The U.S. Must Have Nuclear Energy

by Lyndon H. LaRouche, Jr.

*[Published in **Executive Intelligence Review**, Volume 6, Number 35, September 11, 1979. View PDF of original at the LaRouche Library.]*

*On July 31, **Executive Intelligence Review** and the Fusion Energy Foundation co-sponsored a conference in Chicago, Illinois on "Energy and the Science of Economics." In attendance were 50 political, business, and engineering leaders from a half-dozen Midwestern states. Addressing the conference, from the Fusion Energy Foundation, were Midwest Director Mel Klenetsky and Director of Research Dr. Uwe Parpart. Keynoting the event which was held at the Continental Plaza Hotel was Lyndon H. LaRouche, Jr., a contributing editor of **Executive Intelligence Review**, who has declared his candidacy for President of the United States. We present below, with minor editing, the text of LaRouche's address.*

I shall situate the question of nuclear energy and related matters of energy policy within the appropriate context. Nuclear energy is obviously necessary. We haven't got a chance in the next century without it, but the possibility of realizing it and the function to which we apply it depend upon the economic environment. Otherwise, it doesn't function.

Without credit, without capital, you can't go with your plan. It's fine to talk about nuclear energy, but if you don't have the capital and credit to build a nuclear plant, and if you have an Environmental Protection Agency which prevents you from building it, then you're not going to have it, no matter how much you argue for it. The question is: Can we turn the United States, together with other nations which will ally with us for that purpose, to creating the kind of monetary order which generates the low-borrowing-cost credit and accumulation of capital necessary to develop, not only nuclear energy and related fields, but the other kinds of capital investment which will utilize that nuclear energy?

I will indicate what the solution is in that sense, in order to situate how I see the nuclear future.

Replacing the IMF

If I were in the White House today, inaugurated, I would undoubtedly receive a call from the Elysée in France, from President Giscard d'Estaing, and he would ask me, "Have you been sworn in yet?" If I said yes, that would immediately give the world a new world monetary system, replacing the International Monetary Fund and World Bank, which would

be quickly pushed to one side as irrelevant. The new monetary system would be based on the existing European Monetary System (EMS) proposal's phase two, which is called the European Monetary Fund. Under that arrangement, since the new EMS is gold-based, the EMS—or the EMF, as its credit-creating central bank facility—can generate 25-year, 2-to-3 percent yield gold-denominated bonds which will be purchased by holders of dollar credits among central banks, large corporations, and principal commercial banks abroad. That means that these banks and corporations will now own gold-based bonds, which have only a 2-to-3 percent yield. Well, that's fine. They are very competitive to 15-to-20 percent bonds in floating markets today.

Anybody who would go and buy a 15-year bond, or even a 10-year bond, at 15 percent in a floating market ought to have his head examined, because the rate of inflation is double-digit. In fact, the *underlying* rate of inflation is already 20 percent or higher, which means that at 20 percent interest the bankers are losing money; and by 1981—if you try to finance under the present IMF system—we're going to go to *triple*-digit inflation! Because under the present Carter and Haig and Connally policies, the curve of economic activity will plunge downward somewhere in the last quarter of 1980 or 1981. It might go down sooner, because these fools keep doing things that make the economy worse than it would be otherwise. So, a 2-to-3 percent gold-denominated bond is inflation-proof; therefore the holder of the bond has got *something*, whereas if the holder of a bond in a floating market is getting 15 to 20 percent yield, on long term, he's got nothing—he's got a loss.

The buyers of these bonds, as I said, will not generally be individuals; that doesn't function, it's a mess, so we don't encourage that sort of thing. The buyers of these bonds will be central banks, large commercial banks, and industrial corporations, which are at present holders of large overhangs of dollar debits. They're going to get this overhang off their books, and turn it into something useful. A gold-denominated bond, which is rediscountable within a gold-based monetary system, is a means by which lending institutions and large corporate entities can generate credit *for purposes of hard-commodity trade and investment*. That's one restriction that's going to be put on it.

That means that we have accumulated immediately, under that arrangement, several hundred billion dollars' worth of liquid liquidity controlled by a central facility which will probably be the FECOM or some international bank allied to the European Monetary Fund, which can be loaned out at rates going from 3.5 to 4 percent as prime rates—which is what you have to have for long-term credit for the developing sector. This means that the so-called Lombard rate within that monetary system is between 5 and 6 percent.

