

The Political Economy of "Green Japan"

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Abstract

Many people assume that Japan is the greenest among the developed countries and that it continues with the aggressive conservation and other environmental and energy policies that made it the global leader in these fields in the wake of the oil shocks. This paper asks whether that impression is correct, and if not why not. It also asks whether Japan risks much in the event that it is not, in fact, a leader in what appears to be an accelerating industrial revolution.

Introduction

Japanese politicians, bureaucrats, academics and business lobbies certainly assert this "Green Japan" line as often as possible, both to domestic audiences as well as overseas. They and their like-minded fellows outside of the Japanese elite get a receptive hearing. Surely one reason for this favourable bias is that it would simply make sense for Japan to have continued with, as well as refined, smart public policy. Japan is, of course, an island nation with sparse resource endowments. Japan gets nearly 50% of its total energy needs from oil, and imports almost all of this supply from unstable suppliers concentrated in the Middle East. Those facts offer plenty of incentive to develop alternative energy resources and technologies. But the same high-risk import story is largely true of natural gas, coal and uranium. Together, these fossil fuels and uranium supply about 97% of Japan's primary energy, and they are virtually all imported. The costs run into the tens of trillions of yen per annum, and these costs will almost certainly continue rising. Indeed, the International Energy

Agency, together with a host of other specialist organs, warns that we are likely to see an oil supply crunch and price spike in the near future¹⁾.

Moreover, Japan's unprecedented (in peacetime) fiscal deficit of roughly 170 percent of GDP is likely to rise to over 230 percent of GDP by 2014, according to the IMF²⁾. This level of debt is simply unsustainable, and unlikely to be retired without robust economic growth to provide the revenues. In addition, Japan's declining trade surplus and this shrinking surplus has recently become outright trade deficits has amplified the incentives for aggressive alternative energy policies. Domestically produced energy supplies, such as wind, solar and geothermal, would help displace the rising cost of imports.

As to resources, note for example that Japan sits on massive concentrations of magma in an era when geothermal energy is booming³⁾. These incentives and realities are just some of the reasons one would expect Japan to be at the head of fostering new, pathbreaking energy and environmental technologies as well as the related public policies.

The Scale of the Business

But let me first dispel possible doubts that there is in fact is a significant renewable revolution going on. Energy is a huge market, one whose scale is generally

1) See the August 3, 2009, interview with the IEA's chief economist, Fatih Birol, in "Warning: Oil supplies are running out fast," The Independent:

<http://www.independent.co.uk/news/science/warning-oil-supplies-are-running-out-fast-1766585.html>

2) See "The good, the bad and the ugly," The Economist, June 12, 2009:

http://www.economist.com/daily/chartgallery/displaystory.cfm?story_id=13848826

3) Note that the world's biggest producer country of geothermal is the US, with well over 40% of the 9 gigawatts of global new planned capacity. Moreover, the world's biggest geothermal producer firm is Chevron. These facts are food for thought, especially when Japan is 6th. See:

http://www.geo-energy.org/publications/reports/Industry_Update_March_Final.pdf

http://www.emerging-energy.com/user/GlobalGeothermalMarketsandStrategies200920301315192820_pub/EERGeothermalPromo.pdf

<http://www.chevron.com/deliveringenergy/geothermal/>

overlooked by most lay and even professional observers. Energy rivals tourism as the world’s biggest industry, with both industries weighing in at about 10% of global GDP, or about USD 6 trillion⁴⁾. The energy business is, at present, dominated by carbon-intensive fossil fuels, which represent over 80% of total global primary energy supply. But the data indicate that carbon-free or low carbon and sustainable renewables ie, wind, solar, geothermal and the like are becoming increasingly prominent in new investment. In its *Global Trends in Sustainable Energy Investment 2009*, New Energy Finance reports that investment in renewables totaled USD 155 billion in 2008⁵⁾. This contrasts with investment of USD 35 billion in 2004. Over the same 4 year period, renewable power capacity addition, as a percent of global power capacity addition, rocketed from 10 percent to 25 percent. This investment boom is clearly not a flash in the pan, as we see from the massive turn to “green new deal” stimulus packages in 2008 and 2009. In February of 2009, the HSBC bank’s “Global Research” division released a report titled *A Climate for Recovery*, that calculated USD 430 billion was being invested in green initiatives by the G 20 countries⁶⁾.

These numbers reveal a rapidly rising renewable industry and expanding cluster of disruptive technologies. The key point here is the momentum of capacity addition and the implications of that for the future shape of energy supply. Defenders of the status quo scoff at renewables. But their rhetoric seems increasingly reminiscent of “conventional wisdom” in the first years of the automobile era, when cars were seen as an idle hobby compared to the serious business of the horse.

The numbers show the fruits of smart public policies. These policies have been implemented, and continue to be refined, by the EU countries (especially Germany) and America’s leading states, especially California (the latter quadrupled its renewable energy supply in 2008). And China, as a result of an intensive investigation of what works on the policymaking front, has emerged as a country to watch.

As geopolitical, environmental and other risks increase, and more importantly,

4) The global economy in 2008 was roughly USD 60 trillion.

5) The report is available online at: <http://sefi.unep.org/english/globaltrends2009.html>

6) The report is available online at:

http://globaldashboard.org/wp-content/uploads/2009/HSBC_Green_New_Deal.pdf

are perceived by policymakers and investors as real risks requiring action, the incentives to shift even more towards alternatives strengthen. These incentives have long been massive but have been obscured and denied by vested interests that hitherto had the American federal government as their chief apologist. Keep in mind that these vested interests can only lose market share as we move towards renewables, and they continue to be strongly represented in virtually all the policymaking institutions in the developed world.

And this story of vested interests is not merely played out in national governments. It is evident among international institutions as well. The International Energy Agency, for example, might as well be named the International Fossil Fuel (plus a little nuclear) Energy Agency, as it continues to be hostile to renewables. Nowhere in its annual reports will you find estimates of wind, solar, geothermal and other energy resources, as opposed to detailed (and often dangerously optimistic) assessments of oil, natural gas, coal and uranium reserves. The hostility of the IEA to renewables is one reason the Germans and the Danes and others moved to set up the (as of July 27, 2009) 136 member International Renewable Energy Association this year (<http://www.irena.org/>)⁷⁾.

