

## Pentagon Strategic Crisis? New Secret Report Declares "Global Warming a Greater Threat Than Terrorism" (!)

**James S. Henry**

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**A**s if the world did not already have enough problems, the last few months have raised the ugly specter of **global warming** once again, perhaps more forcefully than ever. As we'll see below, there are indeed many recent indications that this problem is -- beg your pardon -- now "heating up." Moreover, one of the more interesting developments comes from the belly of the beast itself, the Pentagon's Office of the Secretary of Defense (OSD), by way of a so-called "secret report" ( according to The Guardian/Observer) that the Pentagon reportedly solicited from two prominent California "futurists" and part-time Hollywood war/disaster-film consultants.



"What? US worry?"

In fact, it turns out that the **The Guardian/Observer** reporters didn't do their homework. While their [February 22 story](#) claimed that this Pentagon report on global warming by California futurists Peter Schwartz and Doug Randall was "secret," **Fortune Magazine** had obtained and released a copy from the Pentagon on January 26, and **SubmergingMarkets** has obtained a copy of the so-called "secret" report's Executive Summary, which may be downloaded above or below.

The report, entitled "[Imagining the Unthinkable: An Abrupt Change Scenario and Its Implications for US National Security.](#)" does make for interesting reading. The authors, private consultants who work for Monitor Group/GBN in California and specialize in "long-run scenario planning," have generated a provocative scenario for the effects of an abrupt, discontinuous change in the world's climate. It involves a hefty diet of chaos, famine, drought, and war, as well as a whole new ice age. The melodrama is perhaps not surprising -- after all, one of the two consultants, Peter Schwartz, has also advised on plot development for films like **Minority Report** , **War Games**, and **Deep Impact**. And, of course, scenario designers, like script writers, don't get paid very well for imagining minor variations on the status quo.

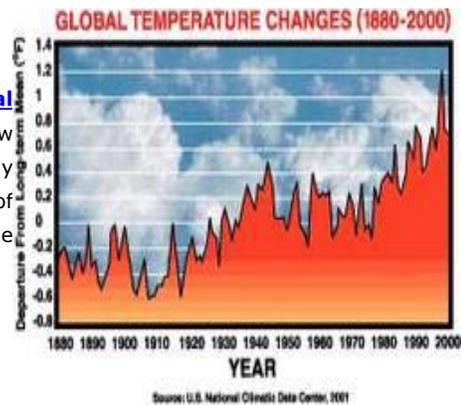
As the Pentagon report itself acknowledges, it is not a "forecast," but a "what if?" exercise in "thinking about the unthinkable," in the great tradition of Dr. Edward Teller and DOD's "wintry doom" scenarios of the late 1950s and the 1980s. The aim was to construct a "plausible," if not necessarily probable, scenario, in order (in the authors' words) to "dramatize" the possible consequences of "an abrupt slowing" of the ocean's "[thermohaline circulation](#)" (TC), the deep ocean currents that have a profound influence on subsidiary ones like the Gulf Stream and the Humboldt Current.



- In December 2003, **Russia** followed in the footsteps of the US and Australia, and [refused to ratify the Kyoto Treaty](#). This was probably more of a short-run bargaining tactic than a Bush-like *idee fixe*. Absent US support for the Treaty, Russia's vote is needed to make it an international law, which requires its signature by countries responsible for at least 55 percent of all greenhouse gas emissions. Without US participation, Russia lost a huge market for the "pollution credits" that it hoped to sell to over-polluting American companies. It also has its own oil and gas industry to protect, and is bargaining with the EU for more favorable terms, as it enters the WTO.

In any case, further consideration of the issue will now be deferred until another conference in 2004. The EU and Russia had wanted to hold off until after the US elections, but a coalition of 40 small island countries blocked the delay -- several of them, including **the Marshall Islands, Kiribati, and Tuvalu** in the South Pacific, are already sinking into the sea, [literally becoming "submerging markets."](#)

- In late December, the prestigious [American GeoPhysical Union](#) reported that carbon dioxide emissions are now growing faster than ever, and concluded that "It is virtually certain that increasing atmospheric concentrations of carbon dioxide and other greenhouse gases will cause the global surface climate to become warmer."



