighting nuclear proliferation, says that Bush is pushing "a technology that doesn't work against a threat that does not

exist."

So is this just a crazy idea, one more piece of evidence that the Bush regime is irrational and not very astute? Not really. There is a rational objective behind all of this, and it's hardly a secret. Start with the ostensible explanation. Bush says that the United States wants to protect against the deployment by a rogue state (read Iran) of a nuclear threat to Europe and ultimately even to the United States.

Russia says that these so-called defense shields are in fact aimed at Russia, to which Russia not only objects but against which Russia will counter deploy missiles aimed at Europe. The Czech and Polish governments can't really get excited about the Iranian threat, but they do seem to think there is a Russian threat. So the reasons they are enthusiastic about the idea is that they agree with the Russians - that these are moves aimed at Russia. Actually, this is the German position in private as well. And in private again probably all other west European governments share this view.

George W. Bush insists that all this is untrue, that the Russians are friends, and that he is not intending to threaten them. He says that the Czechs and Poles don't have to choose between the United States and Russia. They can be (and should be) friends with both. He probably really believes all this, in the sense that neither Bush nor even the neo-cons are looking forward to taking on Russia as yet another enemy in the twenty-first century. So what is going on?

Donald Rumsfeld told us what is going on a long time ago. The policy of the present U.S. government is to use the so-called new Europe to constrain and limit the political role of the so-called old Europe - that is, use the east European governments against the west European governments. The United States, especially the Bush regime, does not want to see a strong Europe, one that would pursue a policy separate from that of the United States. And one could say that the Rumsfeld doctrine has been reasonably successful thus far. The point of erecting missile defense shields in east Europe is to protect the United States not against Iran and not against Russia but against west Europe, which explains the German attitude.

The period of Soviet domination of east Europe was a highly negative experience for the satellite countries as well as for the various ex-Soviet states that are now independent. They are all living through post-traumatic stress syndrome. Right-wing forces within each of these countries are exploiting this fear to push their internal agendas. These forces are not really afraid of direct Russian military or even political pressure. They are afraid that west Europe will make a political deal with Russia, and that they will not have very much say about the terms of this deal.

This is not entirely irrational on their part either. There have been such deals made several times over the last few centuries, and this is a serious possibility again. So the east European countries are proclaiming their undying love of the United States (displayed so incredibly effusively in Albania during George W. Bush's eight-hour visit on June 11).

The object of the gushing proclamations of friendship is twofold: to weaken the west Europeans, and to create a situation in which the United States is forced to support the east Europeans. This is a classic tactic of weaker countries relating to stronger countries that seem to be ideological allies. Cuba and Vietnam used it vis--vis the Soviet Union. North Korea used it vis--vis China.

It is a tactic that often works. But it has its limitations. The Achilles heel of such a tactic is that it depends on the continuing needs of the stronger country, in this case the United States government, to play the game. At the moment, the United States is quite ready to do so. But when the United States withdraws from Iraq and recalibrates its global stance to take account of its diminished geopolitical power, sustaining the Polish or Czech regimes may seem less useful, may even fade totally from importance. At that point, the east European governments would be on their own - dependent economically and militarily on the very west European powers they now disdain, even when, or especially when, there is a closer Paris-Berlin-Moscow rapprochement.

So, in the short run, construction of a missile defense shield in east Europe serves the needs of the

Rose Cooper of the University of Wales In statute at Cardiff Turned an electron microscope on *S. aureus* growing in Petri dishes and saw that many of the bacteria got stuck after encountering manuka honey. The cells began to divide but then stopped. "It looks like they can't complete the cell cycle," she says... Cooper also studied the bug's reaction to syrup that contained only the honey's sugars. This fake honey didn't prevent *S. aureus* cells from dividing normally. "Something in the honey besides the sugars" stops the cells, says Cooper. Her team is now trying to identify this component... Ancient Egyptian physicians famously treated wounds with honey, but modern doctors "are a bit reticent" about doing the same, says Cooper. However, sterile manuka honey has been available by prescription in the United Kingdom since 2004, and a hospital in Liverpool will soon launch a trial of the sticky stuff... If the study goes well, manuka honey "could have a key role to play in controlling hospital-borne infections," says Cooper – Brian Vastag

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Study Sees Climate Change Impact on Alaska - From the NY Times, 28 June 2007

By WILLIAM YARDLEY

Many of Alaska's roads, runways, railroads and water and sewer systems will wear out more quickly and cost more to repair or replace because of climate change, according to a study released yesterday.