A similar story is evident at the level of individual states. The American Department of Energy has largely represented fossil-fuel and nuclear producers, which is why Stephen Chu's appointment as Energy Secretary indeed, the entire Obama energy programme is such a threat to vested interests. And in Japan, fossil-fuel producers and the nuclear lobby have a lock on subsidies, basic research and the other aspects of public policy. Governance is greatly out of alignment with real imperatives in the present. Especially in Japan, the idea that public policy needs to be market-led rather than lead the market is incredibly deeply entrenched in energy policy. This is in spite of the fact that there is no such thing as a free market in energy (or anything else, for that matter) and we are at present desperate to undo the damage of market-led financial policy.

7) On the IEA's hostility, see Lily Riahi "Hans Jorgen Koch Explains Why IRENA is "50 Times More Than the IEA,"

http://www.huffingtonpost.com/lily-riahi/hans-jrgen-koch-explains_b_221288.html

And let me argue against suppositions that this energy revolution is likely to be victim to the ongoing economic collapse. The Bush years are clearly over, and the centre of gravity in US federal politics has shifted abruptly from the South, fossil-fuels, market and religious fundamentalism to California, emerging industries, science, and public policy. This shift is encoded in the Obama regime’s fiscal stimulus and especially in the budget. The momentum clearly favours disruption, and the only question is which country uses the state most effectively to drive its energy revolution.

Japan is not leading in the innovations that mark the energy revolution; indeed, it has a shrinking profile on most fronts. Japan’s lack of action is due to the strength of carbon-intensive incumbent industries, such as steel and cement firms, in the councils of power. It is also due to years of market-fundamentalist ideology, stressing that the state does best when it cuts business taxes and regulations⁸), as the dominant economic model. And it is also due to the inability of the political class to articulate and agree on a vision of a robust, sustainable society in the midst of an entirely new era. This hardly means that Japan is doomed, but rather that Japan risks losing an historic opportunity to compete in the global industrial revolution that is emerging from the still collapsing edifice of modern consumer-oriented capitalism. Every deep recession brings the “creative destruction” of swaths of industry as well as the opportunity for new and more robust, more dynamic sectors. But wise public policy is critical to whether this destruction is indeed creative, or merely destructive. Japan is handicapped by vested interests and a political regime in which it truly does seem that “the old is dying and the new cannot be born.” Indeed, Japan confronts the ultimate irony of learning industrial policy from the Americans as Japanese money-men simultaneously invest in an American green revolution.

The Green Leader?

But let us have a short look at the conventional wisdom concerning Japan. In

8) Note that this market fundamentalism comes with the caveat that the state leave oligopolistic and related “regulatory capture” regimes in place. The electrical utilities, who dominate the Japanese market via 10 separate domains, are perhaps the most striking example here.

the June 12, 2009, edition of Newsweek⁹⁾, Morgan Stanley's Robert Feldman maintains his longstanding position that Japan is the green leader. Feldmann rightly argues that we should not ignore Japan. Even with all its problems of debt demography and a dwindling role in the global political economy, Japan remains at the front ranks of the developed countries. So Feldman's efforts to highlight areas where we can learn from Japan are appropriate. However, he appears to not to have done his homework, and instead hastily decided on making a few points in the face of what he derides as the global investment and policymaking elites depiction of Japan as "a museum piece or even a failed economic state."

Pertinent to our purposes here, Feldman argues that Japan has made extraordinary improvements in its energy policies. He goes out of his way to laud Japan's energy policy as "outstanding," and "stunning." He depicts Japan's energy policy successes as a reduction in dependence on imported oil as well as a shift to other fossil fuels and nuclear power. And most important, he argues that Japan's conservation efforts have allowed it to cut its energy use per unit of GDP production as well as slash its carbon dioxide emissions (again, as a unit of GDP) to half the level of what one finds in the United States and other industrialized countries.

There are serious problems with this is hortatory approach to Japan. First, to depict Japan's performance as a stunning success is simply gross exaggeration. If one sets up Japan alongside United States, hardly a tough competitor at present, and fails to differentiate the United States by state-level performance, then of course we find laudable performances in the Japanese case. However, if we look at individual American states, such as California and other innovative areas, their energy conservation, renewable energy production, and other efforts dwarf those of Japan. These are the kinds of policymaking examples that need to be watched. Moreover, the policy regimes to further develop these advantages in energy are far more robust in those states than in Japan at present. In fact, Japan's central government is such a laggard in these efforts that Tokyo and other urban areas are desperate to use their limited powers¹⁰⁾ in order to make up for the policy immobilism among Japan's

9) The article is available at : <http://www.newsweek.com/id/201860>

10) Note that Japan is a centralized state, with striking concentration of fiscal and administrative authority, and quite different from the diverse, decentralized federal system

political, bureaucratic and business elite at the center.

And if we shift our attention even further away from the stale comparisons with the United States, we find that the Europeans and elsewhere offer far more meaningful lessons than what we find within Japan on energy policy. For example, Feldman believes that Japan’s reduction in its reliance on oil is a stunning success, but in fact Sweden’s dependence on oil matched that of Japan in 1973. In the intervening years, Japan has reduced its reliance on oil from about 80% of its total energy supply to about 48% now. However, Sweden cut its oil dependence from roughly the same level in 1973 to just over a third at present. In fact, most of the industrialized states have lower levels of dependence on oil (as a percentage of total primary energy) than we see in Japan. Even America has a lower dependence on oil than does Japan. That does not mean America is to be lauded or emulated, because America relies so heavily on coal in order to produce electricity. But it does mean that simply looking at a reduction in dependence on oil without properly comparing what has taken place in the other industrialized countries is unwise.

Indeed, as we work towards Copenhagen and thereafter, in search of a post-Kyoto agreement, the striking thing is the lack of Japanese presence in setting an example for the global community.