- Meanwhile, in December, representatives of Alaska's 155,000 **Inuit tribespeople** filed a [human rights complaint](#) against the Bush Administration with the **Inter-American Commission on Human Rights** in Washington, D.C., on the grounds that they face virtual extinction because of global warming. According to them, the oceans that surround them are now warmer than ever, the permafrost that supports their homes and roads is melting, the ice arrives later and leaves earlier every year, and polar bears and seals are disappearing.



- In early January 2004, [Nature](#), the influential peer-reviewed science journal, published a study that predicted that by 2050, 15% to 37% -- up to 1 million in all-- of all animal and plant species on the planet may be made extinct by climate changes.
- Also in January, in a vivid demonstration of just how concerned many scientists are about this issue, a conference of leading experts from the UK and the US [met at Cambridge University](#), and considered a variety of rather extreme technical solutions to global warming, including the deployment of "tens of billions of wafer-thin metal plates... into the Earth's low orbit," the growth of huge algae beds in the oceans, and the construction of massive cloud-generating machines that would shield the earth from the sun.

- Just this month, in a warning that captured the attention of everyone who enjoys scuba diving, [a study by](#) scientists at Queensland's University concluded that **Australia's Great Barrier Reef** will completely disappear by year 2050, if ocean temperatures continue to rise at current rates. This is significant

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noted, Australia, like the US and Russia, had refused to sign the Kyoto Treaty.

- In January, [Scottish fishing experts](#) also reported a **decline in wild salmon stocks**, just as the fishing season was opening. They attributed the decline to global warming.

#### BACKGROUND - THE PENTAGON'S GLOBAL WARMING STUDY

On top of all this, we now have this week's dramatic leak of a new Pentagon analysis of the national security implications of global warming. According to [this report](#), which The Guardian described as "secret," the implications would be nothing short of catastrophic. Indeed, according to [The Guardian](#), "The few experts privy to its contents.....(say) (T)he threat to global stability **vastly eclipses that of terrorism..**"

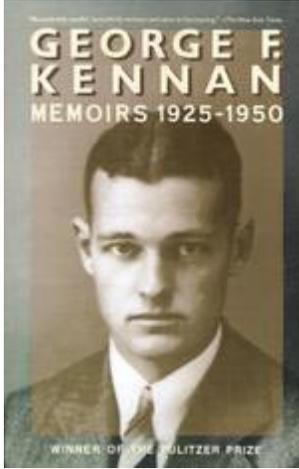
Since this report collides head on with the White House's antipathy toward the whole concept of global warming, and also undermines its case for the primacy of fighting terrorism, the Pentagon has a few strategic challenges to sort out. It will be helpful for us to understand the origins of the report.

#### INVISIBLE MAN

According to The Guardian, the Pentagon global warming study was undertaken at the instance of its 82-year old in-house futurist, [Andrew W. Marshall](#). Marshall is a life-long military strategist, one of the few who worked with such legendary war-hawks as Dr. Edward Teller and Alfred J. Wohlstetter. Throughout the 1950s, Marshall worked at [The Rand Corporation](#) in Santa Monica as a cold war gamer. In 1969, he succeeded **Dr. James Schlesinger** as Rand's Director of Strategic Studies, when Schlesinger joined the first Nixon Administration.

During the next four years, Marshall authored what turned out to be one of the seminal works on US-Soviet strategy -- "Long-Term Competition with the Soviets: A Framework for Strategic Analysis," published in 1972. This report basically ported the whole concept of competitive strategy to the world of military planning. At the Pentagon, which had heretofore evaluated programs and budgets in terms of narrow, technical criteria rather than their contributions to strategic value, this approach was considered revolutionary. In May 1973, Schlesinger, who had just become Nixon's Secretary of Defense, appointed Marshall to be the Director of [the Office of Net Assessment](#) a new post in the Office of the Secretary of Defense that assumed responsibility for long-run military strategy. Marshall has held this post more or less continuously ever since.

In this capacity, Marshall has reportedly exerted enormous influence, as a kind of *eminence gris* -- the equivalent of [George F. Kennan](#), the State Department's resident intellectual and policy planner during the 1950s -- only with twice the tenure. Marshall based his longevity not only on strategic insights, but also on political skills -- he was content to stay in the shadows, bringing others along and helping them to succeed. Over time, he cultivated a loyal group of increasingly influential Pentagon officials, many of whom later converged on the second Bush Administration.