Higher temperatures, melting permafrost, a reduction in polar ice and increased flooding are expected to raise the repair and replacement cost of thousands of infrastructure projects as much as \$6.1 billion for a total of nearly \$40 billion about a 20 percent increase from now to 2030, according to the study, by the Institute for Social and Economic Research at the University of Alaska Anchorage.

The cost estimates are based on the needs of nearly 16,000 pieces of public infrastructure, including airports and small segments of roads... The researchers speculated that in the distant future the costs would level off as the agencies adapted their practices to the warmer climate.

Temperatures have risen by an average of two to five degrees indifferent parts of the state in recent decades, and the changes have already been linked to problems like coastal erosion in remote Alaskan villages and wildfires. The researchers who wrote the report said their estimates for increased costs were based on "middle-of-the-road" forecasts for warming in a place where projects were designed to endure the cold.

"We assume warming temperatures mean infrastructure has to be replaced more often," the report said. "It's also possible the changing climate could actually increase the life of some structures, but we haven't so far identified any such exceptions."

The study is the first of its kind in Alaska, and its authors emphasize that it does not project costs for things like moving villages, protecting the Trans-Alaska Pipeline, fighting wildfires or protecting private property that may be affected.

"There are a million other issues related to climate change," said Peter Larsen, a natural resource economist at the Institute for Social and Economic Research and the lead researcher for the report. "This is just one component, but it's a critical piece because this is where all the goods and services come through the state's economy, is through the infrastructure."

Mr. Larsen said the most vulnerable places in the state were probably those built heavily on permafrost, the permanently frozen subsoil, whose average temperature is projected to rise above freezing in the future, potentially making the ground unstable.

"Those structures need to be investigated further," he said. "What happens to costs when you cross that freezing point threshold?"

With no simple template for how to measure increased infrastructure costs from climate change, Mr. Larsen said he and other researchers had settled on studying how higher temperatures and precipitation

debt and investment build up in the boom years had suffocating effects... While cutting interest rates in such a crisis may help, it has the effect of transferring wealth from creditors to debtors and "sowing the seeds for more serious problems further ahead." The bank said it was far from clear whether the US would be able to shrug off the consequences of its latest imbalances, citing a current account deficit running at 6.5pc of GDP, a rise in US external liabilities by over \$4 trillion from 2001 to 2005, and an unprecedented drop in the savings rate. "The dollar clearly remains vulnerable to a sudden loss of private sector confidence," it said.

The BIS said last year's record issuance of \$470bn in collateralized debt obligations (CDO), and a further \$524bn in "synthetic" CDOs had effectively opened the lending taps even further. "Mortgage credit has become more available and on easier terms to borrowers almost everywhere. Only in recent months has the downside become more apparent," it said... CDO's are bond-like packages of mortgages and other forms of debt. The BIS said banks transfer the exposure to buyers of the securities, giving them little incentive to assess risk or carry out due diligence... Mergers and takeovers reached \$4.1 trillion world-wide last year... Leveraged buy-outs touched \$753bn, with an average debt/cash flow ratio hitting a record 5.4... "Sooner or later the credit cycle will turn and default rates will begin to rise," said the bank. "The levels of leverage employed in private equity transactions have raised questions about their longer-term sustainability. The strategy depends on the availability of cheap funding," it said... That may not last much longer.

From: Gerald T. Agnew

Sent: June 26, 2007 **Subject:** Re:[EnergyResources] The BIS Talks about a "Great Depression"

This is a follow on to the BIS "Great Depression" article that I sent along a few hours ago. With the banks' capital now upside down on the growing mortgage debacle, there exists a deepening possibility of a major credit crunch in the US which would extend to all sectors, not just real estate. The reason for this is that the banks have various liquidity ratios which have to be met, and if this means calling in a lot of demand loans, then they may well do so willy-nilly.

