LPAC SPECIAL REPORT

NAWAPA XXI: Great Project To Restore the American System

Released with a cover date of March 2012, the LPAC Special Report is written, as stated in the Abstract, "as a proposal for action, to be immediately undertaken by elected officials of government," "as a handbook for patriots who seek to re-establish the United States as a leader in science, technology, and industry," and "for those who seek to restore a vigorous use of the powers which have been rightly bestowed upon our institutions of government in order to act in the interests of the nation."

The report presents a detailed plan to:

- Employ millions in productive labor and restore U.S. manufacturing.
- Re-establish water, food, and power security for North America, establish a continental system of drought and flood control, and develop new infrastructure corridors involving most of the continent.
- Restore the U.S. system of public credit.
- Demonstrate man's ability to improve on nature.

It is dedicated to President John F. Kennedy, who, had he not been assassinated, would have proceeded to develop the great North American Water and Power Alliance (NAWAPA) program, as proposed by the Parsons Engineering Co. in the mid-1960s (see the LPAC video "NAWAPA 1964." Topics covered in the report, but not included here are:

A "History of NAWAPA; Section I: NAWAPA XXI System Requirements"; and "Section II: Water and Agriculture." In "Section III: How NAWAPA XXI Will Restore the U.S. System of Public Credit," we include Parts 1 and 4, "Hamilton's National Banking System of Public Credit," and "Roosevelt's Credit Funds."

The Appendices are not included here.

The principal author of the report is Michael Kirsch of the LaRouche Basement Team.

EIR presents significant excerpts from the report, and strongly encourages readers to view the complete text online.

Introduction

Today, the United States is a shadow of what it was before the assassination of President John F. Kennedy in 1963. The lingering promise of visionary leadership in U.S. government was finally shattered with the assassination of Presidential candidate Robert F. Kennedy five years later. The sudden transition from technological optimism, to the belief in halting scientific progress and resource development, and the worship of market speculation and deregulation, created the predictable outcome of rusting factories, degrading infrastructure, and a lack of future-orientation within our citizens.

The loss of manufacturing and skilled labor capac-

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ity in the last decades, accelerating with each passing year, has pushed us into a dangerous dependence on a collapsing global free-trade economy. Our infrastructure grid is decrepit on all levels. Those with skill in productive trades are at or past retirement, without adequate replacement by a younger generation raised in a post-industrial, service economy. Food security is non-existent, as historically low commodity reserves, combined with aging infrastructure, have left us vulnerable to catastrophic storms, floods, and drought, such as those which devastated the food belt in 2011.

On top of the present lack of productive capacity, the cultural shift in outlook has spawned a religious fervor of self-induced cutting, in the name of "fiscal responsibility," which threatens to remove any remaining logistical and productive capacity needed for rebuilding our economy.

This has not been accidental. The London- and Wall Street-centered monetary empire has targeted the United States for destruction, a strategic intention most nakedly displayed in the character of the last two Presidential administrations of George W. Bush and Barack Obama.

All of these wounds are self-inflicted, and our role as errand boy for a system outside of our own sovereign interests, arises from a national amnesia of the legacy we betray.

What is needed now is an army of patriots to unite around a plan that is: a) sound and capable of mobilizing the quickly evaporating skills and capabilities of our once great economy, b) reminiscent of our great acts of national pride and cultural progress, and c) will serve to restore the public credit of the United States as a source for productive investment.

With a master plan of this kind to change the direction of the nation, a patriotic movement can be formed, even at this late date, which can create the rallying point for the election of a qualified President.

The plan enclosed, called NAWAPA XXI, meets these criteria. NAWAPA XXI is based on the original 1964 North American Water and Power Alliance pro-

posal for continental water management,[1] but has been updated and expanded to specifically address today's economic needs, including the necessary re-establishment of the U.S. public credit system.

The plan, however, whose impact and need is fully demonstrated in the following pages, is not merely an engineering project capable of restoring economic progress; it implies and requires an understanding of economics as a physical science.

It requires a recognition that the cause of the current crisis has not been an error in the financial markets, but an error of the paradigm of monetary value. Monetary value has replaced the value of technological progress which comes from mankind's mastery and regulation of nature. Practically speaking, the latter outlook translates into new resource and power development systems, with constant increases in manufacturing and industry to service the growth of those capabilities, while the former outlook promotes cannibalization of existing infrastructure, making monetary profits to continue consumption, without creating the productivity to regenerate the wealth consumed.

The history of evolution of life on Earth, as demonstrated by LaRouchePAC's Research Team,[2] has never shown a tendency toward balance. The biosphere as a whole has evolved through successively higher stages through transformations akin to technological revolutions, in which the influence of living matter over the surface of the planet has steadily increased. This is seen, for example, in the creation of an oxygen atmosphere by free-living photosynthesizing bacteria, the subsequent development of multicellular organisms requiring a greater throughput of matter and energy, and the eventual colonization of the land, vastly increasing the biomass of the planet and fundamentally altering such global processes as the hydrological cycle.

Each new system which had been waiting in the wings, with a point of incidence much earlier in the process, takes over as the predominant system for as long as it maintains the baseline requirement for survival.

Human evolution is unique in this process, as human society contains within itself the option to willfully self-develop. Where social organization and scientific progress have been united, mankind's development has succeeded, with the history of the United States serving as an example of this forward progress of successive evolutionary phases of an economy.

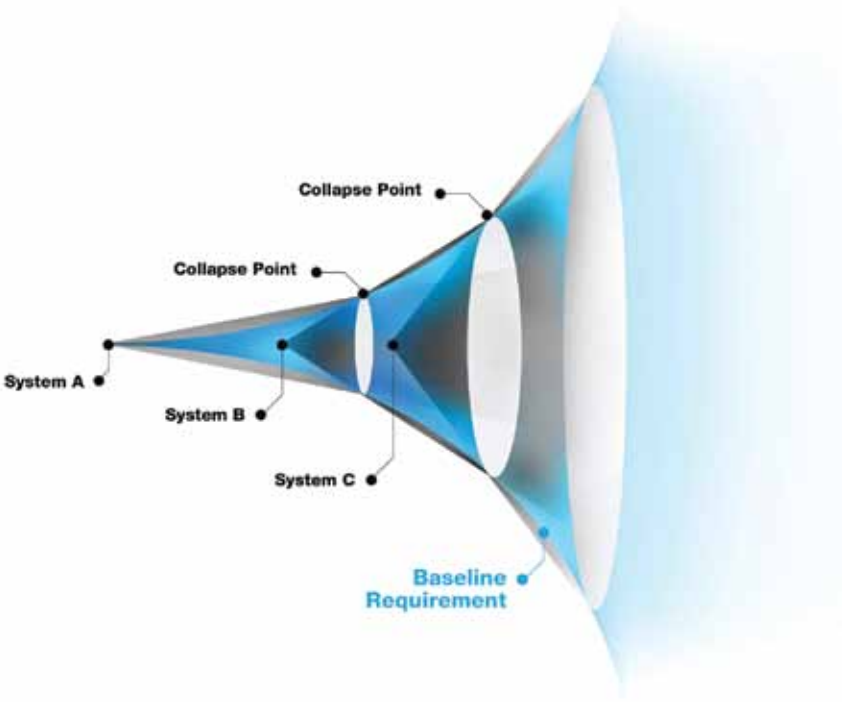
Water-wheel technology, launched for iron production and other manufactures, established the sovereignty of the Massachusetts Bay Colony. Inland waterway development, with regulation of our rivers during the Washington Administration, followed by New York, Pennsylvania, and Ohio canals in the James Monroe and John Quincy Adams administrations, opened new resources for industry and consumption, and opened the Midwest for habitation. The continued promotion of canals and initiation of railroads alongside them, by Adams, secured our leadership in iron production and other manufactures. A new power of mankind was beginning, akin to the stages represented in the nested conical growth function of the stages of the biosphere. Lincoln's promotion of domestic manufactures, and push to colonize the West, then secured the scope of the United States as we know it today.

Franklin Roosevelt's development program of the Tennessee, Columbia, and Colorado River Basin developments expanded and secured what the transcontinental railroads began, now harnessing the resources of rivers, securing the fertility and productivity of our soils, protecting our citizens from flood and drought, electrifying the 90% of our farms without power, and using breakthroughs in chemistry to skyrocket our food production. Our national productivity increased qualitatively, opening the way for a new level of sustained consumption and production. New chemical fuel sources launched the colonization of the atmosphere by man, and the further penetration into space. Discoveries in chemistry increased food production, while discoveries in the nuclear field held promises only typified by serving as an unbridled power source.