We're going to have a very conservative Congress if I get in, which I intend to do. The first day, we'll have an authorization bill which will immediately take the United States and

distinguish us from a commitment to the IMF and its huge surveillance authority. We will immediately participate in the European Monetary Fund—together with the EMS members, and with Japan, Mexico, and a number of other developing countries including the Arab Monetary Fund, which will also come in. We're going to have the economic monetary pie in the hands of this alliance. Anybody who tries to buck us is going to be crushed, because we're not going to see the human race go down the drain simply because somebody else has a "different opinion." I'm not a liberal; that should become clear.

Secondly: on the first day of assembly, just to get itself organized, the Congress will give me a capital authorization for the Export-Import Bank, increasing that to an authorized capital limit in the order of magnitude of several hundred billion dollars. The Export-Import Bank will now function as the U.S. central banking institution, which mediates the nation's relationship to the European Monetary Fund, the FECOM and so forth. That means that just as we organized war contracts in World War II, we can turn the economy around. Every export order which is stamped by the Export-Import Bank, and every subcontract generated off the primary export order, now becomes subject to credit, all the way down the line to the guy in East Oshkosh who needs a machine tool to produce his part of this export contract as a sub-sub-sub-sub-vendor. He gets not only the operating capital, as we did during World War II, to produce for this contract; if he needs to purchase a machine tool or some other device in order to give himself the increased capacity to deliver on the contract—and if the local bank thinks he's a reliable investment—the local bank calls up the Export-Import Bank and automatically gets backing from the Export-Import Bank for loans at a base between 5 and 6 percent for operating capital and long-term investment.

Now we just watch the Federal Reserve system shrink while we channel the great weight of government-generated credit and foreign-generated credit through the Export-Import Bank, which becomes—due to such a devil as myself—the Third Bank of the United States. We'll let the Federal Reserve system shrivel, because the volume of credit—this nice low-borrowing-cost, gold-denominated credit—is going to flow back to East Oshkosh through the Export-Import Bank and the country banks. The New York banks are just going to have to beg to get in on the racket.

As for the Federal Reserve System, someday we'll say, "What are we doing with that antique? Can we sell it as an antique to some historical society?" Maybe we'll give it to the Smithsonian Institution. We don't need it! But, we can't throw it out right away, because that would cause a monetary shock, and we don't want to have monetary shocks—they get people all upset and so forth—but we're going to phase it out.

A Rational Tax Policy

Internally, the Congress—also during the first 30 days—will give me a new tax policy. The tax policy will have three primary elements. Number one: We are going to get the federal government out of taxing basic household income. We cannot do it all at once because our tax and fiscal structure will not stand it at this moment; but we have to commit ourselves to a policy such that, for example, if the basic income requirement of a household of a family of four is $22,000, the policy of the federal government is *not to apply a federal income tax to that income*.

In the meantime, we'll take the federal government out of the business of coming down and sending a social worker to help people do their shopping. Anybody who is intelligent enough to acquire money is intelligent enough to know how to spend it! They don't need a social worker to advise them. We're going to close down a lot of the social work and sociology departments—by free-enterprise methods! There just won't be any jobs available and that'll end that. We don't need those people. We're going to give them honest jobs—working in factories, where they produce something, instead of running around like a bunch of useless talking parrots! We'll make them become human.

For the second part of the tax policy, once we establish that as a principle—which we're going to get to stepwise, as fast as we can increase the tax base—we're going to have a very high tax rate, very high. *But*, we're going to have some lovely exemptions!

We are going to base depreciation amortization not on the historical accounting cost of a past purchase of plant, equipment, machinery, and so forth; the depreciation of equipment, or amortization of investments, is based on the cost of a *competitive* replacement. In other words, if you bought a buggy whip, and you're depreciating the buggy whip—now that buggies are out and automobiles are in—what in the devil is the sense of amortizing the original purchase price of a buggy whip? It's useless! As technology shifts—and technology is going to shift very rapidly—it's useless to say to someone: "You can get an accounting credit for the machine tool you bought 20 years ago"! That kind of machine tool, only a lunatic would buy today! He wants a *modern equivalent*.

Therefore, the amortization and depreciation policy must be based on replacement in terms of the competitive, modern technological equivalent, right? We're going to have a very high accelerating rate of depreciation and amortization, which creates a tax shelter, but also, as the depreciation runs out, the income becomes taxable. Therefore each firm now has to race against time to come up with more technology to get more profitable depreciation, to buy depreciation amortization; which means that we have changed the nature of incentives, to force the flow of capital, credit and savings into investment in high-technology production.

In the meantime, the fellow who's out there building casinos with Max Fisher in Detroit as a replacement for the Dodge Main plant which has just gone, and the Chrysler Jefferson plant which is about to go—that fellow is going to find that the full weight and burden of the lovely high rate of federal taxation is going to come in and take his income, or a large part of it; whereas the person who is investing in productive activities—buying tools and so forth—is going to find himself with a lovely depreciation rate.