In my view, this event would show up the downside of globalisation: one major financial centre gets caught and because there are no real firewalls many others are also ensnared... The usual remedy to cure a credit crunch is to change banks liquidity ratios or to make more money available for lending. Either this or the Fed would have to lower interest rates with lamentable effects on domestic inflation and the USD... Yes, in this wretched environment the stock market could still head higher (more so if the Fed decides to lower rates), but its end would be clearly in sight.

The dominoes may not be toppling, but they are getting rather wobbly!

Gerry

Banks 'set to call in a swathe of loans' - By Ambrose Evans-Pritchard - 26/06/2007

The United States faces a severe credit crunch as mounting losses on risky forms of debt catch up with the banks and force them to curb lending and call in existing loans, according to a report by Lombard Street Research.

The group said the fast-moving crisis at two Bear Stearns hedge funds had exposed the underlying rot in the US sub-prime mortgage market, and the vast nexus of collateralised debt obligations known as CDOs.

"Excess liquidity in the global system will be slashed," it said. "Banks' capital is about to be decimated, which will require calling in a swathe of loans. This is going to aggravate the US hard landing."

Charles Dumas, the group's global strategist, said the failed auction of assets seized from one of the Bear Stearns funds by Merrill Lynch had revealed the dark secret of the CDO debt market. The sale had to be called off after buyers took just \$200m of the \$850m mix.

"The banks were not prepared to bid over 85pc of face value for CDOs rated "A" or better," he said.

"God knows how low the price would have dropped if they had kept on going. We hear buyers were lobbing bids at just 30pc.

"We don't know what the value of this debt is because the investment banks shut down the market in a cover-up so that nobody would know. There is \$750bn of dubious paper out there in the form of CDOs held by banks that have a total capitalisation of \$850bn."

US property writer Paul Muolo described the Bear Stearns crisis as the subprime Chernobyl, saying the bank had created a cone of silence.

Abandoned by fellow banks, Bear Stearns has now put up \$3.2bn of its own money to rescue one of the funds, a quarter of its capital.

This is the biggest bail-out since the Long-Term Capital Management crisis in 1998, which Bear Stearns refused to join at the time. Bear Stearns is now alone, a case of rough justice being served.

Lombard Street's warning comes as fresh data from the US National Association of Realtors shows that the glut of unsold homes reached a record of 89 months supply in May. Sales of existing homes slid to an annual rate of 5.99m.

The median price fell for the 10th month in a row to \$223,700, down almost 14pc from its peak in April 2006. This is the steepest drop since the 1930s.

The Mortgage Lender Implode-Meter that tracks the US housing markets claims that 86 major lenders have gone bankrupt or shut their doors since the crash began.

The latest are Aegis Lending, Oak Street Mortgage and The Mortgage Warehouse.

There isn't a recovery about to happen, said Ara Hovanian, head of the building group Hovanian Enterprise.

Nouriel Roubini, economics professor at New York University, said there were now concerns about systemic risk fall-out from the Bear Stearns debacle as investors look more closely at the real value of CDOs.

These highly illiquid securities have been priced so far on unrealistic and distorted credit ratings as the ratings industry has been complicit, he said.

They have not been re-rated in a way that is consistent with rising subprime default rates. That is why Wall Street is in a panic. Losses will be massive once these assets are correctly priced to market.

Lombard Street said the Bear Stearns fiasco was the tip of the iceberg. The greatest risk lies in the toxic tranches of lower grade securities held by the banks.

Much-trumpeted claims that banks had shifted off the riskiest credit exposure on to the asset markets was largely a fiction, said Mr Dumas.

The worst of the US property crisis has yet to hit since there is an overhang of \$2,000bn of mortgages with adjustable rates which have yet to be reset. Many borrowers could see payments jump by half, or

even double.

At the same time, a spike in 10-year US bond yields by 0.65 percentage points over the last six weeks has drastically repriced the cost of fixed mortgages, knocking away a key prop for the US housing market.

With defaults at their highest in the 37 years that records have been kept, it could be a long hot summer, said Mr Dumas.