Albeit with long periods of inactivity in this forward moving process, often amounting to a whole generation of stasis or stagnation, the trend has been one of successfully transmitting and making the discoveries needed to continue mankind's development. John F. Kennedy was in a line of American Presidents who picked up this development thread, pushing the boundaries of mankind's scientific capabilities, continuing Eisenhower's Atoms for Peace and nuclear power start-ups, and doing his utmost to push forward the basin development policy of Roosevelt, calling for nothing less than a nationwide TVA. Had John Ken-

1. See "History of NAWAPA" section of this report (http://larouchepac.com/nawapaxxi).
2. LaRouchePAC.com/evolution

FIGURE 1



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nedy lived, there is little doubt that NAWAPA, as proposed in 1964, would have been completed, which, combined with his nuclear rocket program to follow the Moon landing, would have created the necessary higher system in mankind's forward evolution (**Figure 1**).[3] Since the turn away from the policies which JFK represented in his time, the United States has contradicted this trend of continued transmission and application of discoveries with each subsequent generation, creating an unprecedented gap of two generations. A policy of decreasing productivity, coupled with the consequent fixed and decreasing consumption of resources, puts us directly in the category of evolutionary systems destined for extinction.

By adopting the contents of this report as an imperative for the United States and its neighbors, it is not too late to turn the tide of backwardness in which our nation is now drowning, and transmit the knowledge and operation of a productive economy from an older generation, soon to pass, to a new generation.

We live on borrowed time. Act now.

3. See "History of NAWAPA" section of this report (http://larouchepac.com/nawapaxxi).

Project Overview

NAWAPA XXI seeks to create a continental system of water regulation that can redistribute wasted runoff waters of northern Canada and Alaska to make the Great American Desert bloom, and turn would-be floodwaters in one area into the means for fighting drought in another, all through the construction of a massive infrastructural network which can direct these flows and provide a scientific analysis of their best use (**Figure 2**).

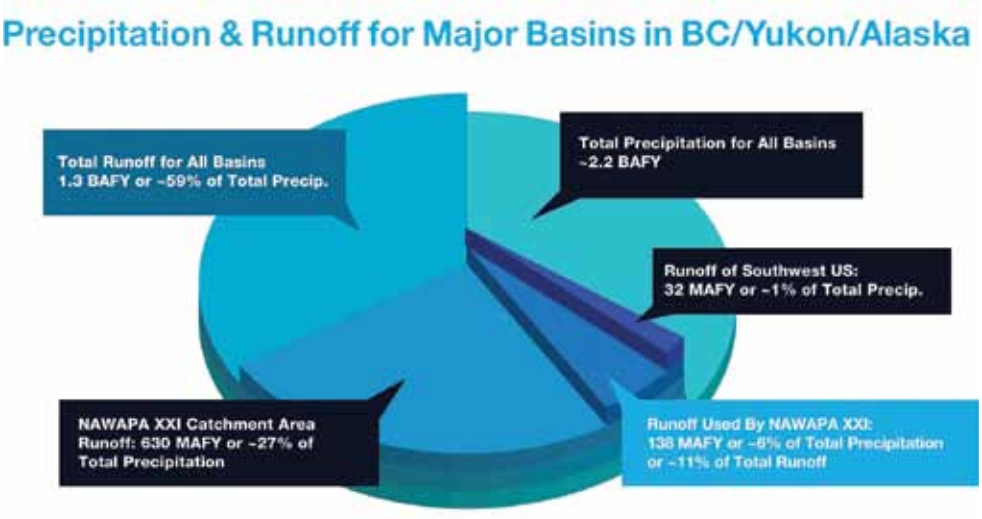
The specific design included herein, first developed in the 1960s,[1] arose out of the consideration of a unified management system which incorporates the topographical, geological, and hydrological characteristics of the North American continent, harnessing the abundant northern precipitation caused by the interaction of the Pacific Ocean weather patterns and mountain topography.

The easterly migration of moist air evaporated from the Pacific Ocean contributes to very heavy precipitation along the cold, higher elevations of the Alaskan and British Columbian coasts in particular, and also extending further down to the coastal mountains of Oregon (**Figure 3**). These regions receive the major portion of their annual moisture during the winter season, while the inverse is true for interior regions. When high pressure ridges form near the West Coast, even more water is diverted to Canada and Alaska, while at the same time contributing to droughts in the west, underscoring the need for continental-scale water management. With a virtually constant input of solar energy to drive the ocean evaporation, a constantly replenishable water source is available, if we apply our creative powers as a species to harness it.

NAWAPA XXI seeks to modify and redirect the awesome hydrological resources of the Pacific Ocean weather cycle through the continent's interior, extending the time the freshwater interacts with vegetation,

1. See "History of NAWAPA" section of this report (http://larouchepac.com/nawapaxxi).

FIGURE 2



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stream and ground flow, and industrial processes, before returning to the ocean. It is estimated that 40% of precipitation over continents returns directly as runoff or groundwater discharge to oceans, while 60% of precipitation over continents re-evaporates, and falls back onto land, recycling itself an average of 2.7 times over land before returning to the ocean. In other words, in building NAWAPA XXI, water which was once runoff will be used not once, but multiple times as it recycles as rainfall across the continent, before exiting the system, with a rate and duration capable of further extension through plant and soil evapotranspiration.[2]

The concept of NAWAPA XXI takes into account the fact of the anomalously high runoff in the North, totaling approximately 1,300 million acre feet per year (MAFY) by conservative estimates, along with the fact of the very sparse water resources available in areas such as the Southwest United States, where runoff is only about 32 MAFY. Of the total river basins in Alaska, British Columbia (BC), and Yukon, the NAWAPA XXI catchment area encompasses rivers which have an annual runoff of 630 MAFY. Of this, the NAWAPA XXI collection systems plan to redirect 22%, or 138 MAFY, for hydro power generation and the distribution of water to the Southwest U.S. and Northern Mexico, allowing the rest to flow in its normal directions. This 138 MAFY of water, used to upgrade the potential of these lands, would thus be about 11% of the excess water which is currently flowing, practically unused by the biosphere on land, into the ocean in Alaska, BC, and Yukon. The original proposal increases the total Mackenzie Basin contribution to about 20%, providing 40 MAFY of water for agriculture in the prairie provinces, and a barge canal from the Peace River to Lake Superior. A detailed analysis of the collection area, and the numbers given here, is provided in Appendix 1.

The central principle is total water management with respect to the governing characteristics of the continent's topographical and climatological features, rather than being subject to local conditions. Total resource management is scientific management, and is the only choice for those who seek long-term security for the nations of the hemisphere. Other stopgap and half measures have failed to deal with our urgent resource needs.

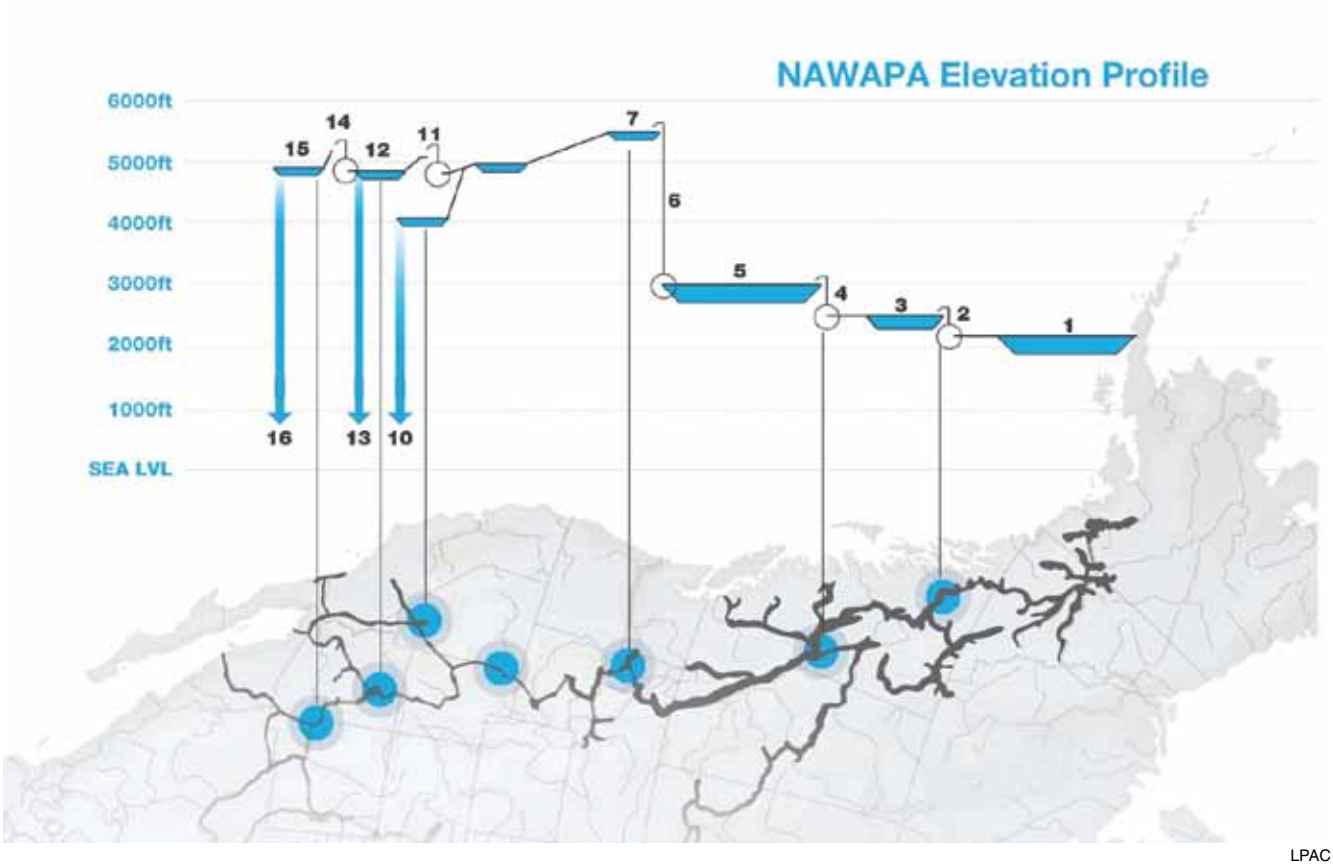
The authors of this report have used software to complete a 3D mapping of the total area and elevation of all reservoirs and canals proposed in the original plan. Each dam site was identified and reservoirs were created in the 3D model in great detail, validating the merit of the proposal in realistic terms as to the efficiency of the design.[3] By utilizing the natural contours of the continent's terrain, a vast waterway spanning the continent can be constructed that requires relatively few individual reservoirs, irrigation canals, and navigation systems, relative to the water collected and used.