Then we're also going to supply, in the same vein, tax credits. I'll come to an example of how we're going to use that in the future. But at this point, in those areas where a private interest is willing to make the expenditures—such as research and development expenditures—which obviate the need for the federal government to do it, the private industry ought to get a direct tax credit for that specific work. That's the way we get a lot of things done; that's the way the Elizabethans conceived setting up this capital system, and that's the way we are going to run it.

Third World: The Market of the Future

How are we going to deal with the Third World debt? Our market is the Third World. That's the market of the future. We do not have the rate of growth and technology necessary to keep the so-called industrialized nations prosperous and healthy. We don't have enough technological progress. We have too few scientists and engineers; we have insufficient R and D; our machine-tool industry virtually does not function—it's been run down since 1966; everything we can call high-technology capital goods has been seriously afflicted. We could no longer put a man on the moon the way we did ten years ago—we have destroyed the industrial capacity, or a large part of it, to do that.

So we do not have the rate of industrial progress being generated to make the economy go. The only way we are going to make the economy go is by exporting high technology. We take an urban worker in India or in Mexico who is now producing 2,000 or 3,000 or more a year in tangible output, and with his culture, and with machine tools, we increase his production an order of magnitude. When we transfer existing levels of high technology from the industrialized countries to those countries which are operating in fact on a low level of capital intensity, we are creating leaps in the rate of gross world product. Those leaps in product are the means by which to finance the export of capital; those leaps in product also increase the world market, so that instead of dealing with trying to share out a shrinking world market, we're taking up a policy to expand the total world market for hard commodity product

For example, India. India today has a population, in terms of urban labor force, of 54 million. Within the next 10 years their urban labor force, skilled or semi-skilled, will

reach in the excess of 100 million. In terms of urban labor force, the nation with the largest number of qualified nuclear scientists and engineers among its nationals is India! In the medical profession, our hospitals on the East Coast would collapse without Indian and Pakistani physicians. Without Indian and Pakistani scientists and technicians, the British nuclear industry would collapse! The German nuclear industry would be affected; the French and Italian nuclear industries would be affected; and the British medical system would totally collapse—because the British doctors don't provide medicine anymore, they emigrate! It's the Pakistanis, in general, who provide the medicine. And the same thing is true at many of our hospitals in this country. You have the third-largest population, in general, of scientists, engineers, and related categories of profession, in India.

So India is not an underdeveloped country; it's a country in which development of the population at one end and massive, hideous poverty at the other end are in violent contrast. But you have a labor force which is expanding. A qualified, highly educated labor force—better than in some parts of this country, better than in parts of Europe—is sitting there, producing 2-, 3-, 4,000-a-year or less, only because it lacks the capital goods to produce more. Thus any intelligent investment in India can increase the rate of production per capita in the effective population, the effective section of the labor force, by an order of magnitude!

Who ever heard of such rates of profitability, such leverage of technology? We have that available—and if we use it properly, we'll develop over the next 50 years the rate of growth in science and technology so that once these developing countries, as we call them today, come up to some kind of parity with the advanced sector, we'll have the rate of scientific and technological progress which will make the world continue to function. But we must use this interim development process as a way of getting the world economy in line, so that 50 years from now when we've brought the Third World, so-called, up to parity with the industrialized sector, we'll already have the take-off point for the next phase in world economic development.

As for the debt of the Third World, that's no problem. All I have to do is freeze the IMF and World Bank. They're of no account, and whether they pay their debts is of no importance, at least in the short run. The IMF and World Bank owe their money to governments; therefore you can freeze the IMF and World Bank and it does not affect the private banking system at all. The problem area of Third World debt is the commercial banking debt.

Now, why do you do this—why do you put out 1.5-percent loans, 25-year term, fixed lump sum payment in 25 years, with no money to be paid for 25 years? Well, we've put them within the EMF system; therefore they are gold-denominated for payment 25 years hence, assured. There's no problem in paying 25 years hence, provided we have the economic development in these countries to enable them to readily pay that amount in 25 years. The

important thing is not paying 25 years ahead, that's not the issue. The issue is that our commercial banking system, worldwide, has at present a tremendous overhang of commercial debt, of marginal, dubious debt, or debt which is in danger, or debt which has a very poor yield. They have a difficulty in refinancing that debt, because the developing sector cannot pay 20 to 25 percent on refinancing; and if they refinanced at 5 or 6 percent interest, somebody would have to pay for the difference between that and 15 percent interest.

