The Renew America Bond

A Blueprint for American Energy Renewal

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America needs a national mission: We must finally overcome our oil addiction, reinvigorate our industrial base and leave our country a better place for the next generation. We would accomplish this by issuing Renew America Bonds, the proceeds of which would be invested in, and returns from which would be linked to, the success of a rapid clean energy transformation. Broad ownership of Renew America Bonds among citizens would give every American a stake in the energy revolution, and an incentive to help the economic transition succeed.

Introduction and Executive Summary

America needs a cause, an uplifting and nonpartisan mission, which harnesses our courage, patriotism, innovation and willingness to sacrifice to build a better future for our children.

We are tired of rote partisanship and long for a defining cause greater than consumerism. We are in awe of and inspired by the World War II generation and the Civil Rights crusaders that came together, sacrificed and defeated common enemies and left a legacy of pride and prosperity for their children and grandchildren.

We need to declare our independence from oil, rebuild our industrial economy and reestablish our national prestige. We can do this with our own savings, and profit handsomely from the economic transformation.

The Renew America Bonds we propose are, in essence, 30-year, zero-coupon U.S. government bonds, with principal redeemable at maturity or convertible to a payout based on the long-term performance of America's clean energy economy. The Renew America Bonds would be marketed like War Bonds were in World War Two, from the President, through Wall Street, down to the classrooms across America. They would be available in denominations beginning at $25, so that a broad spectrum of citizens could participate.

The proceeds of these Bonds would be invested in the equity of companies that develop and commercialize new energy technology, through intermediaries like venture capital firms and new clean energy banks. The intermediaries would need to match the public investment, thus leveraging its impact and ensuring responsible investment decisions. Bondholders would have a direct economic stake (through the conversion feature) in the outcome of America's energy and industrial renewal which would be catalyzed by the Bonds. Purchasing the Bonds would be both an expression of patriotism and an act of economic rationality. Productive investment of the Bond proceeds would help fulfill our generational duty to leave this country, and the world, better than we found it.

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Our national challenges are many:

- Energy dependence, particularly in the transport sector and specifically relating to oil
- Outflow of energy spending, in part to hostile regimes
- The US military is overextended, and we are compelled to deploy them on dangerous missions, in part to ensure free flow of oil
- Economic and financial crisis, caused in part by lending to an economy built on easy credit, consumerism and housing related spending
- Global warming and carbon emissions are continuing to increase
- A manufacturing sector that has been hollowed out and outsourced to foreign countries
- Government-recapitalized banks have few productive avenues to lend into
- The US is dependent on creditor/saver nations like China to buy our debt
- Our $ 10 trillion national debt continues to increase
- The future solvency of Social Security in doubt

We believe that in response to these problems, America needs a national mission, a self-funded clean energy revolution which would in fewer than 10 years eliminate our dependence on oil, reinvent our manufacturing sector, stabilize our economy, solve the problem of growing carbon emissions, re-establish American leadership and confidence, and leave our country a better place for our children.

We would accomplish this by issuing Renew America Bonds, the proceeds of which would be invested in, and returns from which would be linked to, the success of the energy transformation. Broad ownership of the Renew America Bonds among citizens would give every American a stake in the energy revolution, and an incentive to help the economic transition succeed.

Plan Overview:

The US would create, market, issue and sell "Renew America Bonds", 30-year US Treasury bonds initially funded by an increase in the gas tax. Renew America Bonds would pay no interest; instead the holder would receive, at maturity, the greater of (i) the value of an alternative energy investment basket (“AEB”), constituting securities issued by companies involved in alternative energy or (ii) their money back. Gas tax proceeds would be deposited into a designated Renew America Bond Trust, which would be utilized only in the (unlikely) event that the value of the AEB after 30 years does not exceed the original investment amount; otherwise, the money in the Renew America Bond Trust would be returned to the US Treasury and used to repay other debt. The AEB would be formulated to correspond to the investments made by qualified intermediaries on behalf of the holders of Renew America Bonds.