This group is often referred to collectively as "neoconservatives." This is really a misnomer -- there is nothing at all about their policies that is "conservative." A more accurate term is "ultra-imperialists," or simply, *ultras*. Among the best known are Rumsfeld, Paul Wolfowitz, Richard Perle, Eliot Cohen, and James Roche, the Secretary of the Air Force.

Partly through Marshall's influence, this group came to share several strong beliefs about national security.

- They have all regarded "long-term competitive military strategy" as a serious, high-minded intellectual enterprise -- a rational endeavor that one could count on for useful results.
- They have all generally believed that the demise of the Soviet Union, their old long-term "enemy," owed a great deal precisely to this kind of rational military and economic competitive strategy -- as implemented by Ronald Reagan during the 1980s. It was no longer just a theory; its value had been proven in combat.
- Most of the *ultras* have also shared Marshall's boundless technological optimism -- his confidence in the capacity of the US economy and technology to provide a continuing, even growing competitive advantage over potential rivals.
- They saw the US as a largely innocent "democracy," with clean hands and high principles. In their view, the US has never had a desire to possess or occupy other countries -- well, not at least since 1946, that is, when the US occupation of the Philippines formally ended. It only wished for other countries to develop "free market" economies, which it saw as a guarantor of peace, development, and prosperous trade for all concerned. As such, they believed that the US had every moral right to leverage its superior powers to its advantage, regardless of what the rest of the world might think. It had, first of all, the absolute right to act in its own (perceived) defensive interests. It had, moreover, the right to act on behalf of other important interests that it might deem necessary, even unilaterally.

As the novelist Graham Greene once said, "No country has had better motives for all the damage that it does."

- The *ultras* also were traditionally quite proud of the fact that, unlike many of its enemies (especially the Soviets, the Chinese Communists, the Cubans, and so forth), the US has always maintained a relatively open society, with relatively free and open borders, a long history of welcoming immigrants regardless of financial means, or (with notable exceptions) even national and ethnic origins, and relatively modest police controls on ordinary citizens that were in case subject to a very strong bill of rights.

These shared values are important for us to understand, because every single one of them is now being called into question, not through abstract disputations, but by the new harsh realities that the US faces on the ground. This is evident, not only in the Pentagon's recent experiences in Iraq, Afghanistan, and the "global war on terrorism." It is also evident in the recent immigration crisis, occasioned by the growing tide of immigrants, mainly from Mexico and Central America, that has recently crossed our borders. And it is also evident in the

challenges noted in the Pentagon's recent global warming study, which has profound implications for all these other problems.

#### OTHER PROPENSITIES

**A**long the way, there were also many other Marshall sympathizers whose motives were perhaps a little less high-minded than those who had been his intellectual comrades and proteges. These included many leading US defense contractors and their Congressional allies. Over time, Marshall's ONA developed strong, mutually beneficial ties to such key constituencies, and provided on-the-job training to a steady flow of future top industry executives and Congressional staffers.

In his procurement recommendations, Marshall also tended to err on the side of (a) perceiving huge threats that -- quite coincidentally, of course -- almost always required extremely costly, technology-intensive weapons systems, from anti-ballistic missiles systems, precision-guided missiles, remote sensing, and meteorological manipulation to unmanned combat vehicles, holographic projectors, sea-bed robotics, and particle beam weapons. As the Batman's Joker once said, "Where do they get all those FABULOUS TOYS?"

Of course, most of Marshall's activities took place behind closed doors. (See the recent **Submerging Markets** white paper on [Intelligence Failures](#)). So we only have a few snippets in the public record to help us assess his performance, like his reported exaggeration of the continued Soviet threat in the early 1990s, and his [agonizing search](#) for a worthy successor to the Soviet Empire, for which he ranged from China to North Korea, and finally, with the help of fellow ultras like Bernard Lewis and Samuel P. Huntington, ended up with (the somewhat confusing blend of ) the "Islamic fundamentalist horde" and the "Axis of Evil."

