



**coalition for green capital**

# **Growing the Economy & Building the Clean Power Platform with Ross-Navarro Infrastructure Plan**

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# Overview

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- Infrastructure will be a top priority of next administration and Congress
- Infrastructure package will likely include a mix of tax credits and low-cost federal financing
- Such a plan is a potentially fantastic opportunity for spurring investment in productive infrastructure, such as clean energy
- This is only possible if energy is included in the definition of “infrastructure” for any package that passes Congress

# Problem: How to stimulate GDP growth

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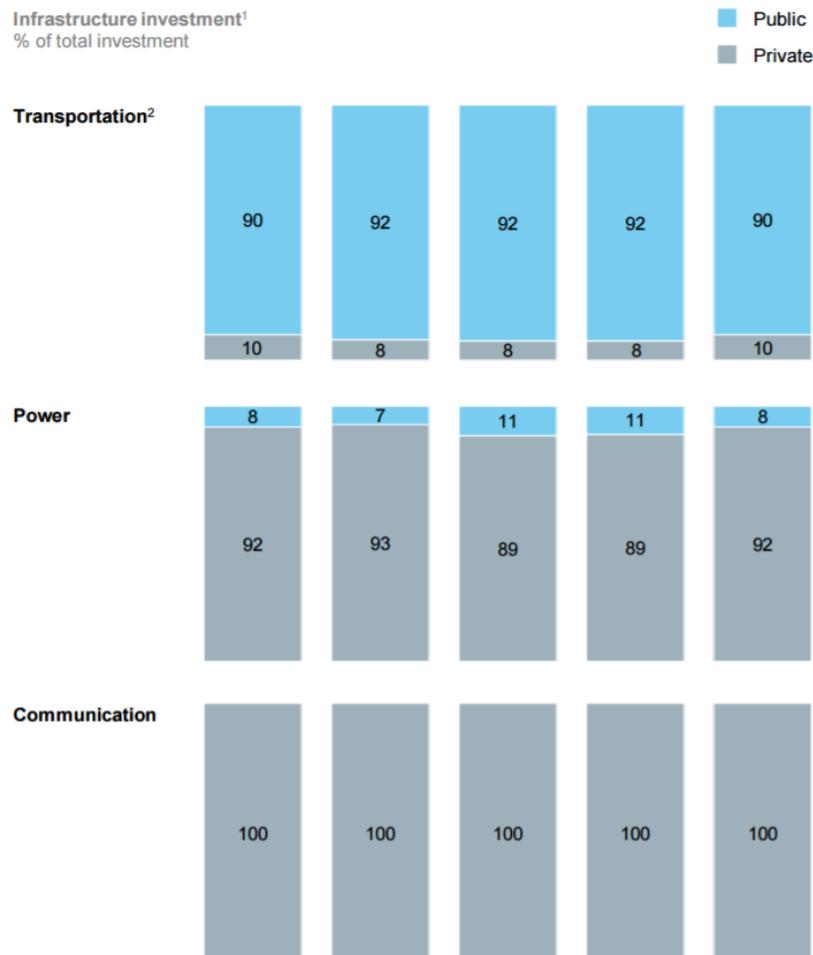
- GDP trend is reduced to 2% per year
- Recession risk looms
- Federal deficit concerns

**Solution:** public and private investment in infrastructure provides short-term positive jolt to GDP trend and long-term productivity gain

- Increase federal share of public infrastructure spending in time limited manner
- Use federal funds to leverage increased private investment in private infrastructure

# Federal plan should seek to draw in private savings to spur investment in 21<sup>st</sup> century infrastructure

- Different forms of infrastructure require different policies
- “20<sup>th</sup> century” infrastructure (e.g., roads) almost entirely financed by public sector
- “21<sup>st</sup> century” infrastructure (electron-based) nearly entirely privately financed
- Two complimentary policy mechanisms for spurring investment in 21<sup>st</sup> century: **tax credits & federal financing**



# Tax credits: Ross-Navarro infrastructure plan can be used to finance energy sector

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FOR IMMEDIATE RELEASE: Contact Wilbur Ross for comment, [wross@wross.com](mailto:wross@wross.com), Peter Navarro, [pn@peternavarro.com](mailto:pn@peternavarro.com)

October 27, 2016

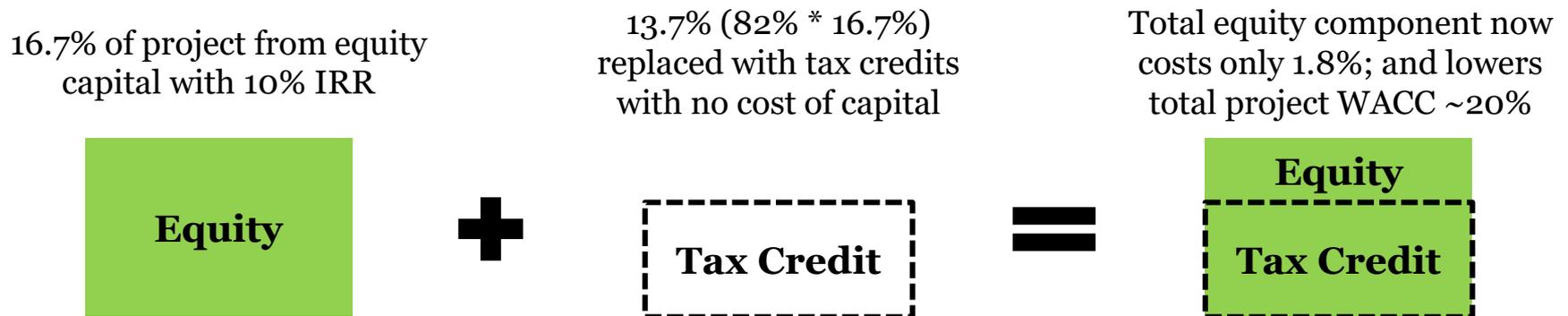
## Trump Versus Clinton On Infrastructure

An analysis by Wilbur Ross, a private equity investor, and Peter Navarro, UC-Irvine business professor. Both are senior policy advisors to the Trump campaign.