The Role of Policy

One of the key issues that needs to be stressed when one is talking about the green new deal or the environmental revolution is the role of policy in accelerating innovation and the uptake of technologies as well as in other important aspects. When the talk turns to Japan, most observers, like Feldman, simply assume that there must be very robust policy at work. But that is simply not the case. Japan’s energy policy, until March of 2005 (which saw the release of a new energy strategy, one centred on nuclear energy) was largely dominated by an effort to emphasize the role of the free market. This was a reaction to the legacy of vested interests in creating little fiefs in the fiscal system and elsewhere. The Koizumi approach was to take in axes to as

evident in America.

many areas as was politically possible, and dismantle them in favor of market-led alternatives. But this proved to be totally unwise as the early 2000s progressed. Oil prices were rising, and the US foray into Iraqi went awry, wreaking more havoc on energy markets and outlooks. Hence, a new look at energy policy was emphasized from without the Japanese state, forcing it to amend its neoliberal approach. But this new approach is largely dominated by the vested interests that the Koizumi regime never challenged. These sacrosanct interests are especially those in the electrical power community. Their policy is to starve alternative energy resources from such public support as subsidies, RPS laws and so forth. That is why we saw the solar subsidy axed in 2004. More recently (2009), of course, Japan's solar subsidy has been put back in place, and beefed up with several new initiatives. But there is as yet no serious RPS law, and much of the public-sector funding is scattered willy-nilly¹¹⁾.

By contrast, the evolution of energy and climate policy in the leading competitors of Japan has gone far beyond the simple subsidies of even a few years ago. We see a huge movement towards the use of robust RPS laws as well as feed-in tariffs and other supports. And this is where Japan is very much behind its competitors, at least for those who care to look at the evidence. When one sees the Pentagon targeting 25% of its energy supply via renewables by 2025, and reflects on the fact that the Pentagon is already getting 10% of its energy from renewables, one knows there is something phenomenal going on¹²⁾. The same is true when one sees China targeting renewables at 15% of its energy production by 2020, and making rapid strides towards that goal¹³⁾. And then consider Japan, which has a ridiculously low target of 1.63% by 2014, and no apparent plan to increase that by much.

These policymaking realities should be better known, of course, but the public

11) The lack of seriousness was especially evident in the Aso regime's June 10, 2009, announcement of a 15% (by 2020, and compared to 2005 levels) target for cutting carbon dioxide emissions. The policy was derided domestically and internationally, among observers versed in energy and climate policy :

<http://greeninc.blogs.nytimes.com/2009/06/10/tsunami-of-criticism-for-japans-co2-goals/>

12) See the Pentagon's page on compliance with its goals :

<http://army-energy.hqda.pentagon.mil/reporting/progress.asp>

13) China is likely to exceed its goal :

http://www.chinadaily.com.cn/china/2009-06/10/content_8268871.htm

debate in Japan and elsewhere is largely dominated by outmoded rhetoric. It seems that no matter where one goes, the understanding of the potentials of renewable energy stresses an economic emphasis on static quantities. One example is the assumption that photovoltaic energy costs several multiples of coal-generated electricity and will always be that way. Similarly, many look at wind as a boutique kind of energy generation technology. But this is all simply nonsense, because we know that unit costs of technologies plunge as production advances and markets expand. That pattern has been the case with every other item such as automobiles, computers, mobile phones, etc. that economists study. Indeed, solar, wind and other renewables have all seen massive cost-curve declines over the past few decades, and particularly during the past few years. So it is bizarre that commentators would neglect the facts when it comes to renewable energies.

The same is true of most speculation on levels of employment that we can expect from the growth of renewable and other environmentally friendly sectors. Virtually all projections of the growth of alternative-energy unemployment as well as investment are based on highly suspect assumptions. Analysts need to keep in mind that we are likely in the midst of a industrial revolution, and that we are talking about a field of industry that is worth well over 10% of GDP. These possibilities make it clear that static projections of employment and investment and so forth are very questionable. We need to entertain the possibility that we are in the midst of an energy revolution comparable to, indeed surpassing, the IT revolution and the motorization of the economy. And we need to keep in mind that the voices that speak on behalf of vested interests that seek to maintain the unsustainable status quo are precisely that.

In fact, one of the most striking aspects of this ongoing energy revolution is the extent to which commonsense information is not disseminated. For example, note that probably most of the American members of Congress are not aware that China has far more strict fuel efficiency standards than the United States does. This is simply incredible. These are the people who are at present determining the appropriate response to climate change and energy challenges. But their ignorance is a testament to the rule of vested interests as well as prejudices and established ways of thinking. The vested interests can speak to commonly held assumptions, however absurd, and

thus defeat initiatives towards change.

In the Japanese case vested interests insist that of course Japan is the leader when it comes to environmental technologies as well as conservation, and they get a sympathetic hearing from the political, bureaucratic and business elite. But again, if one examines the data, it is clear that those ideas have little empirical support. Certainly, Japan produces hybrid cars. That is important, but it does not mean that a full spectrum energy revolution is ongoing in Japan. It only means that Toyota produces hybrid cars and that the American automakers learned a bitter lesson. But most people assume on the basis of hybrid car production that Japan must be a leader in a wide variety of alternative energy fields. This is not the case. In fact, in areas where Japan does have good technology -- and here we might think of fuel cells -- the lack of demand from within the home market and the lack of aggressive state supports are seeing these leads put into question. Competitors are ramping up their efforts, with the help of their governments and the rising price of oil (where profitability now requires a USD 70/bbl price, versus the confident predictions a decade ago that USD 10/bbl was the future). The simple fact of having good technology now does not guarantee that one will forever remain at the forefront or even in the middle of the pack. Japan's disadvantages include a shrinking market, the dominance of vested interests (especially the electrical utilities), very poor state support, and a public debate that is centered on tactical matters associated with the erosion of the LDP's long hegemony.

It is often difficult to believe that this is a country that pioneered the use of industrial policy. But this is what happens when institutions get out of synch with new imperatives. Let us see why Japan has become a laggard in an industry it once led.

Policy Failure

Over the past several years, America's high per-capita carbon dioxide emissions, coupled with the George W Bush regime's unwillingness to recognize the facts on climate change let alone deal with them, gave cover to other countries to do little and remain unnoticed. This includes Japan, which enjoys the good fortune of having the

Kyoto treaty named after one of its major cities. Japan also enjoys the legacy of its policy activism in the wake of the oil shocks. And as noted, Japan has the fuel-efficient hybrid car Prius as a symbol of energy and environmental progress.

We saw earlier that Japanese elites declare that Japan is the leader in the global environmental revolution. Such elites also continue to try undermining the Kyoto process of negotiating binding targets with a looser "sector-based" system of sectoral rather than national targets, and targets that are voluntary rather than compulsory.