Reservoirs in the Alaskan and Yukon River Basins with a storage capacity over 2 billion acre feet are formed by six dams. A fraction of the total runoff is directed south down the Yukon river, and pump-lifted once in northern BC up 300 feet, and again 670 feet in southern BC, into a reservoir at 3,000 feet created out of 500 miles of the Rocky Mountain trench. The waters are distributed and pumped through a succession of reservoirs in Idaho, and then distributed through canals,

2. "NAWAPA and Biospheric Development," *EIR,* Aug. 13, 2010, and larouchepub.com

3. This Google Earth Mapping is available at LaRouchePAC.com/NAWAPA

FIGURE 3



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aqueducts, and tunnels throughout the Southwest.

The total flow branches two ways in Utah, with one branch heading into southern Nevada, then branching west into California's Panamint Valley, and south, paralleling the Colorado River to irrigate Southern California, western Arizona, and Northern Mexico. The other branch flows into eastern and southeastern Utah, linking up with Lake Powell's distribution system; part of the flow could be used to supplement the Colorado River and increase the power capacity of the Hoover Dam. Continuing into Arizona, 11 reservoirs are created, including what will become Lake Navajo, 30 miles from Flagstaff, which, at over three times the size of Lake Mead, will be the largest reservoir on the U.S. side of the project.

Canals branch throughout the state, providing water wherever irrigation is needed, with one branch creating five reservoirs west of Phoenix and continuing into Sonora, and the other creating three reservoirs as it enters New Mexico. The New Mexico distribution brings substantial flows to the Pecos and Rio Grande regions, with three branches down into northern Mexico and Texas, creating two major reservoirs in the state, one the size of Lake Mead, before pumping water north into Colorado.

In total, 32 reservoirs will be created throughout the Southwest, with a total storage capacity of 233 MAF of water. As currently designed, the system would deliver 52 MAFY for distribution through the Southwest, enough water to cover deficits in the Colorado and Rio Grande Basin reservoirs and delivery systems, and add enough water to irrigate 19 million acres, twice the current amount; it would deliver 20 MAFY to Northern Mexico, irrigating up to 5 million acres.

By way of the Great Lakes Seaway Canal, 19.6 MAF of water would be delivered to Alberta, Saskatchewan, and Manitoba, enough water to irrigate up to 9 million acres, or supply water for industrial and petrochemical developments in the region. The Dakota Canal would deliver 11 MAFY to North and South Dakota, irrigating approximately 3 million acres. Being built along a continental divide, the canal could serve as a water redirection system, solving the annual flooding

problem in the Grand Forks and Fargo-Moorhead areas of Minnesota and North Dakota. This Great Lakes Seaway Canal, stretching from Vancouver, B.C. to Lake Superior, and a branch extending to the Hudson Bay, as well as a canal from James Bay to Georgian Bay, will open a vast amount of resource potential for Canadian development and export, creating an industrial and water transport corridor throughout southern Canada, akin to the Mississippi River barge corridor.

By constructing the system of storage, flood control, and water delivery, the utilization of the total topographical potential which the project intersects will produce a surplus of power, over the 36 gigawatts (GW) of electrical power required for pumping within the project. Most notable will be an annual surplus of 32 GW in British Columbia, a greater than 100 percent increase of its current power capacity.

Original estimates were that NAWAPA's construction would require 100,000 workers employed for 30 years; direct and indirect employment would total some 4 million jobs. An updated estimate would have to take into account a number of possible considerations such as: new additions to the project that would augment water flow in certain basins; manufacturing facilities which existed then, but would need rebuilding today; the much larger gap in basic infrastructure that would have to be closed, as referenced, for example, in the American Society of Civil Engineers' "Report Card for America's Infrastructure"; new technologies in use today, such as nuclear reactors, satellite imaging, and large-diameter tunnel-boring machines.

No part of the original design is exempt from alteration, if a new and more detailed analysis finds that a modification is either more appropriate for today's needs, or more scientifically efficient. Updates to NAWAPA XXI will include all programs which can be naturally incorporated into the continental system, following the total topographical, geological, and hydrological characteristics as a whole, irrespective of local issues.

Along with water regulation extensions added to the original NAWAPA project, there are further important changes that will be required.

Document Summary

This document is organized in three parts.

Section I. An approximate representation is given for the human and physical resources that will be required for the project, an assessment of those that are currently available.

A rough outline of the various categories of industries, professional disciplines, technical trades, and skilled labor required to plan, design, construct, and operate NAWAPA XXI is given. This outline reflects as much as possible the sequence of events as they follow a critical path, meaning that one activity or group of activities must occur before the next can occur, and so on. The project will progress in four phases: Phase 1—General Organization, Phase 2—Pre-construction, Phase 3—Construction, and Phase 4—Operation **(Figure 4)**.

It is impossible to describe the exact sequence of events in which this project's reservoirs, irrigation systems, and navigation systems will be designed and constructed; however, it is reasonable to promote a fast-tracking approach, where as many resources as possible are applied to the tasks at hand, given the urgent needs of employment and the water and power resources NAWAPA XXI will ultimately provide. The strategic process will be unfolded according to available human and physical resources, both requiring rapid development.

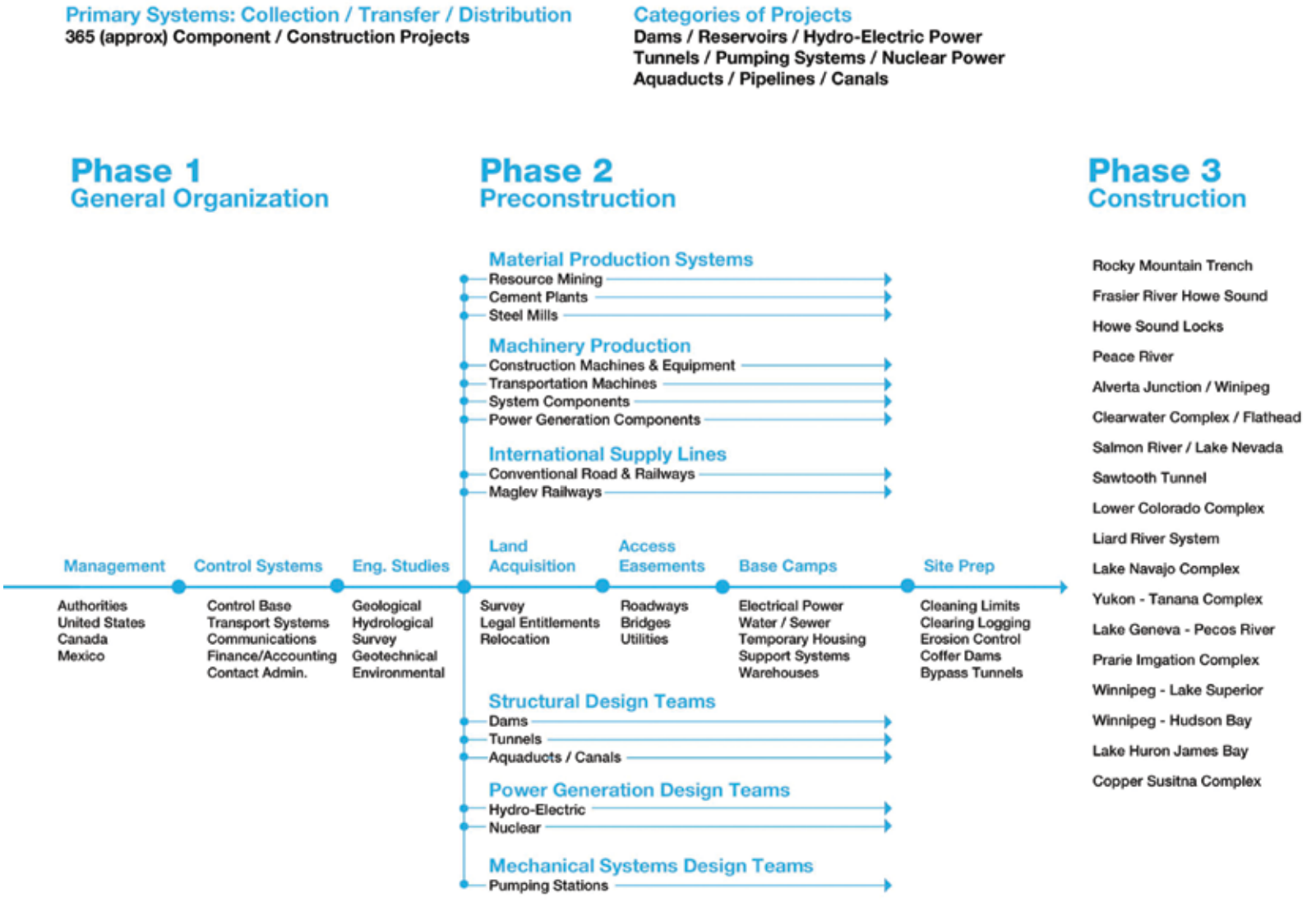
After this, an assessment is made of the current needs for labor and industry, and what new technologies could be applied.