Therefore, as in the case of Deutsche Bank, the German banks no longer have the ability to lend in the Third World, or lend for development, because they're so choked up with worthless U.S. dollars—about 40 billion or so—which they bought to support the dollar that Blumenthal was trying to sink and because they're loaded with this commercial debt. How do we solve this problem? Our banks are in a similar situation, those that participate in Third World debt. They're loaded with an overhang of virtually non-negotiable paper. Well, it's very simple: We give them gold-denominated, 25-year maturity, 1-to-1.5-percent bonds. Someone says, "But they can't get any money on them." Ah, wrong! They can discount them within the international monetary system to secure credit to loan.

The Role of the Export-Import Bank

The problem is that we have to freeze this debt without destabilizing the banking system. We cannot go into the banks and pull out whole chunks of assets and say they're worthless, without collapsing the banking system. Therefore we give our banking system an asset which has no yield in the short run, or in the medium term, but 25 years from now has a gold-secured payment. In the meantime, that asset can be discounted and rediscounted for the purpose of putting actual credit into the banking system.

How does the bank get the credit? Well, the bank says, in the United States: "I have an Export-Import-stamped sales contract, export contract, or investment contract. I want to lend money—as a country bank would—to this producer. I need some capital for it." And we say at the Export-Import Bank—not the Federal Reserve, but the Export-Import Bank—"All right, fine. We will act as intermediary to discount this bond—one of these 25-year bonds at 1.5 percent—and we'll discount it at another half percent, or 3/4 percent. We, in turn, will rediscount it with the European Monetary Fund, the central banking system."

So we have a controlled mechanism of credit whereby we put low-borrowing-cost credit into the economy for the purpose of anything related to high-technology capital goods export or related investment. This in turn develops within the economy the secondary flow of credit, through the private banking institutions, which takes care of the follow-on of domestic investment to our capital goods export investment.

A Two-Phase Nuclear Program

In this country, the nuclear program is obvious. We have about 68 plants or less functioning now, certified or to be certified. We have 120 nuclear plants in various phases of construction. Anyone who's talking about jobs but who is not supporting completion of construction on those 120 nuclear plants is a phony. The only thing that has propped up employment in this country, with everything else sliding off with high interest rates, has been nuclear construction!

Pull the plug on nuclear construction, and you're going to destroy the whole construction field in this country. The export construction field now is virtually dead. Bechtel, Turner, and others are practically out of business, because their markets overseas are finished.

Those 120 plants under construction are the gut of employment or unemployment in this country—and we need them! People talk about productivity in the construction field. But productivity in that field is a matter of whether you're doing labor-intensive, relatively, or capital-intensive construction.

If you're doing heavy engineering, if you're engaged in series-type production and installation of plants, then we introduce modern technology and methods into construction. In that case, you have high-productivity construction. If you're hiring people to rebuild hen-houses by labor-intensive methods, then you have low productivity in terms of construction.

That is the gut of our entire employment question. And anybody who does not say, clearly, "We are now going to complete, within the next four-and-a-half years, 120 nuclear plants now in various phases of construction"—that person is a phony. Otherwise, the rate of unemployment will rise and stay high. We are headed toward something worse than the Great Depression of the 1930s unless that kind of thing is done. Without the energy, without the construction, we cannot make this country function internally.

We need, obviously, 1,000 gigawatts by the year 2000 in additional nuclear energy. We've got to have it—there are no two ways about it. It doesn't mean just light water reactors; it means, to the extent to which we can bring them on line, breeder reactors, our own breeder reactor program. We should have the equivalent of the French Superphénix program; we should develop a fusion-fission hybrid program—develop the whole range of technologies. It means, also, as fast as we can do it, bringing fusion online as part of the overall spectrum of what we can call categorically nuclear energy. With that, we should aim to supply over 50 percent of our national total energy needs directly from electrical energy or processed heat, supplied from nuclear processes.

The second phase of our energy program in the United States has to be rapid conversion to hydrogen and hydrogen-based fuels, to phase out the use of petroleum and coal as fuels. We have two problems with petroleum and coal. There is no shortage of either; however, we should not continue to use them as fuels.

There is probably three times as much petroleum available to us in the world as anybody is admitting. We probably have enough petroleum to get well into the next century on the basis of present parameters of petroleum consumption. We should not convert to coal; that's idiocy. The environmentalists are the biggest idiots in the world—how much carbon dioxide do you want to put in the atmosphere? Do you know the pollutant effect of coal liquefaction? The pollutant effect of coal gasification? The energy inefficiency? It is insane to tell a utility company which has now converted to petroleum to convert to coal for conservation reasons. Utter nonsense! It's economic nonsense; it's monetary nonsense; it's engineering nonsense; it's scientific nonsense; it's environmental nonsense! We should not be burning coal, in any case, by old technologies, except in the case where we are continuing to do so until we can replace them.