This emphasis on voluntary approaches and market-based solutions has long been stressed by the Japanese business elite and the economic bureaucracy. Their eyes fixed firmly on the short-term, they have sought to push the public sector out of the business of shaping markets.

The rise of the Obama regime in the United States has suddenly given Japan's performance a starkly different backdrop. But Japan has long been a laggard relative to the European countries, especially on the deployment of public-sector technologies for encouraging the use of sustainable energy as well as fostering more innovation. The European states are marked by their use of such innovative devices as the feed-in tariff, a German scheme now adopted by just under 50 countries. The feed-in tariff sees electrical utilities shift the cost of providing long-term market guarantees for sustainable energy to consumers. Consumers see a small extra charge -- a few Euros per month at present in Germany -- and in return foster a thriving renewables sector that is set to provide 45% of Germany's electrical power by 2030. Led by their feed-in tariff, the Spaniards installed 3 to 3.5 Gigawatts of solar capacity in 2008, more than the 2.9 GW total global installed capacity for the previous year.

Most European also countries have Renewable Portfolio Standards (RPS). The RPS is an explicit target that the public sector imposes on electrical utilities. The target mandates that a set percentage of electrical production be supplied through renewable energy by specified years. The Europeans also have a cap and trade mechanism for controlling carbon dioxide emissions by seeking to price them and shift

the burden to polluting firms. This use of public sector incentives to encourage the reduction of environmental harm and the increase of sustainable energy production is the hallmark of the European approach, and is in stark contrast to Japan's voluntarist approach.

As for the United States, even during the heyday of Bush regime obstructionism, the American state and urban levels of government were quite active. There are now 30 states in the United States that have some form of RPS. The professional services firm Ernst and Young, in their most recent and regularly updated "renewable energy country attractiveness indices," list America as the most attractive site for investment, followed by Germany, China, India and Spain. And America is attractive because of its state and urban-level targets, coupled with the use of tax breaks and subsidies. America is also adopting feed-in tariffs. The United States now boasts the world's largest solar, wind, geothermal and other renewable projects. The state of California, has been particularly noticeable in this regard. Between 2007 and 2008 more than quadrupled its production of sustainable energy, largely due to the encouragement of a robust RPS law (33% of power by 2020) and various public sector supports. These supports include such extremely innovative measures as the Berkeley city program that allows homeowners to pay off roof top solar installations through their property tax (the measure therefore overcomes the problem of the large initial investment that is only recouped overtime through significant cuts in utility bills). California also has a very restrictive fuels standard that measures the amount of CO₂ generated in the fuel's production as well as consumption. These measures are spreading throughout California into other states.

One thing the Obama regime seeks is to make these kinds of innovations national. It is also going beyond that by loosening Bush-era restrictions on California and other states, thus allowing them to pursue even more aggressive sustainable energy policies. In these states, one sees the accelerating adoption of public sector policy innovations that have made Europe, especially Germany, Spain and Denmark, the leaders in fostering new renewable energy. The Obama regime is also set to touch off a scientific revolution as it ramps up funding for the Department of Energy, reduces considerably that agency's hitherto strong preference for fossil fuel industries, and coordinates environmental and energy policymaking within the federal

government.

Going National

As is well known, the Obama White House is deeply committed to using the present financial and economic crisis as an opportunity to implement a “green new deal” and reshape America’s production and consumption into more sustainable directions. It may therefore go well beyond the Europeans, who have often used sustainable energy initiatives as a tool for regional development. This was particularly evident in the German state’s use of solar and other renewable technologies as a stimulus for dealing with the high unemployment and obsolete capital of the formerly Eastern European region. The Obama regime, by contrast, has taken the regional development focus and made it simply one more element of a much larger use of industrial policy tools to shift America’s economic structure. The economic stimulus plan as well as the February 26 budget proposal contained very robust fiscal and other measures for enhancing the attractiveness of such new and critical infrastructures as the so-called “smart grid” and thus reshaping power production and consumption nationwide.

So barely halfway through the first hundred days of his tenure as president, Obama has succeeded in reshaping the terrain of the public debate. He has also launched a massive fiscal stimulus aimed at transformative change and has followed that up with an even more radical redesign through the budget proposal submitted to Congress on February 26. The budget is a fiscal blueprint sent to the Congress as a package. It contains controversial measures for reforming the healthcare system, the education system, and for dealing with energy and climate change. All of these are enormous areas of the American economy and federal spending. Health care alone eats up 16% of US GDP, compared to about half that level for the other big OECD economies. Education also consumes about 7 % of GDP, even while most American schools perform poorly. And energy consumption eats up another 10 percent of GDP. In short, the budget proposes a drastic redesign of “business as usual” in about a third of the American economy.

The proposals on energy and the environment are nothing short of historic. Obama proposes an extraordinarily complex regime of emissions controls, stretching

across the economy and exceeding the scale of anything evident in Europe. The budget also proposes the restructuring of fiscal mechanisms from support for fossil fuel industries and nuclear to aggressive support for this to sustainable energy sources. Obama's massive proposal for restructuring the core of the US political economy per se has been declared unwise. Some voices argue that there should have been a piecemeal approach, with the various measures introduced individually so as to reduce the risk of the whole being lost through opposition to its parts. This may turn out, in the end, to be correct. But in the present context, with the gales of creative destruction (and in a large measure, simply indiscriminate destruction) from the rapidly worsening depression at his back, Obama and his team would seem best advised to do as they are. Throwing this document into the disparate milieu of Congress, with its plethora of committees and the rapidly shifting tides of representation for dominant and emergent industries, may very well come to be seen as a stroke of genius.

Keep in mind that there is a core of focused and disciplined leadership within the Congress. This leadership comes from California representatives with their commitment to reshaping the economy of the entire nation towards the direction California has long been moving. In short, there is disciplined leadership standing on empirical fact. This is scientific leadership, in a society undergoing a striking revival of science, and a sharp contrast to the backward-looking, hidebound and religiously underpinned regressivism that has dominated Washington for the past eight years.