Finally, the method to be taken for overall implementation, based on the above, is discussed.

Section II. An in-depth analysis of the historical development and current impossible water crisis of the five major river basins of the U.S. Southwest is made. Multiple uses of collected water by the NAWAPA XXI system are discussed and demonstrated with maps, including calculations for new irrigable farmland for the U.S., Canada, and Mexico. The historical and current state of U.S. agriculture is succinctly demonstrated.

Section III. The ability of the government to actualize this plan is demonstrated. The re-establishment of the U.S. System of Public Credit through NAWAPA XXI's implementation is treated, first, by providing an approximation as to the series of steps that will be taken by a willing President and Congress, and, second, by providing an in-depth historical analysis of the creation of the Credit System by Alexander Hamilton and his collaborators, its use by John Quincy Adams and James Monroe, and its revival under Abraham Lincoln and Franklin Roosevelt.

FIGURE 4



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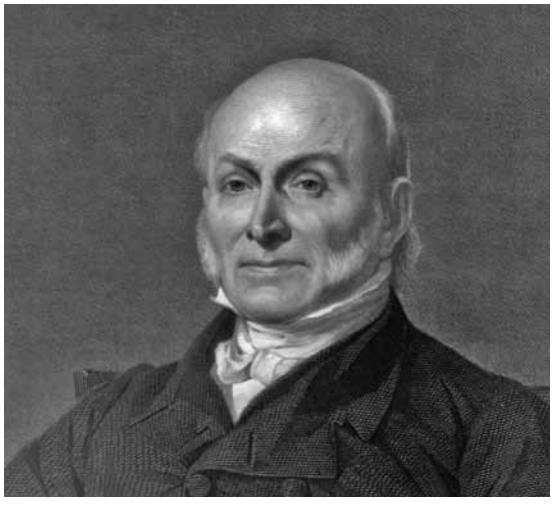
Section III

How NAWAPA XXI Will Restore the System Of Public Credit

> The Bank of the United States will die, but its ghost will haunt this hall, though justice should be denied, Congress after Congress, perhaps from age to age, and your evasion of the question will be a standing recommendation of the claim, till importunity shall extort from your successors the reparations sought in vain from you.
>
> *Rep. John Quincy Adams, 1834 Speech to the Speaker of the House, on the Removal of the Deposits from the National Bank*



Library of Congress

John Quincy Adams

The chief concern at present is the re-establishment of public credit as a source of investment.

The funding of NAWAPA XXI cannot be viewed in the abstract as the funding of a particular engineering project. While public credit has been used to build the national economy before, the process of re-establishing that system, and the funding of NAWAPA XXI, need to be one and the same act.

Upon determination of the amount of legitimate debt of the United States which was made on legitimate Constitutional contracts, and by following the Constitutional principles included in this final section of the report, a pathway can be determined through the initiation of NAWAPA XXI by which the United States could make good on this debt and restore its credit, within the next generation, without resorting to budget-cutting.

The essential issue to be answered regarding payments, is not whether the people of the U.S. have *money*, but, whether they have *credit*. Do they have the capability to build the elements required? Are they good for their word in completing the job? Can they manufacture steel for a new rail grid? If they have the power and commitment to do the needed tasks, then the American people have the credit for the job.

The following is an approximation of the actions which will be taken, divided into distinct phases. These proposed actions are outlined in detail in the close of this report,[1] as a basis on which to develop a full legislative document.

Phase 1

a) Assessment of Valid National, State, and Municipal Debts, Assets, and Commitments. This will be accomplished by creating a separation of merely fictitious debt and honest debt, with the reinstatement of the Glass-Steagall Act. Commitments to issue debt for speculative investment lending will be canceled and the Fed will be prohibited from increasing its asset book.

b) Resumption of Control over U.S. Currency. This will be accomplished by restoring the U.S. Treasury Department as sole overseer of the value of U.S. debt, and monetization of Congressional bills of credit into U.S. paper currency. Accordingly, the Federal Reserve will be banned from purchasing and trading in U.S. public debt, or printing of U.S. money.

Only after these actions have been taken, can Phase 2 begin.

Phase 2

a) Establishment of a United States Credit Fund. A fund set up for the purposes of circulating credit, akin to the Reconstruction Finance Corporation (RFC) under President Franklin Roosevelt's direction, or the First and Second Banks of the United States, must be established, as a crucial element toward aiding the U.S. Treasury in a successful funding of valid U.S. debt and extending credit toward the accomplishment of

1. See Appendix 2, Detailed Proposal to Restoring the Public Credit Through NAWAPA XXI (http://larouchepac.com/nawapaxxi)

NAWAPA XXI. If the fund is provided with U.S. Treasury bills or bonds which are to be strictly tied to long-term, low-interest loans, to specific infrastructure and manufacturing programs related to NAWAPA XXI, it will be more akin to the RFC.

If it is given any or all of the following qualities, this fund shall become a National Bank: a) a depository for Treasury Department revenues such as collected duties, increasing its ability to lend, b) incorporation into a private institution with a capital stock including not only a sum of U.S. Treasury debt and currency, but also increased by a large subscription from private investors who wish to become shareholders in its capital stock. In addition to greatly increasing the lending, the shareholders, both public and private, profit on the interest accrued from the lending, and c) permission to be a deposit account for all citizens, further increasing its ability to lend.

b) Assessment of New Revenues for the U.S. Treasury. By determining the manufacturing, infrastructure, and labor-force requirements for NAWAPA XXI, in comparison to our current capacity to meet the need, various tariffs will be designed to build our capacity up to the requirement. Many other revenues can be contemplated and designed: a) the increase in overall economic activity, greatly increasing the taxable income of businesses and individuals, including those newly employed; b) eventual sale of water and power will involve the secondary uses of water and power such as agriculture and industry, increasing tax revenues; c) increased land values associated with these various secondary uses of water and power will increase tax receipts commensurately; d) Treasury commitments out of the annual budget currently directed toward infrastructure maintenance and investment which will be taken over by the credit fund; e) interest made on loans on the capital stock of a new National Bank, of which the government will be a joint proprietor.

Phase 3

a) Funding the Public Debt. Rather than attempting to pay off a monetary debt with budget cuts, the newly assessed public debts will be turned into a credit source, by issuing new bonds upon them, and tying these new bonds to the specific time schedule and revenues associated with NAWAPA XXI. This relation between the newly issued debt and the expected revenues determined in Phase 2, will be broadcast as new policy, as the first act to restore the public credit. Revenues will be allocated toward making good upon the re-issued debt.

The interest rates and terms of funding the new debt are to be arranged, according to the interests of the United States as a sovereign nation, in a manner which will allow the economy to produce an increasing number of surpluses from the development of industry, agriculture, and increases in productivity.

Either by a special arrangement with the credit fund, having the status of the RFC, or a full National Bank, the capital stock could be made up of a large amount of various categories of re-issued debt, and of joint subscribers to the fund who purchase stock with the current debt of the United States they hold, upon which it will lend money at interest. The interest made by the public investment in the credit fund will be channeled toward making good on the public debt which is part of the capital of this credit fund. At the same time, the value of the debt will increase, as it is funded by all of these arrangements.

