Center for American Progress

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Accelerating Infrastructure Improvements with Better Public Policies that Tap Private Investment

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Introduction and summary

President Barack Obama's re-election was widely viewed as a referendum on the issues he has championed in his first term, and that certainly includes rebuilding our nation's infrastructure. On the campaign trail, the president repeatedly called for directing to infrastructure the federal spending saved by ending the wars in Afghanistan and Iraq, asking for those funds to support "nation building right here at home."[1] Only one week before the election, he laid out his legislative agenda for a second term: addressing the federal deficit first, then moving on to infrastructure improvement and immigration reform.[2]

It's clear that the president and many members of Congress understand that at the heart of the world's largest and most innovative economies are advanced infrastructure networks. State-of-the-art infrastructure ensures the timely delivery of goods, supplies homes and businesses with clean water and electricity, and enables individuals and information to travel thousands of miles with incredible ease. Without this infrastructure, the continuous economic growth we have come to expect would be impossible.

Despite the clear indispensability of assets such as highways, railroads, and drinking-water systems, policymakers in the United States have underinvested in core infrastructure for decades. Traditionally the responsibility of the public sector, infrastructure spending has lagged well behind established needs for years and is now more than $129 billion per year short of required levels.[3] The president attempted to mitigate this funding gap with the American Jobs Act, pushing for more than $50 billion in additional federal investment in infrastructure and the formation of a national infrastructure bank.[4] Congress, however, refused to pass that bill,[5] which would have both supplied the country with jobs in the slumping construction sector, as well as provided needed improvements to infrastructure.

Some creative solutions have already been found to address the funding shortages for infrastructure in the United States—such as the U.S. Department of Transportation's innovative use of the Transportation Infrastructure

Financing and Innovation Act program to transform federal Transportation Investment Generating Economic Recovery grants into federal credit subsidies that support loans worth 10 times the original grant amount—but much more remains to be done.

Of course, methods of stimulating more private investment will not obviate the need for additional public spending. It is clear, for example, that only specific kinds of projects are suited for private investment. These are primarily those that involve the construction of new facilities that will be heavily used and for which designated and predictable revenue streams can be identified. These sorts of projects are also generally most amenable to tolling or fee collection such as highway and bridge improvements or where appropriate leasing revenues can be generated, including at ports and airports. Nevertheless, additional private investment in viable financeable projects can free up significant resources for critical public undertakings.

For the president to accomplish his infrastructure strategy goals, additional reforms that mobilize more private investment in infrastructure are necessary. Private investors already fund a substantial percentage of infrastructure projects by purchasing municipal bonds, but better policies could incentivize even more private investment. In this report we propose a number of common-sense reforms to help achieve this goal, including:

- Fully uncapping and standardizing federal rules that give states tolling authority
- Establishing a national infrastructure bank
- Introducing American Infrastructure Bonds with a direct federal subsidy
- Renewing the 1705 loan program and extending the production and investment tax credits for at least 10 years

By adopting our recommendations, the Center for American Progress estimates that the United States could leverage up to $60 billion in additional private investment in new infrastructure projects annually.[6] But before explaining the details of those recommendations, we must first discuss why private investment is critical to improving the country's infrastructure.

The need for private investment

The United States has underinvested in its core infrastructure for decades. Policymakers have repeatedly neglected the needs of our roads, dams, levees, and ports, as well as our drinking-water systems, wastewater-treatment facilities, railroads, and inland waterways. The fact of the matter is that these critical structures—without which the U.S. economy would cease to function—require billions of dollars to maintain and refurbish. The United States Chamber of Commerce estimates that as much as $1 trillion in economic growth is forgone annually because the status quo approach to infrastructure renewal in America simply does not work well enough.[7]

But resistance to increased user fees and the Republican push for smaller government, along with the natural political instinct to pass the burden of upkeep on to the next administration, have resulted in funding levels that are insufficient to even cover basic repairs. A recent Center for American Progress analysis estimates that the infrastructure funding gap currently faced by the United States—the difference between what the government and private sector needs to be spending and what is actually spent—now stands at more than $129 billion per year.[8] This gap accounts for transportation infrastructure needs, including roads, bridges, mass transit, passenger rail, freight rail, ports, airports, drinking-water and waste-water facilities, inland waterways, and dams and levees. It also includes the energy generation and transmission infrastructure to meet U.S. demand while aligning with national goals for carbon dioxide reduction.