See *Appendix 1, Lifecycle of a Renew America Bond Investment*, for an illustration.

The proceeds from the issuance of Renew America Bonds would be invested solely in the technology, infrastructure and systems necessary to diversify our national energy portfolio and eliminate the need for imported oil. The result would be the creation of real domestic jobs, productive lending, a stabilized economy, dramatic reduction in carbon emissions and enhanced national security.

Functionally, from the standpoint of an investor, Renew America bonds would resemble convertible bonds. The principal would be protected by the full faith and credit of the US government, and the investment would be convertible into a basket of securities representing the clean technology/alternative energy segment of the US economy, at maturity.

Marketing

We anticipate a marketing campaign, from the President down through the classrooms, like the campaign conducted in support of World War II War Bonds. Teachers, entertainers, sports stars, Wall Street and every level of government participated then. The campaign was a huge success, not only in terms of the amount of bonds sold, but also in unifying the country in a cause.

Outline of Plan Specifics:

Investment goal and amount

The U.S. government needs to make a massive investment over the near term in building out, or building from scratch, our energy, transportation and power infrastructure. Studies suggest that the required investment would be $1 trillion, roughly the amount of stimulus money that many economists suggest needs to be invested in the American economy in connection with the present recession.

Investment Focus

The investments should be made promptly in alternative energy, the electricity grid, inducing the production and purchase of electric vehicles, energy efficiency initiatives, mass transit, etc. The key guiding principles should revolve around the issue of whether the investment is likely to enhance the long term productivity, inventiveness and job creating capacity of our economy, while eliminating our oil dependence and mitigating carbon emissions.

Funding

The U.S. government would create, market and issue a "Renew America Bond", a 30-year US Treasury bond with an aggregate issuance amount of $1 trillion. The trust fund to secure repayment of Renew America Bonds would be funded initially by an increase in the gas tax (the proceeds of which would be returned if the AEB investments are successful). This is where common sacrifice comes into play. Note, however, that because the Renew America Bond would have a 30-year maturity and would not pay conventional interest, this would require only a moderate (approximately 34 cents per gallon) gas tax increase. See *"Appendix 2, Assessment of the Gas Tax"*, for details.

A gas tax is preferable to a carbon tax or pollution allowances, because the mechanism for charging and collecting a gas tax is already in place, allowing the program to proceed rapidly. Rapid implementation is necessary given the painful transitional state of our economy, and the trends relating to global warming. The general unwillingness of the consumer to pay a gas tax would be mitigated (at least) by the fact that American citizens would have a direct stake in the positive outcome the tax would be funding.

Structure of the Renew America Bonds

The Renew America Bonds would pay no interest. Instead, the holder would receive, at maturity, the greater of (i) the value of the AEB or (ii) return of the principal amount of the investment. Gas tax proceeds would be deposited into the Renew America Bond Trust, and would be returned to the US Treasury if the value of the AEB (at maturity) exceeded the issuance amount. The proceeds of the Trust which are returned to the US Treasury would be used to reduce the national debt.

The Bonds would resemble convertible bonds, with the bond portion comprised of a zero coupon Treasury, and the equity conversion feature represented by the AEB.

Use of Proceeds, Investment Priority, Intermediaries and Composition of the AEB

In General

The AEB would be formulated to correspond to the investments made with the proceeds of the Renew America Bond issuance, by private and public entities contracted by the government. For purposes of efficiency, to encourage free market competition and to limit the role of politics in the capital allocation process, funds would be deployed into existing and newly created private and public sector entities involved in funding or deploying clean technology. Injection of the funds would be contingent on the applicable intermediary entities matching those funds provided by the Renew America Bond program. This matching requirement, together with diversity among intermediaries, would help ensure effective incentives for intelligent capital allocation.