We should continue to burn petroleum because there is plenty of it available to us—we can have all the petroleum we want over the next 10 to 20 years. There is no need for conservation; there is a need for exports.

We can import all the petroleum we require, provided we are exporting to pay for it, as in the case of Mexico. Mexico is or was willing to give a trade-off to us: high technology for oil. Mexico would increase its petroleum production by two to three million barrels a day per year. It has as much oil as Saudi Arabia. The entire Caribbean is loaded with oil. There is no limit to the amount of oil available, in terms of present consumption parameters. We could pay for it by exporting high technologies. But that's not the point.

We should be using our petroleum and coal as *petrochemical* resources. There are hydrocarbons in petroleum. Natural gas is useful for producing plastics, pharmaceuticals, fertilizers—why not use it that way? Coal is also essentially a raw material—*why burn it up?* That's very wasteful. It was all right when we had to do that, but we don't have to do it anymore, at least not over the next 20 years.

We talked to a friend of ours in West Germany who was the developer of the magnetohydrodynamic (MHD) process, who is based at Munich, West Germany. He gave me a rundown of where high-temperature gas reactors stand. I've been checking with people here, including our good friend, Dr. Moon, on some of the implications of this.

We are now in a situation to proceed immediately to develop hydrogen and hydrogen-based fuel. It's going to take us some time to standardize the use and first range of commercial applications of these fuels for general usage—maybe five years, if we go at it properly.

In the meantime, we must go ahead and use as much petroleum as required, as cleanly as possible, up until 1990 and somewhat beyond. We could crank up our petroleum refineries now, to get a capacity which is adequate to meet our needs into the 1990s, knowing that after 1990 our requirement for refined petroleum—except for petrochemical uses—is going to go downhill.

So, do it on a one-time basis, to carry ourselves through to the 1990s, and then quit. In the 1990s, we will phase in hydrogen and hydrogen-based fuels, so that by the year 2000 we'll be running on two sources of energy: first, nuclear energy as process heat and electrical energy—55 percent or more of our total energy production. Second, all of our remote and mobile forms of energy consumption will be either hydrogen gas, produced by high-temperature gas reactors and so forth or will be derivatives, such as hydrides used in fuel cells, of the hydrogen fuel program.

We will be entirely in a synthetic fuel program, not the kind that the Carter administration or John Connally is talking about, but the logical fuel of the future: a fuel which, when combusted, has a waste product called *water*.

The only problem is that you've got to engineer the process so that instead of having to put nitrogen in as the other side of the cell, we can clean up the air, in a sense, by getting the nitrogen out of the process when the air goes into the combustion process—to get an efficient combustion process which is free of nitrous oxides.

How do we get to the second part of the plan, the hydrogen fuel? Most of the technology for a hydrogen fuel economy is already developed; it's started; it's in a very advanced R&D phase. But it's not ready yet. We have all the beginning off-the-shelf reference technologies. Most engineers know exactly what you're doing when you talk about fuel cells and hydrogen combustion for tractors, trains, automobiles, trucks, and planes. (The application of this for a jet has some interesting implications.)

We need a crash program of five years to bring this to the level where we can say that we now have a package that can be standardized for first-generation workable replacements. How do we get that? Have the government go into it? The government should do something about it, particularly NASA. NASA is the one government agency qualified to coordinate this kind of work. But the way we do it, essentially, is *to provide tax credits*.

We want to know every viable fuel cell application; we want it worked on. We want a pool of scientific thinkers—the Fusion Energy Foundation obviously do something in this direction—to pool scientific knowledge and to steer this knowledge out to the various firms which have the R&D capabilities to begin to work on these problems, the way NASA would do it.

Use tax credits—that's the way the system was developed to work, that's the way the capitalist property title was created. Not the way Adam Smith says—he's a liar! Not the way the Heritage Foundation says—they're a bunch of liars, too. The capitalist system was created initially on the initiative of Plethon and Cosimo de' Medici during the 15th century. The national economy was created under Louis XI in France, successfully, during the last part of the 15th century.

The capitalist economy was created under the Tudors during the 16th century, by dirigist methods—not by free-trade methods, it never would have happened! The capitalist property title was developed out of a patent. The problem which faced the city-builders, the Neoplatonics, my spiritual and political ancestors of that period, was: if you're going to have a high rate of technological progress, how do you mobilize the creative potentialities of a population both to make inventions and discoveries and to mediate those inventions and discoveries into general use?