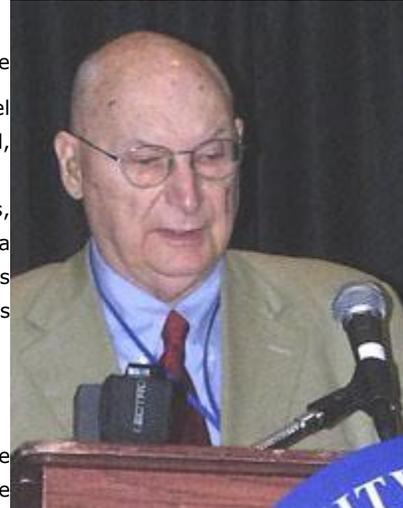
But there is at least one good publicly accessible example of Marshall's appetite for expensive, hair-brained technologies -- one of his most recent fetishes, "bio-engineered soldiers." This involves the use of **behavior-modifying drugs** to achieve specific battlefield conduct. (I am not making this up.) As he observed in a [rare public appearance](#) at the University of Kentucky in August 2002,

"The drugs would affect specific receptors and would act just like the internal chemistry (of the brain). We could create fearless soldiers, soldiers that would stay awake longer or be quicker and more alert... These new types of drugs or biochemical agents could create a new model of man."

For Mr. Marshall, apparently "the war on drugs" meant "(DOING) the war on drugs"! One would of course suppose that he **must have discussed this loony idea** -- which would open the door to all sorts of misbehavior -- **with Rumsfeld**, his immediate boss, who, after all, had in the late 1970s served as the CEO of GD Searle, one of the nation's largest drug companies. Evidently the boss did not discourage him from these meditations. The mind boggles at the prospect of thousands of young men and women, no longer consciously serving their country as proud citizens, with honor and dignity, but "doped up," marching fearlessly slavishly into battle, doing whatever they're told.....

Of course, if Marshall was willing to ponder this kind of policy in public, just imagine the other flights of fantasy that might be available to those with the security clearances to see them! (Admiral Poindexter, where is thy sting!) Given what we do know, it is not really surprising that Marshall was almost ousted in the late 1990s by President Clinton's Defense Secretary, William Cohen -- a sober Maine Republican. The dismissal was reportedly [avoided](#) at the last minute by way of Marshall's many friends in Congress and the defense industry, plus the neocon press, which portrayed him as lying awake nights, worrying about defending our freedoms, not about how to induce killing sprees by the infantry with pharmaceuticals.

**A**fter President George W. Bush took office in 2001, Rumsfeld became Marshall's boss again, and soon placed him in charge of a strategic panel that was one key part of a fundamental rethink that Rumsfeld described, with typical modesty, as a "Revolution in Military Affairs." (RMA) One might have thought that, even apart from his age and eccentricities, Andrew Marshall might not have been the best choice to lead such a strategy validation, especially after 9/11. After all, he'd spent thirty years designing strategies for a very different kind of adversary. The contrasts between the Soviets and the new global threat environment were many:



- "Competitive strategy" was much easier to define when the conflict was among more or less symmetrical "hegemons" like the US, China, and the Soviet Union. When opponents are not battling for nations, but for the vindication of ideas, movements or deeply-felt antipathies, and are disbursed across the globe rather than concentrated in a few countries, notions like "competition," "wartime," "combatant," "preemption," "deterrence," "victory," and "power" are no longer well-defined.
- Arsenals of conventional "anti-state" weapons, like jets, aircraft carriers, missiles, and tanks, are designed to destroy fixed positions, attack large groups of mobile forces, or wipe out concentrations of troops and seize territory. These may no longer be decisive against the latest post 9/11 generation of adversaries. At the same time, they can easily become resource sinkholes, because of their "semi-custom" production economics and very high maintenance and logistics costs.
- "High technology," can easily become a narcotic, while "low technology" can be surprisingly effective -- partly just because relying on it "enforces" creativity. The limiting case here is of course the box cutter and the hijacked plane. But once an enemy has defined "victory" as simply being able to disrupt civilian society, the list of potential "weapons of *massive-enough* destruction" becomes endless. The cost of defending against all the endless possibilities also becomes prohibitive, so that even "successful" defense is bittersweet.
- In this context, Marshall's conventional "competitive strategy/scenario planning" apparatus of the Cold War period had become a clear disability, probably as early as the mid-1990s, and certainly by the end of the 1990s. Similarly, "strategic planning" in the private sector also went the way of all flesh in the 1990s, for most large companies. In the private sector, when such practices ceased to be productive, there were at least some natural forces that encouraged them to disappear -- though even there, many companies failed to move quickly enough. (Viz. AT&T, Polaroid, Xerox, etc.) In the context of the massive Pentagon bureaucracy, with its hundreds of thousands of staff, government regulations, security procedures, restrictions on hiring, limited performance bonuses, restrictions on firings and

transfers, and endless red tape, casting such entrenched practices aside in favor of greater focus on creativity, rapid adaptation, and innovation is almost impossible.