Investment Priority

Since we believe that the dangers outlined above are clear and present, the Renew America Bond proceeds should be invested in technologies, processes and solutions that are currently available or will be available in the very near term, are scalable, and will have an immediate impact on the problems outlined above. There is an existing and rapidly improving body of knowledge that can be consulted in this respect, but we believe that the first priority that satisfies these general principles is electrification of America's transportation system. Plug-in hybrid electric vehicles are available now. Wind, solar array, geothermal and safe nuclear technologies, with sufficient investment in rolling them out and in building/upgrading transmission capacity, could compensate for the additional capacity needed to electrify the transportation fleet. Combined with effective purchase incentives for electric vehicles, the American car and truck fleet could turn over within ten years, and oil would largely be displaced as a fuel in this country. If the Renew America Bond plan accomplished only that, it would be well worth it.

In addition, however, focusing on what works (electric cars; solar, wind and geothermal generation; new transmission and storage) would invariably lead to improvements, even breakthroughs, that would apply outside of the transportation sector. For example, improvements in car battery technology would likely be applicable in storing solar power overnight and wind power on calm days; mass production of solar components in connection with desert solar arrays would likely lead to lower cost processes for making solar photovoltaics; and building transmission connected to one large wind farm would likely encourage development of new wind farms nearby. Thus, the electricity generation mix would shift further away from dirty fuels such as coal, on a chronological path that would allow time for related employees to retrain, as many new jobs are created in clean energy and oil dependence is completely eliminated.

Intermediaries; Composition of the AEB

We believe that an adequate, and rapidly expanding and improving, network of clean technology finance intermediaries exists in the US. For purposes of efficiency, to create competition, to effectively connect the value of the AEB to the economic value created and to unleash capitalism in its most effective form, we believe that these intermediaries ought to be utilized. Thus, the government would funnel Renew America Bond proceeds through (many) qualified and vetted private and public institutions, both existing and newly created. These institutions would be required to invest or commit their allocated share of the proceeds in accordance with the investment focus set by the Government administrators (our initial thoughts in this regard are set forth above) within a reasonably short (12-18 month) time frame. The institutions would also be required to report on a defined schedule the investments made, which investments in the aggregate would constitute the AEB.

Below we outline generally the type of institutions we imagine as intermediaries, and the corresponding components of the AEB. Importantly also, the program would require the intermediary institutions to match the Renew America Bond funds, to incentivize these institutions to efficiently allocate the capital, and also to multiply the transformational effect of the program.

A portion of the Renew America Bond proceeds could be invested directly in venture capital companies that have clean technology expertise or experience. Advantageous deals with the venture capital management companies could probably be negotiated. The AEB would thus include limited partnership interests in venture capital funds.

A portion of the Renew America Bond proceeds could be invested in newly chartered federal banks, which could then borrow, leverage and lend the money. Bond proceeds utilized and multiplied in this manner would most likely be lent to projects with clear payback horizons, such as utility investments to meet renewable portfolio standards, or wind farms/solar arrays/geothermal projects that have contracts in place with utilities. With regard to this idea, the AEB could include equity investments in new clean energy banks.

A portion of the Renew America Bond proceeds could be invested in subsidiaries of traditional banks. This avenue would take advantage of banks' ability to leverage, thus creating more money for the transformation and accelerating it. It would also give the banks an opportunity to increase lending in a new and vibrant sector, one that is less dependent on the struggling consumer, retail and real estate sectors, so that capital begins to flow again. The AEB would thus include equity in the bank subsidiaries that participate in the program.

A portion of the Renew America Bond proceeds could be invested in subsidiaries of utilities, for the purpose of clean energy investment and/or energy efficiency programs. Note that some European utilities, such as Iberdrola and EDF, have established separate renewable energy subsidiaries which are publicly traded. So, the AEB could include equity (or debt) in such subsidiaries created by American utilities. The same approach could be taken with respect to technology companies which are active in clean technology; for example, Applied Materials could receive an investment in its solar fabrication subsidiary, or IBM could drop its "smart grid" technology into a subsidiary, and receive an investment. The same approach could be taken with regard to the automakers; for example, GM could drop its Volt brand and technology into a financeable subsidiary, and receive a portion of the Patriot Bond proceeds. A good example of this process is Cypress Semiconductor, which created a new subsidiary for its solar technology, named it Sunpower, and raised money to grow the subsidiary. Sunpower's value now far exceeds that of Cypress.