- Includes huge federal tax credit to equity investors who build new infrastructure
- Plan would spur PPP, where public capital leverage private
- Power projects can repay financing & generate returns, making them ideally suited to approach of Ross-Navarro plan

# Example: impact of tax credit on clean energy project costs

- Ross-Navarro plan assumes \$1 trillion in total infrastructure is built with \$167 billion of equity, and \$833 billion in debt
- Proposes 82% tax credit on equity, \$137 billion federal tax credits
- Equity investment has highest return requirement ~10%+, making entire project repayment requirements higher
- Ross-Navarro plan replaces 82% of the most expensive capital in the project with free investment capital from govt via tax credit
- Effect is to lower project cost of capital by ~20%



# Low-cost federal financing: leverage more private dollars

114TH CONGRESS  
2D SESSION

## H. R. 5802

To amend title 31, United States Code, to provide for the issuance of Green Bonds and to establish the United States Green Bank, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

JULY 14, 2016

Mr. VAN HOLLEN (for himself, Mr. BLUMENAUER, Mr. HIMES, Mr. CONNOLLY, Ms. NORTON, Mr. CARTWRIGHT, Mr. TONKO, and Ms. ESTY) introduced the following bill; which was referred to the Committee on Ways and Means, and in addition to the Committee on Energy and Commerce, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

### A BILL

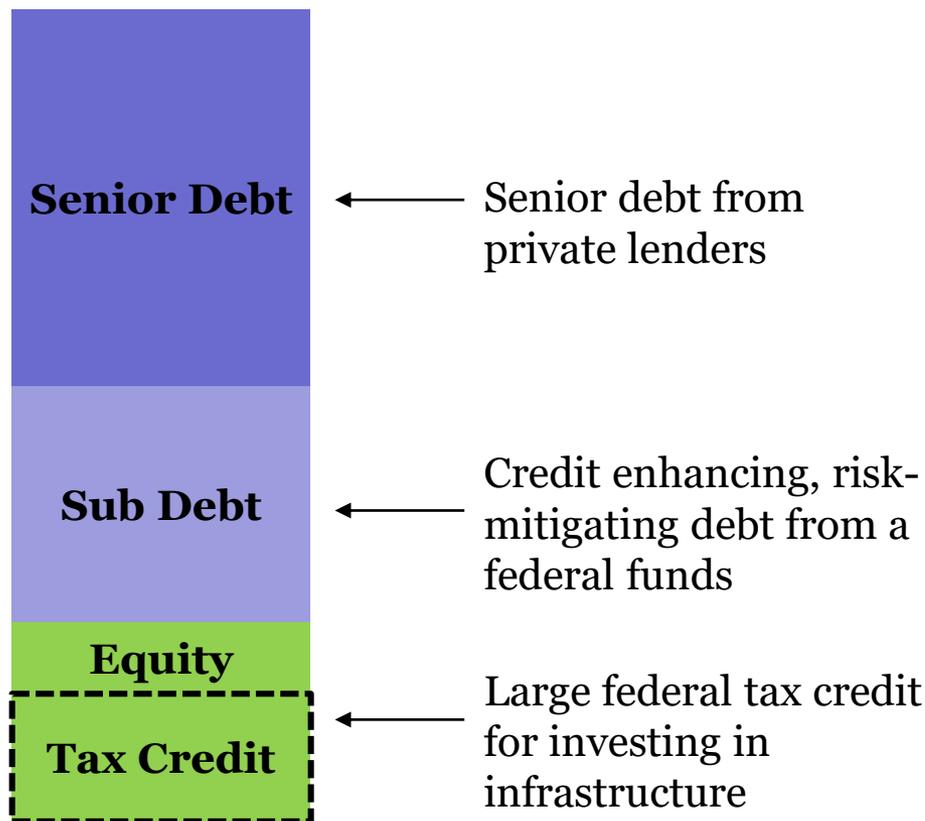
To amend title 31, United States Code, to provide for the issuance of Green Bonds and to establish the United States Green Bank, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*  
3 **SECTION 1. CAPITALIZATION, METHOD OF CAPITAL STOCK**  
4 **PAYMENTS, ISSUANCE OF GREEN BONDS.**  
5 Chapter 31 of title 31, United States Code, is amend-  
6 ed by adding after section 3102 the following new section:

- Availability of low-cost federal financing combined with private sector leverage can have a multiplier effect on infrastructure investment
- Example: Green Bank Act of 2016
- Initial capitalization of \$10 billion estimated to **spur up to \$175 billion** in local clean energy projects through private sector leverage and matching state funds
- Federal funds would be paid back.