A very simple system was developed. A person comes up with a useful discovery, and we wish to encourage the production of that useful discovery, so we give that person and his friends a patent. The patent has a certain life, until he has exhausted what we think is his proper benefit from this discovery. He and his friends can now profit from the production in quantity of things produced according to his patent for a fixed term of years. And in the meantime, if he comes up with a number of patents, he keeps going on in that way. That's how the system was developed. That's the way it's supposed to function. The capitalist system was developed by the Tudors and others as a way of mobilizing the brains of society to invent, to produce, and to distribute new inventions which were useful, so that the population benefits from these useful inventions.

Why the 'American System'?

This takes us to one final thing.

When we look at an economy from this standpoint, from the standpoint which I've exemplified with these predicates, we know immediately, if we know economics, that I'm talking about what was called during the 19th century "the American System."

The name American System was circulated internationally and established by Friedrich List, who was actually, in a sense, an American intelligence operative. List, Lafayette, Washington, and the Baron von Steuben had created an international secret intelligence society which in the early part of the 19th century was headed by Chief Justice John Marshall on the U.S. side. Lafayette brought List into the United States in 1825, and List stayed from 1825 to 1830. He ran the *Reading Eagle* actually as a political intelligence operation among German-speaking Americans to help try to fight traitors like Thomas Jefferson, Andrew Jackson, and that crowd. They understood that these were traitors.

The American System means not only what List did, to create this as the international name of the American System of economy; it means the policies enunciated by Alexander Hamilton under the first administration of George Washington on credit, banking, and economic policy. Those are my credit, banking, and economic policies.

The American System was further developed around Lazare Carnot in France, who took an active hand, not only including the French Army, the Ecole Polytechnique, and the acceleration of modern theories of functions of a multiply connected manifold, but also in developing the system of political economy. Two leading French associates of Carnot's, Chaptal and Dupin—the same Dupin who was celebrated by Edgar Allen Poe in his detective stories—worked further to perfect the American System of political economy theoretically.

List brought that tradition back to this country. Henry C. Carey, who was the son of Mathew Carey, who was a close co-worker of Ben Franklin and also a key figure in the American secret intelligence service, worked with List in popularizing the American System inside the United States. The entire industrial revolution accomplished by Abraham Lincoln was based entirely on the strategic approach developed and articulated by Henry C. Carey.

Those are my political, philosophical antecedents. They go way back, but these are common antecedents to both them and me. The fundamental distinction between the American System and the British System theoretically has been, on the one hand, that we are protectionist. It was correctly understood during the 19th century that anyone who said "protectionism" was fighting for the American System against treasonous elements which were for free trade and slavery. The words "free trade" and "slavery" mean the same thing—they always have, in one form or another.

We are protectionists. We don't mean protect a rotten, bankrupt shoe industry; we mean protect those industries which represent technological progress on the principle of the patent system. We are not going to make ourselves dependent upon some foreigner for our technological progress. We're going to make our industries prosper.

The second thing is that the British said man is a laboring ox, that the wealth of land comes from a combination of the bounty of nature and the number of hours that ox-like man puts into labor. This was the theory of Adam Smith, to the extent that he understood what he was writing. This was the theory of David Ricardo, and of all these peculiar fellows—Jevons, Mill, Marshall, and down to the modern Hjalmar Schacht, Keynes, and the other fruitcakes.

Even though Adam Smith was not mentioned in Alexander Hamilton's 1791 "Report on the Subject of Manufactures," it is known that this was based on Hamilton's thorough denunciation of Adam Smith as a fraud, a liar, and something to be kept away from American shores in any shape or form. As a matter of fact *the American Revolution was made against the policies of Adam Smith*. That's what we fought for: to free ourselves from British "free trade" after being kept in relative, what we would call today, neo-Malthusian backwardness.

Hamilton proved that the sole source of human wealth is the increase per capita in wealth which comes from increasing the productive powers of labor, and that this is accomplished not only through education and through improvement in the culture of the labor force, but that this requires capital-intensive increases in artificial labor, in which we increase the amount of energy available per muscle-unit of energy to the human mind. We multiply man's power over the universe in terms of the energy equation.

Energy density, progress, and survival are one and the same thing. Anyone who says that increases in energy don't correlate with economic growth is a liar or a fool. They don't know how the economy functions.

Sure, houses of prostitution do not require an increase of energy, so some say all you'd have to do is legalize houses of prostitution and that will increase our GNP without increasing any energy—and in fact, decreasing the available energy. Legalize marijuana and you'll add $100 billion to the GNP with no increase in energy, a lot *less* energy, in fact.