The strongest opposition to the Obama programme, in terms of depth of frenzy and stridency of voices, comes from the shrinking core of the Republican Party. This party is without any established leadership. It is bereft of ideas, save for those religious and market-fundamentalist ideas that have driven America to this present impasse. The party is so bereft of ideas and leadership that its strongest voice comes from not within the Congress and not from among the governors of the states, but rather from, Rush Limbaugh, an intellectually bankrupt figure on the talk radio circuit. This noisy fellow has grabbed the microphone, and spouts the nonsense that the base of the party wishes to hear. He depicts Obama as socialistic and openly wishes for the failure of the Obama regime's economic program. This kind of rhetoric is politically disastrous in a recession, as it alienates moderate voters who are

ferently hoping for an end to the skyrocketing layoffs, bankruptcies and other dark news. Most of the Republican elite are deeply embarrassed that the party’s public face is a radio personality who stridently represents the failed free-market, anti-intellectual populism of the past. They have attempted to criticize Limbaugh’s outlandish statements, but the angry reaction from the base has in turn forced them to retract their criticisms. Such is the confused state of the party opposition to the Obama program.

Most of the interests in support of the status quo in the United States are disorganized and weakened through the utter chaos brought on by market fundamentalism. Many of these interests, especially those in healthcare and education, are ready to compromise, since they know that the status quo is unsustainable. The old nationalist rhetoric that the America’s high cost health care is due to high quality and the like is no longer convincing to anyone, especially to businesses that are on the verge of the abyss in large part because of these health care costs. And the status quo in education, where gross inequity of funding at the local level is matched by poor teacher-training and other fundamental problems, is also unsustainable.

For the Obama White House, the most difficult conflict with vested interests is coming in the energy and environmental spheres. There is a geographical split in the United States between those states (and their representatives) that are greening and those states that are not willing to make progress. The split is largely defined by whether or not the state relies significantly on coal-fired electrical power. Globally, of course, coal-fired electrical power is the single biggest source of carbon emissions, the greatest threat to our collective future, and the most difficult policy challenge. America has about 1470 coal-fired plants, which provide about half of US electricity and whose sunk costs represent well over USD 1 trillion in investment. Proponents of “lean coal” technology argue that its CO₂ emissions can be captured and stored underground. But even if this technology ever become available, retrofitting coal plants promises to be very expensive. This cost factor is the main reason that capping emissions is the biggest single source of opposition. Tighter rules on fuel-efficiency and proposed new regulations on emissions levels in fuels also help to broaden the potential base of opposition to include many if not most industries that produce fossil-fuels as well as those that produce goods that consume them (such as car

makers).

In the face of these incumbent interests, the Obama regime's strengths are clear: it has a consistent message on the fiscal and economic reconstruction fronts, and has a strong and disciplined core of support in Congress, as well as business, labour, academe and other sectors. These well-organized interests are well aware that America's national prosperity and global leadership are at risk due to the economic collapse as well as the energy and environmental challenges. They believe that these challenges can be dealt with through the common solution of an energy transformation. They are also coming to understand that fostering new growth industries is absolutely crucial to future growth and prosperity as many industries -- such as the automotive sector, finance, retail, and others -- are shrinking by double-digit rate and highly unlikely to return to their former size. Hence the US elite are beginning to realize that they need demand creation comparable to going to war, but without actually going to war. And many, including venture capitalist John Doerr (a member of Obama's Economic Recovery Advisory Board), argue that the demand-creation equivalent of a large-scale military engagement can be had via a war on global warming.

Representing the status quo, Republicans and conservative Democrats argue that the fiscal stimulus and new programs proposed by Obama are not answering immediate needs. They want to return to the status quo with as small a government and as few new rules as possible. In the midst of chaos, such as rising unemployment and bankruptcies and other fallout from the Depression, they will gain some adherents. They may even gain enough strength to block the energy transformation if the Obama regime continue deferring to Wall Street. But the ranks of the incumbent industries are also split among the few who are adamantly opposed to rules and the majority that recognize that now is the time for compromise for the national and global good (as well as because it is inevitable). These latter are organized through a host of groups such as the PEW Center Business Environmental Leadership Council, which seek to facilitate compromises towards acceptance of putting a price on carbon emissions and drastically reducing them. In the discordant jumble that is American politics, especially in such a deep crisis, one should never overlook the role of the leadership of emerging sectors in pushing this strategy and

in being tied right into the policymaking councils as well as being linked to smart, moderate Republicans. Unless there is a complete social collapse which does not seem to be in the cards, the real issue will be the balance of trade-offs between dominant and emergent industries. And many of these emerging industries are already among the dominant industries, as we see it in General Electric, Google, IBM, and others that are strongly in support of shifting to the infrastructure for an entirely new economy (especially the smart grid, but not only that: they are also strongly in support of massive reform and health care and education).

And what of Japan? The voluntaristic, leave it to the market approach (save when it comes to nuclear energy) has left Japan with a bit part in the ongoing sustainable energy revolution. Japan has an RPS law. But as noted earlier, the target for the RPS law is absurdly small, mandating that renewables supply only 1.3% of total electricity production by 2010 (and 1.63% by 2014). This compares starkly with the targets that are common throughout the American states as well as within Europe. Japan has a few subsidies for the promotion of solar, wind and other renewable technologies. But critical funding mechanisms were sacrificed under the pre-market orthodoxy of the Koizumi the regime as well as the continuing dominance of the Ministry of Economy and Industry (METI), which appears to represent Japan’s electrical utilities and other incumbent industries more than the general interest. Japan also has limited feed-in tariffs and other public policy instruments that have proved extraordinarily successful throughout Europe as well as in the American states. This lack of aggressive public-sector supports is one reason the Ernst & Young “renewable energy country attractiveness indices” lists Japan as 21st¹⁴.

Pushing for Change in Japan

These problems are not unknown in the Japanese specialist debate. The Ministry of the Environment has long been eager to upgrade the country’s targets and subsidy regime. The Minister fought long and hard to get industry’s peak association, Nippon Keidanren, to accept a cap and trade mechanism. Its pressure

14) The May 2009 report is available at :

[http://www.ey.com/Publication/vwLUAssets/Renewable_energy_country_attractiveness_indices_Issue21/\\$FILE/Renewable_energy_country_attractiveness_indices_Issue21.pdf](http://www.ey.com/Publication/vwLUAssets/Renewable_energy_country_attractiveness_indices_Issue21/$FILE/Renewable_energy_country_attractiveness_indices_Issue21.pdf)

finally secured a highly compromised trial mechanism last fall. The Ministry also leaned on PM Aso to adopt a Japanese-style Green New Deal, and managed to get the latter's attention when the Obama regime's intentions became too obvious to ignore. One possible outline for this Japanese Green New Deal was published online by the ministry on February 10 of 2009, via uploading the Committee for Deploying Renewable Energy to Achieve a Low-Carbon Social Structure (a committee of the Environmental Ministry) submitted a proposal arguing that Japan must make haste in order to catch up with the major industrial countries in moving towards a low-carbon society¹⁵⁾.