Unfortunately, given the existing political climate and the budgetary realities being faced by state and local governments in the wake of the Great Recession of 2007–2009, finding such essential funding may prove difficult if additional capital resources are not found. This is where private investment becomes so important. By partnering with private investors, the government can access financing capital for ground transportation projects such as major road improvements and bridge repairs, lock and dam repairs along our major inland waterways, and port and airport improvements. We can substantially increase the level of investment in U.S. infrastructure and potentially complete thousands of necessary projects that will increase our country's productivity and competitiveness.

Estimates of exactly how much private capital is available for infrastructure projects worldwide range from $190 billion to $600 billion, with former Secretary of Transportation Mary Peters placing the figure at approximately $400 billion.[9] While it is unlikely that the entirety of this funding will go to the United States, any sizable portion of this available capital would represent a substantial increase in U.S. infrastructure investment.

Such ideas are not new and have in fact been implemented on larger scales abroad for decades. The Brookings Institution found between 1990 and 2006 the annual value of public-private partnership investments in Europe increased six-fold.[10] In the United Kingdom alone, total public-private partnership investment just in transportation totaled $50 billion over that period, and between 2001 and 2006 public-private partnerships accounted for 32.5 percent of all infrastructure investment.[11] By comparison, in the United States public-private partnerships were only used to fund $10 billion in transportation investments between 1990 and 2006, or one-fifth of the United Kingdom's total.[12] While the use of public-private partnerships has been increasing in the United States since the 1980s, we still lag significantly behind the programs being implemented in other developed nations.

In the United States, public-private partnerships were only used to fund $10 billion in transportation investments between 1990 and 2006.

Private investment alone will not be sufficient to cover our annual $129 billion shortfall, and we must remember that not all projects will be suitable for such private investment. But when our needs are so large and of such unquestionable economic importance, we must consider every available resource—especially those proven successful elsewhere in the world.

In order for more private infrastructure investment to take hold in the United States, additional revenues for infrastructure development will be necessary. Private investors will need to be repaid their capital plus interest and a profit. New road tolls, increased gas taxes at the federal or state level, new leasing rights, or additional dedicated governmental general revenues will therefore need to accompany any strategy aimed at increasing private investment in infrastructure.

In the rest of this report, we detail a number of specific new policies that can mobilize private investment in infrastructure projects in the United States. While we cover a wide array of distinct infrastructure sectors and program types, when put together these initiatives could increase private investment in infrastructure by as much as $60 billion dollars every year and, as a result, free up scarce federal grant dollars for projects not suitable for private investment outside the traditional bond market.

The state of private involvement in infrastructure and what needs to change

This section focuses on the following four specific areas of federal policy that can improve efforts to promote private investment in infrastructure:

- Federal tolling policy
- A national infrastructure bank
- Infrastructure bonds
- Clean energy loan-guarantee programs and tax credits

Without additional revenues, an influx of private capital to finance infrastructure projects is not likely to materialize. For each particular area, we argue why the status quo is failing to generate the necessary private investment and detail the key steps to fixing that problem.

Federal tolling policy

The status quo

We begin by focusing on federal tolling policy because reforming these policies can add a significant new revenue source to the mix. Tolling roads and bridges is not a comprehensive strategy for closing our infrastructure-funding gap, but it represents an important and now-expanded mechanism for enabling additional public and private investment because it provides states with a designated and relatively predictable revenue stream to finance infrastructure projects.

Thirty states and Puerto Rico currently employ some form of a tolling system on roads, bridges, or tunnels.[13] In 2007 toll revenues accounted for only 5 percent of total highway-related revenues and 9 percent of state highway revenues, but have funded between 30 percent and 40 percent of new "high end" road mileage—access-controlled urban expressways—built between 1995 and 2005, according

to a Federal Highway Administration report.[14] In other words, while tolls account for only a limited percentage of the total funds used to operate and maintain roadways, they are one of the few successful mechanisms being used by states and localities to pay for the construction and comprehensive overhaul of major roadways. As a result of federal limitations on the ability to toll new roads and an unwillingness to raise gas taxes or other fees, funding for transportation improvements has not kept up with the needs of the system.