In effect, these bureaucratic "diseconomies of scale" go a long way toward evening the odds between the "1-bullet guerilla" and the entire US military. One imagines poor Marshall, sitting in his Pentagon bastion, ruing the day that the enemy stopped being the **mighty Red Army. He had met the enemy, Pogo, and he recognized the face.**

Despite all these disabilities, Rumsfeld decided to rely on Marshall for the strategic panel of his RMA assessment. Marshall, in turn, must have realized that when it came to analyzing non-conventional threats like state-less terrorism or global warming, he needed to pull in some outside resources who were perhaps not so captive of traditional approaches. That set the stage for the production of the confrontational global warming analysis that has just now reached the light of day.

### BACK TO THE FUTURISTS

To get a handle on such non-traditional issues, Marshall reached out to Peter Schwartz, a well-known "futurist," and the co-founder and Chairman of California's **Global Business Network**, now part of **Cambridge-based Monitor Group**. GBN's other co-founder and fellow futurist, Stewart Brand, was the author of the "Whole Earth Catalogue," and founder of the "[Long Now Foundation](#)," an organization devoted to extremely long-term thinking, including the construction of a 10,000 year clock. Schwartz, the elder of the Pentagon report's two authors, is not trained in environmental science, but he does have a B.S. in Aeronautical Engineering from Troy's Rensselaer Polytechnic. He also served as director of the Stanford Research Institute's "Strategic Environment Center," and a "Scenario Planner" for Royal Dutch Shell from 1982 to 1986, during the heyday of corporate planning, before GBN's creation in 1987. In addition to the Pentagon, Schwartz has also consulted to the CIA, Darpa, and many Fortune 500 companies. He's also advised Hollywood film-makers on the plots of several successful war/action films, including **Deep Impact**, **War Games**, **Sneakers**, and Tom Cruise's **Minority Report**.

#### Schwartz

Schwartz has also authored several books, including a 1991 best seller on "scenario planning," "The Art of the Long View." In 1999 he published a less fortunate book **The Long Boom** (1999), co-authored with Peter Leyden and Joel Hyatt, in which they predicted "[25 years of uninterrupted economic growth and prosperity](#)." Of course, as we now know, this prediction was undermined by the global recession that started just one year later.



However, this did not deter Schwartz from continuing to pursue long-range planning and analysis. In an interview associated with the publication of his latest book, [Inevitable Surprises](#) (June 2003), he still maintains that his "long term boom scenario" will hold up, at least over the next half century. And while there will always be shocks and surprises, he still sees great value in scenario planning -- according to him, "[September 11 was the most predicted event in history](#)."

For purposes of the Pentagon report on global warming, Schwartz teamed up with Doug Randall, a Wharton graduate and a GBN "senior practitioner," who also had no environmental science training. This was not their first collaboration. In an April 2003 article in **Wired Magazine**, they argued that the US Government should undertake a massive 10-year, \$100 billion program to develop hydrogen power as a substitute for imported oil. That timetable is much more aggressive than the "several decades" that [many other experts](#) regard as necessary to develop the economical fuel-cell technology and hydrogen distribution systems required for basing mass

transportation on hydrogen. But this difference of opinion may really just derive from the fact that, unlike Peter Schwartz, most of the other experts have not invested ["in two companies that are now developing hydrogen power."](#) Apparently in this instance, President Bush agrees with Schwartz, because he has also recently advocated the development of [fuel-cell-based "Freedom Cars"](#) as an alternative to requiring any better fuel efficiency from car manufacturers now.