# Ross-Navarro plan could be combined with low-cost federal debt

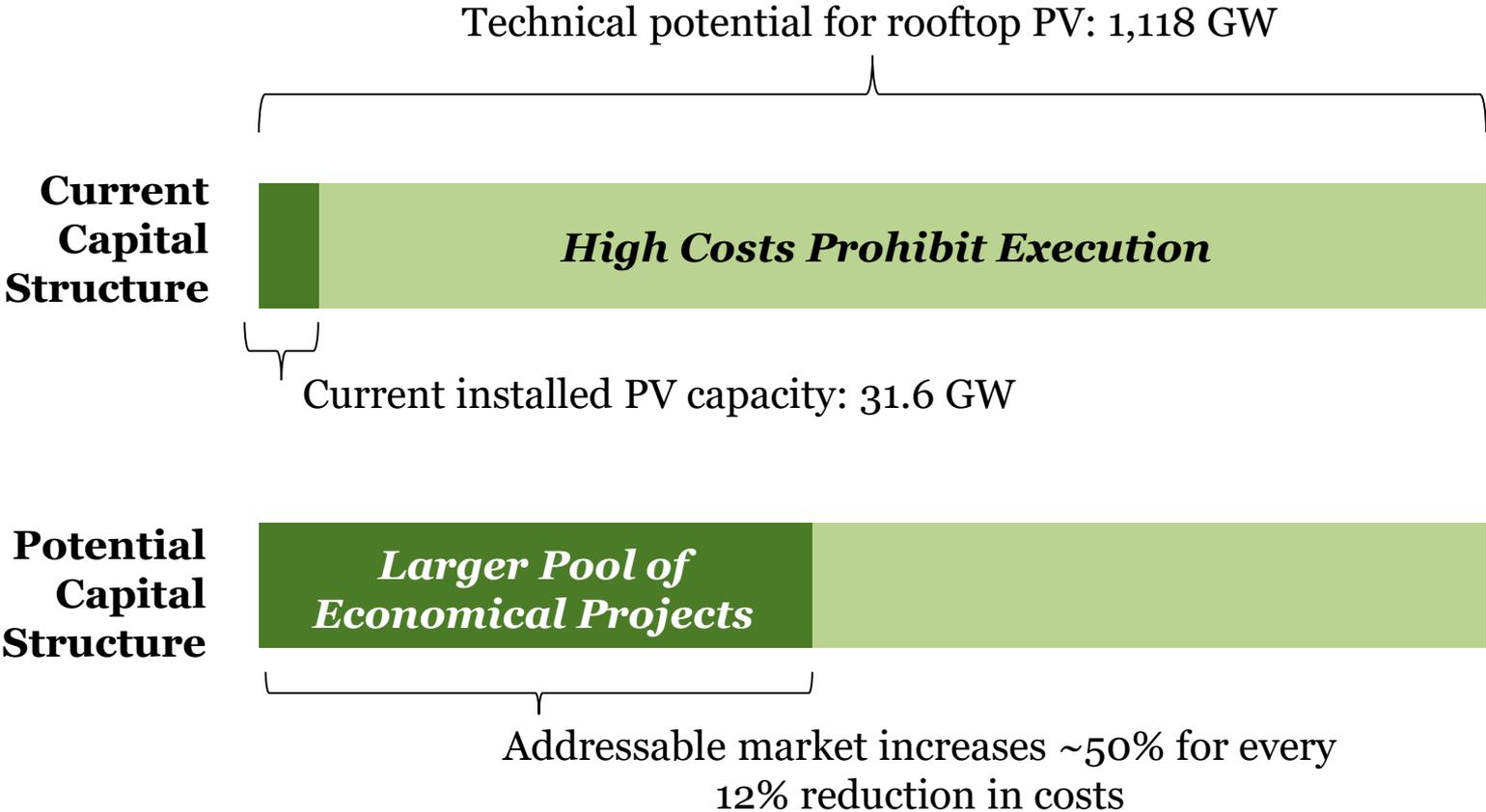
*Example – Transmission Project Capital Stack*



- Tax credits are proven method to drive investment in clean energy (e.g. ITC & PTC)
- Cheap federal debt could leverage private lending
- Brings new lenders into market, more exposure to clean energy markets
- Approach is remarkably similar to role of state Green Banks