In 2012 Congress passed the Moving Ahead for Progress in the 21st Century Act, which expanded the ability of states to increase the use of tolling to finance road construction and repairs.[15] Under the act, roads receiving federal aid are divided into two separate categories: those that are part of the Interstate Highway System and those that are not. For initial construction projects, tolls may be used for all highways, tunnels, and bridges regardless of whether they are part of the Interstate Highway System. When increasing the capacity of highways, tunnels, and bridges, if the project is part of the Interstate Highway System, then it must have the same number of toll-free non-high-occupancy-vehicle lanes as it did before the project. That's good news for states with population growth or traffic congestion. The result, however, is that rural states and states that have rural highways are precluded from imposing tolls on existing lanes.[16]

In 2012 Congress passed the Moving Ahead for Progress in the 21st Century Act, which expanded the ability of states to increase the use of tolling to finance road construction and repairs.

While the gap in federal tolling policy remains to be addressed, this bill wisely permits excess toll revenues to be spent on transit or other road-repair projects where tolling revenues are sufficient to meet the tolled road's repair and maintenance costs.

How to fix it

The expanded authority from this law is welcome, but given the continued restriction on tolling interstate highways where new lanes are not necessary or not viable, federal tolling policy continues to undermine the ability of states to fund the needed critical repairs to these important national transportation arteries. As such, we recommend that Congress revisit this issue and give states the flexibility to determine what interstate highways are viable roads for tolling and how to apply any such tolls.

In addition, to fully optimize the impact of the new state tolling authority, the U.S. Department of Transportation will need to prepare guidance that standardizes

the Section 129 General Toll Program requirements and the companion Section 166 High Occupancy Toll Lane Program—the two sections of the Moving Ahead for Progress in the 21st Century Act that limit the ability to add tolls to certain highways and roads—so that states, localities, and investors can have certainty regarding the conditions under which expanded tolling is permitted.

By granting states and localities greater access to tolling options, transportation projects can attract private investors who can predictably be repaid from dedicated toll revenues. While tolling should not be used in every instance where significant revenue could be raised, the potential revenue from new tolling facilities has been estimated at more than $100 billion annually.[17]

A national infrastructure bank

The status quo

The complexity of federal and state infrastructure planning, lending, and grant programs significantly limits private investment in U.S. infrastructure. These factors, combined with the limitations of the tax-exempt bond market that we describe below, create an environment that has left many potential investors confused and deeply concerned about the level of risk they might take by investing in infrastructure. This is especially true in transportation infrastructure, where federal and state rules and requirements are less clear and at times inconsistent. These factors make infrastructure investment much less attractive overall.

Currently, there is no standard procedure for creating a partnership that pairs up viable projects with willing private investors. And while the federal government, states, and localities encourage infrastructure investment through a number of separate programs, there is often little coordination among them. This can result in willing private investors being forced to make redundant pitches to multiple programs or failing to be connected at all with the initiative that might prove most useful to them. Limited communication between programs and the limited availability of funds in individual programs also means that many large-scale or multimodal proposals go unconsidered or unfunded, despite the potential they hold to meet real needs or attract additional private investment and generate economic returns.

Further, despite the significant attention paid to public-private partnerships throughout policymaking circles comparatively little progress has been made in identifying feasible and profitable transportation infrastructure projects. Although 33 states have already passed legislation expressly aimed at encouraging such partnerships,[18] few projects have actually gotten off the ground.[19] A key factor is the absence of a dedicated revenue stream without which most transportation projects remain financially unsuitable for private investors. But the dearth of public-private partnerships is also due to the absence of standardized structures, metrics, and protocols that can quickly identify viable transportation projects where private financing makes sense and where there is a predictable revenue stream.