A portion of the Renew America Bond proceeds could also be invested in existing Federal, state and local clean technology programs. Some of these programs (the ones that are applicable to the Renew America Bond plan), obtain debt and equity interests in the companies that receive funding. Thus, the AEB could include financial interests in these programs.

There should be a short timetable for investment of the Renew America Bond funds, given the urgency of the challenges we face. $1 trillion, using the appropriate intermediaries, and taking into consideration reasonably conservative leverage and matching funds, would multiply into several trillion dollars circulating here in the US and fueling long term productivity, in contrast to circulating abroad, and fueling short term disposable consumption. This amount of money, invested in a 1-2 year time frame, would have a major impact in transitioning our economy and solving the serious problems outlined above. Properly marketed from the highest levels through to the classrooms, it would also become a patriotic cause.

Valuation of the AEB at Maturity of the Renew America Bonds; Payment to Investors; Long Term Effect on the National Debt

There would be a sufficient (perhaps 2-3 year) period prior to the maturity date during which the intermediaries would be required to convert all AEB investments to cash. During this period, as the successful investments are liquidated, the cash would accumulate in a liquidating trust. At the maturity date, the total cash in the liquidating trust would represent the terminal value of the AEB. If the terminal value of the AEB exceeds the issuance amount of $1 trillion, then each investor will receive its proportionate share of the AEB (equal to its proportionate share of the liquidating trust). In this event, the Renew America Bond Trust proceeds totaling $1 trillion in respect of gas tax collections, will be returned to the US Treasury for the purpose of repaying debt. If the terminal value of the AEB is less than the issuance amount of $1 trillion, the shortfall would be compensated from the Renew America Bond Trust, and the remaining money in the Trust would be returned to the US Treasury for the purpose of repaying debt.

Liquidity of the Investment; Tracking of the AEB

Renew America Bonds will be US Treasury Bonds, and there will be a secondary market for buyers and sellers just like there is for the conventional 30 year bond, and for municipal bonds. This means that dealers will make a market. However, there would likely be a period of 1-2 years of relative illiquidity, while investments in the AEB are being made and their values reported. In addition, bid/ask spreads are likely to be wider than those of traditional Treasuries, since the AEB valuation would be fluid.

Each of the intermediaries participating in the program would be required to value the investments they make, on a best efforts basis, quarterly. The valuations would be aggregated by the government AEB board, and posted for the public and the dealers to see. Each intermediary, and the AEB board, would perform an annual audit. We would anticipate that a tracking index develops, which people would trade and which would allow buyers, sellers and dealers to value the AEB component of the Patriot Bonds on a real time basis.

Possible Future Issuances

We recommend a large issuance of Renew America Bonds at the outset, given that the US economy needs a major stimulus and reorientation quickly, and given that we cannot delay any further in uniting to solve the problems outlined above. We further recommend that the maturity date on the issuance be set initially at 30 years, because investors will likely profit handsomely from the AEB over that time frame, and a long time frame mitigates funding pressures on the US Treasury. Finally, we submit that the emergence of a secondary market for Renew America Bonds will make them attractive to investors with a time horizon shorter than 30 years.

However, after the large initial issuance, a framework will be in place for future issuances. These issuances could have shorter maturity dates, though we caution that there are likely to be complexities associated with the AEB which would have to be worked out.