# Lower-cost financing expands the pool of viable energy projects

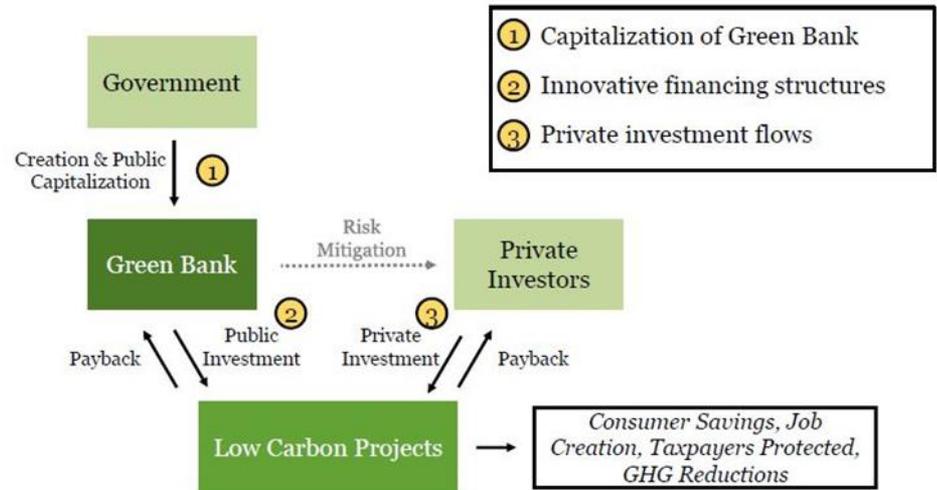
Example – Rooftop Solar



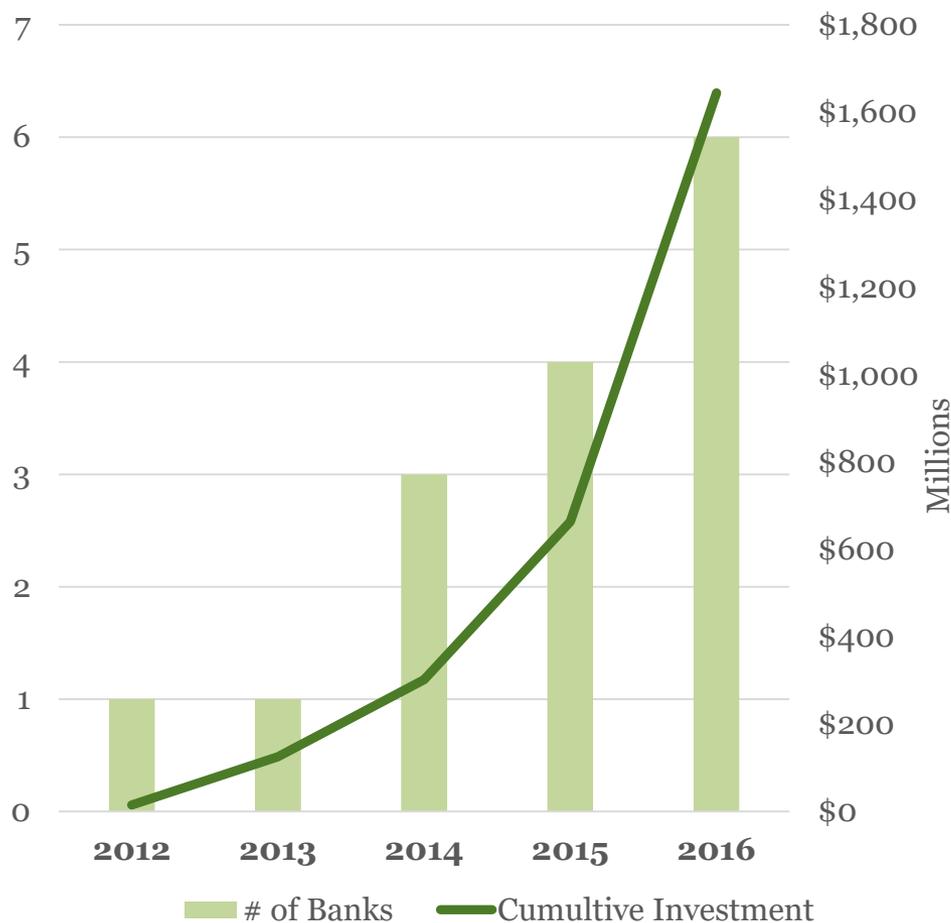
# Green Banks leverage low-cost financing with private sector dollars

- Green Banks: state/local institutions that use limited public dollars to leverage greater private investment
- **Private/public \$ ratio in Green Banks as high as 9:1**
- Goal: accelerate energy investment, make energy cheaper and cleaner for consumers, drive job creation, and preserve taxpayer dollars
- Green Banks are growing in popularity; growth rate would accelerate with availability of federal financing

## Basic Green Bank Model



# Green Bank model is successful and growing



- Since 2011, six state and local Green Banks have been established.
- As of mid FY17, Green Banks have sparked ~\$2 billion in energy investment, with majority of dollars coming from private sector

# Example: Impact of Green Bank capital on solar project

*Electricity Cost vs. Green Bank Debt*

		% Green Bank Capital			
		0%	10%	20%	30%
Solar Cost (\$/Watt)	\$4.00	17.4	15.4	13.3	11.2
	\$3.50	13.9	12.1	10.3	8.5
	\$3.00	10.3	8.8	7.2	5.7

Cells < avg. US resi. electricity price (12.9 cents) shaded

*Developer Return vs. Green Bank Debt*

		% Green Bank Capital			
		0%	10%	20%	30%
Retail cost (¢/kWh)	23¢	17.0%	20.2%	24.7%	30.8%
	18¢	12.0%	14.2%	17.4%	22.4%
	13¢	NA	8.1%	9.9%	12.9%