On the positive side, when it comes to public support for the formation of public-private investment partnerships and financed infrastructure improvements, the Moving Ahead for Progress in the 21st Century Act dramatically expanded the credit assistance available through the Transportation Infrastructure Finance and Innovation Act loan capacity—from about $1 billion in 2012, to $7.5 billion in 2013, and $10 billion in 2014.[20] This expansion can catalyze between $20 and $30 billion in new infrastructure improvements from other public and private sources in 2013 and 2014, resulting in the potential infrastructure investment from this program reaching almost $50 billion.[21]

While the program has some of the attributes of a potential national infrastructure bank, a national bank would have significantly more lending capacity and would focus more on building innovative partnerships that tackle the nation's largest-scale infrastructure projects. A bank could also help accelerate the progress on large-scale projects that are likely to be multimodal, multistate, and, in some cases, fall across infrastructure sectors.

How to fix it

To help alleviate these problems and make private investment in infrastructure as transparent, streamlined, and efficient as possible, the Center for American Progress recommends that the United States establish a national infrastructure bank. This centralized infrastructure lending authority, capitalized with federal funds, could provide low-interest loans and loan guarantees to both public and private projects, equipping them with the final piece of financing that so many large-scale projects require in order to begin construction.

A recent infrastructure bank bill proposed by Sens. John Kerry (D-MA), Kay Bailey Hutchison (R-TX), Mark Warner (D-VA), and Lindsey Graham (R-SC) currently in the Senate Finance Committee,[22] estimates that an initial $10 billion federal endowment could end up providing up to $160 billion in assistance over a 10-year period.[23] This in turn could leverage between $320 billion and $640 billion in additional state, local, and private investment over the same time period.[24] Rep. Rosa DeLauro (D-CT) has proposed similar legislation in the House of Representatives,[25] which has been in the House Subcommittee on Domestic Monetary Policy and Technology since March 2011.[26]

A recent infrastructure bank bill currently in the Senate Finance Committee, estimates that an initial $10 billion federal endowment could end up providing up to $160 billion in assistance over a 10-year period.

An infrastructure bank would be particularly effective at leveraging additional private investment because it could help inexperienced states and localities structure viable and attractive public-private partnerships and would promote best practices at all levels of government. It would also work as an intermediary capable of connecting willing private partners with investment opportunities and of identifying opportunities for cross-sector and cross-state cooperation. The bank could serve as the vehicle that links federal grants with standardized regulatory processes so investors would be freed from the existing practice of having to make redundant pitches to the multiple disconnected federal, state, and local agencies.

Additionally, by offering longer-term loans and loan guarantees and building delayed-repayment mechanisms, many crucial projects could be undertaken even if they may take several years to complete or may require significant time after completion to begin generating sufficient user fees or savings to begin repayment. This form of patient capital is difficult for some private investors to offer, but by structuring federal loans through a national infrastructure bank, billions of dollars more in private and public infrastructure investment is possible.

Given the complexity of such an undertaking and the existing political environment, creating a national infrastructure bank may take some time. In the short term, though, we should create a smaller entity that can begin to act as an intermediary to form partnerships between public entities with ready projects and responsible private investors. This intermediate entity would also connect these new partnership projects with existing federal lending and grant programs. The national infrastructure bank, when established, will then be able to use this expertise in finding projects that are ready for private financing and in structuring public-private partnerships to make a more immediate impact.

Infrastructure bonds

The status quo: Tax-exempt bonds

Among the primary mechanisms used to leverage private investment and fund local infrastructure projects is the sale of municipal bonds. Through these bonds, governments borrow funds from private investors to undertake infrastructure projects, while the bond purchasers earn interest at a predetermined rate on an extremely low-risk investment. This earned interest is exempt from federal, state, and local taxation, which is the reason that public issuers can market the bonds at lower rates than those bonds found in the taxable security market. This preferential tax treatment is among the primary reasons that state and local governments were able to issue $275 billion in tax-exempt bonds in 2010 alone, of which $37 billion was targeted for core infrastructure projects.[27]