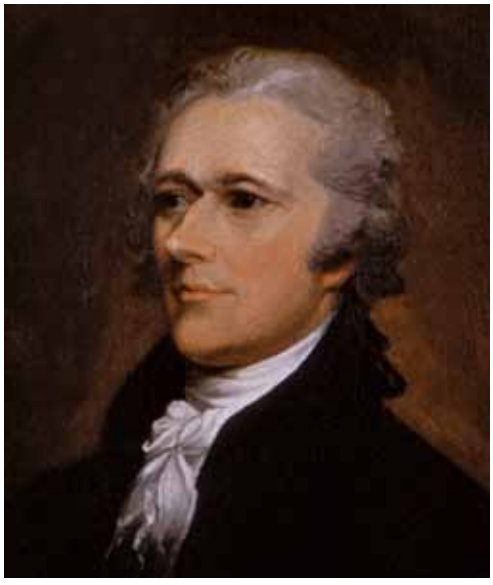
b) Determining the Specific Financing of NAWAPA XXI. Based on the completed estimate of requirements and a subsequent estimate of how efficiently the chosen elements can be produced and constructed in a given time while maintaining the rising productivity, the proper terms and amounts of loans will be provided by the credit fund. A body given authority over the project will either receive loans from the credit fund, or, in a way similar to the relationship between the U.S. Treasury and the Tennessee Valley Authority, its capitalization could be made by private subscription of investors, who will buy NAWAPA XXI bonds issued by the given authority for a given amount, on the credit of the United States and in accord with certain treaty agreements, and guaranteed by the United States, Canada, and Mexico.

The interest and principal would be paid on the basis of the sale of water and power. If required, a portion of the interest on the NAWAPA XXI bonds could be paid on the basis of the revenue streams allocated for the funding of the debt. Investment cycles and credit emission for the project should be organized to accomplish those tasks which will cause the greatest increase in the potential of the economy for the next investment.

A finished plan by the government which follows this general outline, in accord with the following in-depth treatment of the original founding and use of the Constitutional system of public credit, freeing the econ-

omy from the illiteracy of the piggy-bank economy mentality, can be the basis for a return to proper wealth creation through a credit system.

Part 1: Alexander Hamilton's National Banking System Of Public Credit



Alexander Hamilton

> No well-informed man can cast a retrospective eye over the progress of the United States, from their infancy to the present period, without being convinced that they owe, in a great degree, to the fostering influence of credit, their present mature growth. This credit has been of a mixed nature, mercantile and public, foreign and domestic. Credit abroad was the trunk of our mercantile credit, from which issued ramifications that nourished all the parts of domestic labor and industry. The bills of credit emitted, from time to time, by the different local governments, which passed current as money, cooperated with that resource. Their united force, quickening the energies and bringing into action the capacities for improvement of a new country, was highly instrumental in accelerating its growth.
>
> *Alexander Hamilton, 1795*
> *"Report on Public Credit"*

The Revolutionary War was won, and the United States was won, by restoring the public credit.

To secure the spirit of 1776, it was necessary for Congress to have a national banking system, and also the necessary powers to fund the National Bank; with these elements, a system where circulating currency is defined by its future value is made possible. Alexander Hamilton worked with the key leaders of the new Republic, and led in the organization and implementation of these means beginning in 1779, as Aide-de-Camp to General Washington, and securing them as Treasury Secretary from 1789 through 1795.

Hamilton had outlined the problematic situation between 1779-1781 on a number of occasions in his letters to Robert Morris,[2] zeroing in on the state of the currency. The war required expenditures far outside the means of the Continental Congress. Increasing emissions of paper currency were therefore necessary. However, a depreciation due to a want of confidence in the Union, and high prices, caused a lack of circulation, leading to a further depreciation. The depreciation was not due to a decay of resources of the country, but rather to a lack of resources united behind the currency. Emissions of paper currency were not the problem; the problem was the one of credit.

> It is by introducing order into our finances—by restoring public credit—not by gaining battles, that we are finally to gain our object. . . .
>
> While Congress continue altogether dependent on the occasional grants of the several States, for the means of defraying the expenses of the Federal Government, it can neither have dignity, vigor, nor credit. . . . There are some among us ignorant enough to imagine that the war may be carried on without credit, defraying the expenses of the year with what may be raised within the year.
>
> *Alexander Hamilton to Robert Morris,*
> *April 30, 1781*

Hamilton wrote to Morris that the war could not be won without creating a funding source for the civil and military needs of the nation beyond taxation, and that a foreign loan on credit was necessary. However, the paradox facing Hamilton was that private interests could make more profit, with greater assurance of payment,

2. In February 1781 Robert Morris was appointed Superintendent of Finance by the Continental Congress; Morris was one of Benjamin Franklin's closest collaborators, and had been left in charge of the executive operations of the Congress by Franklin while he organized support for the war in France.

by investing their money in trade, rather than lending it to the Congress at interest. How could they be persuaded to loan their money for the security of the Union? Further, with a loan received, how would it not simply be a temporary fix, doled out to purchase needed items, at high prices, the amount soon used, the currency still depreciated, and the state of affairs no different again in six months?

Hamilton wrote that to give individuals the inclination and ability to lend, the loaned money could be turned into a fund in which other foreign and domestic traders would take part, as the fund would be directed in such a way as to be beneficial to them in commerce, making it in the interest of trading men to uphold the value of the currency, since it would be linked to the value of commerce, and in this way obtain a permanent paper credit.

> A plan must be devised, which by incorporating their means together, and uniting them with those of the public, will, on the foundation of that incorporation and union, erect a mass of credit that will supply the defect of monied capital, and answer all the purposes of cash; a plan which will offer adventurers immediate advantages analogous to those they receive by employing their money in trade, and, eventually greater advantages, a plan which will give them the greatest security the nature of the case will admit for what they lend; and which will not only advance their own interest and secure the independence of their country, but in its progress, have the most beneficial influence upon its future commerce, and be a source of national strength and wealth. I mean the institution of a National Bank.
>
> The tendency of the national bank is to increase public and private credit.... Industry is increased, commodities are multiplied, agriculture and manufactures flourish, and herein consists the true wealth and prosperity of the state.
>
> It turns the wealth and influence of both parties into a commercial channel for mutual benefit, which must afford advantages not to be estimated; there is a defect of circulation medium which this plan supplies by a sort of creative power, converting what is so produced into a real and efficacious instrument of Trade.
>
> It is in a national bank, alone, that we can find the ingredients to constitute a wholesome, solid, and beneficial paper credit.
>
> *From Letters to Robert Morris 1779-81*

Morris, Hamilton, and James Wilson, who would become its spokesmen, worked together to finalize the plan for the bank, chartered as the Bank of North America. The initial stock of the bank was formed by a subscription for a said amount of money which could then be loaned out on interest in the form of bank notes, benefiting the shareholders and the nation simultaneously. Most of the initial capital stock of the Bank's formation was bought by the United States government with the loan it would receive from France, uniting the public success with that of the bank. The rest of the stock was opened to subscription for trading men, both at home and abroad. This initial foreign loan going to the make-up of the initial stock of the bank ensured that the capital stock was large enough to create a proportional credit, and ability to lend to the United States, and enlarge its paper emissions. The bank was allowed to make contracts with the U.S. and France to supply needs for their armies and fleets, and would make an annual loan to the Congress. Robert Morris afterward said, "Without the establishment of a national bank, the business of the department of finance could not have been performed," and the war could not have been successfully prosecuted," in the late war.

In addition to these main purposes, the bank could also lend for general commerce, and individuals could trade specie for bank notes of similar denomination, increasing the available currency in circulation. The depreciated continentals were to be replaced by circulating bank notes, and serve as a unified currency and a more homogenous source for taxation. The quantity of the currency increased, since specie invested in the bank was put to constant use in trade, in the form of bank notes. The available currency would now greatly accelerate trade and commerce, the payment of taxes would increase due to the new available and assured means for its payment, and Congress's deposit of its collection to the bank would add to its ability to lend. The interest on its loans would continuously increase the bank's capital.

The paper emission had been liable to depreciation because no paper currency could be substantial, or durable, which does not unite the resources and growth of the real economy with its establishment and circulation. With a National Bank, the quantity of paper currency

would not have to be decreased for its value to be increased. It would be increased by increasing the confidence in the currency, since it would be funded with the growth of industry, agriculture, and successful execution of the war, as profitable to the stakeholders as individual trade investments were earlier.

Hamilton demonstrated, in his formation of the bank with Morris, the central principle of successful use of banking and national paper currencies. The credit of the paper currency would not be that it was upheld with a loan of gold from abroad; rather, the source of credit of the paper currency is major investment into commerce, for which the National Bank, united with the aims of government, serves as the necessary means.