#### DIRE STRAITS

The "secret" Pentagon report produced by the two GBN futurists is nothing if not dramatic. According to them, the world may now be headed for a period of profound, sudden, discontinuous changes in climate, with a possible reversal of the gradual recent trends toward warming, followed by rapid cooling and perhaps even a new ice age in much of the world. Among the many side-effects that [all this](#) might have:

- Flooding of the Dutch seacoast and the Hague as early as 2007;
- By 2010, the US experiences a third more days per year with peak temperatures above 90F.
- The imminent prospect of historically low mean temperatures in Western Europe, including "Siberia-like" conditions in the UK by 2020;
- Large-scale famines in southern Africa, India, and China;
- Acute water shortages in the Middle East, the Amazon Basin, and the Nile Delta;
- The likelihood that the US and Europe may become "virtual fortresses," to prevent inundation by millions of destitute immigrants from the increasingly-uninhabitable Third World, where the lives of more than 400 million people become at risk.
- Low-lying countries like Bangladesh become virtually uninhabitable.
- As international tensions over food and water increase, there are much greater incentives for countries like Japan, Germany, and South Korea to acquire nuclear weapons, and to use them.

Not surprisingly, this scenario lines up almost exactly with the pro-hydrogen logic that Schwartz has recently [been propounding](#) around the country and in his recent book. But it does appear to be a bit too choppy to reconcile with his other favorite scenario, the vintage 1999/03 "long-growth boom. "

In any case, the disturbing portrait provided by Schwartz and Randall of the possible downsides of global warming is not likely to curry much favor with the Bush White House, or with other [persistent critics](#) of global warming theory. After all, the "secret" Pentagon report on global warming has appeared just five months after the **Environmental Protection Agency**, at the instruction of the White House, [deleted the entire chapter on global climate change](#) from its annual report on air pollution, and for the first time in six years made no reference at all to the problem in that report. Perhaps the Administration's insouciance explains why the Pentagon report was leaked in the first place -- certainly it would have done little good, locked up forever in some classified vault. The leak probably would also not have harmed the stock prices of certain hydrogen-related investments - assuming there are any.

All told, the report does offer a pretty nightmarish set of scenarios. Less polite commentators might also apply words like "pseudo-scientific." Evidently there's no real effort here to build a complex forecasting model, and no way to the scenarios that were constructed, other than to double-check their internal consistency. Even if there had been an effort to construct a full simultaneous-equation system, our actual knowledge of underlying natural and economic relationships is often so weak that the game is often not worth the candle. One is reminded of the disparity in forecasting performance between the huge, complicated, multi-equation econometric models that try to specify detailed relationships about what is really going on, and simple one-line autoregressive models -- the latter routinely outperform the former. So "theory" is neither necessary nor sufficient for prediction. And the Pentagon report, as Schwartz is wont to say, is happy just to provide "scenarios," not forecasts.

Despite this limitation, a good hard-hitting, logical scenario can be very useful as a way of galvanizing public attention. At this point, pending the declassification and release of the full study, it is impossible to judge its real quality. Still, perhaps Andrew Marshall really just wanted enough "meat on the bone" to make his underlings think, call attention to the wide range of potential outcomes, or -- who knows -- perhaps even to toss a bone to the President's opponents, for reasons of their own. I suspect that what the Pentagon planners really got for their money was not much more than a wild-eyed Hollywood script and a few days of media attention for their long-run thinking. Beyond that, they almost certainly did obtain a release from the straightjacket of "competitive strategy" and their really quite restrictive *ultra* assumptions.

## CONCLUSION

So what do we conclude from all this? Stepping back from the Pentagon report's apocalyptic, it does concur, in broad strokes, with the growing sense of urgency among many professional scientists about global warming, and our own sense that the case for taking action is now stronger than ever. For example, the UK's chief science advisor, Professor Sir David King also [stated just last month](#) that he now sees global warming as a much larger threat than terrorism, and he condemned the Bush Administration for "failing to take up the challenge of global warming."

Whether we really needed the "graphic arts" of Schwartz and Randall's detailed scenarios to drive this home is not clear. The point is that the time for preventive action is here. Unfortunately, this being a US election year, with many people still preoccupied with jobs, health insurance, Social Security, and the costs of education, let alone Iraq and terrorism, we are unlikely to find many politicians who are willing to give this issue top billing. After all, they'd have start with the basic fact that, with just 4 percent of the world's population, the US still generates at least [20-25 percent](#) of the world's greenhouse gas emissions. And then they'd have to move on to discuss the purgative diet of tax increases, emissions controls, other regulations and new investments that would be required to cut this fraction significantly. Having failed to tackle this issue for so long, through Democratic and Republican Administrations alike, by the time we get around to it, the solution will be no doubt very costly. The only consolation is that if there is anything to the Pentagon scenarios, the alternatives could be even worse.

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