Among other things, the proposal emphasizes that via fostering renewables: 1] Japan could make a contribution to a low-carbon social structure; 2] Japan could help in diffusing low-carbon technologies to developing and other countries; 3] Japan could enhance its energy security; and 4] Japan could create employment, boost domestic demand, and increase its international competitiveness.

The report also warns that Japan needs to adopt public-sector mechanisms in order to catch up to the major industrial countries. It notes that Japan's installation of renewables since 1990 has barely increased, and that Japan's current targets are the lowest in the world (the report indeed emphasizes this fact in bold lettering).

The report argues for robust renewable portfolio standards, feed-in tariffs, and subsidies in order to foster renewables and bolster the market mechanisms for achieving scale. The report laments that Japan's current renewable portfolio standard is a miserly 1.6% by 2014.

However, observers report that this proposal confronts the strong opposition of the economy and industry Ministry as well as other vested interests, and therefore it is unclear the extent to which it will be reflected in national goals. Vested interests concerned about the cost of renewables as a source of power supply as well as potential loss of jurisdictional and political influence to the environmental Ministry offers sufficient incentives to block these initiatives.

15) The proposal is available at : http://www.env.go.jp/earth/ondanka/conf_re-lcs/rcm.html

How the MITI Have Fallen

One of the major problems in the Japanese context is the dominance of METI by people who are captured by the utilities. This is regulatory capture in an almost pure form. The utilities are for various reasons not willing to understand the potential for sophisticated technological advances, especially the smart grid. Hence one finds the bizarre situation in which the rest of the industrialized world has a core cadre in the state, big business and the political world that have been focused on promoting the smart grid for several years now, whereas in Japan there simply is no such concentration. If there were such a core cadre, the METI administrative Vice Minister make a fool out of himself by declaring that the smart grid is of interest only to the Americans because they lack a robust electrical distribution system like Japan, and hence suffer frequent blackouts and brownouts. This is complete nonsense to anyone who understands how the smart grid actually works and what the concept means. It is complete nonsense, again, to anyone who understands how widespread is the effort to develop the smart grid. But aside from a recent subsidiary role with the Americans, Japan is not deeply involved in developing the software and hardware for the smart grid. This lamentable fact means that Japan continues to slip behind its competitors. These are the industries of the future, and they are being built right now. As the rest of the economy, especially the manufacturing sectors, the financial sectors, the retail sectors and so on suffer wholesale damage from the increasingly dire economic recession of 2008 2009, these industries are where future growth can be expected.

Consider what the Japanese utilities are prepared to sacrifice in order to maintain the status quo (through which they are able to limit the capacity of challengers to enter markets). Google and IBM are scrambling to get into the development of the software for the smart grid, because they know that the smart grid is going to be a major growth sector (or at least they expect this to be the case, with very good reason if one looks at activities in the United States as well as Europe, China, India, and etc.). The Japanese utilities are ready to forfeit the interests of the software developers, and this is puzzling. It is puzzling because the software developers should have enough influence within the councils of power to

prevent this kind of full-on suppression of their own interests. The software developers should have enough power within Japan to be able to force utilities to accept some kind of compromise. This appears to have been the case elsewhere, such as in the Canadian province of Ontario, which recently introduced an extremely progressive regime for fostering sustainable energy (in spite of having an extraordinarily backward policy up until last year).

So how does one explain why Japanese public sector mechanisms and corporate level action used as it is? Surely the main problem is the fight between emergent industries versus dominant industries (especially the nuclear producers) as well as those committed to clean coal and natural gas fired power. These industrial sectors want to stay at the head of the line when it comes to budget allocations for energy development. They also want to stay in charge of the markets that they dominate. To compromise is to forfeit some market share, and firms do not do that unless they are forced to. That's what the word compromise implies. So the really odd fact is not the dominance of the vested interests, but rather the weakness of the emergent industries. Those emerging industries are weak not in the sense of being undercapitalized or having only a small presence in terms of numbers of employees and other indices. Rather, they are underrepresented in the councils of power. They have latent power, due to their size, but they don't use or don't organize and emphasize that latent power. And it would appear the reason is that they have had access to overseas markets. Keep in mind that Japanese firms, such as solar producers, have been using the European Union's and the Americans' mechanisms for fostering diffusion of solar technologies as a source of income. Geothermal producers in Japan also have very little activity on in the domestic market, especially in the development of critical new technologies, but they are still able to find business overseas. So perhaps it is the case that they have simply given up on attempting to shift the structure of ideology and institutions inside contemporary Japanese politics. And if that is the case [and the very low figure for the RPS target would suggest it is the case], then it is testimony, evidence of how ossified political institutions in Japan are. It is not simply that the pork-barrel crowd have kept their hands on the levers of power; it is also that the free market reform is manifest in so many central agencies and the old-line industries, is also unwilling to shift with the times. One extremely important point in this regard is that it was former Prime Minister

Hashimoto who sought to secure an appreciable RPS target. He and his group of diet members were defeated in this venture by a collusion of interests including the economic ministries and the Ministry of finance.

Japan now plays catch-up, but with stretched fiscal resources and a public unwilling to bear new costs. They have had most of the costs imposed on them (eg, via recycling and etc) and are constantly hectored to cut power consumption. The nadir in this is the government’s “Team Minus 6%,” which energetically and quite pointlessly urges everyone to cut one kilo of carbon per day. The focus of policymaking needs to be on setting rules via the public sector, in order to foster new growth industries. But the incompetence over the past few years has glorified voluntary commitments, personal restrictions and nationalist rhetoric in place of a sober assessment of real and productive policy options.

How Bad is it?

June of 2009 saw the Japanese economy in deep trouble, and perhaps on the road to worse. Certainly there remains considerable “green shoots” optimism concerning Japan, just as there is with the United States and elsewhere. Perhaps in consequence, results from surveys of consumer confidence and economy watchers (ie, barbers, taxi drivers, and others on the front lines of the service sector) show a continued climb from lows reached late last year. But most of the data suggest that Japan’s economic prospects are unlikely to improve in the foreseeable future. And the risk of further contraction, as well as political instability, is both considerable and increasing.