The Needed Powers

> Credit, too, animated and supported by the general zeal, had a great share in accomplishing … that Revolution, of which we are so justly proud, and to which we are so greatly indebted.
>
> *Hamilton's 1795 "Report on Public Credit"*

However, while the Bank of North America, serving as a tool of the Continental Congress, helped secure the victory of the war, already, in the planning of its charter with Morris, Hamilton pointed out the impossible situation of a government which was given the nominal power to provide for the general welfare of its people, but not the ability and authority to procure the necessary revenues.

The institution which had been formed to organize the resources of commerce into a source of credit for the currency and the needs of the government, could not accomplish this task, if the resources could not be called forth. In short, the same problem remained as before the 1781 Bank of North America: that without the faith and proven power of the nation to act as a unity to carry out an intention, *a currency created by the Treasury has no value.* Without the powers to regulate trade, perform general taxation, regulate the currency, and coordinate the payments of the debts—in short, the ability to unify the resources of the various states into a unified whole for budgetary and loan payments—there could be no secure funds to establish credit, nor fund the National Bank. Such a bank could only serve as a driver for local commerce, and loans for the war, and would be unable to carry out an establishment of lasting credit of the nation and government.

For this was required a new constitution.

The states were plagued by trade wars—in large part orchestrated by Britain's 1783 policy of financial warfare[3]—as well as internal debt problems, both of which exposed the weakness of the Congress even further, making the need for these changes even more prominent. Hamilton, working with Morris and Franklin's Philadelphia networks and the Society of the Cincinnati, led the way toward a convention for a new constitution with the needed powers of Congress to secure the credit of the union.[4]

Establishing the System of Public Credit

Hamilton could now create the system of public credit, employing the powers of Congress which had been won through the Constitution.

The first step was to declare that the public credit would be restored.

The domestic debt stood at $42.4 million, the foreign debt at $11.7 million, and each state had its own separate debts, totaling $21.5 million. Viewed from the standpoint of gold and silver, which had been borrowed for the war, the new republic was bankrupt, and had no possible way within the existing system to settle its accounts. Creditors and veterans of the war held various types of claims of debt, owed to them for payment and

3. Soon after the Preliminary Articles of Peace of November 30, 1782, financial warfare began with Britain's dumping of cheap manufactures in U.S. markets to destroy our industries (the policy of Prime Minister Shelburne). Meanwhile, Tories amongst us attacked the Bank of North America. which was a bulwark against financial instability, slandered Franklin, and argued against the increased powers of Congress which Hamilton was proposing. See "How Ben Franklin Organized Our Economic Independence," *EIR*, Oct. 21, 2011, www.larouchepub.com.

4. In April 1786, Franklin appointed Robert Morris, Tench Coxe and others as Pennsylvania delegates to the Annapolis convention. Hamilton, coming from New York, was appointed to report the outcome of the meeting, calling for a new convention to "devise such further provisions as shall appear to them necessary to render the constitution of the Federal Government adequate to the exigencies of the Union." The May 1787 meeting would coincide with a Society of Cincinnati meeting the same month, of which Hamilton was an active leader. Meetings then took place, weekly, beginning February 9, 1787 at Ben Franklin's Philadelphia house, with Robert Morris, Gouverneur Morris, James Wilson, and others, founding an official Society for Political Inquiries for the meetings, whose topics would be confined to subjects of government and political economy. Franklin and Morris's collaborators in Philadelphia at the Bank of North America, Gouverneur Morris and James Wilson, were among the most active participants at the Convention, with G. Morris writing the preamble. It was this team who designed the Constitution's powers, and sought to implement them upon its ratification. Ibid.

"Scene at the Signing of the Constitution," by Howard Chandler Christy (1940).

loans which were becoming less and less valuable. However, rather than canceling the domestic debt and letting the states do the same or fend for themselves, Hamilton devised a plan to increase the available wealth in circulation by an order of magnitude.

Hamilton reported to Congress on January 9, 1790 that he would make good on all debts, declaring that the debt incurred during the war was not a burden to be shrugged off, but a price of liberty. If the virtuous intention which had created that debt were now applied toward utilizing the new Constitution, clothed with powers competent to call forth the resources of the nation, the public credit would be established as an immeasurable resource for a system of economy based on the authority of a sovereign government over its finances.

Since there was no way to pay the principal of the whole debt through annual taxes alone, Hamilton proposed that the newly assumed national debt would be provided for by taking out *another loan for the whole amount of the domestic and state debts combined*—$42.4 million, and $21.5 million respectively. The loans were not to come from holders of gold from abroad or at home, which would simply be creating another monetary debt to pay off an existing one. Instead, he issued a call for subscribers to the new proposed loans to turn in their certificates of debt which had been issued to them in multiple forms during the war, as claims of debt, interest on debt, or salary payment. Then, they would receive in exchange other certificates for the original ones, but now with an annual interest rate tied to a plan to fund all debts. The interest on the new debt was, on average, 4%, rather than the 6% interest that the original debt bore.

To increase the available money in circulation, this interest on the certificates was to be paid out quarterly, to increase available currency for commerce. A full analysis of the economic resources of the nation, and managed commerce through the Treasury Department in the form of duties, imposts, and excises, gave an ability to collect and increase revenues needed to allocate a constant fund toward the payment of interest on the foreign and newly assumed national debt. This funding of the debt would be the basis for the value of a new currency circulating as a representation of the future value of the debt.

According to Hamilton's maxim for restoring and building the system of public credit, the creation of this new national debt, as now a responsibility of government, was linked to the means to extinguish and make

good upon it. The first major act of Congress, on July 4, 1789, had been to apply its new power to lay and collect taxes, duties, imposts, and excises: "An Act for laying a Duty on Goods, Wares, and Merchandises imported into the United States." Now on August 4, 1790, in accepting Hamilton's proposed *Report on Public Credit,* it acted on its power to pay the debts and provide for the common defense and general welfare of the United States, passing "An act making provision for the debt of the United States."

This act authorized the two loans proposed by Hamilton for the domestic and state debts, and declared that all revenues of duties or other taxes, would be allocated accordingly, a) setting aside $600,000 from the revenues of duties—for "the support of the government of the United States, and their common defense," the payment of the interest on the $11.7 million of foreign debt, and b) the rest was "pledged and appropriated" toward the payment of the interest on the newly issued certificates of public debt. The sale of lands would go toward sinking the principal.

Legislation passed six days later, on August 10, 1790, an "Act making further provision for the payment of the debt of the United States," greatly increased the number and amount of duties on imports and internal excise taxes, all appropriated according to the August 4 Act. Then, on August 12, an "Act making provision for the reduction of the Public Debt" declared that all revenues after the allocations toward the aforesaid, a) and b) would then go toward c) purchasing the public debt (sinking the principal value of certificates) in order to increase and support its value, and protect it from speculators who would take advantage of a low gold value of the debt.

According to the maxim in his *Report on Public Credit,* Congress organized its revenue flows toward making good on the assumed debt in the *same act* that authorized the assumption of the debt. These measures ensured the value of the certificates, as they would be of stable value to the holder thereof, and became in this way a sound basis and vast capital for trade, and were accepted for credit at the state banks. The old continental currency which had been near valueless, also appreciated with the commitment to the new program.

Hamilton turned simple separate monetary debts of payment, into a national public debt, whose value would increase as the strength of the nation increased. The internationally recognized value of the public debt increased 300% from the beginning to the end of Hamilton's first year as Secretary. Circulating at interest through the economy, it became the basis of a new national currency, and a new source for public credit.

In his January 1790 *Report on Public Credit,* whose measures were carried out in the above Acts, Hamilton had outlined a *"second loan,"* to be taken out by the government, in addition to the one for the full amount of the domestic and state debts. The subscriptions of this loan, of $10 million, would not be 100 percent payable in the public debt, but rather, those who subscribed, or partook in this loan, would pay one quarter in gold and silver, and the rest in certificates for the public debt. The stock created was to be a fund for circulating credit upon it to answer the purpose of money for government and economy, loaned out at a higher interest than the *"first loan."*

In his next report to Congress, on December 13, 1790, having secured the passage of the Acts that year, Hamilton was in a position to outline his plan for a credit fund for public and private operations, which was to be similarly a $10 million capital, but which now, rather than being a direct loan to the government, would be the capital stock of a National Bank, regulated by Congress and under joint proprietorship with the government. Those who had subscribed to partake in the loan for the national debt, and who had received a certificate of the public debt with interest, could now use these certificates to become subscribers for $8 million of the founding capital stock of the Bank, where each share was made up of three parts public debt and one part specie. In this way, the future promise of the funded national debt served as the majority of stock of the new National Bank which would be lent out at interest.

Two million dollars worth of the shares of stock would be subscribed by the U.S. government in specie, borrowed according to provisions in the August 4 and August 12 acts of Congress. This subscription, on the account of the U.S., put the full weight of approval and interest of the U.S. government behind the establishment of the bank, uniting the public interest with its success.