Additional Government Incentives Parallel to the Renew America Bond Plan

The Renew America Bond plan is meant to supplement other government incentives already in place or under consideration. Again, there has been much productive experimentation and work done in this regard, both here and abroad, and consensus is developing on the most effective use of government regulatory power and funding. Some government actions that have had beneficial effects include renewable portfolio standards, CAFE standards, tax credits for scalable technologies, loan guarantees (i.e., for nuclear plants), and research and development grants. We intend for the Renew America Bond plan to complement an otherwise sensible, and coordinated, regulatory and tax regime.

The government programs that would best complement the Renew America Bond plan would be renewable portfolio standards, which would require utilities to seek out and utilize the most efficient alternative energy generation, thus creating a larger market for alternative energy providers; generous tax credits for purchase of electric vehicles, which would help to turn over the gasoline fleet more quickly; tax credits and siting assistance for proven technologies such as wind, solar and geothermal; loan guarantees for massive projects such as nuclear facilities and new grid capacity; and transitional education for workers to develop the new skills needed in a transformational economy.

There are a couple of additional government actions we that believe should be considered, tangential to the Renew America Bond plan and existing government programs, but complementary to them. First, we believe that volatile oil prices cripple investment planning regarding alternative fuels. Thus, we believe that, in addition to the core gas tax increase necessary to fund the Renew America Bond trust, the government should consider placing a "price stabilization tax" on gas: That is, a tax regime should stabilize the consumer price of gasoline at a cost known to encourage exploration and commercialization of alternatives. A gas tax should thus be applied when the price goes below the stabilization price, and the tax should be lifted when the gas price rises. This would make the "competition" more predictable, would raise revenue either to add to the Renew America program, rebate to citizens or to pay down debt, and would have the side benefit of preventing OPEC from choking off our ingenuity. See "*Appendix 2, Assessment of the Gas Tax*", for an explanation and further details. Second, we believe that the government ought to consider allowing environmentally sound, expeditious offshore oil drilling, auctioning these leasing rights for significant sums and pumping the money into the Renew America Bond program or other complementary programs. This would create further momentum for energy independence.

Clear Benefits of Plan Implementation

- This is a grand patriotic plan that Americans can rally around, giving us a sense of common cause. Each citizen would have the opportunity to participate in many ways, and a stake in the financial success of the program
- Successful implementation of the program would redefine our economy toward innovation and self reliance instead of consumerism

- Since there would be no interest payments on Renew America Bonds, tens of billions of dollars of annual capital outflows would be avoided
- If the plan is success only in transitioning the transportation sector away from oil, hundreds of billions of dollars of annual capital outflows would be avoided
- National security would be enhanced (in a myriad of ways)
- Exportable products and technology would be created; the trade and capital account balances of the US would dramatically improve
- Jobs ranging from engineers and financiers to builders and installers would be created, here in the US, by the millions
- The industrial base of the US, centered around innovation, would be resurrected
- Carbon emissions would be reduced, and global warming mitigated; the US would have the ability to employ moral suasion with China, etc., and to profit by assisting them in their carbon mitigation efforts with exportable technology

Possible Side Benefits of Plan Implementation

Social Security Solvency

Negotiations on bolstering social security for the long term have foundered in the recent past on the issue of private choice within the accounts. Renew America Bonds could be a (partial) choice for future recipients and, if the value of the AEB increases, pressure on system solvency would be ameliorated. Interestingly, assuming the plan were accompanied by appropriate regulations such as Renewable Portfolio Standards and incentives for production and purchase of electric vehicles, the government could virtually assure that the value of the AEB would increase, perhaps substantially.

Benefits to the Educational System

One of the failures of our educational system is that it sometimes does not prepare the less privileged in society for meaningful and productive careers. A clean technology revolution would require multiple blue collar and other skill sets, and these employment opportunities would stimulate rejuvenation of the primary and secondary education systems. Presumably, Federal, state and local governments, as well as universities and community colleges, would support and contribute to a retraining effort.

National Purpose and Unity

America responds well to focused challenges that bring us together in a common cause. Whether the driving issue, for any individual, is national security, concern about global warming, aversion to dependency generally, the opportunity gap between rich and poor, and/or all of the above, this cause is unifying. A resurgence of patriotism in its healthiest form could be a byproduct of this plan.