Given these figures, it is not surprising that the federal tax exemption for state and local public-purpose bonds accounts for one of the largest federal tax expenditures.[28] According to the Office of Management and Budget, not collecting taxes on the interest earned from this debt will cost the federal government $230.4 billion between 2012 and 2016 alone.[29] According to a previous analysis by the Center for American Progress, simply exempting the $37 billion directed toward infrastructure projects in 2010 is projected to cost the Treasury Department roughly $5.9 billion in net present value.[30]

If tax-exempt municipal bonds were the most efficient way for the federal government to subsidize infrastructure spending at the state and local levels, these losses could be considered a justifiable expense. Unfortunately, this is simply not the case, as the current tax-exempt municipal bond market suffers from a number of inefficiencies that cost the federal government billions of dollars every year.

There are three primary reasons for the inefficiency of this system:

- The short maturity of these types of bonds—typically less than 10 years—makes it difficult and overly complicated to finance large long-term projects that may take 20 years to 30 years to complete.

- Offering a federal tax exemption mostly attracts investors who have federal, state, or local tax liabilities and can therefore take advantage of the tax break, but

leaves other potential investors—among them pension funds and international investors—largely uninterested in purchasing municipal bonds.

- A significant portion of the federal subsidy is ultimately diverted to wealthy investors[31]—meaning that state and local governments don't benefit as much from the subsidy as they otherwise might.

This diversion occurs because in seeking to attract a sufficient number of bond buyers, states end up essentially overpaying wealthier investors with interest rates designed to attract investors in lower tax brackets. A municipal bond investor in a lower income bracket saves 15 percent of the interest they would have owed on their taxes if the investment were not tax-exempt, but higher-income investors may save up to 35 percent because of their higher marginal tax rate.

The Department of the Treasury estimates that between 10 percent and 20 percent of the federal subsidy is captured by these wealthy investors, meaning that for every dollar the federal government spends, only 80 cents actually goes to helping state and local governments pay for infrastructure improvements.[32] That adds up to more than $6 billion in unnecessarily forgone revenues every year.[33]

The status quo: Private-activity bonds

A second way that private funders are currently being encouraged to invest in infrastructure projects is through the use of qualified private-activity bonds, which are bonds issued for the purpose of providing financing for certain private projects that have a public purpose. The federal government limits the dollar amount of private-activity bonds that each state is allowed to issue with what's known as the "volume cap." In 2011 the state volume cap was approximately $277.8 million total or $95 per capita.[34] States have up to three years to fully use each year's allocation of the volume cap. State officials allocate the allowable issuance volume each year to water, waste water, and other private-activity projects, as well as electric energy and gas, small-issue manufacturing, and multifamily housing.[35]

In addition to the state volume cap of private-activity bonds, a national allocation of $15 billion in private-activity bond capacity was authorized in 2005 for qualified highway or surface freight-transfer facilities, including international bridges, tunnels, or other intermodal rail-truck transfer facilities.[36] The secretary of transportation allocates this volume cap on a discretionary basis. This federal volume

ceiling is in addition to each state's annual private-activity bond limitation under current law.

Finally, some projects funded with these bonds are not subject to the federal or state volume caps—such as airports, seaports, and government-owned, high-speed rail projects.[37]

States and localities in the United States issued $12.8 billion in private-activity bonds in 2011, well within their volume cap limitations.[38] This made up 41 percent of what was authorized by the volume cap in 2011 and only 15 percent of the total amount authorized when factoring in unused cap space accrued from previous years.[39] Since state and local governments are far from approaching the federal limit on private-activity bond issuance, it is clear that simply raising the volume cap would not provide the additional capital our infrastructure needs.

Of the $15 billion in authorized volume at the federal level through the U.S. Department of Transportation, $3.08 billion has been issued to date, and another $4.97 billion has been allocated by the Department of Transportation to pending projects, leaving an available volume of almost $7 billion for future projects.[40]

Of the $15 billion in authorized volume, $3.08 billion has been issued to date, and another $4.97 billion has been allocated by the Department of Transportation to pending projects, leaving an available volume of almost $7 billion for future projects.