The three other chief features of the bank were a) that its loans were to be limited to its capital stock, b) loans to domestic and foreign governments were to be regulated by Congress, and c) the bank was forbidden from purchasing and trading in public debt. On February 25, 1791, Congress enacted Hamilton's plan, as "An Act to Incorporate the Subscribers to the Bank of the United States."

With a bank whose credit function could be funded with the powers worthy of a sovereign government, the multiple benefits of banking could be fused with the resources of a massive fund of public debt, which in turn would be fused together with the whole power of the economy.

An explanation of the above aspects is now required.

Unlike the oligarchical banks in Europe, the system of public credit which Franklin, Morris, and Hamilton worked to establish, declared that money is a means to circulate physical wealth—that it is only a means of exchange, and *has no self-evident value outside the process defined by the sovereign government's intention, designating value for its purposes.* From early on in 1779, Hamilton's intention was to utilize the elements of banking for purposes entirely different from how they had been used in Old Europe—such as the imported Dutch speculation machine known as the Bank of England—and now meld the concept of interest with nation-building, rather than usury.

The two chief functions of the National Bank, chartered as "The Bank of the United States," were, first, the creation of a medium of exchange in which credit could be transferred, and, second, the transferring of that credit, both for the exigencies of government, and the promotion of commerce, agriculture, and manufactures.

1. The Creation of a National Paper Currency

By designing the bank around the utilization of the newly funded debt, the bank's capital was sufficiently large to create a full currency of circulating bank notes, which were to be accepted as readily as the capital stock of specie and public debt on which they circulated. These became the new national currency. The bank notes represented the intention of the nation to develop, as they were circulating on the promise of the public debt, being funded by a functioning Executive and Congress. Without a National Bank, all the revenues of duties for the contracted payments of interest on debts, if made in specie, would be sitting idle, in preparation for payment. With the paper currency of bank notes, revenues can sit in the bank until the time of payment and in the meantime be a resource for further lending.

This uniform national currency of bank notes allowed the Congress to maximize the efficiency of making use of its Constitutional powers, while at the same time increased the ease and speed of commerce, which was before impossible. The Bank of the United States:

a) Created a unified medium in which duties and other taxes were collected, paid, and applied, while also facilitating a constant and predictable receipt of them, since the bank could make loans to assist individuals and companies in their payment;

b) Aided in the regulation of commerce by relieving it from a fluctuating value of paper money, and varied representation of paper money between states, both of which served as an added expense to productive industry;

c) Facilitated the funding of the national debt, as the payments on the interest on domestic and state debts could be made in bank notes payable for specie on demand, greatly assisting the Treasury and increasing the currency in circulation.

2. A Credit Fund—Public and Private

In addition to serving as the means to create an efficient medium for the economy, the second chief function of the National Bank and its related state branches, was to serve as the mechanism for growth, utilizing the public credit established due to Hamilton's funding of the public debt, as the sufficiently large source on which citizens and companies could borrow.

The government's 20 percent ownership of the capital stock not only increased the bank's ability to lend, but served as the chief source of government borrowing for its operations in the form of bank notes, increasing the currency in circulation. Crucial for maintaining the scheduled funding of the public debt, the Treasury borrowed millions of dollars from the bank during Hamilton's term as Secretary, making up differences in allocated revenues and sinking the principal of certain quantities of the issued certificates for the public debt, in order to increase its value. The increasing dividends of its share of the stock, above the amount of interest to be paid out on the loan which was taken for its purchase, would also be of profit to the government.

The terms of funding the debt held by the creditors of the United States, were set by the sovereign nation; the United States was not submitting to a foreign power. Similarly, when the government borrowed from the National Bank, it was not going into debt according to the terms of a private bank, but a bank whose charter was created by the government, and whose capital was fused with the success of the government's finances.

Debt was redefined therefore as not merely a monetary debt, that was to be simply paid back in money saved, but reflected the whole process of unifying the resources of the national economy, with a currency that reflected the promise of a sovereign government. *As the power of the productive economy grew industry, so, reciprocally, did the National Bank's value of capital and the general value of the public debt. Therefore, when the government borrows from the National Bank, the government borrows from a source which is a representation of real industrial and agricultural growth, not from a piggy bank.*

The bank's operations were strictly tied to the function of building the economy and to the capital which formed its stock. Three points written in its charter further clarify this:

a) Unlike the acts by the 1694 Bank of England or the Federal Reserve, Hamilton's National Bank could not buy government debt.[5] The government debt made up a large portion of its founding capital stock, and those who were holders of public debt could deposit it in the bank, further increasing the bank's capital stock, but the bank itself could not purchase debt or trade in debt, only in bills of exchange and coin. "The Bank is not at liberty to purchase any public debt whatsoever." The U.S. government therefore had complete control of the value of its debt.[6]

b) The bank could not loan indefinitely, and was restricted to the amount of its capital. As its initial capital was made up largely of the public debt, whose value consisted entirely on the act of engaging the process being discussed, this 1) directly tied the success and profits of the bank to the time in which the U.S. would be making good upon its debt, and 2) its lending in bank notes was being done on the value of the future promise of the public debt.

c) The bank could only make or receive large loans on the account of the U.S. government to and from state and national governments, and foreign princes or states, with the authorization by the U.S. government.

3. Increasing Capacity for Lending

a) The fund would serve as a depository for all government revenues collected or borrowed, being put to use as an increased bank capital and credit to be lent upon, benefiting commerce, and adding to the profits of the shareholders of the bank.

b) Formerly idle specie of other depositors could be put to use and magnified in loans by the bank for trade, and to the government.

c) As the six million dollars of capital stock of the bank accrued interest payments by the government, it would serve as a significantly increasing capital deposit and available capital for the bank.

d) Government purchases of the public debt, i.e., sinking the principal value of select certificates—which Hamilton thought was only permissible once a funding plan of the debt was in place—increased the value of the remaining public debt which formed the capital stock and deposits in the National Bank, and the like value of the circulating currency on its basis.

All of this would be an increased capability for lending for commerce, which subsequently increased circulating currency, allowing for more ease of trade.

Hamilton wrote, in his next report to Congress on December 5, 1791, of the effects the bank was beginning to have on resource development, manufactures, and commerce:

> . . .In a sound and settled state of the public funds, a man possessed of a sum in them can embrace any scheme of business, which offers, with as much confidence as if he were possessed of an equal sum in coin. . . . Industry in general seems to have been reanimated. . . . there appears to be in many parts of the Union a command of capital, which till lately, since the revolution at least, was unknown. . . .
>
> Though a funded debt is not in the first instance, an absolute increase of Capital, or an augmentation of real wealth; yet by serving as a New power in the operation of industry, it has

5. Charles Montagu, treasurer, key leader of the Venetian Junto in England, and part of the welcoming committee of the invading William of Orange, established the Bank of England in 1694 through an Act of Parliament. Montagu then organized large loans through the private Bank, controlled not by the King, but Parliament, creating a giant monetary debt out of thin air, a quantity for speculation and impoverishment of England, and then proceeded to push through dictatorial financial decisions for the economy, while never once issuing anything for development. By 1697, a deliberately forced depression and credit crunch left England weakened and subdued a situation in which the Junto made the Bank a monopoly over all banking.

6. By contrast, any government which has a central bank, such as the Federal Reserve, which is permitted and committed to purchasing that government's debt, is in an inherently hyperinflationary situation. The government can incur unlimited amounts of debt which the central bank can simply buy by the printing of new money, irrespective of any connection of that new debt to development of the real economy or productivity.

within certain bounds a ten dency to increase the real wealth of a Community, in like manner as money borrowed by a thrifty farmer, to be laid out in the improvement of his farm may, in the end, add to his Stock of real riches.

While it was not the same as money, by serving as a new power in the operations of industry, the funded public debt would end up creating the money of the community. Hamilton understood that the real value which money has, is as the reflection of the physical wealth created, which actualizes what was an initial act of credit. It was just in this way that the public debt was a higher form of capital, with a value intrinsically linked to the power of the government, unlike mere gold. The banknotes that were circulating on the public debt represented the power and promise of the new federal government and Constitution.

Later, on January 21, 1795, as the system of public credit had been established, Hamilton underscored this point in his last report to the American people as Treasury Secretary.