Let’s look more closely at the scale of the economic bad news. Much of it can be found in the Bank of Japan’s monthly release on the real economy¹⁶⁾. The data show that the first quarter of 2009 saw Japan’s economy shrinking at an incredible 8.8% rate. Moreover, the compression in trade continued, with a further 40% fall in Japan’s exports. Overall, the Japanese economy’s output of goods (mining and manufacturing) in May was 29.5% lower than a year earlier. This figure was below

16) <http://www.boj.or.jp/type/release/teiki/sk/data/sk4.pdf>

the peak 38.4% decline of February, but marked only a marginal improvement. More recently, the labour market data (released on June 30) indicated that the ratio of job openings to applicants plunged to 0.44%. This is the lowest level since 1963, when survey data began being collected. New job openings correspondingly dropped (in May) by 34.5%. It's no surprise, then, that wage and salary income dropped by 2.9%, with summer bonuses projected to fall by 18.3% (another record-setting dismal result). Perhaps this shrinkage in income will further worsen retail sales, which dropped at a 12.1% rate (department stores) in May. In June, the domestic corporate goods index (which measures wholesale prices) fell a record 6.6 percent, a sharp drop from the minus 0.3 percent decline recorded the month before. Observers expect the decline to increase, breaking through the 7 percent level during the next few months. Such deflation is likely to encourage further reluctance in business investment, already in double-digit declines since October of last year.

Brad Setser also argues that Japan is not benefiting much from any of the massive stimulus going on in China¹⁷⁾. Like most other places, the United States included, Japan is waiting for others to recover and then ride on the opportunity. This is like betting on a lame horse, or even one destined for the glue factory. Exports are not going to pick up in a new order that the Institute of International Finance depicts as one marked by "home bias" and "the fragmentation and disintegration of the global financial system."

So how daunting are Japan's problems? Note that Carl Weinberg of High Frequency Economics argues that the Japan problem should be high on the list of issues for the July 8 G 8 Summit. It was not, of course, because the global problem remains unresolved and likely even to worsen in the short run. But Weinberg argues persuasively that Japan confronts challenges of such scale and is so important to the global economy (as well as US public finances) that it is likely to be the big issue of the next decade. In June, Japan's foreign exchange reserves fell by USD 4.84 billion (to just a smidgeon over USD 1 trillion), due to a decline in its holdings of US Treasuries.

17) <http://blogs.cfr.org/setser/2009/06/24/where-is-the-spillover-chinas-stimulus-isnt-doing-much-to-support-japanese-demand/>

What is particularly odd in the Japanese case is the fact that energy remains at the margins of the public debate over economic policy. No country is doing perfectly in this respect, of course, but if one looks at the rise of the geo-greens in the United States as well as the enthusiastic embrace of renewable energy by the German business community one has to wonder what is going on in Japan.

The Larger Context

It has been a very long and eventful year since the mid-September plunge into the global financial crisis. Among other things, the interim has seen the US fiscal and financial authorities expand their various loan guarantees and other supports to USD \$13 trillion, an hitherto unimaginable number. Indeed, as the April 29 Financial Times notes, in reference to Germany's projected economic contraction of **6 %**, a postwar record and nearly thrice the January projection of a 2.25% decline, "a striking feature of the financial crisis is how once-barely-thinkable numbers have lost their capacity to shock." We can expect more such numbers as default rates on commercial property loans, credit card loans, car loans and other assets follow the grim upward march in unemployment. But we may be in store for truly shocking numbers, even for our jaded eyes, as the rotting of perhaps USD 12 trillion in toxic assets proceeds and wreaks havoc on financial and fiscal structures around the world, but perhaps especially in the EU.

At the same time as we watch the depressing performance of economic indices, we also witness an increasingly sharp resolution of the differences between dominant and emergent industries. All industries are in a protracted fight over access to state support and other elements of the public agenda. In the United States, the fight is geographical too, as the debate over the cap and trade law pits coal-producing coal consuming states in tension with the state to have more renewable capacity installed or the promise of increasing it rapidly. The fight over the stimulants also reflected this, in that dominant industries do not want to see the stimulus views to shift the industrial base. This is a feature of virtually all countries' politics, if one looks closely enough. There is even in her emergent struggle between interests that would move to an electric car as rapidly as possible versus those that are inclined to move, but with more trepidation due to the risk of eliminating their extant production capacity in the

event that the shift is rapid. In short, most established producers do not want to put their existing production lines of business. So they are inclined to take some time in making the transition. However, producers in China for example do not face the same kinds of a structural problem of. To the extent that China is capable of producing cutting-edge automotive technology, it constitutes a serious threat in this regard. China has the capital, human resources, and an enormously deep market.

In attempting to look at the outlines of what is likely to happen over the next several months or couple of years, one has to know first of all that demand is a serious problem. The collapse of the financial industry has produced a lot of difficult problems. Foremost among them, or at least one of the most difficult problems, is the enormous construction of the flow of credit to consumers. The debt bubble is being worked off as consumers scale back their consumption. That is particularly true of the United States, but not only the United States. In consequence, we see the unprecedented drop for demand of such products as steel and other basic commodities. Demand for steel is projected, for example, to drop by 15% in 2009. This drop is simply without precedent in since the end of the second world war. How to get this demand back, and whether to seek to have it within the economy that existed up to 2008 are the big questions. The unsustainable (environmentally, financially, and so on) economic structure needs to be shifted but at the same time is a nest of vested interests. In consequence, we have the fiscal authorities in the United States for examples seeking to on the one hand to drive recovery even as they seek to drive an industrial transformation. In part this is because they have to work within the present economy, but it is also it a product of the fact that politics dictates this approach, since so many vested interests are represented within the fiscal policymaking process. Japan is not all that different in this regard, save for the fact that it lacks a such a strategic leadership as we see is with the Obama regime in the United States.

So, looking into the future the big question is where the demand is going to come from. And if that demand does not arise in sufficient quantity, then we are likely to see a continuation of the recession/depression, as well as an exacerbation of the political and other difficulties that are among its consequences.