Cells > 15% return shaded

**Green Banks lower prices for consumers and make projects attractive for private developers**

# Summary

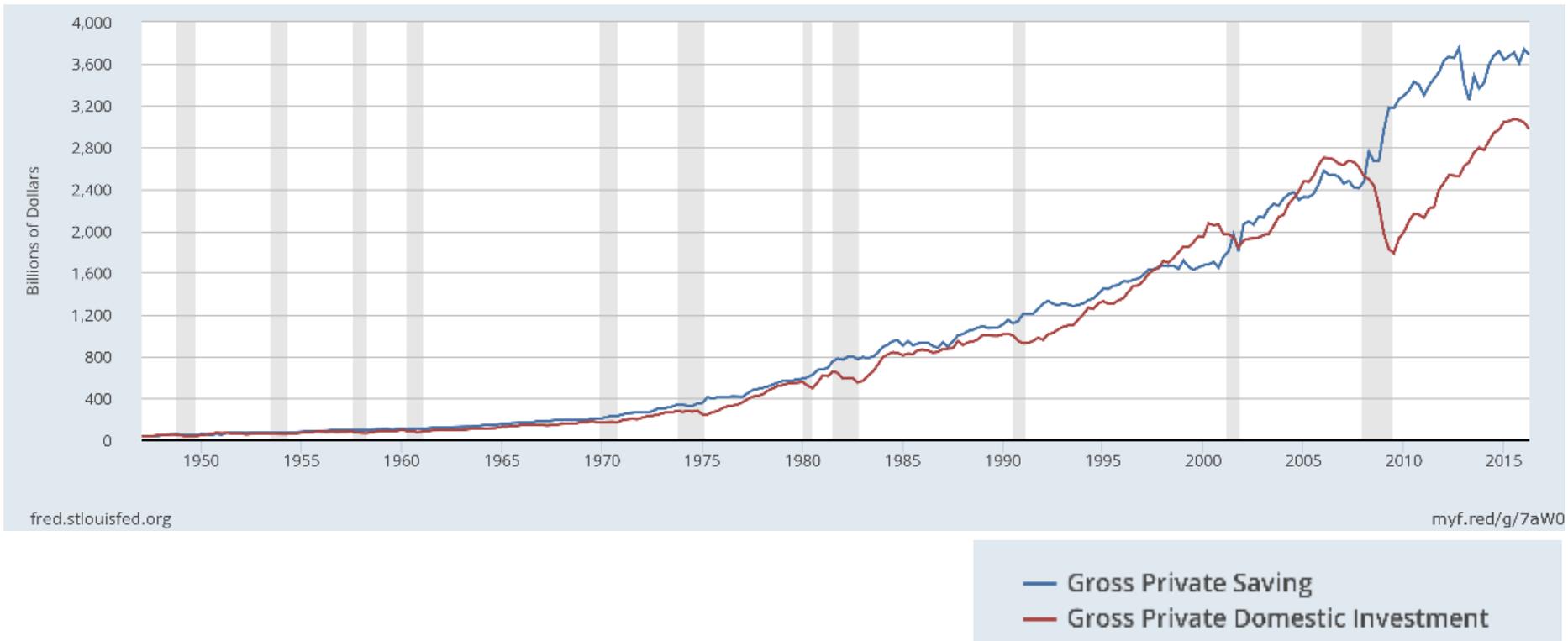
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- Infrastructure will be critical priority for next administration
- The new administration's approach to an infrastructure could be very beneficial for clean energy
  - Tax credits to lower equity costs
  - Federal financing to lower debt costs
- A broad definition of energy (e.g., utility-scale generation, transmission, distribution, distributed generation, energy efficiency) must be included in any infrastructure effort
- Green Banks are attractive model for deploying private capital in energy