In addition to the almost $7 billion of the national $15-billion-dollar volume cap that remains unutilized, states only used $12.8 billion of their collective $83 billion in private activity bond capacity in 2011.[41] Given the underutilization of private-activity bond allocations on both the federal and state level, it does not appear that lifting the volume cap would induce a large flow of pent-up projects. And much like municipal bonds, tax-exempt private-activity bonds also suffer from inefficiencies attributed to the way they are structured, including attracting only investors with U.S. tax liabilities, and causing the government to lose a significant portion of the subsidy to wealthy investors.

Private-Activity Bonds and the Alternative Minimum Tax

Interest income from many private-activity bonds is subject to the alternative minimum tax, these include bonds issued to finance privately owned or operated transportation, public works facilities, residential rental housing, and certain facilities that locally furnish electricity or gas.[42] Project sponsors, aware of the alternative minimum tax limitations of private-activity bonds,[43] expect the bonds to carry an average interest rate approximately 25 basis points higher than tax-exempt bonds to compensate investors for the Alternative Minimum Tax treatment.[44]

The American Recovery and Reinvestment Act of 2009 provided a temporary suspension of the Alternative Minimum Tax provisions for private-activity bonds, including those issued for transportation and public works facilities, for 2009 and 2010.[45] This beneficial tax treatment was explained as an effort to increase private investment in infrastructure.[46] While the volume of private-activity bonds increased after these provisions were put into place, the reasons for the upswing may have been associated with the economic recovery, deferred decision making at the start of the Great Recession, a slow down in the issuance in other forms of public debt, or the preferential tax treatment. From the investors' point of view, the tax change simply shifted who paid to make the bonds attractive to investors, from states paying a higher interest rate to the federal government subsidizing the interest rate by foregoing tax revenue.

How to fix it

To both eliminate the inefficiency of the current approach and to increase the breadth of private capital that will invest in this work, we recommend launching a new subsidized taxable bond program. This program would offer a federal subsidy, paid directly to states and localities, that covers a set percentage of the interest that those states and localities must pay out on their bonds for core infrastructure projects. Specifically, we call for the creation of American Infrastructure Bonds, which would offer the market a more efficient taxable bond, with bond issuers receiving a federal subsidy equal to 28 percent of interest payments. The 28-percent mark is the "revenue neutral" subsidy level, or the level at which the projected federal cost of subsidizing such bonds is offset by a reduction in tax-exempt bonds and their cost to the federal government, according to the U.S. Treasury.[47]

While the direct federal subsidy approach may mean that states would have to pay higher interest rates on their bonds to attract investors, they would not actually end up paying more money, since the federal government would reimburse the additional cost. Such a system would not only ensure that 100 percent of the subsidy goes toward helping localities afford infrastructure improvements but would also open up the municipal bond market to new investors, including pension funds and international investors, who previously saw no benefit in municipal bonds' tax-exempt status. Moreover, reconfiguring the federal approach to infrastructure bond subsidies would save up to $6 billion per year while growing the pool of funds available to help finance critical projects.

In fact, the American Recovery and Reinvestment Act of 2009 included an allowance for states and localities to issue so-called Build American Bonds, which were not exempt from federal taxation but for which the federal government would cover 35 percent of the interest costs.[48] In 2010 an estimated $117 billion was raised via these bonds' issue, of which roughly $55.5 billion was directed to core infrastructure projects.[49]

Being able to issue these bonds not only saved state and local governments an estimated $20 billion, according to the Treasury Department, but also was better than the tax-exempt market at matching long-term institutional investors with infrastructure investments.[50] This is largely because roughly 54 percent of the Build American Bonds issued had maturities longer than 10 years, compared to only 34 percent of tax-exempt bonds.[51] Unfortunately the program was allowed to expire at the end of 2010,[52] limiting state and local governments' financial flexibility and increasing their borrowing costs at a time when many were still struggling to grapple with the recession's fiscal fallout.

In creating the American Infrastructure Bond program, Congress should also reconsider the gradual elimination of the federal tax exemption for municipal bonds since more efficient and directly subsidized bonds would be available in their place. Together these steps would allow for cost savings at all levels of government and would ensure that funds meant for infrastructure improvements worked as intended, while also increasing private investment and offering states and localities greater flexibility.