Energy density is the requirement, and it is effected through inventions, through the increases of the cognitive powers of the educated mind, and effected through capital—capital investment, capital-intensive labor. The problem has been that, although this proposition has been repeatedly proven, heretofore into this century it has not been possible, apparently, to determine what the relationship was between inventions, or technological progress, and resulting economic growth and productivity *before the fact*. You could always prove it *after* the fact, but you could not demonstrate the exact amount of energy increase you were going to get before the fact.

My own particular concern at the beginning of 1952 was to develop, using Riemann and Cantor, a solution to this problem. My economics were already identical with that of

Hamilton, Chaptal, Dupin, List, Carey, and so forth; yet, there was an omission in terms of the technological capabilities of their method of political economy, and, therefore, it was necessary to remedy that. It was clear to me at the same time that the question of energy function would become the dominant determinant of the economy in the period ahead

What we've arrived at, of course, is the point in which that has become manifest, partly through artificial means. The fact that we are subject to, artificially, a crisis in energy compels us to look at the energy question perhaps earlier than we would have looked at it otherwise.

We wouldn't have had to face the energy issue theoretically perhaps, at least until sometime ahead. Now the fact that some enemy forces—treasonous forces—using things like the environmentalist battering-ram against us and against our nation, have created an artificial energy crisis, compels us at this stage of development to think in terms of an energy policy.

My contribution to political economy, in what's called a Riemannian Model—which has many implications in many fields of science—has been a contribution to solving that problem. This has enabled me, with the aid of some of my friends, some of whom are here, to begin: to elaborate this in the actual form required for computer applications.

This is going to compel us to make revolutions in mathematics, because these functions are more advanced than those that students of Maxwell normally allow to be introduced in mathematical physics. Mathematical economics applied from the standpoint that is due to the energy-density function and the effect of technological progress on the energy-density function, is actually the most advanced branch of physics we have today. Most advanced in the sense that comparable areas in mathematical physics have not been generalized into the proper conceptual form.

We now have the means, or the imminent means, to look ahead in terms of determining policy, particularly energy policy, to determine the kind of inventions we need, the kind of things which should be fostered, the kind of things for which we should give tax credits—either for domestic investment or foreign trade. We are now in a position to look to this more rigorously than our American System predecessors such as List, Lincoln, and so forth.

We're doing the same thing, but doing it in a more refined way appropriate to the modern age.

America vs. Liberalism

We simply have to recognize, fundamentally, finally, one thing: Every estimation that I am able to make indicates that the United States is divided in terms of the general electorate, between two categories: one of which we call American, or republican with a small "r," and the other of which we can call "generically liberal." By generically liberal, I mean people

whose thought, organizations, rhetoric, and argument is organized according to the same principles used by John Locke, Jeremy Bentham, John Stuart Mill, the so-called utilitarians, or, in this country, William James, John Dewey and so forth. These people are liberals.

William F. Buckley, for example, is an example of that in his argument for the use of marijuana. This is a classic argument—the type of argument that Jeremy Bentham used to argue at the end of the 18th century for the legalization of pederasty. And, as a matter of fact, Buckley critically supported Mayor Koch in New York with the same argument, recently when Koch proposed that pederasty between a consenting child and an adult—a child over 12—be legalized provided it's done off school premises! This is literal! And that's what I mean by liberalism, and I have emphasized Buckley to show that it's not peculiar to people who are "liberals" or so-called radicals. There is a section of conservatives in this country which is properly called "Tory conservatives," which is really a disguised liberalism, and Buckley is, of course, the well-known whipping-boy and exemplar of that kind of disorder.

The distinction I make is this—as Bentham defines it in the plainest of words. Bentham says that society should be organized according to hedonistic principles—that the pleasure and pain of the individual, are society. He says society is a collection of what Kant calls heteronomic individuals: irrational, hedonistic persons governed by blind individual prejudices. And like Locke, like Hume, Bentham insists that there is no higher moral standpoint from which to judge which of these viewpoints and policies is correct or wrong. Like Locke, Bentham argues that the only thing you do with society is to make a *social contract*—everybody is irrational, but you make a contract so that the irrationality of one person does not go too far in crushing the irrationality of another person.

That's the argument which is used for environmentalism. Thirty unwashed persons walk in complaining about the environment getting dirty. They walk in behind Ralph Nader or Barry Commoner, as interveners into federal court—this petty group of unwashed individuals, of deluded, existentialist, quasi-suicides, who may commit suicide any minute! It's true, exactly true, I'm not exaggerating! In philosophical principle, these are suicides, because the ultimate act of an existentialist is suicide—is to determine when the undertaker carries him out by his own will, not somebody else's will. That is actual, philosophical, ultimate existential science. That's what these people are.