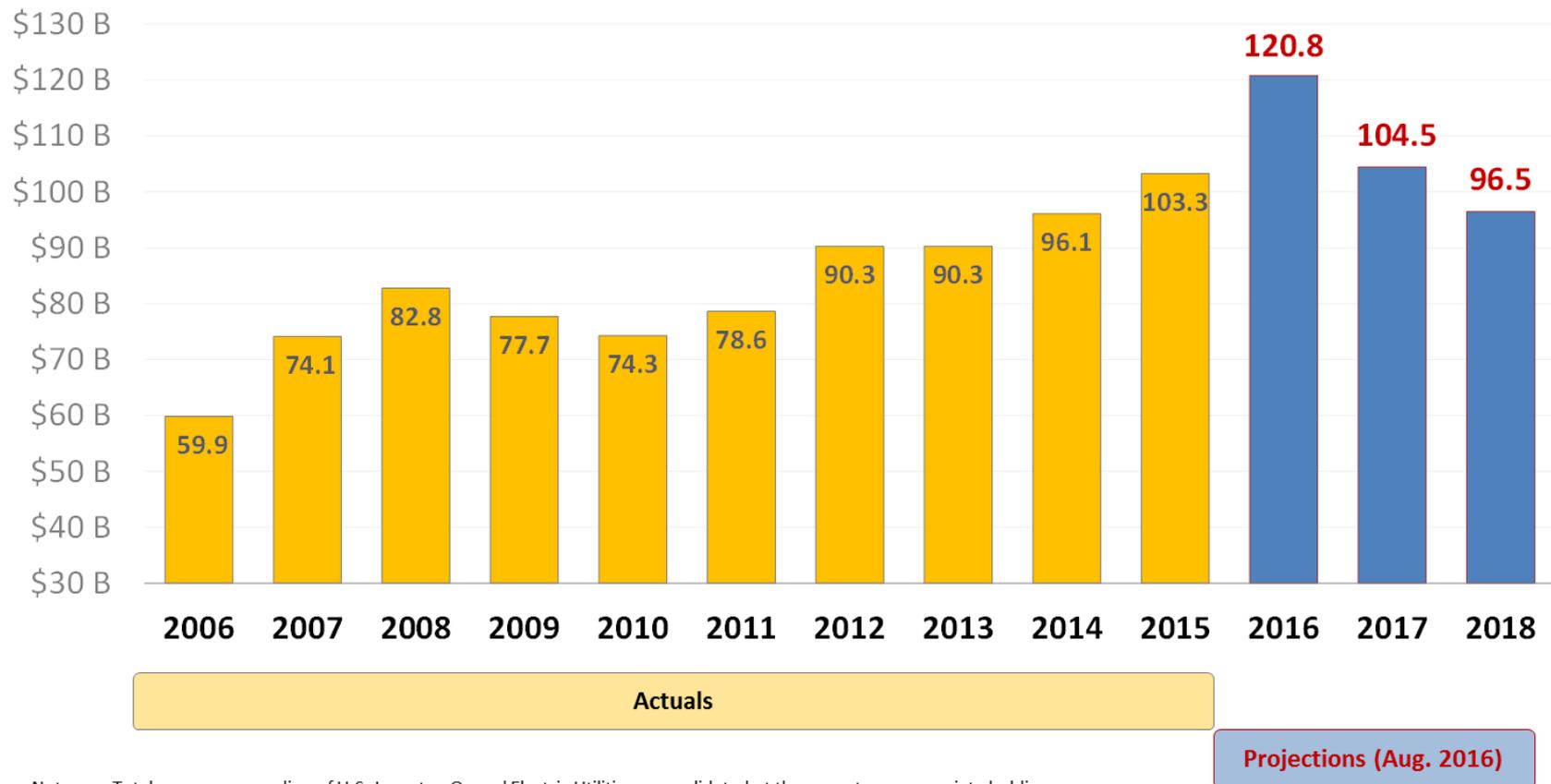
# **APPENDIX**

# Problem: private savings exceed private investment since Great Recession

## *Gross Private Savings vs. Gross Private Domestic Investment*



# Utility industry capital expenditures expected to decline 20%



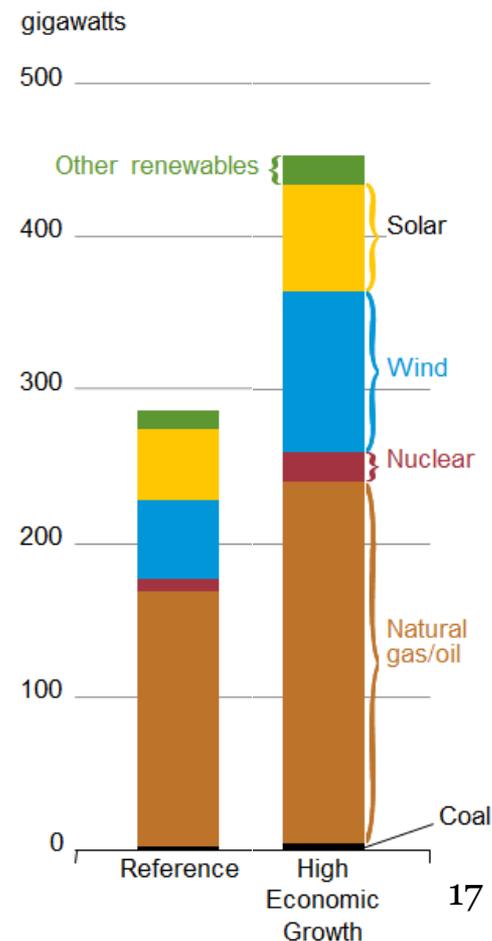
Notes: Total company spending of U.S. Investor-Owned Electric Utilities, consolidated at the parent or appropriate holding company. Projections based on publicly available information and extrapolated for companies reporting fewer than three projected years (11% and 15% of industry for 2017 and 2018).

Source: EEI Finance Department, company reports, S&P Global Market Intelligence (August 2016).

# Next generation power platform is beckoning investment opportunity

- Next generation of power supply dominated by natural gas and renewables
- ~\$110 billion per year in renewable energy
- ~\$500 billion in upfront energy efficiency investment over 10 years would yield double the savings.
- ~\$150 billion in transmission investment over next decade needed to maintain and improve system
- Total annual productive investment is sum of above, or **~\$175 billion per year.**