Increase in the Savings Rate

The US savings rate has declined over the past couple of decades from around 10% to effectively zero. This is one of the causes for our dependence on other countries to fund our spending. We believe that wrapping the Renew America Bond in the context of a patriotic national purpose would create demand, and a movement would develop to encourage savings in order to buy the bonds. During World War II, classrooms competed to accumulate enough stamps to buy War Bonds, and it was a healthy engagement that resulted not only in national unity, but also in teaching the next generation about the importance of savings and thrift.

Bipartisan Appeal

We think that the Renew America Bond plan is nonpartisan. All of us are aligned around energy independence, self sufficiency and leaving the world to our children in better condition than we found it. Wherever one resides on the political spectrum, there is appeal.

Appeal to Conservatives

Funding a clean technology revolution through the issuance of Renew America Bonds should appeal to (traditionally defined) conservatives because it would eliminate reliance on foreign oil, would deprive hostile nations of a major source of revenue, would dramatically enhance our national security and would make America more self reliant. In addition, the financing would not increase the national deficit/debt, tax increases would be limited to a broad based gas consumption tax, and everyone would have an ownership stake in a positive outcome. Finally, the entire appeal would be a unifying, patriotic message.

Appeal to Liberals

The clean technology proposal outlined above should appeal to (traditionally defined) liberals because the salutary effects on carbon emissions and global warming would be dramatic and rapid, because the program would create millions of jobs across the skill spectrum, because workers would be educated and trained, because future wars over natural resources would become less likely, and because America's global leadership standing would be enhanced.

Appendix 1

Lifecycle of a Renew America Bond Investment

Illustration

Step 1: Investor buys a $1,000 Renew America Bond from the US government

Step 2: Investor's $1,000 gets invested in many alternative energy companies

Step 3:

At maturity (30 years), Investor is entitled to receive its share of the value of the alternative energy investments, which value hopefully far exceeds the $1,000 initially invested.

If the value is not greater than $1,000, then Investor gets its $1,000 back anyway, with the shortfall funded from a gas tax trust.

Step 4: All gas tax proceeds not necessary to pay back investors (because the alternative energy investments have at least maintained their initial value), are used to pay down the national debt.

Appendix 2

Assessment of the Gas Tax

1. Existing Gas Tax: The Federal gas tax now is 18.4 cents per gallon. This compares to several dollars per gallon assessed by Japan and European countries.
2. Renew America Gas Tax Trust Assessment: Americans currently consume 140 billion gallons of gas per year. Thus, in order to accumulate $1 trillion in the trust over 30 years, an additional Federal gas tax (Patriot Tax) of 34 cents per gallon would be necessary. Obviously this assumes stable consumption, and the tax level would need to be reassessed periodically as consumption patterns rise or fall.
3. Stabilization Tax: The existing gas tax funds mostly highway projects. The Renew America Tax would fund the Renew America Bond Trust and, assuming the AEB is successful, would ultimately be used to repay US debt. A Stabilization Tax is recommended in order to keep the price of gas to the consumer at a high enough level to encourage rapid acceptance of alternatives like electric vehicles, for the reasons set forth in the Plan. It would work like this:

Assume the price of gas that encourages electric vehicle acceptance is $3.00 per gallon (the "Trigger Price"). Whenever the price at the pump is equal to or greater than the Trigger Price, there would be no stabilization tax assessed. However, whenever the price at the pump is below the Trigger Price, retailers would be required to assess a tax equal to the difference between the Trigger Price and the market price.

The proceeds of the Stabilization Tax would be remitted to the Treasury and, annually, the Treasury would rebate the proceeds to each citizen on a pro-rata basis in the form of stamps, which could be saved and aggregated to purchase Patriot Bonds. This would encourage savings and investment, and it would make the assessment of additional gas taxes more palatable. There is precedent for this in connection with the War Bonds.