Clean energy loan-guarantee programs and tax credits

The status quo

The federal government has utilized two primary approaches to encourage private-sector development of the renewable energy sector: extending loan guarantees to clean-energy projects and research initiatives and creating tax credits for energy producers and investors. These programs have leveraged billions of dollars in private investment and have helped our country's renewable energy sector grow, innovate, and remain internationally competitive. Unfortunately, a number of these valuable initiatives are in danger of being allowed to expire, posing potentially significant negative repercussions for both private and public investment in this vibrant sector of the economy.

Case in point: The Department of Energy's 1703 and 1705 programs, which are the most important loan-guarantee programs for private investment in the renewable energy sector. The 1703 program was created in 2005 and provides funds primarily targeted for nuclear power deployment because of the difficulty in accessing affordable financing due to the risks inherent in utilizing that technology. Since its creation, the program has only provided two loan guarantees, both to private nuclear energy projects, worth a total of $10.3 billion.[53]

The 1705 program was created in 2009 by the American Recovery and Reinvestment Act to fund clean energy production by providing loan guarantees to privately owned renewable energy systems, electric-power transmission systems, and biofuel producers. It provided approximately $16 billion in loan guarantees to 26 private sponsors of projects before the program was allowed to effectively expire in 2011.[54]

The 1705 program has recently come under fire due to the high-profile failures of some companies that received federal loan guarantees, namely Solyndra Inc. and Beacon Power Corporation. These companies, however, accounted for only two of the 26 projects and for only $578 million of the nearly $16 billion provided via the 1705 program—less than 4 percent.[55] Certainly, these failures point to the need for due diligence in assessing which projects will receive funding from similar programs in the future. But focusing solely on isolated examples of private company failures among a bevy of successes in a healthy and competitive marketplace does not accurately reflect the program's effectiveness.

The federal government also subsidizes private investment in the clean energy sector through tax credits, most prominently through the energy production tax credit and the investment tax credit. The investment tax credit program provides credits worth up to 30 percent of the value of private investments made in new energy generation facilities that utilize solar, geothermal, wind, and combined-heat power systems,[56] and in 2010 it cost the Treasury Department an estimated $130 million in forgone revenue.[57] The production credit program provides credits worth 2.2 cents per kilowatt-hour produced from renewable sources and has primarily been utilized by private wind energy producers.[58] In 2010 it cost the federal government roughly $1.5 billion in forgone revenue.[59]

The American Recovery and Reinvestment Act also allowed private investors claiming either tax credit to receive a grant instead of a tax credit worth up to 30 percent of the credit's value, although this provision expired in 2011.[60] In 2010 the

total value of grants claimed in lieu of credits was $4.2 billion.[61] In addition to the estimated 60,000 jobs created, these federal loan programs have led to a wind farm and concentrated solar power plant that are among the largest in the world, as well as the first two entirely electric-car manufacturing plants in the United States.[62]

Unfortunately, the investment tax credit is scheduled to expire in 2016, and the production tax credit is scheduled to expire at the end of 2012. If these tax incentives for private infrastructure investors expire, the impact on the industry will be immediate, and it will have long-term consequences for our energy infrastructure. *The Washington Post* quoted Joseph A. Stanislaw, an economist who runs the JAStanislaw Group, saying that, "Companies have been investing on the basis that [the tax credit is] there. It changes the game. Every time you pull it, or threaten to pull it, you throw the industry into disarray."[63]

The investment tax credit program provides credits worth up to 30 percent of the value of private investments made in new energy generation facilities, and in 2010 it cost the Treasury Department an estimated $130 million in forgone revenue.

How to fix it

Fortunately, the solutions to these problems are fairly simple: Learn from programs that work, extend those that haven't yet expired, and give these programs the resources they need to make a greater impact. The Center for American Progress recommends a total of $4 billion annually of a combination of these tax incentives or federal loan supports be made available to private investors to build our energy infrastructure. Past experience indicates that this $4 billion can leverage approximately $40 billion in private investment in clean energy infrastructure every year.[64] Such additional investment would create jobs, would help repair an aging national energy grid that is struggling to cope with ever-increasing demand, and would enable U.S. clean energy producers to compete with their overseas peers in meeting national energy demands. These are common-sense solutions that can be implemented immediately and will produce substantial economic benefits.