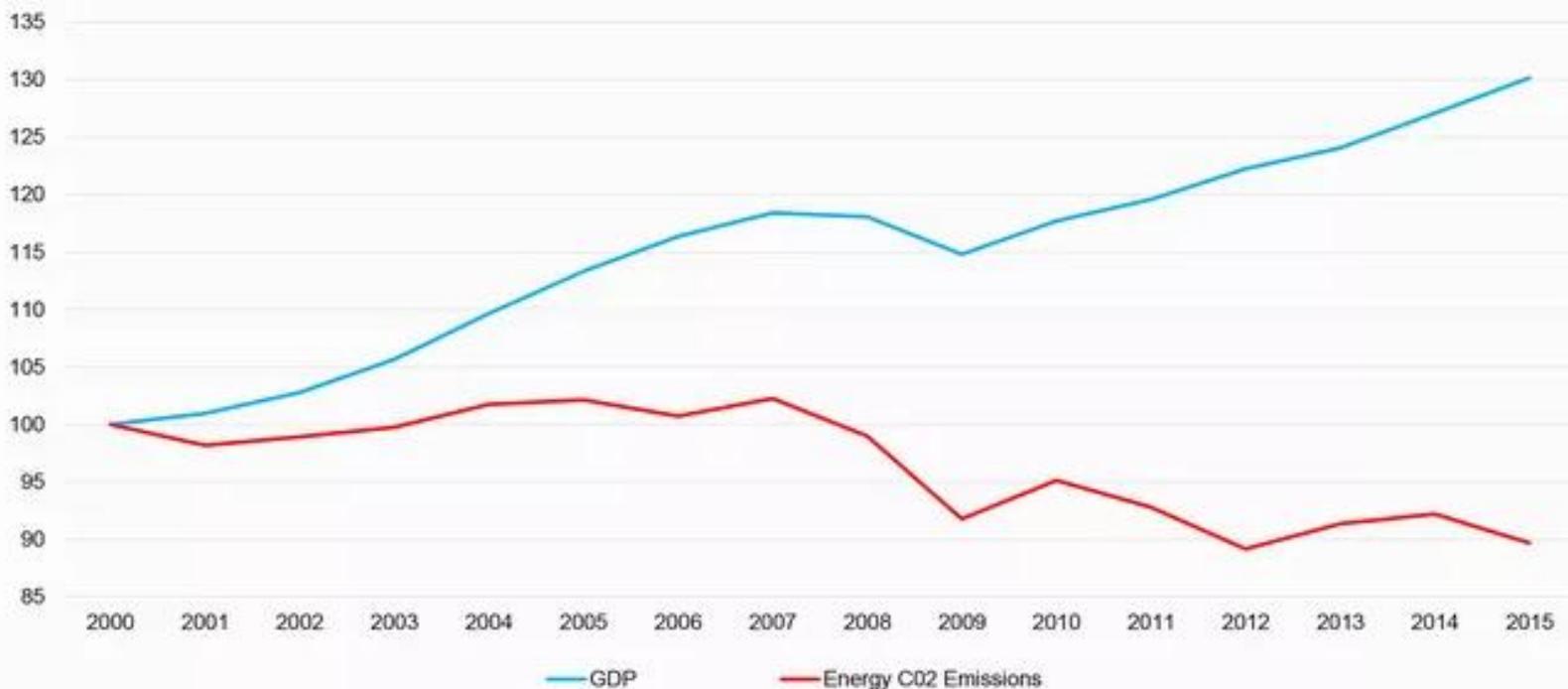
*Additions to generation capacity  
(2013-2040, EIA)*



# Opportunity to reduce carbon emissions while growing the economy

**Figure 2. U.S. decoupling: Change in real GDP and CO<sub>2</sub> emissions since 2000**

(Indexed to 100 in 2000)

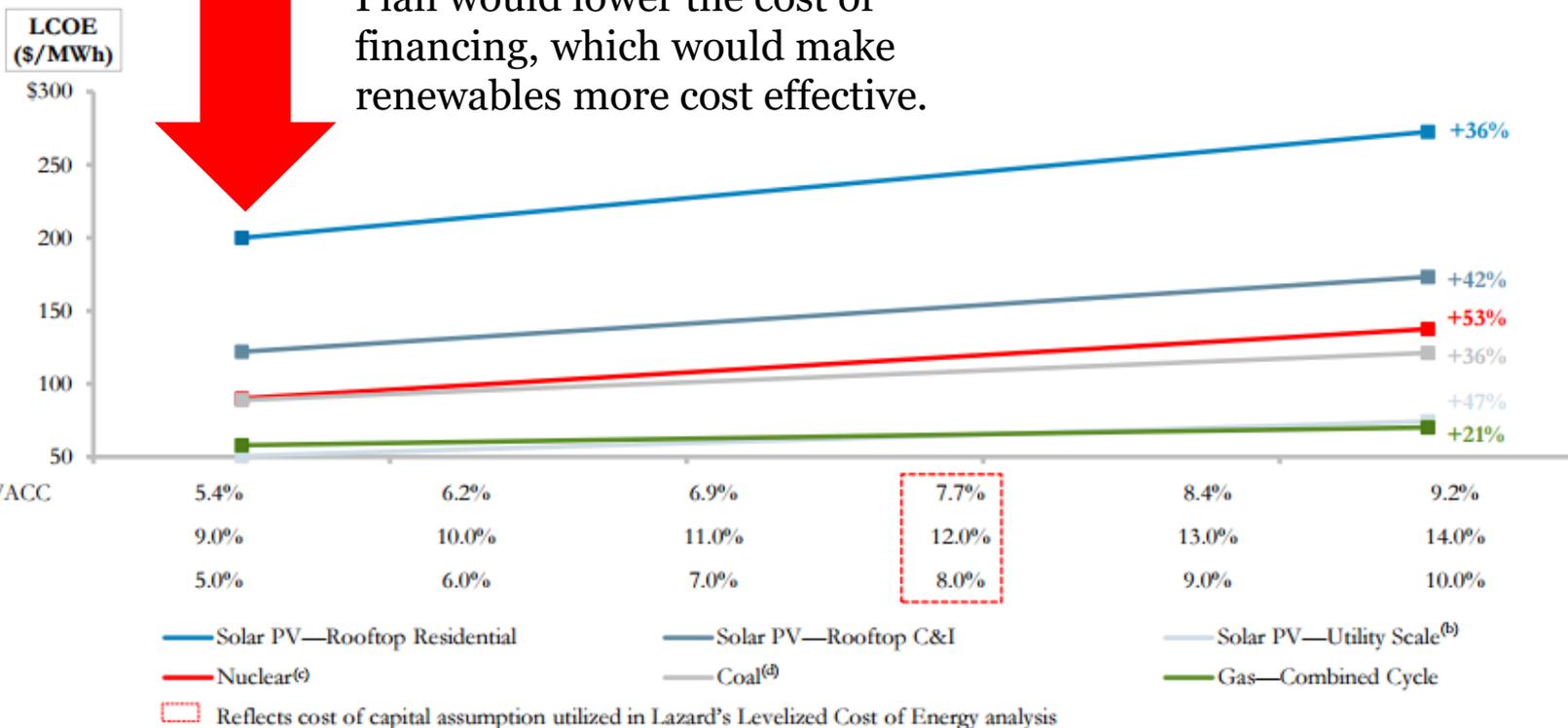
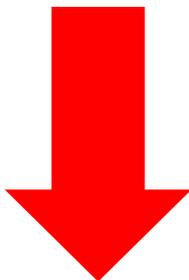