If any one of them is seized by the perception that somebody might kill him at some future date, they say: "I would rather assert my independence, my free will—I'm not going to let natural causes kill me. Disease? Well, I'm going to conquer disease, I'm going to conquer illness, I'm going to conquer mugging—I'm going to kill myself right now!" That's an act of free will, as argued by Sartre and the other leading existentialists.

So this little environmentalist has said he will do it in a political courtroom, immediately! And the judge says—this liberal judge—"Now, society must make a compromise between the interests of mankind and the irrational prejudices and demands of this little bunch of unwashed kooks, these people who didn't get their spankings at the proper time." That's liberalism!

Seventy-five percent of the people in this country do not, when push comes to shove, accept that proposition. Seventy-five percent of the people in this country demand a moral purpose for their own lives and that of their children; a true moral purpose, not an arbitrary one. They demand a sense of national purpose which says that this nation exists to make the world better, to secure humanity, and the individual exists in this nation to play his part in making the nation better so the nation can make the world better—in the real Platonic republican sense. And that anybody who is doing that—as a parent, as a scientist, a workman—has the right to stand up proudly and say, "I am a free, important individual! There is something about me that transcends the ephemeral of mortality." He has that right. And 75 percent of the people in this country either know that immediately, live that immediately, or, when confronted with the choice, will say, "That's where I stand."

This fight before us is a fight to mobilize the 75 percent, who are not yet well-organized, against the 25 percent who at this point are very well organized. It's analogous to World War II, where we started the war in 1939 with superior resources but non-mobilized. We had the superior in-depth capability. The adversary had his lesser in-depth capability *mobilized*. Therefore we were constrained to conduct the war in a way which took into account these twofold discrepancies. But by 1943, we had mobilized a war machine that would not quit. We had to stop it in 1945; we couldn't just go on producing—we were going to conquer ten planets if we didn't stop it at that point, because we had gotten ourselves going.

Today, that's the proposition, that's our difficulty. We have to take the issues, which the majority of the American people want solved, and we've got to work on them. I think most Americans, through a process of several months, will accept the kind of proposition that I've got now—just as they would accept the idea of fighting a war to save the nation—but you've got to get them organized first. You can not fight a war without getting people organized.

Therefore, we and others as striking forces are leading the battle, harassing the enemy, keeping him from conquering everything by harassing him, until the point that we get our forces organized, and then one day, I hope, in January of 1981, we'll walk into Washington and take that joint back, and we'll never let anybody take it away from us again. And I don't mean "me;" I mean 75 percent of the American people. We'll give the liberals and so forth their rights; if they want to complain about the condition of the environment, we'll let them

stand outside any sewage dump, any cesspool in Washington, and complain about it—all they want to! We'll let them vote, we'll educate them, we'll give them the rights every other citizen has; but we will never let that minority take over our country again as it has so far. We'll never let it happen again. And if we can organize this 75 percent of the American people—and we can do it—then this energy policy will be realized. We'll look at the implications of this energy policy overall, and deal with them exactly as we have to.

We are entering into a new age of scientific discovery. We are entering a quantum leap in our thinking about the universe. We are entering, in a sense, a potential golden age, rivaling that which emerged out of the late 14th and 15th centuries around Florence. We are entering a new golden renaissance. This is not simply an objective we aim for; we are not trying to build a utopia. For 3,000 years of our knowledgeable history, mankind has been struggling between the city-builders—the Neoplatonics—on the one hand, and the oligarchists, the Hesiods, the Dionysians, the evil Roman Empire, and so forth, on the other. The fight has been going on for thousands of years. We have made a certain amount of progress despite many defeats. We have reached this point, at which we are either going to be destroyed or we're going to make an advance.

The fight for the perfection of humanity does not end in the next ten years; it goes on for thousands of years to come, perhaps for thousands of centuries—at least we hope the human race survives for that process to continue. We are but a moment in the process of continuation of humanity, but in this moment we have a universal purpose, an obligation to keep. That is to keep the process of perfection moving. We should be inspired, not to imagine that the golden renaissance of science and technology about to burst upon us is that final utopia—it is not—but it is one of the great, exciting new steps forward in the continuing process of advancement of humanity.

Once we get into the process of developing these energies—most of which we are capable of doing *right now*, over the next ten or fifteen years—that process creates the environment in which we will not only satisfy the material requirements of human existence, but create the *material* environment in which the *moral* development of our citizens, and other nations' citizens, is advanced. That moral development, arising in the context of technological progress, is the thing for which we are fighting.