At the same time, never forget the role of the unexpected. The emergence of the swine flu threat is one potent example. The risk of terrorist action, piracy, and other kinds of disruptive events is always present, of course, but particularly so in times of increasing economic hardship and the political instability that it tends to foster.

As we look out over the short to medium term, it is clear that very few observers are looking at energy and in comprehensive terms. The debate over energy centres on whether to remain with cheap sources, such as coal, that have massive environmental damage, or to shift to higher cost sources, especially renewables, that on the one hand promised a green revolution (whose positive externalities in employment and elsewhere are debated intensely) but on the other hand might cost more at least in the short run. Again, what is missing from this debate is awareness of how precarious is the supply of fossil fuels. The global community went through a startling price spike in the oil markets last year, such that the per barrel price of oil skyrocketed to about USD147, but this is now largely forgotten. Most observers appear convinced of that fossil fuel prices are not at all likely to intrude on the policymaking agenda over the next while. They are convinced that supply capacity is if anything increasing in the face of declining demand.

Perhaps this is in part due to the curious structure of incentives that confronts dominant industries in the sector. Cambridge Energy and other agencies, including the International Energy Agency, on the one hand warning about a drop in investment in the sector, but on the other hand are certainly keen on making sure that it does not lose market share. So they are interested in as one would expect downplaying as much as possible the risk of a serious problem emerging in the short run. That is perhaps because to offset the risk of a serious problem in the short run, one could invest heavily in renewables. A focus on renewables is likely to boost supply much greater than a focus on fossil fuels, since exploration and development of new fossil fuel resources takes considerable time. So the oil and gas industries warn about problems arising in the medium term, especially about 2013, whereas a somewhat more objective -- perhaps -- appraisal might suggest that the short-term could see a serious crisis. Spare supply capacity, although large in historical terms, is only about 5 million barrels per day out of the command level of about 82 83,000,000 barrels per day. That is not a huge margin. It is not a huge margin because demand overall has

dropped, but only by 2-3%. Moreover, we are not where we were at 2-3 decades ago or even a decade ago, when new supply was ready to hand. Even the producer industries themselves recognize that new supplies are in increasingly difficult and expensive areas. The promise of supply from the rack, for example, is simply not appeared. Another difference between now and the past is that we have virtually every significant economic power in the world sizing a recovery of its automobile sector, through fiscal stimulus packages that promote the purchase of new automobiles or the trade in of old ones. Though many of these packages and stress more fuel-efficient cars, we have to be concerned about the rebound effect.

Conclusion

We need to find sufficient and sustainable demand in a collapsing global economic order. The last time the world experienced anything like the current crisis its resolution came through global war. That kind of Keynesianism we can do without, but we risk drifting in that direction if we don't act intelligently. Our collective challenge is to foster sufficient sustainable economic demand to pull the global economy out of its current plunge into depression and the attendant political and social chaos. Energy and environmental policy must be at the core of this global project.

If what needs to be done is so obvious, then why is it necessary even to state it? The answer is vested interests. At USD 6 trillion in transactions annually, energy is the world's largest single business. And it is dominated by the fossil-fuels sector, which accounts for 85% of supply. Costing carbon means shrinking the market share for these producers, as it makes alternative and sustainable forms of energy even more competitive. This scenario is something the oil producers, in particular, and their allies are loath to accept. That is why looking at each country's debate over what this crisis is, as well as how to resolve it, affords a real-time view of how the fight between incumbent and emerging industries plays out in varying institutional contexts. A great many voices within the United States, for example, insist that the Obama regime is unwise to emphasize an energy and environmental shift. They argue that of fundamental importance is reigniting demand now, and that we should only consider longer range goals afterwards. In short, they argue for a return to business

as usual. Many of the voices that argue this line from within Congress, for example, are representatives of states in which the primary means of generating electricity is the combustion of coal. Coal-fired electricity contributes the largest share of America's emissions of carbon dioxide, and is the single greatest threat to global warming. A similar mindset is evident among those who argue that fuel-efficiency targets for Detroit are unwise, and best left to some future time. They too are seeking to return to business as usual and thus avoid any fundamental change in the context of crisis. They portray themselves as reasonable, as offering achievable, short-range goals and insist that the effort to restructure in the midst of crisis is unrealistic and dangerous.

Of course, if one believes that the business as usual is not problematic, then this approach makes sense. To believe that business as usual is both responsible as well as possible requires, however, ignoring a great deal of evidence to the contrary. For one thing, it is indisputable that business as usual is leading to dangerously accelerating global warming. Moreover, the resource requirements, especially in the oil sector, of business as usual are outstripping the capacity to supply them. Indeed, during this financial crisis, supply capacity in the oil sector has been declining such that a return to the last year's levels of demand would likely drive energy prices well beyond the spikes recorded in the summer of 2008.

Is it realistic to look at the energy sector as a source of new demand, sufficient to pull us out of our current crisis? Again, energy is a huge industry, totaling about US\$6 trillion per year or somewhat more than 10% of global GDP. The scale of the energy industry, and the market share held by fossil fuels (85%), gives some indication of the incentives confronting incumbent industries in this sector and those they are linked to. The big energy firms, especially Exxon, the perennial profit leader among US corporations, have virtually no interest in pursuing sustainable energy policies. They have even pulled out of most of the investments that earlier sought to give a greenish cast to their business. They are hunkering down for the hard fight to block emissions caps, carbon taxes or other mechanisms to control environmental damage that could eat into their profits. They are at the peak, perhaps, of their market share, and they are fully aware that any change in the status quo is almost certain to mean shrinking market share for them. Allied with them are industries

whose production processes are carbon intensive. They, too, understand that their costs are likely to increase the more they compromise on pricing carbon. Their stance is one of seeking to contain these costs by blocking moves towards sustainability. For some of us, of course, this seems a somewhat more stark matter of do or die. If that sounds extreme, note that James Hansen, director of NASA's Goddard Institute for Space Studies and one of the world's foremost climate experts, refers to coal-fired power plants as "death factories."

In short, this is a year in which a great deal is riding on whether a new Japanese leadership uses smart policies and amazes us all with another miracle. A Japan which faithfully followed the United States into the maelstrom of wars in Korea, Vietnam, Iraq and Afghanistan now has the opportunity to join hands with a US administration which recognizes the primacy of combining economic recovery with sustainable energy and environmentalism.