Source: EIA's "Monthly Energy Review" and BEA's "Real GDP"

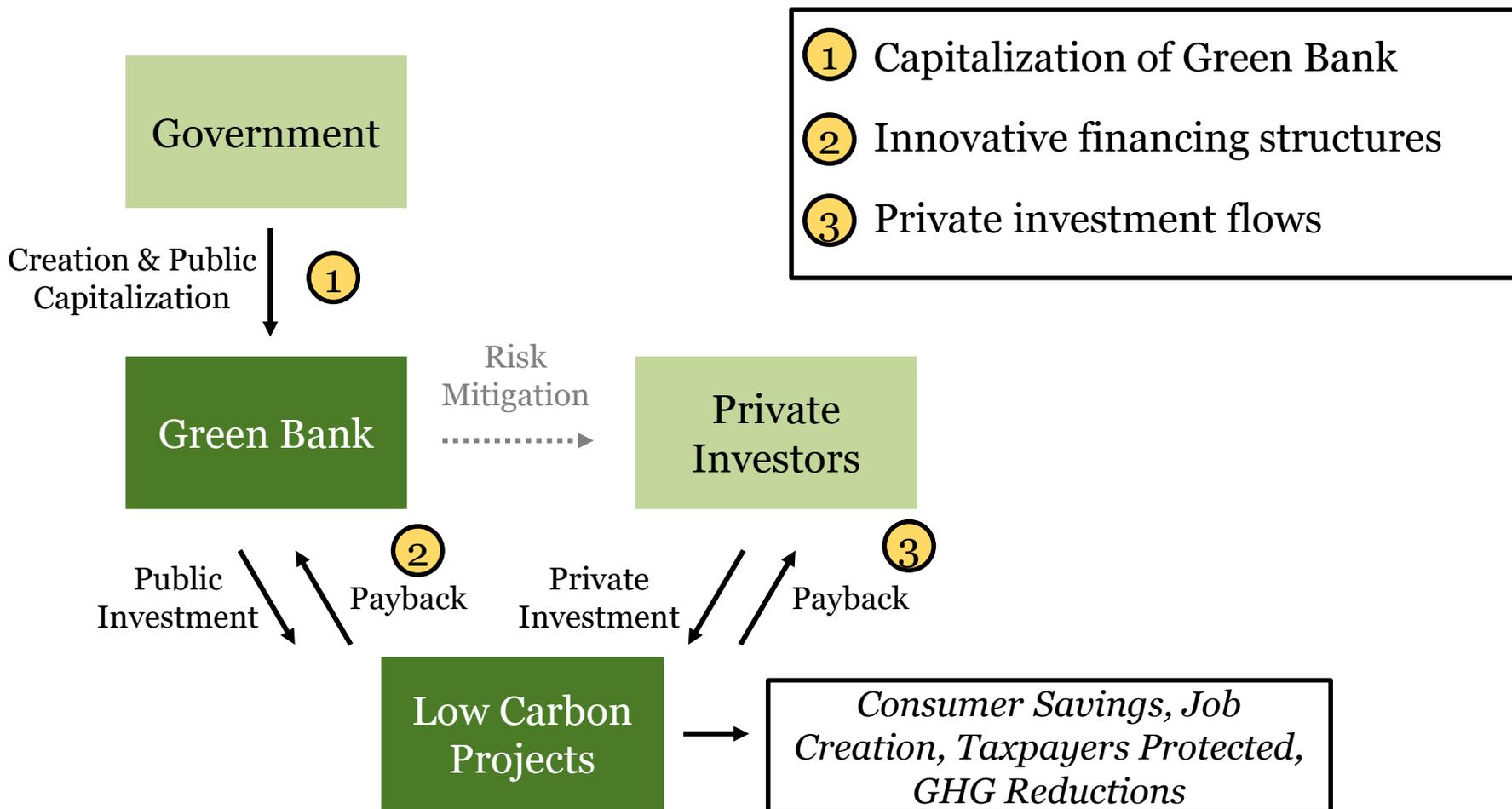
**B** Metropolitan Policy Program  
at BROOKINGS

# With lower cost of capital, renewable energy becomes cheaper and more competitive

Plan would lower the cost of financing, which would make renewables more cost effective.



# Green Bank is a public institution that channels public and private investment





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# Thank You

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