Ensuring that private investment benefits everyone

While encouraging greater private investment in infrastructure has the potential to yield substantial economic benefits and can help the United States begin to close its overwhelming infrastructure-funding gap, appropriate safeguards will also need to be put in place to protect public employees, taxpayers, and investors alike. Public-private partnerships and other arrangements must be structured in ways that promotes project success, as well as safeguards the public and those working in the infrastructure sector from excessive risk or unfair practices.

First, agreements with private investors must appropriately apportion risk in a prudent and transparent manner between all relevant parties. Each party must clearly know where responsibility will lie in the case of a project's failure, and a plan should exist pertaining to how an agreement can be wound down should it prove nonbeneficial to both parties. Public authorities must also make sure that private investors are held accountable for their performance and do not assume that they will be bailed out if a project fails. Such assumptions on behalf of private investors can lead to the persistence of inefficiencies in project operations or could lead to projects being undertaken that may not have been a good idea in the first place.

Second, policymakers must also ensure that agreements are never structured in such a way that might inhibit the undertaking of other vital projects to promote the public good. This has been seen before in public-private partnerships, where so-called noncompete provisions have resulted in economically beneficial projects being put on hold or canceled due to the business concerns of private entities already partnering with the state. The point of public-private partnerships is, of course, to ensure that both parties benefit. Certainly some protections may need to be included in agreements to protect investors, but such undertakings should not be structured in ways that discourage responsible public stewardship of infrastructure or other public assets. In creating these opportunities, policymakers will have to carefully balance these concerns against one another and always keep in mind their obligation to do what is in the public's best interests.

Finally, when private investment takes the form of a partnership with a public entity, the partnership agreements must include responsible-contractor provisions that protect workers' wages and benefits, as well as ensure the right to collective bargaining. If the proper partnership models are adopted and if strong federal oversight and assistance is provided—potentially via the auspices of a national infrastructure bank—these important protections can be ensured and billions in additional investment can go not only to rebuilding America's roads and levees but also to strengthening its middle class.

Conclusion

Leveraging additional private investment will help close our nation's infrastructure-funding gap and enable the completion of hundreds of critical projects that will provide substantial economic returns for American taxpayers. To facilitate more "nation building here at home," the Center for American Progress recommends that Congress act immediately to adopt a number of common-sense reforms and to remove unnecessary roadblocks currently preventing the inflow of additional private capital.

These recommendations are to:

- Fully uncap and standardize federal rules that give states tolling authority
- Establish a national infrastructure bank
- Introduce American Infrastructure Bonds with a direct federal subsidy
- Renew the 1705 loan-guarantee program and extend the production and investment tax credits for at least 10 years

These reforms will require a number of changes to the status quo and will have to be approached with great care, but their benefits will be substantial. Working with private investors can inject new life into our aging infrastructure network and lay the foundation for decades of prosperity and growth in the future.

In the coming months, the Obama administration and Congress must come to some agreement on substantive reforms to federal taxation. While these basic federal budget decisions may better align revenues and expenditures, they will not necessarily spur economic growth. This election showed that the American people support government investments where they can increase U.S. competitiveness, improve the efficiency of businesses employing Americans, and boost employment. Federal investment in infrastructure is one of the few areas of federal spending that can deliver on all of these pressing needs.

One way to decrease the level of ongoing direct public investment in infrastructure is to modernize the American approach to paying for infrastructure so that where projects can appropriately be financed with private capital, we make that option much more feasible. A balanced approach to infrastructure spending—sharing the risk and burden for key improvements with the private sector when possible and carrying the full load when it isn't financially or otherwise possible—offers a pathway forward that legislators on both sides of the aisle should be able to agree on. Such reforms must move forward in Congress so we can begin to improve our aging infrastructure to better align with and support our economic goals in the coming years.

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