> Public credit has been well defined to be "a faculty to borrow, at pleasure, considerable sums on moderate terms; the art of distributing, over a succession of years, the extraordinary efforts, found indispensable in one; a means of accelerating the prompt employment of all the abilities of a nation, and even of disposing of a part of the overplus of others."
>
> This just and ingenious definition condenses to a point the principal arguments in favor of public credit, and displays its immense importance.
>
> . . .it is among the principal engines of useful enterprise and internal improvement. As a substitute for capital, it is little less useful than gold or silver, in agriculture, in commerce, in the manufacturing and mechanic arts.
>
> It is matter of daily experience in the most familiar pursuits. One man wishes to take up and cultivate a piece of land; he purchases upon *credit*, and, in time, pays the purchase money out of the produce of the soil improved by his labor. Another sets up in trade; in the credit founded upon a fair character, he seeks, and often finds, the means of becoming, at length, a wealthy merchant. A third commences business as manufacturer or mechanic, with skill, but without money. It is by credit that he is enabled to procure the tools, the materials, and even the subsistence of which he stands in need, until his industry has supplied him with capital; and, even then, he derives, from an established and increased credit, the means of extending his undertakings.

Part 4: Roosevelt's Credit Funds

In the aftermath of the assassination of two nationalist Presidents, James Garfield in 1881, and William McKinley in 1901, the Wall Street buyout of rail and steel by the turn of the century, and the establishment of the unconstitutional Federal Reserve under Wall Street tool President Woodrow Wilson, Franklin Roosevelt faced a daunting challenge. In the midst of the Great Depression, he had to approximate the intention of a full national banking system, as Lincoln had done with the greenbacks, as an alternate mechanism of credit, this time using the Reconstruction Finance Corporation (RFC) and the Tennessee Valley Authority (TVA) for the task.

The original RFC was formed by President Herbert Hoover as a corporation, which was given a capital stock on which it had the authority to extend credit up to 3 times the capital stock. Under Hoover, it merely doled out loans to banks and for rail bonds, which did nothing to solve the problem, since the banks could not rid themselves of their "toxic" assets whose interest payments were consuming all real assets. Roosevelt's RFC was entirely a different entity, and throughout the period that FDR was President, it was used as a makeshift national bank.

Under Roosevelt, the RFC's ability to lend continued to increase, as the productivity it generated through its purchases and loans came back with interest, in all parts of the economy to which it loaned. The RFC issued bonds on its own behalf, marketed by the Treasury, with the Treasury also buying some of these bonds, and the faith and credit of the U.S. Government standing behind these bonds. Initially authorized to extend $2 billion between 1933 and 1945, the RFC eventually extended $33 billion ($1.2 trillion in 2006 dollars), much of which was raised by the Treasury through special RFC bonds.

Its major operations were in reversing the mort-

gage meltdown, helping 20% of mortgaged urban houses, and refinancing 20% of all farm mortgages; restoring food and energy commodity production; lending to industrial businesses for expansion; recovering exports and trade, financing export of American capital; and later, investing in the war-mobilization. The RFC achieved all of this by creating public corporations, banks, and associations, set up by the RFC, whose stock it owned, to lend to other sectors of the economy.

In the 1933 bank panic, the RFC invested in sound banks reorganized through the "Bank Holiday," purchasing the capital stock of banks through a new amendment. In the Fall of 1933, Congress gave the RFC a fund to buy up "market" gold, in order to devalue the dollar and break the British oligarchy's gold cartel's grip on U.S. banking.

Congress amended the RFC act, allowing it to lend to industry, and agricultural and municipal districts. Institutions which were designed to foster and direct public works, such as the Civil Works Administration (CWA), and its successor, the Public Works Administration (PWA), received limited shares of the federal budget. However, the RFC then acted as the institution of public credit for these limited federal programs, by loaning a total of $2 billion to these institutions to build the infrastructure projects that would be needed to raise the productivity of the nation.

Loans from the RFC to the Federal Emergency Relief Administration (FERA) and the PWA employed 3.1 million people a year, not including the multiplier effects. It also funded levee and irrigation districts for water management and flood control, school districts, aqueducts, bridges, waterworks, highways, housing developments, hospitals, schools, and more. Most of the loans were termed 5-20 years, all of which were paid back.

The Rural Electrification Administration (REA) was created through RFC, financing 80% of the 20-year loans which farmers would take out from local REA districts at 3% interest. The REA received $40 million a year for ten years, and increased electrification by 400% between 1935 and 1939, at least tripling the productivity of now 40% of American farms with electricity. By 1955, when the full effect of the REA and New Deal projects came on line, through such projects as the TVA, the Bonneville Dam, the Grand Coulee Dam, and the Hoover Dam, this number rose to 88% of farms.

Franklin D. Roosevelt

For the war, the RFC was be the source of funds, loaning to industries the needed money to defeat fascism. The RFC created two defense corporations, investing over $10 billion in the following: aviation and the auto industry which converted to aircraft production; aluminum and magnesium producers; 45 plants to build high-octane gasoline to fuel airplanes; 183 steel and iron plants; thousands of machine-tool plants; new shipbuilding capacity, and related infrastructure projects.[7]

As far as serving as the credit function for the government, the RFC worked similarly to Hamilton's National Bank, as the funds on which it lent were all based on the creation of a debt to which the government was fully committed, based on the credit of the United States, in this case marketed by the Treasury. It, however, did not have the added element of being a government depository of revenues making up part of its loans, nor a place for all deposits resulting from the economic growth which it was stimulating, and was therefore more restricted in scope.

The Tennessee Valley Authority

Less than a month after taking office, President Roosevelt sent a message to Congress asking for legislation to create the Tennessee Valley Authority. He re-

7. For more on the RFC see: "How Roosevelt's RFC Revived Economic Growth," *EIR*, March 17, 2006.

quested that it be "a corporation clothed with the power of government but possessed of the flexibility and initiative of private enterprise." A month later, he signed the Act creating the TVA.

> In the construction of any future dam, steam plant, or other facility, to be used in whole or in part for the generation or transmission of electric power the board is hereby authorized and empowered to issue on the credit of the United States and to sell serial bonds not exceeding $50,000,000 in amount, having a maturity not more than fifty years from the date of issue thereof, and bearing interest not exceeding 3-1/2 per centum per annum.

The Act authorized the TVA Board, with the approval of the Secretary of the Treasury, to issue $50 million in bonds to be sold by the TVA. In the case that the TVA ran into revenue problems, the bonds would be "fully and unconditionally guaranteed both as to interest and principal by the United States," making the bonds lawful investments for any funds. The Act authorized the Treasury to buy the bonds. The TVA was to pay the interest and principal on the bonds from its sale of electric power. Although thus backed financially by the government, the TVA had the flexibility to plan and carry out its projects, as long as it met the overall mandate of the law, to develop the Tennessee Valley. On the first day of the new fiscal year, Oct. 1, 1933, shovels were in the ground to start construction on the first TVA dam.

The Eisenhower Administration tried to dismantle the TVA, describing it as "creeping socialism." What the Congress did do, was to end all federal appropriations to the TVA, which had not in fact cost the federal government anything, since the TVA was actually ahead of schedule in paying off the bonds. Also, a ceiling was put on how much debt the TVA could contract.

Since 1959, the TVA has been self-financed and its bonds are guaranteed by its power revenues, not the federal government, but the perception is that the government would back the bonds if need be, so the TVA has an AAA bond rating to this day.[8]

Conclusion

In all cases, the crucial principle of the System of Public Credit, implies a) a basis for lending, and b) the unification of resources of the nation channeled toward needed developments in manufactures and projects, making possible c) a system where circulating currency is defined by its future value.

In abandoning these Constitutional systems of financing, the piggy-bank economy has only been able to be maintained for a certain period due to the former wealth that was created under direction of the credit system, which operates according to the future state which the present is striving to create.

The ignorance by the populace of the history and nature of the credit system of Franklin and Hamilton and the nature of its use by Lincoln and Roosevelt and Kennedy, combined with the backward education and propaganda campaigns funded by Wall Street, has always been the cause for those periods in which Wall Street takes over the United States—periods which must be broken from with a rediscovery of the credit system and the investment in great projects, as in the cases of the Presidents mentioned.

The credit of a nation is based on whether the nation can organize itself to achieve the ends which it sets out to accomplish. This ability to perform is tied to its will to increase its productivity in science and technology. Today, we lack credit because we lack the organization of our nation toward a future state of higher productivity. Without this direction, we have no credibility to build an economy on which anyone can depend. At the present time, anything short of high technological investments associated with NAWAPA XXI, and related projects, could not restore this credibility, either for our own sense of worth, or in the eyes of the world.

By constructing this project, a memorial will be built for those brothers who would have lived to build this country far beyond where we stand today—and the credit of the United States, shall be restored.

8. The TVA has accumulated more then $25 billion in debt, mostly from loans that had been contracted in the 1970s to build nuclear power plants. These loans would have been retired by now, if the plants had not been canceled when nuclear power was under attack in the early 1980s. Congress has limited the TVA to a $30 billion debt ceiling. As it has approached that ceiling, the TVA has recently started to sell some of its power-generating assets to the private sector, and leased back the plants, so it still operates them and sells the power. That means the TVA has to pay a higher interest rate to the company that now owns the facility, than it would if it could just sell its own bonds to finance its construction projects. The rise, however, avoids the TVA bumping up against its debt ceiling.